SUBMITTAL TO THE RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER GOVERNING BOARD COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

ITEM: 15.3
(ID # 25067)
MEETING DATE:
Tuesday, June 04, 2024

FROM : RUHS-MEDICAL CENTER

SUBJECT: RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER: Approve Policies

RECOMMENDED MOTION: That the Board of Supervisors:

1. Review and approve the attached Medical Center and Clinics Policies.

ACTION:Consent

Jennifer Cruikshank, Chief Executive Officer – Health System 5/17/2024

MINUTES OF THE GOVERNING BOARD

On motion of Supervisor Gutierrez, seconded by Supervisor Perez and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes:	Jeffries, Spiegel, Washington, Perez and Gutierrez
Nays:	None
Absent:	None
Date:	June 4, 2024
xc:	RUHS-Medical Center

Kimberly A. Rector
Clerk of the Board
By: _____
Deputy

SUBMITTAL TO THE RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER GOVERNING BOARD OF DIRECTORS COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	$ 0	$ 0	$ 0	$ 0
NET COUNTY COST	$ 0	$ 0	$ 0	$ 0
SOURCE OF FUNDS: N/A			Budget Adjustment: No	
			For Fiscal Year: 23/24-24/25	

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

The Riverside University Health System Medical Center (RUHS MC) is a licensed and accredited acute care hospital serving the needs of County residents since 1893. RUHS MC currently has two campuses – one in Moreno Valley and one on County Farm Road in the City of Riverside.

As an acute care hospital RUHS MC is required by the State of California to have a "governing body" separate from its administrative leaders and medical staff leadership. The "governing body" is "the person, persons, board of trustees, directors or other body in whom the final authority and responsibility is vested for conduct of the hospital." 22 CCR §70035. (See also 42 CFR 482.12 and Joint Commission Standard LD.01.03.01) The Board of Supervisors serves as the "governing body" for the hospital.

Various regulatory requirements mandate that the Governing Board participate in the leadership and decision-making of the Medical Center by reviewing and approving its policies relating to certain topics.

RUHS-MC is committed to furnishing a safe, accessible, effective and efficient environment consistent with its mission, services and applicable governmental mandates. This includes fostering the protection, safety and well-being of patients, employees, staff and visitors during natural or man-made disasters and ensuring to the greatest extent possible, adherence to our social responsibility and commitment to the community.

Impact on Residents and Businesses

The RUHS Medical Center offers a 439-bed providing adult, Pediatric and Neonatal Services, including a Level 1 Trauma Center, the county's only Pediatric Intensive Care Unit, a Stroke Center, with over 40 specialty care clinics, as well as a Medical and Surgical Center featuring state-of-the-art Outpatient Surgical, Diagnostic and Imaging Equipment, Rehabilitation Services, and an Outpatient Pharmacy. The RUHS Emergency Treatment Services/Inpatient Treatment Facility at the Arlington Campus located in Riverside is a 77-bed inpatient Psychiatric Treatment Facility. The integrated healthcare continuum is fortified with 14 RUHS-CHCs conveniently located throughout the county which work in close partnership with RUHS-BH and RUHS-PH to

offer access to comprehensive high-quality and integrated primary, Behavioral Health, Specialty Care, Dental Care and Health Promotion services.

Training future healthcare leaders is fundamental to our commitment to serving our community as well as our mission as a safety net institution. An efficient, well-functioning medical center providing care of high quality creates many positive benefits for Riverside County citizens and its businesses.

ATTACHMENTS:
Attachment A: BOS Update 9.20.2023 to 3.17.2024
Attachment B: BOS Policies 9.20.2023 to 3.17.2024

Jacqueline Ruiz
Jacqueline Ruiz, Principal Analyst 5/29/2024

Gregg Gu
Gregg Gu, Chief Deputy County Counsel 5/17/2024

For BOS Approval

Policies 9/20/2023 through 3/17/2024

Name	Version Effective Date
HW 147 Guidelines for Requesting the Purchase of New Medical Devices, Supplies or Equipment.pdf	2/1/2024
HW 149 Vendor Management	2/1/2024
HW 404.2 Competencies and Competency Assessment.pdf	2/20/2024
HW 450 Attendance and Reporting Requirements.pdf	10/20/2023
HW 600.3 Patient Medical Records.pdf	2/15/2024
HW 602.3 Informed Consent for Antipsychotic Medications.pdf	2/16/2024
HW 603.4 Pain Assessment and Management	3/15/2024
HW 603.5 Acute Pain Management Hospital Discharge Pain Opioid Prescribing Guidance.pdf	3/13/2024
HW 609 Access to Medical Cannabis Terminally Ill.pdf	2/15/2024
HW 620 Code Blue Code White Code MET.pdf	9/26/2023
HW 625 Guideline for Prevention of Catheter Associated Urinary Tract Infections CAUTIs.pdf	2/8/2024
HW 656 EMTALA Screening Stabilizing Transfer of Patients with Emergency Medical Conditions.pdf	2/1/2024
HW 674 Child Passenger Restraint Education.pdf	2/1/2024
HW 709 Amendments and Addendums to the Medical Record.pdf	2/15/2024
HW 738 RUHS Transportation of PHI Protected Health Information.pdf	3/13/2024
HW 807 Rabies Post Exposure Prophylaxis.pdf	11/2/2023
HW 828 Smart Infusion Pump System.pdf	2/1/2024
HW 829 Ordering of Adult Parenteral Nutrition.pdf	12/20/2023
HW 834 Medication Assisted Treatment for Opioid Addicted Patients.pdf	2/1/2024
HW 836 Look Alike Sound Alike Medication Error Prevention.pdf	11/18/2023
HW 849 Automatic Medication Substitution for Adult Outpatient Prescriptions.pdf	2/15/2024
HW 853 Pharmacist Management of Epoetin Alfa in Adult Patients.pdf	3/15/2024
HW 860 Adult Renal Dosing Protocol by Pharmacy.pdf	2/1/2024
HW 861 Inpatient Pharmacy Order Review Entry Process.pdf	11/18/2023
HW 865 Hazardous Drug Spill Deactivation and Waste Management.pdf	2/15/2024
HW 868 Hazardous Drug Employee Training and Safety Program.pdf	2/15/2024

HW 871 Drug Recalls.pdf	3/13/2024
HW 873 Cleaning and Disinfecting Sterile Compounding Areas.pdf	12/20/2023
HW 876 Management of Personal Insulin Pumps and Continuous Glucose Monitors During Hospitalizations.pdf	10/17/2023
HW 888 Retail Pharmacy Prescription Pricing.pdf	10/18/2023
HW 891 Electrolyte Replacement Guideline Enteral Intravenous.pdf	2/15/2024
HW 892 Adult Non-Pregnant Inpatient Hypoglycemia Management.pdf	10/17/2023
HW 1100 Infection Prevention and Control Standard Precautions.pdf	2/15/2024
HW 1101 Transmission Based Precautions.pdf	2/15/2024
HW 1102 Influx of People with Infectious Diseases.pdf	2/15/2024
HW 1103 Cleaning and Disinfection Patient Care Equipment.pdf	2/20/2024

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

	Document No: 147	Page 1 of 4
Title: **Guidelines for Requesting the Purchase of New Medical Devices, Supplies or Equipment**	**Effective Date:** 2/1/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Care Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. DEFINITIONS

1.1 Durable Medical Equipment (DME) - Durable Medical Equipment (DME) is any equipment that provides therapeutic benefits to a patient in need because of certain medical conditions and/or illnesses. This equipment is not useful in the absence of an illness of injury, is reusable, can stand repeated use, and is appropriate for home use. DME includes, but is not limited to, wheelchairs (manual and electric), hospital beds, traction equipment, canes, crutches, walkers, ventilators, oxygen, monitors, pressure mattresses, lifts, nebulizers, bili blankets, bili lights and wound vacs, etc.

1.2 Emergent Medical Device or Supply: Supplies and equipment that are for immediate or urgent patient care for the purpose of saving life and/or limb.

1.3 Item Master File (IMF) – The master electronic file that contains the records of all routinely ordered supplies and devices.

1.4 Riverside University Health System – Medical Center Institutional Review Board (IRB): Committee that reviews and approves research involving human subjects. The purpose of the IRB is to ensure that all human subject research be conducted in accordance with all federal, institutional, and ethical guidelines.

1.5 Medical Device: A medical device is an instrument, apparatus, implant (artificial, human or animal), in vitro reagent, or similar or related article that is used to diagnose, prevent, or treat disease or other conditions, and does not achieve its purposes through chemical action within or on the body (which would make it a drug).

1.6 Medical Supplies: Medical supplies are non-durable supplies that are usually disposable in nature and cannot withstand repeated use by more than one individual, are primarily and customarily used to serve a medical purpose, generally are not useful to a person in the absence of illness or injury, and may be ordered and/or prescribed by a physician.

1.7 Non-Emergent Medical Device or Supply: Supplies and equipment that are <u>not</u> for immediate - or - urgent patient care for the purpose of saving life and/or limb.

1.8 Supplier: An agent representing a manufacturer or purveyor of a device or service with the intent to sell, lease, loan or trial a product or service.

1.9 Urgent Medical Care: Care of the patient where the patient may be at risk for loss of life or limb, or where the patient is experiencing severe pain, or where immobility may occur if not treated within a 24-hour period.

1.10 Value Analysis:
The systematic and critical assessment of products and systems by an organization to ensure the best fit for the organization.

1.11 Value Analysis Committee (VAC): A committee whose membership is composed of clinical staff, administration and purchasing; whose purpose is to evaluate the cost/benefit, including product cost and labor cost/saving and revenue enhancement and any other economic impact for the adoption of proposed products.

1.12 Vendor: An agent representing a manufacturer or purveyor of a device or service with the intent to sell, lease, loan, or trial a product or service.

2. GUIDELINES

2.1 Non-emergent medical devices and/or medical supplies must be approved by the value analysis committee.

2.2 Requests for emergent medical supplies that are not routinely stocked or ordered must be requested through the value analysis manager.

2.3 Any supply or implant device not approved or that is not required for an emergent or urgent purpose will not be compensated by the organization unless approved by the appropriate hospital administrator.

2.4 Any items used for research/clinical trials or an item labeled as a “Humanitarian Use Device” must first be approved by the Institutional Review Board (IRB).

2.5 Riverside University Health System – Medical Center maintains a value analysis program. All new supplies and medical purchased services must be vetted and approved through this process. Requests for capital equipment may also be vetted through the committee.

2.6 Riverside University Health System – Medical Center holds periodic value analysis committee meetings, or has an agenda item on standing clinical committees to review the requests for supplies and equipment submitted by its physicians and clinical staff.

2.7 The Value Analysis Committee evaluates new and replacement medical supplies and equipment and may review capital equipment requests and procedure supportive services provided by a contractor.

2.8 Durable medical equipment (DME) is not in the prevue of the value analysis committee as DME is provided by contracted home care companies and is not the financial responsibility of the medical center or its clinics to provide.

2.9 Members of the committee will receive information before each meeting to facilitate product evaluation.

2.10 The membership of the Value Analysis Committee will include a selection of physicians, clinical staff, and hospital administration and nursing administration.

2.11 A vendor or supplier may not receive retroactive payment for any unapproved supply or device utilized for patient care or evaluation even if the device is approved at a later date, unless authorized by hospital administration.

2.12 The Value Analysis Committee may approve items through online voting/polling as approved by the committee chair. If any member determines that the item needs to be routed through the committee meeting instead of through online polling, a request by any member at the time of polling will automatically place the item on the next committee agenda.

2.13 Products deemed by the value analysis manager to be replacement, substitute items for existing or similar technology may be approved at the discretion of the value analysis manager.

3. Supply and Equipment Request Process

3.1 Departments and individuals seeking new products will complete the Value Analysis Product Request Form (attachment 1). Incomplete Value Analysis Committee Item Request Forms will be returned to the originator for completion. The steps for completion of the Value Analysis Product Request Form are located at the very top of the form. All steps must be completed in entirety for submission.

3.2 Departments must ascertain if other department will be affected by a change or add of a product and must identify the impact of the request prior to submitting the request for a new or replacement item. A list of the affected departments must also be entered in the appropriate field in the Value Analysis Product Request Form. The requestor should also gain approval of the item(s) from the affected departments prior to submitting the request.

3.3 A department representative or the individual requesting the new product will be invited to present their item to the appropriate Value Analysis Committee meeting where the product and/or evaluation results may be briefly presented. If the requestor or requestor designee does not present their request to the Value Analysis Committee, the item will be automatically denied and the requestor will need resubmit their request.

3.4 Any requests to build medical devices and/or supplies in the item master file must first be vetted through the value analysis office for approval.

3.5 Use of generic codes to purchase stock or non-stock medical supplies is prohibited unless approved by the Value Analysis manager.

4. ATTACHMENTS

4.1 VAC Item Request Form

Document History:

Prior Release Dates: 12/28/15, 2/11/2019	**Retire Date:** N/A
Document Owner: Value Analysis	**Replaces Policy:** N.A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
1/2024	Value Analysis Manager	No	Re-sign

Riverside University HEALTH SYSTEM

VALUE ANALYSIS COMMITTEE – PRODUCT REQUEST FORM

☐ Supply ☐ Capital Equipment ☐ Service (check one)

Instructions: Only complete/typed forms will be accepted. These steps must be completed in entirety

1. Physicians/Clinicians – please complete this form in its entirety – or it will be returned for completion.
2. Physicians, please complete and sign the conflict of interest section in its entirety
3. Attach supplemental information such as studies and references that will support your request
4. Forward the completed form to the department manager responsible for ordering the item(s)
5. Provide/email a general PowerPoint slide or slides for this item that you would like to use to present to the committee at the time of this form's submission - ***REQUIRED***
6. E-mail completed form and PowerPoint Slides to j.espinoza@RUHealth.org and submit signed forms via inter-office mail to Jeffrey Espinoza – Value Analysis – CPC Suite 208

SECTION A. To be completed by the Physician/Primary Clinician Requesting the Product(s)

Date Requested:	

REQUESTOR INFORMATION

1. Physician/Primary Clinician Name:	
2. Office Phone Number:	
3. Cell phone Number:	
4. Email:	
5. Medical/Hospital Department:	

PRODUCT INFORMATION

6. Manufacturer:	
7. Representative name and contact #	
8. Representative email	
9. Name of new product(s)/Device(s)	
10. Product Number(s) (Manufacturers)	
11. How will this product improve clinical outcomes?	Improves/Decreases : ☐ Patient Safety ☐ Pain ☐ Infection ☐ Wound Healing ☐ OR Time ☐ LOS ☐ Recovery time ☐ Readmissions ☐ Re-ops ☐ Staffing ☐ Cost/procedure ☐ Blood Loss ☐ Other (write-in):
12. What procedures will this product be utilized in? *Attach list if more space is needed	
13. Identify and attach evidence based practice literature that will support this/these product(s) and outcomes	*Attach studies/data to packet
14. Anticipated annual volume of case/procedures that will use this/these product(s)	
15. How many procedures from a previous 1-year period would have qualified to use this device/product?	

16. Are there disposables or additional equipment needed to make the product operational? If so, describe.	☐ Yes ☐ No
17. Does this product have FDA approval? If yes, attach FDA Form – If No, device will require IRB approval	☐ Yes ☐ No – request is for adoption without trial If yes – Attach **most current** FDA approval forms/letters

EVALUATION REQUEST

18. Evaluation Requested?	☐ Yes ☐ No
19. Evaluation Period (no more than 90-days)	☐ 30-Day ☐ 60-Day ☐ 90-Day
20. Is the vendor providing trial product at no cost?	☐ Yes ☐ No If no – Administration will need to approve the cost and spend limit of the trial product – approval is not guaranteed

CLINICAL OUTCOMES AND STANDARD OF CARE– Additional Information

21. Briefly Describe the quality, safety and/or patient experience enhancements that this product will provide	
22. Are you willing to provide a retrospective report to the committee post-product adoption?	☐ Yes ☐ No
23. Please list facilities within a 50-mile radius that are using this product. Include contact information for references.	

REIMBURSEMENT/REVENUE INFORMATION

24. Is the revenue generated by this supply/equipment/service generated? If yes, describe	☐ Yes ☐ No
25. Will revenue capture for this supply/equipment/service be routine, such that no special authorizations or referrals will be necessary?	☐ Yes ☐ No
26. Please list the CPT codes and procedure codes associated with this supply/equipment/service (if more than one item, attach spreadsheet with this information)	***Required field**
27. Please provide HCPCS information for supplies (if more than one item, attach spreadsheet with this information)	***Required field**

IMPACT ON OPERATIONS AND FINANCE

28. Can the supply/equipment/service be initiated without a capital investment? If no, please describe	☐ Yes ☐ No
29. What other programs/departments may/will be impacted by the adoption of this/these product(s)? Include follow-up care departments. Ex. Patient care units, radiology, lab, etc.	
30. Does each identified department identified in #29 have all of the necessary staffing/equipment/supplies required to utilize the item(s) requested?	☐ Yes ☐ No
31. Will the supply/equipment/service reduce or increase non-labor expenses? Please describe how	☐ Reduce ☐ Increase – Please explain below:
32. Will the supply/equipment/service reduce or increase labor expenses? Please describe how	☐ Reduce ☐ No Change ☐ Increase –Please explain:
33. What impact on patient care/safety/quality can be anticipated if request is denied?	

EDUCATION REQUIREMENT

34. Is education required?	☐ Yes ☐ No
35. If yes, is what education required?	☐ Housewide ☐ Single Department, Only ☐ Specific Departments List:_____
36. What discipline(s) would need education?:	☐ R.N. ☐ RCP ☐ LPN ☐ CNA ☐ OR Tech Other: _____
37. Who will perform the education?: Rep, Department Educator/CNS, Agency Education Department	☐ Vendor Rep ☐ Department Educator/CNS ☐ Agency Education If Agency Education, Signature required below from Agency Education Director:_____ Date_____
38. Will Agency Education track education and competencies or will tracking be department-based?	Agency Education to Track/Manage: ☐ Department to track/manage: ☐

IMPACT ON HEALTH SYSTEM FACILITIES – **FOR EQUIPMENT AND SERVICE REQUESTS, ONLY*

Availability	
39. Is all of the space required for the equipment/service available within the existing health system facilities or will construction or space modification be required? If no, please describe	☐ Yes – Please provide space details ☐ No – Please describe necessary modifications

Readiness	
40. Is the space required within the existing hospital facilities currently suitable for the equipment/ services? If no, please describe needs	☐ Yes ☐ No – Please describe needs
41. Will the installation of this equipment or items necessary to provide the service require modification of the existing space or require attaching anything to the walls, floors or ceiling?	☐ Yes – OSHPD Assessment Required ☐ No – No OSHPD Assessment
Accessibility	
42. Are facilities sufficient to allow for the installation and access to install the equipment or provide the services, including the appropriate electrical/utility connections? If no, please describe	☐ Yes ☐ No – Please describe needs

INFORMATION SYSTEMS AND TECHNOLOGY REQUIREMENTS

43. Will the request require I.T. support?	☐ Yes ☐ No – If Yes, IT approval will be required prior to Value Analysis Committee approval
44. Describe IT support/ integration with EPIC or existing software system.	

LEGAL AND REGULATORY REQUIREMENTS - **Equipment and Services, only*

45. Can the equipment/service be initiated without first obtaining a state license or CDPH approval?	State licensing: Yes ☐ No ☐ NA ☐ CDPH: Yes ☐ No ☐ NA ☐
46. Has Corporate Compliance Officer confirmed licensing/regulatory requirement?	Yes ☐ No ☐ NA ☐
47. Please check from the list provided to the right – any risk potentials	☐ Stark Law ☐ HIPAA ☐ Joint Commission Standards ☐ CMS COP's ☐ California Licensing and Certification ☐ No risk identified
48. Please describe any potential legal or regulatory burden related to acquisition of the requested equipment or service	

COST ANALYSIS – *Excel Embedded for analysis – Double click on table below to access. USAGE MUST BE ESTIMATED USING EMR DATA. DATA MUST BE PROVIDED USING HISTORICAL CASE ESTIMATES

#	Manuf #	Item Description	Unit of Measure	Each/UOM	Cost per UOM	Each Price	Estimated Annual Usage by Each	Total Estimated Annual Cost
EX	EXAMP1	Trochar	CASE	10	100	10	200	2,000
1								
2								
3								
4								
5								

COST IMPACT ANALYSIS – *Excel Embedded for analysis – Double click on table below to access

#	Current Product Annual Spend	New Product Annual Spend	Annual Estimated Cost Increase/ Decrease
EX	1,000	700	(300)
1			
2			
3			
4			

***If this request is replacing an existing item, please complete a separate cost/savings analysis on a separate schedule/spreadsheet and attach to this packet. Please enter "See attached" on line 1**

CONFLICT OF INTEREST STATEMENT

Physician's financial interest in company:	☐ Yes ☐ No
Requestor's family/relative's interest in company:	☐ Yes ☐ No
Own stock (excluding mutual funds):	☐ Yes ☐ No
Is/are this/these product(s) sold by a physician-owned distributorship? If yes, is the physician directly or indirectly associated with this hospital?	☐ Yes ☐ No ☐ Yes ☐ No
Serve on the board of directors	☐ Yes ☐ No
Expect to or currently receive >$25 in royalties	☐ Yes ☐ No
Financial support from company to the hospital?	☐ Yes ☐ No
For research?	☐ Yes ☐ No
Educational grant	☐ Yes ☐ No
Travel support	☐ Yes ☐ No
Consulting Relationship:	☐ Yes ☐ No
Other financial interest that involves remuneration:	☐ Yes ☐ No
Specify:	

Requestors agree to take responsibility for ensuring compliance with Stark II and anti-kickback statutes and agrees to seek guidance when unsure.

REQUESTORS CERTIFICATION: *By signing here, I certify that I have reviewed the information in the previous sections and that I or my family have no financial interest in this product and I accept responsibility for ensuring Stark II and anti-kickback statutes are not violated if this product is approved and used for patient care.*

Print Name: _____ Service: _____

Signature: _____Date: _____

ADMINISTRATIVE APPROVALS

CHAIR/DIVISION CHAIR APPROVAL FOR PHYSICIAN/CLINICIAN REQUESTS

(Check response): ☐ **Approved** ☐ **Denied**

Chair/Division Chair Name (print): _____

*Signature: _____ Date: _____

***Department chairs who request items will need to have CMO approval**

DEPARMENT MANAGER APPROVAL

☐ **Approved** ☐ **Denied**

Dept. Manager Name, Print: _____ Unit:_____

Signature: _____ Date: _____

*** Department Heads who request items will need to have ACNO/AHA/Executive Director approval**

ADMINISTRATIVE APPROVAL FOR SUBMITTAL TO VALUE ANALYSIS

☐ **Approved** ☐ **Denied**

Administrator's Name, Print:_____

Administrator Signature: _____Date: _____

Below for Value Analysis and Business Office, Only – Please leave below blank

Outpatient

CPT / HCPCS	Requested Item Description	Expected Medi-Cal FFS Reimbursement*	Expected Medi-Cal HMO Reimbursement*	Expected Medicare Reimbursement

*Medi-Cal and Managed Medi-Cal reimbursement for procedures performed in the Operating Room may vary based on Anesthesia and OR time

Pays Operating Room time as follows

Description	Rate
Use of operating room or first hour	$101.90
First subsequent half hour	$40.76
Each subsequent half hour	$40.76
Maximum reimbursement total for all OR time	**$224.19**
Use of recovery room	$18.00

Inpatient

Payor	Payment model	DRG	GMLOS - Geometric Mean Length of Stay	Expected Reimbursement*
Medi-Cal FFS	Per Diem	N/A		
Medi-Cal HMO [IEHP]	Per Diem Implants: Cost + 5%	N/A		
Medicare	DRG			

*Expected payment for Medi-Cal FFS and Medi-Cal HMO based on GMLOS x Per Diem rate

(Add additional Rows if necessary)

FINANCIAL ANALYSIS AND RECOMMENDATION

Question	Yes (x)	No (x)	Comment
What percentage of reimbursement should the medical center expect for the requested product(s)?			
Based on the information provided, will the cost of this product be covered by existing reimbursement models?			
FISCAL RECOMMENDATION	**Adopt (x)**	**Not Feasible (x)**	**Comments:**
What is the financial recommendation for adopting this/these product(s)?			
Additional Comments:			

RIVERSIDE UNIVERSITY HEALTH SYSTEM

Housewide

	Document No: 149	Page 1 of 4
Title: Medical Supply, Device and Service Suppliers/Vendors/Manufacturer Representatives Management	**Effective Date:** 2/1/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Care Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 Vendors, suppliers, healthcare industry representatives who call on/provide sales and/or services to the Riverside University Health System Medical Center.

2. DEFINITIONS

2.1 Cold Call: A sales technique whereby a salesperson contacts individuals with whom they do not have an existing business relationship and who have not previously expressed an interest in the products or services that are being offered whether in person or via other communication methods.

2.2 Warm call: The solicitation of a potential customer with whom a sales representative or business has had prior contact. Warm calling refers to a sales call, visit or email that is preceded by some sort of contact with the potential customer or prospect, such as a direct mail campaign, an introduction at a business event or a referral.

2.3 Vendor(s): A person employed by a company or self-employed that provides any product or service to the Medical Center. This includes, but is not limited to persons that sell supplies, pharmaceuticals, equipment and/or services. Vendors may also be referred to as health care industry representatives (HCIR).

2.4 Vendor management System: An electronic system that houses required vendor credentials and information, relevant Riverside University Health System (RUHS) policies and procedures, and provides for the printing of visitor badges. The approved vendor management system is IntelliCentrics SEC^{3}URE.

2.5 Loitering: The act of standing or waiting around idly or without an apparent purpose in a public or non-public area.

3. POLICY

3.1 VENDORS

A. All vendors must register with IntelliCentrics SEC^{3}URE at www.intellicentrics.com.

i. The cost of vendor management systems, such as IntelliCentrics, is the burden of the vendor and/or his/her employer. IntelliCentrics will bill the

individual vendor.
Subscription to the system is controlled by IntelliCentrics and is not the responsibility of RUHS.

ii. Vendors must upload and maintain all required documentation and documentation updates in the IntelliCentrics system.

    a. Any required expired document will prevent a vendor from servicing their RUHS account.

    b. Vendors must comply with all immunization and policy requirements as designated by their specific sales and service category and area of the Medical Center visited. These requirements are revealed during the registration into the vendor management system.

iii. Vendors must read and attest to having read all policies, procedures, notifications and orientation materials prior to entering the Medical Center. Vendors will not be provided account access until all required forms and attestations are completed/submitted.

B. Vendors must sign in at one of the designated kiosks located in the purchasing office, storeroom or staffing office and print a badge.

    i. Printed badges must be displayed visibly on the vendor's left or right upper quadrant.

    ii. If a badge fails to stick over the visit, the vendor must go procure another badge by checking out and checking in in again at one of the kiosks.

    iii. Vendor/Visitor badges are only good on the day issued.

C. Vendors may not wander or conduct business in hallways, or loiter on the Medical Center premises or any adjunct buildings at any time. Vendors may have up to one hour for purchasing and consuming food in the Medical Center cafeteria or café.

D. Vendors may not "cold call" or "warm call" medical staff/providers, Medical Center management or other employees.

    i. Vendors who have established business relationships with department managers may reach out via email or phone to support currently utilized products or service for update purposes.

E. Vendors must refrain from any up-selling, recommendation of any unapproved device/product substitute or new technology.

    i. Vendors may only support current approved products in use at the Medical Center.

F. Failure to comply with any aspect of the vendor management policy may result in a vendor being permanently or temporarily dismissed from the Medical Center.

G. Gifts and meals provided by vendors are prohibited, including for inservice/training. NOTE: Items are considered gifts if a county employee is reimbursed by a vendor or contractor for purchasing food or goods to give away to County employees.

    i. Vendors are to adhere to county board policy # C-35

H. Trial of Equipment of Products

iv. Trial of equipment must be requested first by the department manager. The purchasing department is the only approved County entity that may approve an equipment trial. It is important to note that the County will not take responsibility for any loss, breakage or damage to trial equipment. Equipment left at the Medical Center for trial is at the risk of the vendor/sponsoring company.

v. Trial of medical supplies may only be approved by the Value Analysis Program. Managers must first gain approval for the trial of any supply item(s) prior to accepting the supplies by the vendor. As a rule, the Medical Center does not maintain a budget for the trial of supplies and the cost of trial supplies are borne by the sponsoring manufacturer.

vi. RUHS will not pay for any unapproved, devices or implants used for patient care or trial.

I. Exceptions: Contractors and construction workers providing services under the auspices of the County Economic Development Agency (EDA) or an approved vendor turnkey project are generally excluded from this policy. These vendors must check-in to plant operations at the start of every shift for a new vendor badge that will be provided by plant operations staff. Vendors will be notified if they are exempt by Plant Operations management.

3.2 STAFF

A. All vendors are to present to Medical Center areas of business with a valid, visible printed badge. For vendors who present without a printed badge, Medical Center office staff and employees are to direct vendors to the purchasing office in the Cactus Professional Center (CPC) to receive additional information about our vendor-related policies and vendor registration.

B. RUHS administration will evaluate compliance with this policy based on compliance scores generated in the vendor management system. Those vendors not meeting compliance requirements will be terminated.

C. Medical Center physicians, managers and staff are to refer all vendors to the purchasing department if they are found speaking to staff -- selling/representing products.

D. Medical Center physicians, managers and staff are to report vendors who fail to follow this policy to the Medical Center purchasing department for corrective action. This includes loitering and conducting business that is unscheduled on county property.

Document History:

Prior Release **Dates:** 1/29/2019	**Retire Date:** N/A
Document Owner: Value Analysis	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
1/2024	Value Analysis Manager	No	Re-sign

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 404.2	Page 1 of 3
Title: Competencies and Competency Assessment	**Effective Date:** 2/20/2024	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/Hospital Director		☒ **Policy** ☒ **Procedure** ☐ **Guideline**

1. SCOPE:

1.1 To outline the process for employees requiring training at Riverside University Health Systems (RUHS) Medical Center.

2. DEFINITIONS:

2.1 Competency Assessment Tool: A tool used to assess an employee's level of understanding based on the employee's job description and tasks, skills, and expectations specific to the department(s) that they are assigned to.

2.2 Designated Staff: Person that is trained, competent, or experienced in the scope of competency being evaluated.

3. PROCEDURES:

3.1 Responsibilities

a. The manager/supervisor or designated staff shall complete an initial assessment of competency for each new employee in their department/unit as long as the manager/supervisor or designated staff is qualified to perform such assessment. The person performing the assessment must be competent (qualified) to do so for each skill set assessed and verification of this competency/qualifications must be available upon request.

- Please see policy 403 "New Employee Orientation" for specific new employee information.

b. The manager/supervisor or designated staff will assess and document the employee's ability to carry out assigned responsibilities safely, competently, and in a timely manner.

c. The annual competency assessment may be reviewed simultaneously with completion of the RUHS – Medical Center or Clinic employee's performance evaluation.

d. Assessment of job skills and techniques, procedures, technology, and equipment required for job performance, and other annual requirements include.

e. Methods of validation that may be used to confirm competency include but are not limited to return demonstration, direct observation, written examination and/or skills station simulation.

f. Employee demonstration is the method used to assess most skill-based competencies. In this method staff may be asked to demonstrate skills or knowledge in real or simulated situations/environments.

g. Age specific competencies for clinical staff are completed to validate age-related/developmental competencies that address the ages of the patient populations they care for while performing their routine duties.

h. Maintenance of competency will be achieved in a variety of methods and activities that may include annual training, skills days, in-services, demonstrations, and computer-based trainings.

i. Competencies are specific to the department and are selected based on department educational needs/requirements, high risk skills, evaluations of events, new equipment evaluation, staff feedback and changes in practice.

3.2 Failure to Meet Competency Requirements: If the employee fails to meet competency requirements defined for the job, the following steps will be taken:

a. An education/training-needs assessment will be performed by the manager/supervisor or designated staff or preceptor to formulate an appropriate remediation plan for the employee.

b. Documentation of the process will be maintained in the employee's working file in the department and a copy sent to HR.

c. Should these efforts fail to bring the employee to an acceptable level of performance, the supervisor/manager will be responsible for initiating any necessary disciplinary action.

3.3 Annual Verifications of Employees' Licensures and Other Records

a. Each year, the Department Supervisors/Managers/Directors will be responsible, along with HR, for verifying currency of all required licenses, registrations, and certifications of employees in their respective areas. Documentation will be kept in the HR personnel files and in the working files of the departments/units.

b. Annual health screening requirements will be met by the employee completing the paperwork sent by Occupational Health for this purpose and by completing any appointment made to be seen at Occupational Health.

3.4 Contracted Workers

a. Health Screening: All contracted workers, including temporary agency employees (TAP), volunteers, and students, must comply with requirements for tuberculosis clearance and completion of health screening prior to start of work and annually thereafter. Evidence of screening (health clearance to

work) will be maintained in the contract file or will be made available from the contractor upon request per the terms of the contract. For TAP staff or students, the agency or school must maintain these records and provide to RUHS upon request.

b. Contracted Workers On Site Regularly: Contracted workers on site on a regular, daily basis and who provide patient care have the same annual requirements as employees. The Department/Nurse Manager or Nursing Administration (for nurse managers) are responsible for completing the assessments and certifications/verifications as they are for their own employees. Copies of these documents must be maintained in the Nurse Staffing Office.

c. Contracted Workers On Site Inconsistently: Contracted workers on site less than daily or on an on-call basis will have annual requirements assessed and verified by their company or principal. Such certified competencies will be made readily available to RUHS – Medical Center or Clinics upon request as stipulated by contract.

Document History:

Prior Release Dates: 05/01/87, 09/12/08, 7/26/2017, 12/9/2020	**Retire Date:** N/A
Document Owner: Director of Education	**Replaces Policy:** No. 116.1 published 03/20/00 & No. 404, published 03/25/03

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
2/8/2024	Nursing P&P	Yes	Added Scope and Recommendation to 3.1a and 3.1f
2/16/2024	PAC	Yes	Recommend delete content unrelated to competencies.

RIVERSIDE UNIVERSITY HEALTH SYSTEM –

MEDICAL CENTER, HOSPITAL BASED CLINICS, COMMUNITY HEALTH CENTERS, CORRECTIONAL HEALTH SERVICES

	Document No: 450	Page 1 of 6
Title: Attendance and Reporting Requirements	**Effective Date:** 10/20/2023	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Correctional Health Services** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/Hospital Director		☐ **Policy** ☐ **Procedure** ☐ **Guideline**

1. **PURPOSE:** To set clear and consistent standards and expectations regarding attendance and reporting requirements in order to minimize business disruption, enable adequate staffing coverage, ensure quality patient care, and maintain efficient healthcare operations.
2. **SCOPE:** This policy applies to all regular employees and all departments within the Medical Center (including the Arlington Campus), Hospital Based Clinics, Community Health Centers and Correctional Health Services, referred to herein as “employees” and “staff.”
3. **POLICY:** All employees are required to report to work on time and adhere to attendance standards and reporting requirements as a condition of their employment. Violation of this policy is subject to the progressive disciplinary process, per the applicable Memorandum of Understanding (MOU) or Management (Mgmt) Resolution and may result in disciplinary action up to and including termination.

3.1 ATTENDANCE CATEGORIES, DEFINITIONS AND STANDARDS:

a. **Full Absence** - One instance of an unscheduled absence for an entire shift, a continuous unscheduled absence from work across consecutive shifts, or absence from work in an unpaid status. This does not include protected time off. Accumulating (5) or more full unscheduled absences within a rolling 12-month period is considered excessive and may lead to progressive disciplinary action.

i. Note: Continuous absence from scheduled work across consecutive shifts, which may include regularly scheduled days off (i.e. scheduled Wednesday, not scheduled Thursday, scheduled Friday), only count as one absence until the employee returns to work, as long as the reason for the absence is the same illness.

b. **Partial Absence -** One instance of unscheduled departure from work 30 minutes early or more, in a paid or unpaid status. This does not include protected time off. Accumulating (5) or more partial absences within a rolling (12) month period is considered excessive and may lead to disciplinary action.

c. **Simple Tardy** - One instance of arriving less than 30 minutes late to work or returning less than 15 minutes late from a break or lunch period, without prior approval. Accumulating (5) simple tardies within a rolling (12) month period is considered excessive and may lead to disciplinary action**.**

i. Note: Should the Riverside University Health System Medical Center and affiliate departments encounter logistical challenges which cause undue difficulties on employees attempting to clock in for the start of their scheduled shift in a timely manner, such as verified inoperable timecard machines, employees may not have that occurrence count against them when the only reason for the Simple Tardy is due to the afforementioned logistical challenges.

d. **Severe Tardy** - One instance of arriving more than 30 minutes late to work or returning more than 15 minutes late from a break or lunch period, without prior approval. Accumulating (3) or more severe tardies within a rolling (12) month period is considered excessive and may lead to disciplinary action.

e. **Multiple Attendance Occurrences** – Employees with multiple attendance occurrences, such as a mix of full absences, partial absences, and simple or severe tardies as defined above, may also be subject to progressive disciplinary action. For example, an employee with (3) tardies, (3) full absences, and (2) partial absences within a rolling (12) month period has not met the excessive absences threshold in any one of the aforementioned categories, but his/her attendance is disruptive to the operations of the department and may lead to disciplinary action. Supervisors and Managers shall work with Human Resources to determine if an employee's multiple attendance occurrences arise to a level that may lead to disciplinary action.

f. **Protected Leaves** - This policy is not intended to interfere with an employee's right to apply for and utilize Short Term or Long-Term Disability programs for qualifying medical reasons. Furthermore, time away from work covered by FMLA/CFRA, PDL, Kin Care, Military Leave, Workers' Comp, or any other form of protected leave will not be counted against meeting attendance standards. However, employees are still required to follow applicable reporting/call-out procedures when taking protected leave, and to accurately fill out their timecards.

g. **Other Leaves** - Full and/or partial absences that are pre-scheduled and approved due to the use of vacation, annual leave, comp time, furlough, holiday, flex, bereavement leave, or other leaves will not be counted against meeting attendance standards. Jury duty will not count against staff either; however, employees are expected to notify their supervisors upon receiving a jury duty summons, and to follow normal reporting requirements if called to serve. Similarly, full or partial absences due to low census will not be counted.

h. **Corrective Actions/Discipline** - If an employee has reached one or more attendance occurrence thresholds as defined above, the progressive disciplinary process will be triggered. For reference, the standard progressive disciplinary path is noted below; however, one or more of these steps may be skipped depending on the severity of the case, prior discipline, and/or other factors related to the absence(s). As long as circumstances allow, Supervisors or Managers are expected to have verbal discussions with employees before their absenteeism becomes excessive.

i. Directive Memorandum or Corrective Memorandum (as applicable) once the employee's absences are considered excessive.

ii. Corrective Counseling Confirmation Memorandum if additional occurrences take place within a year of the issuance of the Directive/Corrective Memorandum. Human Resources should be consulted before issuance.

iii. Continued absenteeism may result in formal discipline. Supervisors or Managers must consult with Human Resources for next steps.

iv. A perceived pattern of sick leave abuse may be subject to review and consideration of a Medical Certification Directive, per the applicable MOU or Mgmt. Resolution.

v. The more frequent the absences, partial absences, tardies, and failure to follow reporting requirements, as well as no-call/no-shows, sick leave abuse (e.g., a pattern of calling in sick on holidays, before/after regular days offs, etc.), the more disruptive it becomes to the workplace, and the greater the impact on the employee's job performance and/or operations of the department. Therefore, it is policy that the more egregious an employee's failure to meet attendance standards or follow reporting requirements, the more severe the disciplinary action may be.

4. PROCEDURES:

4.1 Electronic Timeclock and Attendance System (Kronos)

a. Management will ensure proper training for employees concerning the use of Kronos.

b. Each employee is expected to utilize the time clock in his/her department to accurately record their arrival, departure, and meal periods (if applicable).

i. If the time clock is not functioning, the employee must opt to use the nearest time clock or use Kronos on their desktop to record their arrival/departure, and meal periods (if applicable).

ii. Employees will review all punches and electronically approve timecard by the end of the last shift worked in the pay period. An incomplete timecard may result in a delay of pay.

iii. All timecard exceptions are to be corrected and attested by the employee. The employee must inform their manager of the reasons for the exceptions or missed punch.

iv. Multiple missed punches or repeated failure to notify management of timecard exceptions may result in disciplinary action.

c. Employees shall not clock in more than five (5) minutes prior to the start of their assigned shift, nor clock out more than five (5) minutes after the end of their scheduled shift, unless prior approval has been given.

d. Overtime is incurred when an employee works beyond their scheduled shift. Working overtime without prior approval is not permitted and may be subject to the progressive disciplinary process.

e. Employees will only clock in themselves with their specific badge or sign-in. It is not permissible for employees to clock in anyone other than themselves.

4.2 Reporting to Work and Call-Out Procedures; Tardiness; Absences

a. Employees are expected to report to work at the start of their scheduled shift and be available and ready to perform their assigned duties. For timekeeping and payroll purposes, time is rounded to the nearest 6-minute increment. However, RUHS-MC/CHC/CHS/HBC policy is that the employee is tardy if not present and ready to work at the actual start of their scheduled shift.

b. If an employee is going to be tardy and unable to report to work at their scheduled start time, the following procedure is required:

    i. Directly notify the immediate supervisor, or designated member of the management team as soon as possible, but prior to the start of shift. A message may be left if the supervisor is unavailable. Nursing and nursing attendant staff may also be required to notify the Staffing Office at (951) 486-4672.

    ii. Upon arrival to work, notify the immediate supervisor of your presence. If the immediate supervisor is unavailable, notify the department manager, director, or designee.

    iii. If an employees' assigned department has an established call-out procedure that differs from the above, then the departmental procedure takes precedence.

c. Misuse of work time such as clocking/reporting in and then leaving the work area to tend to personal business, taking unauthorized breaks, etc., is not permissible and may negatively impact an employee's job performance and/or operations of the department.

d. Employees must follow call-out procedures for each unscheduled absence and/or if they are unable to report to work on time as scheduled. Employees may not call out for multiple days with a single call-out unless the employee chooses to provide a doctor's statement indicating a specific date for return to work. Employees must directly notify their department director, manager, assistant manager, charge nurse, or immediate supervisor (and the Staffing Office for nursing and nursing attendant staff) at least TWO (2) HOURS prior to the start of their shift.

    i. If the department director, manager, assistant manager, charge nurse and immediate supervisor are unavailable two hours before shift, the employee shall leave a voicemail for their immediate supervisor. Nursing and nursing attendant staff must also notify the Staffing Office regardless of department director/manager or supervisor availability.

    ii. The employee (not a friend, family member, etc.) shall make contact with their director/manager/supervisor or Staffing Office, unless an emergency renders the employee unable to call in directly.

    iii. The employee must provide enough information for management to determine the appropriate leave balance (sick leave, vacation/personal time, Kin Care, FMLA, etc.) to cover the employee's absence. For example, an employee calling off for Kin Care or sick leave should specify this at the time of the call off. It is not sufficient to simply call out citing "family emergency" or "personal day."

    iv. Management acknowledging and confirming understanding that an employee has called out is not an indication that the employees' absence has been approved. There are many factors that need to be considered by management when approving call-outs, and management may not have all the information at the time of the call-out to approve the time off (such as availability of leave banks, protected leave time, etc.). Each individual absence will be evaluated by management to determine if the absence is approved or not.

e. Failure to follow call-out procedures may result in the employee being considered Absent Without Leave (AWOL), which will result in the employee's time being carried on the payroll as unauthorized Absent Without Pay (AWP). Instances of AWOL and AWP may lead to disciplinary action up to and including termination, per the applicable MOU or Management Resolution.

f. With respect to unscheduled partial absences, an employee who must leave work early due to unforeseen circumstances must first speak with their immediate supervisor to obtain approval. If approval is granted, the employee will be allowed to use the appropriate leave bank (if available) to cover their early departure; however, the employee will be charged with a partial absence (30 minutes or more) due to the early departure not being pre-scheduled. Employees who leave work early any number of minutes without approval (i.e. walking off the job) will be considered AWOL and carried on the payroll as AWP, which may lead to disciplinary action for AWOL and/or possible insubordination depending on the circumstances. On certain occasions, it may be necessary for management to reduce staff levels based on business need. Employees who volunteer to leave work early under these circumstances will not be charged with a partial absence.

g. RUHS-MC/CHC/CHS does not allow the casual use of vacation, compensatory time, or holiday time, in lieu of sick leave. An employee who has used his/her entire sick leave bank will not be allowed to use other accrued time in order to avoid being absent without pay (AWP), unless sick leave has been exhausted as a result of a serious health condition that has been qualified and designated under the applicable state and/or federal leave law(s). An employee who has exhausted their sick leave bank and does not qualify to use other accrued time will be carried on the payroll as AWP, which is considered AWOL and subject to disciplinary action up to and including termination.

4.3 Failure to meet any of the requirements of this policy may be documented in annual performance evaluations and may lead to progressive disciplinary action up to and including termination. Temporary, Per Diem, or In-House Registry staff who fail to meet the requirements of this policy may have their assignment ended or may no longer be scheduled to work.

4.4 RUHS-MC/CHC/CHS/HBC acknowledges that there may be unique situations in which an employee is unable to adhere to this policy and the expectations within it, due to extenuating circumstances outside of their control. If an employee feels that they are in this situation, they must alert their department Manager or Director so that their circumstances can be evaluated alongside the Department's staffing needs. Certain leniencies and/or exemptions may be granted on a case-by-case basis, but staffing needs of the Department may take precedence in most circumstances.

4.5 Directors, Managers and Supervisors are expected to effectively monitor, track, manage and enforce the provisions of this policy. Failure to do so may be subject to progressive disciplinary action and/or documentation of such in their performance evaluation.

4.6 In emergency circumstances, such as the COVID-19 pandemic, some of the requirements of this policy may be relaxed in accordance with any County policies and procedures developed during that time. The decision of when these requirements may be relaxed are at the discretion of the RUHS-MC CEO or their designated representative.

5. REFERENCES

5.1 Laborers' International Union of North America (LIUNA) Local 777 Memorandum of Understanding (MOU)

5.2 Service Employees International Union (SEIU), Local 721 Memorandum of Understanding (MOU)

Document History:

Prior Release Dates: New	**Retire Date:** N/A
Document Owner: Executive Administration	**Replaces Policy:** N/A

Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
April 2022	RUHS Executive Administration, Hospital and Ambulatory		
April 2022	Human Resources Division Manager		
September 2023	LIUNA		
September 2023	SEIU		
10/20/2023	Policy Approval Committee	Y	References and document approval history tracking requested

RIVERSIDE UNIVERSITY HEALTH SYSTEM
Housewide

	Document No: 600.3	Page 1 of 9
Title: Patient Medical Records	**Effective Date:** 2/15/2024	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☒ **Procedure** ☐ **Guideline**

1. PROCEDURES

1.1 Riverside University Health System (RUHS) currently maintains patient medical records electronically and on paper. Maintenance of paper and electronic health record (EHR); (Medical Record):

a. Medical records shall be physically maintained in a safe and secure area in the hospital or in an approved off-site storage facility. Safeguards to prevent loss, destruction, and tampering shall be implemented by all workforce members.

b. Documentation that comprises the medical record may physically exist in separate and multiple locations in both paper and electronic form. Any previous electronic legacy systems that were not interfaced are still owned by the managers of those areas (i.e. OBTraceVu) and are accessed directly with those system owners as needed.

c. Electronic Health Information (EHI) is:

1.1.c.1 Electronic Protected Health Information (ePHI)[1] to the extent it would be included in a Designated Record Set[2], regardless of whether the group of records are used or maintained by or for a HIPAA covered entity; and

1.1.c.2 Individually Identifiable Health Information (IIHI)[3] that:

- is maintained in electronic media or transmitted by electronic media; and
- is included in one of the following groups of records; and

1.1.c.2..1 medical records and billing records of a health care provider about individuals; or

1.1.c.2..2 enrollment, payment, claims adjudication, and case or medical management record systems maintained by or for a health plan; or

1.1.c.2..3 records used in whole or in part, to make decisions about individuals.

1.1.c.3 Electronic Health Information (EHI) does not include:

- psychotherapy notes as defined in 45 CFR 164.501
- information compiled in reasonable anticipation of, or for use in, a civil, criminal, or administrative action or proceeding

- individually identifiable health information in education records covered by the Family Educational Rights and Privacy Act, as amended, 20 U.S.C. 1232g
- individually identifiable health information in records of an adult student or a student attending a postsecondary educational institution, which are made, maintained or used only in connection with the provision of treatment to the student as described at 20 U.S.C. 1232g(a)(4)(B)(iv)
- individually identifiable health information in employment records held by a covered entity in its role as employer
- individually identifiable health information regarding a person who has been deceased for more than 50 years
- De-identified protected health information[4] as set forth in 45 CFR 164.514(a)-(c)

1.2 All patient records, either as original or accurate reproductions of the contents of such originals, shall be maintained in such form as to be legible and readily available upon the request of:

a. The admitting licensed healthcare practitioner acting within their scope of professional licensure.

b. The non-physician granted privileges pursuant to California Code of Regulations, Title 22, section 70706.1.

c. The Medical Center, the Community Health Centers, their medical staff, or any authorized officer, agent or employee of either.

d. Any other person authorized by law to make such a request.

1.3 Electronic records are available in real-time as they are processed and authenticated in the EHR system. Incomplete documentation/drafts/notes pending is not available in the EHR system until the document is reviewed and authenticated. Previous EHR legacy systems are available in real-time via DataArk.

1.4 Original point of care hand written medical record documentation must be sent to the Health Information Management (HIM) department to be scanned into the patient's permanent EHR.

1.5 All documentation shall be assessed to ensure that the patient identification that resides on each document is for the correct patient prior to being entered into the EHR.

1.6 Paper Records (prior to EHR implementation) are maintained offsite in an approved record storage facility and can be obtained 24/7 via an authorized requester.

1.7 Availability of medical records depends on authorized access and request type.

a. MyChart allows a patient, and their appointed proxy, access to their health information and direct connection to their care team, with tools to help actively participate in their care.

1.8 Confidentiality

a. The Medical Record is confidential and is protected from unauthorized disclosure by law.

b. The circumstances under which RUHS may use and disclose confidential medical record information is set forth in the Notice of Privacy Practices and in other RUHS Privacy Policies and Procedures.

c. Under the HIPAA Privacy Rule, an individual has the right to access and/or amend their protected health information (PHI) that is contained within a designated record.

d. RUHS will not knowingly interfere with access, exchange, or use of EHI unless the practice is Required by Law or a Regulatory Exception applies (*see RUHS policy HW 741 Information Blocking*).

1.9 Components of the patient medical record.

a. Medical record content shall meet all federal and state legal, regulatory and accreditation requirements.

b. All hospital medical records and hospital-based clinic records must also comply with the RUHS Medical Staff Bylaws for content and timely completion.

c. All documentation and entries in the medical record, both paper and electronic, must be identified with the patient's full name, date of birth, and medical record number (MRN).

d. The medical record includes both written and electronic documentation and shall include the following items (if applicable). Information:

- Needed to support the patient's diagnosis and condition.
- That documents the course and result of the patient's care, treatment, and services.
- About the patient's care, treatment, and services that promote continuity of care among providers.
- That is patient identifiable source information, such as photographs, digital images, and films, monitoring strips and/or written or dictated summaries or interpretation of findings.
- Required in Attachment I. *Required Elements of the Patient Medical Record*.

1.10 Record Authentication

a. Only authorized individuals shall make entries in the medical record.

b. All entries in the medical record shall meet the standards for data integrity by meeting the following guidelines:

- Every medical record entry must be dated, its author identified and, when necessary, authenticated. Signatures must be legible or accompanied by the legibly printed name on hand written documentation.
- Countersignatures or dual signatures are used as required by state law and RUHS Medical Staff Bylaws.
- Initials may be used to authenticate entries on flow sheets or medication records, and the document must include a key to identify the individuals whose initials appear on the document.
- Only an author can authenticate their own entry. Indications of authentication can include written signatures or initials, dictation entries, rubber stamps, or computer "signatures" (or sequence of keys).
- No individual shall share electronic signature keys with any other individual.

1.11 Timeliness

a. Documentation in the medical record will be entered in a timely manner.

b. The healthcare provider will record the patient's medical history and physical examination, including updates, in the medical record within 24 hours after inpatient admission or registration, but prior to surgery or a procedure requiring anesthesia.

c. All inpatient medical records must be completed within 14 days from the date of a patient's discharge (California Code of Regulations, Title 22, section 70751).

d. A report of all operations performed or a procedure progress note shall be immediately written, dictated or completed electronically by the attending or resident physician within 24 hours. (See *RUHS – Medical Center Medical Staff Bylaws- Rules and Regulations No. 17*)

e. Verbal and/or telephone orders for administration of medication are restricted to emergency situations (see *RUHS policy HW 680 Telephone and Verbal Orders*) and must be reviewed and countersigned by the physician within 48 hours.

1.12 Correction to the Record

a. Patients may request a medical record amendment and/or a medical record addendum. Refer to RUHS policy HW 709 *Amendments and Addendums to the Medical Record* for handling patient requests for record amendment and record addendums.

b. When an error is made in a medical record entry, all RUHS workforce members shall ensure the original entry must not be obliterated, removed, or destroyed and the inaccurate information should still be accessible.

c. If information in a paper medical record must be corrected or revised:

- Draw a single line through the incorrect entry and write "error".
- Initial this error and write the date and time.
- Note revision with the signature of the individual making the correction.

d. If the document was originally created in a paper format, and then scanned electronically:

- The electronic version must be corrected by printing the documentation, correcting as above, and rescanning the document.
- The original scanned electronic version must be archived and/or filed in error with a watermark across the scanned document stating "File in Error";

e. Mechanisms for making corrections to the direct entry of clinical documentation vary from one system to another but shall follow the same basic principles as corrections to the paper record. When adding addendums for notes in the medical record, RUHS workforce members must locate the electronic document and create an addendum to the note, which shall include the following:

- Document the error.
- The corrected information.
- The identity of the individual who created the addendum.
- The date created.
- The electronic signature of the individual making the addendum.

RUHS workforce members may contact a credentialed trainer from Information Services for assistance, as needed.

f. Consent forms should not be corrected. If an error is made on the consent form, a new form is required to be completed, whether on paper or electronically in the web-based electronic consent platform, with the patient and witness of the patient's signature.

1.13 Late Entry. When a pertinent entry was missed or not written in a timely manner, the author must meet the following requirements:

a. Identify the new entry as a "late entry."
b. Enter the current date and time – do not attempt to give the appearance that the entry was made on a previous date or an earlier time.
c. Sign the entry.
d. Refer to the date and circumstance for which the late entry or addendum is written.
e. Document as soon as possible. The longer the time lapse, the less reliable the entry becomes.

1.14 Audit Requirements

a. The hospital will ensure that there is ongoing review of medical records at the point of care, based on the following indicators:
   - Presence
   - Timeliness
   - Legibility (whether handwritten or printed)
   - Accuracy
   - Authentication
   - Completeness of data and information

b. The hospital will also measure the hospital medical record delinquency rate at regular intervals but no less than every three months. The medical record delinquency rate is:
   - Averaged from the last four quarterly measurements will be acceptable at 50% or less of the average monthly discharge (AMD) rate.
   - Each individual quarterly measurement will be acceptable if it is no greater than 50% of the AMD rate.

1.15 Record Retention. Medical records will be retained in compliance with Federal and State laws and County of Riverside Retention Policy, *Records Retention Management*.

1.16 Urgent/Emergent-Care Services. The medical record of a patient who receives urgent or emergency care, treatment, and services will contain all of the following:

a. The time and means of arrival.
b. Indication that the patient left against medical advice or left before being seen, when applicable.
c. Conclusions reached at the termination of care, treatment, and services, including the patient's final disposition, condition, and instructions given for follow-up care, treatment, and services.

d. A copy of any information made available to the practitioner or medical organization that is expected to provide follow-up care, treatment, and services.

1.17 Operative and High-Risk Procedures

a. The patient's medical record will document operative or other high-risk procedures, and the use of moderate or deep sedation or anesthesia (see RUHS Policy No. 628, *Moderate and Deep Sedation/Analgesia*.

b. A licensed practitioner involved in the patient's care will document the provisional diagnosis in the medical record before an operative or other high-risk procedure is performed.

c. The patient's medical history and physical examination will be recorded in the medical record before an operative or other high-risk procedure is performed

d. An operative or other high-risk procedure report will be written, completed electronically, or dictated upon completion of the operative or other high-risk procedure and before the patient is transferred to the next level of care. Exceptions to this requirement:

- When an operative or other high-risk procedure progress note is written immediately after the procedure, in which case the full report can be written or dictated within 24 hours.
- If the practitioner performing the operation or high-risk procedure accompanies the patient from the operating room (OR) to the next unit or area of care, the report can be written, completed electronically or dictated in the new unit or area of care.

e. The operative or other high-risk procedure report will include the following information:

- Date of procedure
- The name(s) of the licensed practitioner(s) who performed the procedure and their assistant(s).
- The preoperative diagnosis.
- The name of the procedure performed.
- Indication(s) for the procedure
- A description of the procedure.
- Findings of the procedure.
- Any estimated blood loss.
- Any specimen(s) removed.
- The postoperative diagnosis.

f. When a full operative or other high-risk procedure report cannot be entered immediately into the patient's medical record after the operation or procedure, a progress note will be entered in the medical record before the patient is transferred to the next level of care. This progress note will include:

- The name(s) of the licensed practitioner(s) who performed the procedure and their assistant(s).The procedure performed.
- Preoperative diagnosis, indication(s) for the procedure, a description of the procedure, findings of the procedure, estimated blood loss, specimen(s) removed, and postoperative diagnosis..

g. The medical record will contain the following postoperative information:

- The patient's vital signs and level of consciousness.
- Any medications, including intravenous fluids and any administered blood, blood products, and blood components.
- Any unanticipated events or complications (including blood transfusion reactions) and the management of those events.
- Wound classification
- The postoperative condition and disposition

h. The medical record will contain documentation that the patient was discharged from the post-sedation or post-anesthesia care area either by the licensed practitioner responsible for their care or according to discharge criteria.

i. The medical record will contain documentation of the use of approved discharge criteria that determine the patient's readiness for discharge.

j. The postoperative documentation will contain the name of the licensed practitioner responsible for discharge.

1.18 Restraint and/or Seclusion. Refer to RUHS – Medical Center policy HW 630 Restraints and Seclusion and to RUHS – Medical Center Psychiatric Unit Emergency Treatment Services (ETS) and Inpatient Treatment Services (ITF), Arlington Campus, policies for documentation requirements for restraint and/or seclusion.

1.19 Summary/Problem Lists.

a. The medical record will contain a summary list (problem list) for each patient who receives continuing ambulatory care services. The summary list will be initiated for the patient by their third visit and will contain the following information:

- Any medical diagnoses and significant conditions.
- Any operative and invasive procedures.
- Any adverse or allergic drug reactions.
- Any current medications, over-the-counter medications, and herbal/holistic preparations.

b. The patient's summary list will be updated whenever there is a change in diagnosis, medication, or allergy to medication(s) and whenever a procedure is performed.

1.20 Discharge Information

a. Patient discharge information will be documented in the medical record.

b. In order to provide information to other caregivers and facilitate the patient's continuity of care, the medical record will contain a concise discharge summary that includes the following:

- The reason for hospitalization.
- The procedures performed.
- The care, treatment, and services provided.
- The patient's condition and disposition at discharge.
- Information provided to the patient and family.
- Provisions for follow-up care.

c. A discharge summary is not required when a patient is seen for outpatient services or presents to the emergency department and is not admitted as inpatient. In this instance, a final progress note or summary of care may be substituted for the discharge summary.

1.21 Ownership, Security of Medical Records

a. All medical records of RUHS patients are owned by RUHS, regardless of whether they are created at, or received by RUHS.

b. Patient lists and billing information are property of RUHS and the County of Riverside.

c. The information contained within the medical record must be accessible to the patient and thus made available to the patient and/or their legal representative upon appropriate request and authorization by the patient or their legal representative.

d. Original records may not be removed from RUHS facilities except by court order, subpoena, or as otherwise required by law.

e. If an employed physician or provider separates from or is terminated by RUHS for any reason, they may not remove any original or shadow copies of medical records, patient lists, and/or billing information from RUHS facilities and/or offices.

f. For continuity of care purposes, and in accordance with applicable laws and regulations, patients may request a copy of their records be forwarded to another provider upon written request to RUHS.

2. REFERENCES

2.1 Medicare Conditions of Participation 42 CFR Section 482.24.

2.2 45 CFR Section 171.102

2.3 County of Riverside Records Retention Policy.

2.4 RUHS policy HW 700 Patient Privacy – HIPAA.

2.5 RUHS – Medical Center Medical Staff Bylaws and Rules and Regulations

2.6 RUHS policy HW 680 Telephone and Verbal Orders

2.7 RUHS policy HW 741 Information Blocking

2.8 RUHS – Medical Center policy HW 628 Moderate and Deep Sedation/Analgesia.

2.9 RUHS – Medical Center policy HW 630 Restraints and Seclusion

2.10 RUHS policy HW 709 Amendments and Addendums to the Medical Record.

2.11 The Joint Commission Standards, Record of Care, Treatment and Services.

2.12 Title 22 California Code of Regulations, sections 70706, 70749, 70527, 70751 and 71549.

3. ATTACHMENTS

3.1 Required Elements of the Patient Medical Record (The Joint Commission Standard Record of Care, Treatment, and Services)

ATTACHMENT I. REQUIRED ELEMENTS OF THE PATIENT MEDICAL RECORD

(The Joint Commission Standard Record of Care, Treatment, and Services)

1. The patient medical record will contain the following demographic information:
    - Patient's name, address, date of birth, and the name of any legally authorized representative
    - Patient's sex (gender)
    - Identification number (if applicable)
        - Social Security
        - Medicare
        - Medi-Cal
    - Legal status of any patient receiving behavioral health-care services
    - Patient's language and communication needs

2. The patient medical record will contain the following clinical information:
    - Date of Admission
    - Date of Discharge
    - Name of patient's admitting licensed health care practitioner acting within the scope of his or her professional licensure.
    - The reasons for admission for care, treatment, and service.
    - The patient's initial diagnosis, diagnostic impression(s), or condition(s)
    - Any findings of assessments and reassessments
    - Any allergies to food
    - Any allergies to medications
    - Any conclusions or impressions drawn from the patient's medical history and physical examination
    - Any diagnoses or conditions established during the patient's course of care, treatment, and services
    - Any consultation reports
    - Any observations relevant to care, treatment, and services
    - The patient's response to care, treatment, and services
    - Any emergency care, treatment, and services provided to the patient before his/her arrival at the hospital
    - Any progress notes
    - All orders
    - Any medications ordered or prescribed
    - Any medications administered, including the strength, dose, and route
    - Any access site for medication, administration devices used, and rate of administration
    - Any adverse drug reactions
    - Treatment goals, plan of care, and revisions to the plan of care
    - Results of diagnostic and therapeutic tests and procedures
    - Any medications dispensed or prescribed on discharge
    - Health care associated infections
    - Complications
    - Discharge or final diagnosis
    - Nursing notes
    - Vital signs
    - Discharge plan and evaluation results

3. As needed to provide care, treatment, and services, the patient medical record will contain the following additional information:
    - Any Advance Directive
    - Any informed consent (as required by RUHS Policy No. 602, *Patient Informed Consent*)
    - The Health Insurance Portability and Accountability Act (HIPAA) required acknowledgement form for the *Notice of Privacy Practices* (not required for patients in legal custody; i.e., jail inmates, prisoners)
    - Any record of communication with the patient, such as telephone calls or e-mail
    - Any patient-generated information

Document History:

Prior Release Dates: 1/2/09, 10/17/11, 3/28/12, 6/5/2017, 12/9/2020	**Retire Date:** N/A
Document Owner: Health Information Management, Compliance	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
1/30/2024	Director, Health Information Management	Y	References to EHI definition, MyChart, Information Blocking, and included additional details/workflow procedures
1/29/2024	Policy Approval Committee	Y	Minor wording to clarify meaning
2/8/2024	MEC	N	

RIVERSIDE UNIVERSITY HEALTH SYSTEM - MEDICAL CENTER

Housewide

	Document No: 602.3	Page 1 of 3
Title: Informed Consent: Antipsychotic Medications	**Effective Date:** 2/16/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 Any adult and pediatric patients, at Riverside University Health System (RUHS) Medical Center, that are prescribed antipsychotic medication.

2. DEFINITIONS

2.1 Informed Consent: a process that occurs between a patient or the patient‘s legal guardian/representative and his or her provider. The treating health care provider discloses appropriate information to a competent patient or the patient’s legal guardian so that the patient or patient’s legal guardian may voluntarily choose to accept or refuse treatment.

2.2 Antipsychotic medications – are defined by the FDA as a class of medications and are customarily used for the treatment of symptoms of psychoses.

2.3 Emergency - a situation in which action to impose treatment without the informed consent of the patient or patient’s legal guardian that is immediately necessary for the preservation of life or the prevention of bodily harm to the patient or others, and it is impracticable to first obtain a consent. The medication should be only what is required to treat the emergency condition.

2.4 A psychiatric emergency is an acute disturbance of behavior, thought or mood of a patient which if untreated may lead to harm, either to the individual or to others in the environment.

3. POLICY

3.1 The patient for whom antipsychotic medication has been ordered must be provided with sufficient information by the prescribing provider. The information must include the following and should be in the patient’s native language.

a. The nature of the mental illness for which the medication is being ordered

b. The right to withdraw their consent anytime

d. Reasonable alternative treatments, if available

e. The name and type of medication, range of frequency of administration, range of dose amount, including PRN orders

f. Probable length of time the medication will be taken

g. Probable side effects of the medication that are known to commonly occur and any particular side effects likely to occur to this particular patient

h. Possible additional side effects if the patient is taking it longer than three months, including the nature, symptoms and possibility of tardive dyskinesia

i. The likelihood of improving with or without the medication

j. The right to refuse medication

3.2 If a patient or his/her legal representative cannot communicate with the provider due to a language or communication barrier, the provider will arrange for an interpreter according to hospital policy. If an interpreter is used on-line or on phone, the required information will be documented along with the Interpreter's telephone ID on the informed consent form.

3.3 The prescribing provider must obtain the patient's or legal guardian's consent BEFORE the first dose of the medication is administered, unless exceptions are met.

a. Who may give consent:
   - Adults, emancipated minors, and legal guardians

3.4 All medication orders must be properly timed, dated, and recorded in the patient's medical record.

3.5 If the patient or legal representative refuses to sign the consent, but has **given verbal consent**:

a. The Prescribing Provider must document the patient's verbal consent

3.6 **Consent is NOT required if:**

a. In a psychiatric emergency
   - If antipsychotic medication is administered during an emergency, such medication shall only be what is required to treat the emergency condition and shall be provided in ways that are least restrictive of the personal liberty of the patient, i.e. medication administered by the oral route is offered first before other routes.
   - The provider determining that a psychiatric emergency exists and ordering involuntary administration of antipsychotic medication will document as soon as possible, in the medical record the indications for such an order.
   - If an antipsychotic medication was administered during a psychiatric emergency, a Psychiatric consult will be ordered by the Primary Team.
   - Injectable antipsychotic medication orders are "one-time only" orders. Further plan to administer injectable antipsychotics requires reassessment of patient.

b. Patients continuing on their home dose of medication. For these patients, a medication reconciliation will be performed and documented by the provider, as well as consent to continue the medication while in the hospital. Medications will be documented within the patient chart. If the provider is unable to reconcile antipsychotic medications, a psychiatry consult will be requested.

c. For patients with a medical diagnosis, making it unlikely to achieve consent, an attempt will be made to obtain verbal consent of the medication. Should that not

be possible, the patient's legal representative or family member will be educated on the medication. These conversations will be documented in the patient's chart, i.e. dementia or delirium. The provider may consider a Geriatric consult.

d. The court has determined, in a Capacity/Riese Hearing, that the patient is incompetent to make informed decision concerning medication.

4. REFERENCES

4.1 California Hospital Association Consent Manual, Chapter 5,

4.2 Rights for Individuals in Mental Health Treatment Facilities: Admitted Under the Laterman-Petris-Short Act. California Department of Mental Health.

4.3 Welfare and Institutions Code Section 5008(m), 5152(c)

4.4 Title 9, California Code of Regulations, Article 5.5

4.5 Mendez, J.B. (2013). Informed consent: Essential legal and ethical principles for nurses. *JONA'S Healthcare Law, Ethics and Regulation, 15(4),* 140-146. doi: 10.1097/NHL.0000000000000015

4.6 De Bord, J. (2014). Informed consent. Ethics in Medicine. Retrieved from https://depts.washington.edu/bioethx/topics/consent.html

4.7 California Hospital MH Law Manual (2021), Chapter 2, 2.45-2.47

4.8 HW Policy 602 Patient Informed Consent

4.9 HW Policy 838 Mental Health patients with inability to refuse medications

4.10 HW Policy 1002 RIESE Petitions & Declarations

4.11 HW Policy 142 Access to Language Services for Non or Limited English Proficient, Deaf, and Hearing-Impaired Persons.

Document History:

Prior Release Dates: New Housewide	**Retire Date:** N/A
Document Owner: Nursing	**Replaces Policy:** Arl 10.1 Consent for Psychoactive Medication

Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
12/2023	602.3 work group	Y	Revised documentation requirements when verbal consent is present
2/1/2024	Pre-Nursing P&P	Yes	Minor wording changes
2/15/2024	Nursing Policy and Procedure	Yes	Reviewed with ED. Recommend adding definition to Psychiatric emergency
2/16/2024	PAC	No	
2/16/2024	P&T Evote	No	
2/16/2024	MEC evote		

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

<table>
<tr><td></td><td>Document No: 603.4</td><td>Page 1 of 4</td></tr>
<tr><td>Title:
Pain Assessment & Management</td><td>Effective Date:
3/15/2024</td><td colspan="2">☐ RUHS – Behavioral Health
☐ RUHS – Community Health Centers
☐ RUHS – Hospital Based Clinics
☒ RUHS – Medical Center
☐ RUHS – Public Health
☐ Departmental</td></tr>
<tr><td colspan="2">Approved By:
 
Jennifer Cruikshank
CEO/ Hospital Director</td><td colspan="2">☐ Policy
☐ Procedure
☒ Guideline</td></tr>
</table>

1. SCOPE

1.1 Applies to all patients of the Medical Center and Arlington campuses, including those in the inpatient and emergency department settings.

2. DEFINITIONS

2.1 Pain: is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage. Pain is always subjective, however patients without the ability to communicate may still experience pain. Pain has sensory, emotional, cognitive, spiritual, and behavioral components that are interrelated with environmental, developmental, sociocultural, and contextual factors.

2.2 Pain assessment: information from the patient about provoking factors, quality/characteristics, region/radiation, relieving factors, associated symptoms, timing, and pain scores obtained with a pain assessment tool. When movement/activity causes or is expected to cause pain, movement/activity pain scores are utilized.

2.3 Pain assessment and history: information obtained from a pain assessment, the history of pain and its management and a history of analgesic use.

2.4 Pain assessment tool: is a reliable, validated tool used to measure pain.

2.5 Anticipatory pain: pain that is likely to be experienced due to a planned activity, or intervention

2.6 Licensed Practitioner(s) – (LP) An individual permitted by law and by the organization to provide care, treatment and services without direction or supervision.

3. POLICY

3.1 Riverside University Health Systems-Medical Center recognizes the patient's right to pain relief and supports a multidisciplinary approach to pain assessment

and management. The purpose of this policy is to establish standards for pain assessment and management.

3.2 Establishing Competency: the patient care team members shall complete and pass the virtual learning platform training on Pain Assessment and Management as part of their new hire Patient Care Orientation. And will demonstrate competency during their orientation period and on an on-as needed basis.

4. GUIDELINES

4.1 The LP, nurse, and clinical support staff shall assess the presence of pain on all patients upon initial evaluation, or assessment and at an ongoing basis per LP orders and whenever necessary.

4.2 Pain shall be assessed when new pain is reported and when procedures or activities that are expected to cause pain.

a. Determine the type of Pain.
b. Determine whether the pain is Acute or Chronic.
c. Assess the characteristic pain.
d. Site or location
e. Patient's stated pain goal

4.3 Pain management shall be individualized, with the consideration of the patient's clinical condition, past medical history, religious, and cultural concerns to establish realistic expectations and reasonable pain management goals.

a. Pain shall be addressed when the pain level interferes with function, activities of daily living, treatment, self-care, play or sleep.
b. The treatment strategies shall include pharmacologic, non-pharmacologic, or a combination of both approaches.
    - Pharmacologic intervention will be initiated by the LP.
        - Opioid.
        - Non-opioid use.
    - Procedure driven pain-management will be initiated by the LP.
        - Blocks
        - Cryotherapy
        - Sympathectomy
        - Cortisol injections
        - TENS (transcutaneous electrical nerve stimulation) units
        - Identify the patient's preference for non-pharmacologic intervention.
    - Non-pharmacologic intervention should be considered by the LP for discharge and outpatient management.

c. Pain management treatment plan shall be reviewed and revised as needed by the multidisciplinary team lead by the LP.

4.4 Self-report is the most reliable indicator of pain presence and intensity and shall be utilized whenever possible. In patients who cannot self-report use one or more of the following to assess pain:

a. Assume pain present for conditions or procedures that are known to be painful.

b. Use an approved pain assessment tool to assess pain in non-verbal patients when behavioral indicators are present, e.g., CPOT

4.5 The pain assessment tool utilized shall be consistent with the patient's level of cognition, and developmental and intellectual capacity.

4.6 Approved and validated tools to measure pain are Self-reporting and Non-verbal Tools. RUHS-Medical Center uses the following assessment tools:

c. **FLACC**: Face, Legs, Activity, Cry, and Consolability. Total points assigned may be from zero to ten. Commonly used for patients unable to verbalize pain: infants, toddlers, and those with cognitive impairment.
d. **CPOT**: Critical-Care Pain Observation Tool. Uses four behaviors: facial expression, body movement, muscle tension and compliance with ventilator patients. It can be used in nonverbal, non-ventilated patients, and sedated patients. It is reliable and valid for assessing pain in patients who are unable to self-report.
e. **FACES**: Wong-Baker FACES Pain rating scale. Generally used for patients ages 3 years and older.
f. **Numeric Pain Intensity (NPI) Scale**: Can be used for patients who can self-report pain. NPI provides a method for consistency in pain assessments. It determines treatment effects and easy to make comparative ratings.
g. **N-PASS**: Neonatal Pain, Agitation and Sedation Scale. Used for patients less than 3 months corrected age (<3months). Points are assigned for both pain and sedation.

4.7 Minimum frequency to administer oral or IV medication:

a. Oral pain medication shall not be given sooner than every 4 hours, unless otherwise ordered by the LP.

b. Injectable pain medications shall not be given sooner than every 2 hours, unless otherwise ordered by the LP.

4.8 Minimum frequency to administer subsequent oral or IV PRN pain medications:

a. Oral pain medication shall not be given sooner than 2 hours following an IV pain medication administration, unless otherwise ordered by the LP.
b. Injectable pain medication shall not be given sooner than 4 hours following an oral pain medication administration, unless otherwise ordered by the LP.

4.9 Pain reassessment

a. Reassessments after intervention to lessen pain should take place within a clinically appropriate time frame (i.e., at time of peak analgesic effect) to evaluate the effectiveness of pain management interventions.
    i. **After IV medication** intervention reassessment shall take place approximately **30** minutes after administration.
    ii. **After PO medication** intervention reassessment shall take place approximately **60** minutes after administration.
    iii. **After non-pharmacologic** intervention reassessment shall take place not longer than **60** minutes after intervention.

c. It is not necessary that the results of post-intervention reassessment be documented in a concurrent note. For example, the nurse may document the reassessment of a successful pain intervention at the end of the shift and the documentation may be as simple as "patient resting comfortably following pain medication" or "pain relief interventions were effective,
d. Reassessment for Patient Controlled Analgesia and continuous analgesia infusions per LP order.

4.10 After intervention, and pain is still present, do NOT re-dose the patient, for any pain level, prior to ordered frequency. **Call LP for a new pain order**.

a. Example: The patient received 1 mg of hydromorphone IV for pain of 10/10, 30 minutes later, the patient was reassessed, and it is now at 7/10- do not give what is prescribed as appropriate for this pain level, instead call the LP for additional or alternative orders.

4.11 Consideration of Patient Preference

a. A Patient may request to take a different (lesser) potent medication or a lower dose of the same medication than that which is ordered per their pain score, as long as the medication has been ordered as part of the prn (as needed) orders
    - For example, orders written to administer hydromorphone 1mg for severe pain, and hydromorphone 0.5mg for moderate pain. The patient may request hydromorphone 0.5mg even though pain was reported as severe
b. Alternative medication (lesser potency, or lower dose) must have already been ordered as part of the prn (as needed) orders
    - For example, orders are written to administer hydromorphone for severe pain, and acetaminophen for mild pain. The patient may request acetaminophen even though pain was reported as severe

4.12 Anticipatory Pain Management

c. Management involves anticipating and addressing potential sources of pain before they occur. For example, administering pain medication before physical therapy following a joint replacement to manage anticipatory pain and allow for optimal participation in therapy
    - Pre-procedure medication: For Procedures that are known to be painful (i.e., wound dressing changes, chest tube removal, venipunctures, endotracheal suctioning, etc.), assess the patient's pain level and administer appropriate analgesia prior to the anticipated painful procedure.
d. Document the reason for giving preemptive analgesia
    - If there is an existing prn pain medication order, the documentation may reflect administration for anticipatory pain rather than a reported score
    - A separate order for anticipatory pain management pre-procedure may be obtained

4.13 Patient and Family Education.
Patients and family shall be educated about pain assessment, management plan and reasonable goals.

a. Education shall include the patient's right to medically appropriate pain management.
b. Educate the patient and the family on the tools to be used to score and assess pain. Review their understanding of the pain scale selected to rate the patient's pain.
c. Discuss the patient's goal for pain management and safe treatment options: Non pharmacologic, safe use of opioid, and non-opioid medications when prescribed.
d. How activities of daily living might affect pain management and the strategies to address the issues.
e. Discharge should include side effects of pain treatment, safe use, storage, and disposal of opioids when prescribed.

4.14 Documentation

a. Initial assessment
b. Reassessment, e.g. work-list, brain
c. Flow Sheets
d. Plan of care
e. Document Education provided
f. Multidisciplinary Notes if applicable

5. REFERENCES

5.1 Joint Commission Perspectives. R3 Report. Pain Assessment and Management Standards for Hospitals. Issue 11, August 29, 2017. https://www.jointcommission.org/-/media/tjc/documents/standards/r3-reports/r3_report_issue_11_2_11_19_rev.pdf

5.2 The Joint Commission. PC01.02.07

5.3 The Joint Commission. Standards FAQs. Medication Administration – Incorporating Patient Preference Into Medication Administration Practices. March 13, 2017; last reviewed September 5, 2023.

https://www.jointcommission.org/standards/standard-faqs/critical-access-hospital/medication-management-mm/000002058/

5.4 Perry,A.G., Potter, P.A., Ostendorf W.R. (Eds.) 2018 Clinical Nursing Skills and Techniques(9th ed.) St. Louis: Elsevier

5.5 Czamecki, M.L., Turner, H.N. (2018) American Society for Pain Management Nursing (3rd ed.)., Core Curriculum for Pain Management Nursing. St. Louis: Elsevier

5.6 Validation of the Critical-Care Pain Observation Tool in Adult Patients. https://aacnjournals.org/ajcconline/article-abstract/15/4/420/517/Validation-of-the-Critical-Care-Pain-Observation?redirectedFrom=fulltext

5.7 Center to Advance Palliative Care (CAPC). Prescribing Opioids: A Pocket Reference. Updated August 16, 2021. https://www.capc.org/documents/324/

5.8 RUHS HW 603.5 Acute Pain Management Hospital Discharge Pain Opioid Prescribing Guidance

6. APPENDICES

6.1 Comparative Potency of Common Analgesics Tool

6.2 Equianalgesic Conversion Table

Document History:

Release Dates: 1/2001, 4/2003, 9/2005, 3/2012, 12/28/2016,3/2019, 7/20/23		**Retire Date:** N/A	
Sponsored by: Nursing Administration		**Replaces Policy:** N/A	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
3/2024	Pain review workgroup. Assessment review	Y	Added scope. Add 4.9c – clarifies that documentation may occur at end of shift. Review/add elements of reassessment and 4.11 consideration of patient preference for lesser potency dosing. Updated references. Added appendices 6.1 and 6.2
3/11/2024	Nursing P&P	Y	Minor formatting, clarifying language
3/13/2024	Policy Approval Committee	N	Evote approved
3/14/2024	MEC	N	

6.1 Comparative Potency of Common Analgesics

Pain Medication Potency Tool: Weakest to Strongest[1]

Opioids – associated with serious side effects[2]	
Strongest 	Fentanyl (Duragesic®)
	Hydromorphone (Dilaudid®)
	Oxymorphone (Opana®)
	Oxycodone (Percocet®)
	Morphine
	Hydrocodone (Norco®)
	Codeine (Tylenol #3®)
	Meperidine (Demerol®)
Weakest	Tramadol (Ultram®)
Non-opioids – much less potent than opioids	
	Acetaminophen (Tylenol®)
	Nonsteroidal Anti-inflammatory Drugs (NSAIDs®)
	- Ibuprofen (Motrin®, Advil®)
	- Naproxen (Aleve®)
	- Diclofenac (Voltaren®)

Adopted from NIH, Twycross et al. 2017 (3) pharmacological profiles of opioids and conversion tables.

Note: 1 - Tool information is only an estimate of potency. If unable to determine medication and dose, contact the licensed practitioner.
2 - Dizziness, confusion, drowsiness, sedation, respiratory depression & death, constipation, nausea, vomiting, itchiness, dry mouth, dependence, opioid use disorder.

6.2 Equianalgesic Conversion Table

Equianalgesic Conversion Table

Drug Name	Equianalgesic Dose		Oral to Parenteral Ratio
	Oral (mg)	Parenteral (mg)	
Morphine	25	10	5:2
Hydromorphone	5	2	5:2
Oxycodone	20	n/a	n/a
Hydrocodone	25	n/a	n/a
Oxymorphone	10	1	10:1

Potency ratios:

→ oral morphine: oral hydromorphone is 5:1
→ oral morphine: oral oxycodone is 1.25:1
→ oral morphine: IV hydromorphone is 12.5:1
→ transdermal fentanyl 25mcg/hr: oral morphine 50mg/24hr

Oral hydromorphone is 5 times as potent (mg per mg) **as oral morphine**

This conversion table is adapted from: McPherson ML. Demystifying Opioid Conversion Calculations: A Guide for Effective Dosing, 2nd ed. American Society of Health-System Pharmacists, Bethesda, Maryland, 2018.

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 603.5	Page 1 of 15
Title: Acute Pain Management & Hospital Discharge Pain & Opioid Prescribing Guidance	**Effective Date:** 3/13/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1 The guideline is intended for clinicians practicing within the Inpatient hospital setting (i.e., hospitalists, surgeons, internist, primary care physicians, nurse practitioners, and physician assistants) and provides a structured approach to prescribing opioids during hospitalization and hospital discharge pain management and opioid prescribing guidance.

1.2 Applies to hospitalized adult patients ≥ 18 years of age, acute non-cancer pain (i.e., pain lasting ≤ 3 months).

1.3 Excludes patients receiving palliative care, end-of-life hospice care, or with sickle cell disease.

1.4 While some of the recommendations in this guideline may be applicable to other situations or specific settings (i.e., chronic pain, post-operative pain, patients on long-term opioid therapy or opioid-agonist therapy), these guidance statements were not intended for this purpose.

2. DEFINITIONS

2.1 **Acute Pain:** Pain provoked by a specific disease or injury, or subsequent to surgery, medical procedure, and is self-limited, resolves with healing of the underlying injury, lasting less than 3 months.

2.2 **Chronic Pain:** Persistent pain that lasts beyond the usual recovery healing period or occurs with a chronic health condition, disrupting normal daily living, lasting longer than 3 months, and serves no adaptive purpose.

2.3 **Opioid Tolerant:** Patients who have been taking for 7 days or longer at least 60mg of oral morphine daily, or 30 mg of oral oxycodone daily, or 8mg or oral hydromorphone daily, or an equianalgesic dose of another opioid.

2.4 **Opioid Naïve:** Patients who are taking less than 60mg morphine, or 30mg oxycodone, or 8 mg hydromorphone daily for less than 7 days.

2.5 **Multimodal Analgesia:** Multimodal Analgesia combines two or more analgesic agents and /or non-pharmacologic techniques that uses different mechanisms, targeting different points along the pain pathway in effort to improve analgesia.

3. GUIDELINES

3.1 All Patients with acute pain should receive treatment that provides the greatest benefits relative to risks. It is recommended that clinicians utilize a Multimodal Approach for acute pain management that prioritizes non-opioid medications, nerve blocks, physical therapy, and other non-pharmacologic modalities.

3.2 Non-opioid therapies and non-pharmacologic modalities are considered first-line therapies for acute pain management and should be utilized, unless contraindicated, prior to initiation of opioid medications.

3.3 RUHS has developed a hospital-wide multimodal pain order set to facilitate utilization of multimodal pain strategies and minimize opioid usage. Expectations are that clinicians should fully utilize the multimodal pain order set.

3.4 Best Practice Documentation prior to prescribing opioids includes:

a. Complete a pain assessment and indications.

b. Review pertinent medical history, including psychiatric history.

c. Perform a patient screening or risk assessment evaluation for opioid/substance use disorder using a validated screening tool i.e., Opioid Risk Tool (ORT) or Drug Abuse Screening Test (DAST), both tools are available in the electronic health record, Epic.

d. Review the Information contained in the Prescription Drug Monitoring Program (PDMP) database to inform prescribing decisions.

e. It is recommended that clinicians educate patients about risks and side effects of opioid therapy at the onset of treatment and work with patients to establish treatment goals for pain management.

3.5 Prescribing Opioids During Hospitalization:

a. Clinicians should limit the use of opioids to patients with:

- Severe Pain or
- Moderate Pain that has ***not*** responded to non-opioid therapy, or where non-opioid therapy is contraindicated or anticipated to be insufficient.

3.6 Selecting Opioids and Determining Opioid Dosages:

a. When starting opioid therapy for acute pain, clinicians should prescribe Immediate-release (IR) opioid formulations. (See Appendix A: Drug Table Short-acting Opioids)

b. Long-acting or Extended-release (LA/ER) opioid formulations should not be used to initiate treatment of acute pain and should be minimized in hospitalized patients.

- LA/ER opioids should not be initiated in opioid naïve patients.
- LA/ER opioid pain medications should be reserved for *severe and persistent* pain that requires daily continuous opioid administration and for which alternative treatment options are inadequate.

c. Clinicians should prescribe the lowest effective opioid dose for the shortest possible duration. For acute pain unrelated to surgery/major trauma, clinicians should prescribe no more than a 3–5 day supply or less.

d. It is recommended that for acute pain clinicians *limit* opioid daily dosages to less than or equal to 50 Morphine Milligram Equivalents (MME)/day. Clinicians are required to re-assess evidence of any benefits and risks when considering dosages to ≥ 50 (MME)/day and justify any decision to titrate dosages to ≥ 90 MME/day.

e. It is recommended that clinicians monitor the response of opioid therapy, including assessment for functional improvement and development of adverse effects.

f. Clinicians should use particular caution and *avoid prescribing* opioid pain medications and Benzodiazepines concurrently as well as other central nervous system (CNS) depressants.

- The Food and Drug Administration (FDA) has issued the *Strongest Warning* against concomitant opioid use with benzodiazepines or other CNS depressants, which may result in profound sedation, respiratory depression, coma, and death.

- It is recommended to *avoid* co-prescribing of Benzodiazepines and other central nervous system depressants with opioid medications and to carefully consider whether the benefits outweigh risks of opioid-related adverse effects i.e., respiratory depression, sedation / coma, and overdose death.

3.7 It is recommended that clinicians work with patients and families to establish realistic goals and expectations of opioid therapy and the expected course of recovery.

a. Discussing expectations and meaningful improvement should be defined at the start of therapy and should include improvement in both pain and function. Clinicians should discuss the following with patients:

- The goal of opioid therapy is tolerability of pain such that meaningful improvement in function can be achieved, and

- A decrease in pain intensity in the absence of improved function is not considered meaningful improvement in most situations and should prompt re-evaluation of the continued opioid therapy as well as close follow up with a clinician following hospital discharge.

4. Hospital Discharge Prescribing for Acute Pain

4.1 Prior to Prescribing any opioid medication at discharge ensure the following is completed and documented

a. Ensure a risk assessment is performed utilizing a validated screening tool i.e., Opioid Risk Tool (ORT) or the Drug Abuse Screening Test (DAST).

b. Check the information contained in the prescription drug monitoring program (PDMP) database to inform prescribing decisions.

c. Clinicians should ask patients about any existing opioid supply at home and account for any such supply when considering issuing an opioid prescription at discharge.

4.2 Prescribing Opioids for acute pain not related to trauma or surgery at the time of Hospital Discharge: It is recommended that clinicians prescribe the *lowest effective dose of immediate-release opioids* (avoid long-acting opioids) and the minimum quantity of opioids anticipated to be necessary based on the expected course and duration of pain severe enough to require opioid therapy after discharge.

a. For patients with ongoing acute pain severe enough to require opioids at hospital discharge and unrelated to surgery or major trauma, while decisions should be made on a case-by-case basis, clinicians should prescribe *no more than a 5 -day supply of opioids*. Three days or less will often be sufficient, more than 5 days will rarely be needed.

b. Justifications for any prolonged prescriptions of opioids beyond the 5 -days should be clearly documented and clearly communicated to the patient and to his or her primary physician advising on the possible risks of prolonged opioid use including the possibility of developing opioid use disorder.

c. Ensure that only Immediate-release, short acting opioids are prescribed. Long-acting opioids should not be prescribed in opioid naïve patients and should be avoided.

d. Clinicians should co-prescribe a bowel regimen to prevent opioid-induced constipation unless contraindicated.

e. Co-prescribing of benzodiazepines or CNS depressant medications with opioids is *strongly discouraged* and *should be avoided* due to the increased risk of profound sedation, respiratory depression, coma, and overdose death.

4.3 Naloxone Prescribing at Hospital Discharge

a. All patients that are prescribed an opioid medication should also be co-prescribed Naloxone at discharge per AB 2780. Co-prescribing Naloxone with opioid medication at time of discharge is consistent with *RUHS Harm Reduction Strategies* in efforts to combat the opioid epidemic.

b. Patients at increased risk for overdose, include:

- Patients with sleep-disordered breathing (i.e., sleep apnea, COPD)
- Patients taking higher dosages of opioids ≥ 50 MME/day
- Concurrently taking benzodiazepines with opioids
- History of substance use disorder
- Previous history of opioid overdose
- Patients at risk for returning to high dose to which they have lost tolerance (i.e., patients undergoing substance use disorder treatment, patients undergoing tapering, or recently released from prison).

c. Clinicians should educate patients and/or caregiver on opioid overdose prevention strategies and Naloxone use and offer to provide education to household and family members. Resources for prescribing naloxone can be found through Prescribe to Prevent at https://prescribetoprevent.org. Additional resources are at https://www.samhsa.gov

4.4 Communication Recommendations at Hospital Discharge for *both* opioids and non-opioid medications

a. Patients and their families and/or caregivers should be provided with both written and verbal information on their pain management plan options, including but not limited to:

- Expectations regarding functional recovery and improvement (returning to meaningful physical activities)
- Realistic pain management goals (goal is returning to functional improvement, not necessarily zero pain)
- Multimodal pain management options (i.e., opioid-sparing/ non-opioids options and non-pharmacological options)
- Reducing the dose and/ or frequency of opioid medications (slowly and safely tapering off opioids)
- Possible interactions of patient's current medications and their potential interactions with opioids (i.e., sedative medications, benzodiazepines, alcohol, CNS depressants) and to avoid driving or operating heavy machinery while taking opioids.
- Risk of potential opioid side effects, overdose, and development of opioid use disorder as well as risk factors for developing opioid use disorder (i.e., history of substance use, depression/ anxiety)

b. Patients should be provided with information prior to discharge on the safe storage and disposal of unused opioids in accordance with California Department of Public Health's recommendations:

- Store opioids in a secure place to prevent theft or accidental exposure
- Keep opioids out of reach and sight of children and pets
- Do not keep opioid medications for when they "might" be needed
- Do not throw opioids into household trash where children and pets may find them**.** Return unused or used opioids, and expired opioids to a pharmacy, most police stations/ fire department for proper disposal or to DEA take-back program if available in your community https://www.dea.gov/takebackday#collection-locator

5. Guidance on Prescribing Opioids for Postoperative Pain

5.1 Acute pain related to surgery or pain that is expected to persist longer than anticipated, the following recommendations are intended to serve as a guide for managing procedures with similar degrees of expected postoperative pain while minimizing leftover opioid medication. Refer to Tables 1 and 2.

5.2 Postoperative opioid prescriptions for acute pain should in most cases follow the recommendations in Tables 1 and 2. The initial prescription should *not exceed* two weeks. Rational for exceptions should be well documented.

5.3 It is essential and expected that surgeons and/or their respective departments provide education for the patient and caregivers about realistic expectations for

postoperative pain management, functional recovery activities, and timely reduction in opioid use as well as providing instruction for safe storage and disposal of opioids as specified in sections 4.4 b.

5.4 When opioids are prescribed for acute pain, close follow up should be arranged with the patient's primary surgeon/prescribing clinician and the primary care provider. Contact information for routine and emergency care should be provided to the patient.

5.5 All patients that are prescribed an opioid medication should also be co-prescribed Naloxone at discharge. Refer to section 4.3 on naloxone prescribing.

5.6 Elective Surgery in Patients on Chronic Opioid Therapy:

a. Prescribe non-opioid analgesics (i.e., NSAIDs and/or acetaminophen) and non-pharmacologic therapies as first-line.

b. Resume chronic opioid regimen if patients are to continue postoperatively.

c. Follow the recommendations in Table 1 for prescribing the duration of short acting opioids after a particular surgery (i.e., 3, 7, or 14 days). Prescribe the lowest effective dose strength.

d. Patients on chronic opioid therapy should have a similar tapering schedule as opioid naïve patients postoperatively.

e. For exceptional cases that warrant more than 14 days of opioid treatment after hospital discharge, the surgeon should re-evaluate the patient before refilling opioid prescription and taper off opioids within 6 weeks after surgery to no higher total daily dose than was present pre-operatively.

6. Acute Pain Management Overview

Acute Pain Management	Palliative / End of Life	Chronic Pain Management
• Inpatient, acute pain • Perioperative questions, and Rib/ Nerve blocks should be addressed to Anesthesia Services • Non-surgical pain questions should be referred to Pain (Chronic) Team Consult	• Terminal • Malignancy related • Questions can be addressed to Palliative consult • Refer to order set guided Not addressed in this document	• Outpatient, largely • *Consider after* Acute Pain Not addressed in this document

Table 1: Evidence-Based Duration of Opioid Prescriptions on Discharge Following Surgery based on The Speed of Expected Recovery*

Expected Rapid Recovery	
Dental procedures such as extractions or simple oral surgery (e.g., graft, implant).	• Prescribe a nonsteroidal anti-inflammatory drug (NSAID) or combination of NSAID and acetaminophen for mild to moderate pain as first-line therapy. • If opioids are necessary, prescribe ≤ 3 days (e.g., 8 to 12 tablets) of short acting opioids in combination with an NSAID or acetaminophen for severe pain. Prescribe the lowest effective dose strength. • For more specific guidance, see the Bree Collaborative Dental Guideline on Prescribing Opioids for Acute Pain Management.
Procedures such as laparoscopic appendectomy, inguinal hernia repair, carpal tunnel release, thyroidectomy, laparoscopic cholecystectomy, breast biopsy/lumpectomy, meniscectomy, lymph node biopsy, vaginal hysterectomy.	• Prescribe non-opioid analgesics (e.g., NSAIDs and/or acetaminophen) and non-pharmacologic therapies as first-line therapy. • If opioids are necessary, prescribe ≤ 3 days (e.g., 8 to 12 tablets) of short acting opioids in combination with an NSAID or acetaminophen for severe pain. Prescribe the lowest effective dose strength.
Expected Medium Term Recovery	
Procedures such as anterior cruciate ligament (ACL) repair, rotator cuff repair, discectomy, laminectomy, open or laparoscopic colectomy, open incisional hernia repair, open small bowel resection or enterolysis, wide local excision, laparoscopic hysterectomy, simple mastectomy, cesarean section.	• Prescribe non-opioid analgesics (e.g., NSAIDs and/or acetaminophen) and non-pharmacologic therapies as first-line therapy. • Prescribe ≤ 7 days (e.g., up to 42 tablets) of short-acting opioids for severe pain. Prescribe the lowest effective dose strength. • For those exceptional cases that warrant more than 7 days of opioid treatment, the surgeon should *re-evaluate* the patient before a third prescription and taper off opioids within 6 weeks after surgery.
Expected Longer Term Recovery	
Procedures such as lumbar fusion, knee replacement, hip replacement, abdominal hysterectomy, axillary lymph node resection, modified radical mastectomy, ileostomy/colostomy creation or closure, thoracotomy.	• Prescribe non-opioid analgesics (e.g., NSAIDs and/or acetaminophen) and non-pharmacologic therapies as first-line therapy. • Prescribe ≤ 14 days of short-acting opioids for severe pain. Prescribe the lowest effective dose strength. • For those exceptional cases that warrant more than 14 days of opioid treatment, the surgeon should *re-evaluate* the patient before refilling opioids and taper off opioids within 6 weeks after surgery.

*Exert from the Bree Collaborative, Prescribing Opioids for Postoperative Pain.

Table 2: Adult Opioid Prescribing Recommendations by Surgery Type

This guidance was adopted from Michigan Opioid Prescribing Engagement Network (OPEN), Available at http://www.opioidprescribing.org

Procedure	Oxycodone 5mg Tablets*
Breast Cancer Surgery	
Breast Biopsy or Lumpectomy	0-5
Lumpectomy + Sentinel Lymph Node Biopsy	0-5
Sentinel Lymph Node Biopsy Only	0-5
Simple Mastectomy + Sentinel Lymph Node Biopsy	0-20
Modified Radical Mastectomy + Sentinel Lymph Node Biopsy	0-30
Cardiothoracic Surgery	
Cardiac Surgery via Median Sternotomy	0-25
Dentistry	
Dental Extraction	0
Obstetrics and Gynecology	
Hysterectomy – Vaginal or Laparoscopic/Robotic or Abdominal	0-10
Cesarean / C-Section	0-20
Orthopedic Surgery	
Total Hip Arthroplasty	0-30
Total Knee Arthroplasty	0-40
Urology	
Prostatectomy	0-10
Vascular Surgery	
Carotid Endarterectomy	0-5
General Surgery	
Anti-reflux (Nissen) - Laparoscopic	0-5
Enterolysis – Laparoscopic	0-5
Excision of Rectal Tumor - Transanal	0-5
Thyroidectomy	0-5
Appendectomy	0-10
Cholecystectomy – Laparoscopic or Open	0-10
Colectomy – Laparoscopic or Open	0-10
Donor Nephrectomy - Laparoscopic	0-10
Enterostomy Closure - Laparoscopic	0-10
Gastrorrhaphy	0-10
Hernia Repair – Minor or Major	0-10
Ileostomy/Colostomy Creation, Re-sitting, or Closure	0-10
Pancreatectomy	0-10
Sleeve Gastrectomy	0-10
Small Bowel Resection or Enterolysis - Open	0-10
Melanoma Surgery	
Sentinel Lymph Node Biopsy	0-5
Wide Local Excision + Sentinel Lymph Node Biopsy	0-20

***** If prescribing Hydrocodone 5mg, the number of tablets remains the same as listed above.

7. REFERENCES

7.1 Joint Commission (2017). Joint Commission enhances pain assessment and management requirements for accredited hospitals. The Joint Commission Perspectives 37(7) 1-4.

7.2 CDC Clinical Practice Guideline for Prescribing Opioids for Pain — United States, 2022; Deborah Dowell, MD; Kathleen R. Ragan, MSPH; Christopher M. Jones, PharmD, DrPH; Grant T. Baldwin, PhD; Roger Chou, MD: https://www.cdc.gov/mmwr/volumes/71/rr/rr7103a1.htm

7.3 Improving Pain Management For Hospitalized Medical Patients; A Society Of Hospital Medicine Implementation Guide; Editors: Wendy G. Anderson, MD, MS, University of California, San Francisco; Solomon Liao, MD University of California, Irvine; https://www.hospitalmedicine.org/globalassets/clinical-topics/clinical-pdf/shm_painmanagement_guide.pdf

7.4 U.S. Department of Health and Human Services (2019, May). Pain Management Best Practices Inter-Agency Task Force Report: Updates, Gaps, Inconsistencies, and Recommendations.

7.5 Prescribing Opioids for Postoperative Pain – Supplemental Guidance; Dr. Robert Bree Collaborative and Washington State Agency Medical Directors' Group in collaboration with academics, pain experts, and practicing surgeons. July 2018; https://www.agencymeddirectors.wa.gov/Files/FinalSupBreeAMDGPostopPain091318wcover.pdf

7.6 Michigan Surgical Quality Collaborative. Opioid Prescribing Recommendations for Opioid Naive Patients. 2018 March 12, 2018.

Document History:

Prior Release Dates: N/A	**Retire Date:** N/A
Document Owner: Pain Management and Opioid Stewardship Committee	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions (Y/N)	Revision Description
11/7/2023	Pain Management and Opioid Stewardship Committee		
12/4/23	P&T	No	
1/2/2023	PAC	Y	Add reference to 603.4 and suggest revision of that policy to prevent overlap
1/11/2024	MEC	N	

Appendix A: Drug Table - Short-Acting, Orally Administered Opioids

Short-acting Opioids [a]	Initial Oral Dosage (in opioid-naïve)	Additional Dosage Information	Timing	Dosing In Special Populations	Other Considerations
Codeine (alone or in combination with APAP or ASA) • Codeine available as 15, 30, and 60 mg tablets • Combination products vary in codeine content from 15 to 60 mg/dose unit • Oral solution codeine/APAP 12/120mg per 5 ml	• 15 to 30 mg • every 4 to 6 hr • Initial dose • based upon codeine component, maximum dose based upon non-opioid component	• Maximum APAP dose:4000 mg/d (2000 mg/d in chronic alcohol patients or in hepatic impairment) • Codeine alone is a weak analgesic; more effective alternatives are available (including codeine in combination with APAP or ASA)	• Analgesic Onset(min): 15 to 30 • Peak (min): 30 to60 • Duration (hr): 4 to6 • t½ (hr): ~3	• *Elderly or debilitated*: Use with caution • *Hepatic dysfunction*: Conversion to active metabolite (morphine) may be reduced in patients with cirrhosis; avoid use in patients with liver disease • *Renal dysfunction*: Use lower dosage or an alternative analgesic	• Codeine may be less effective in patients with decreased CYP- 2D6 activity (due to poor CYP-2D6 metabolism or CYP-2D6 inhibiting drugs) because of decreased conversion to the active metabolite, morphine • CYP-2D6 ultra-rapid metabolizers [c] can have extensive conversion to morphine with increase in opioid-mediated effects
Hydrocodone (in combination with APAP, ASA, or IBU) • Hydrocodone/APAP available as oral elixir, solution, and tablets; hydrocodone/IBU available as tablets; combination products vary in hydrocodone content (2.5 to 10 mg per dosage unit)	• 5 to 10 mg • every 6 hr (hydrocodone component) • Initial dose • based upon hydrocodone component • Maximum dose based upon non-opioid component	• Maximum dose: 60 mg/d ➢ 4000 mg/d APAP for hydrocodone + APAP combination; (2000 mg/d APAP in chronic alcohol patients or hepatic) impairment); OR ➢ 25 to 50 mg/d (1000 mg/d IBU) for hydrocodone + IBU combination	• Analgesic Onset(min): 10 to 20 • Peak (min): 60 to 100 • Duration (hr): 4 to 8 • t½ (hr): ~4	• *Elderly or debilitated*: Use with caution; start with reduced dose (2.5-5 mg) of hydrocodone component • *Hepatic dysfunction*: Use with caution	• Conversion to the active metabolite, hydromorphone, may be decreased in patients with decreased CYP-2D6 activity (due to poor CYP-2D6metabolism or CYP-2D6inhibiting drugs [b]) • CYP-2D6 ultra-rapid metabolizers [c] can have extensive conversion to hydromorphone with potential increase in opioid-mediated effects

Short-acting Opioids [a]	Initial Oral Dosage (in opioid-naïve)	Additional Dosage Information	Timing	Dosing In Special Populations	Other Considerations
Hydromorphone • Available as ⇨ 1 mg/ml oral liquid ⇨ 2, 4, and 8 mg tablets ⇨ 0.2, 1, and 2 mg/ml solution for injection ⇨ 3 mg rectal suppository	• 2 mg every 4 to 6 hr • May give an initial dose of 4 to 8 mg for severe pain	• There is no optimal or maximum dose of hydromorphone; patients on LOT are likely to become tolerant [d] and require doses higher than the usual dosage range to maintain the desired effect	• Analgesic Onset (min): 15 to 30 • Peak (min): 30 to 60 • Duration (hr): 3 to 4 • t½ (hr): 2 to 3	• *Elderly or debilitated*: Use with caution, start at 25% to 50% of usual dose at low end of dosing range • *Hepatic / Renal dysfunction*: Reduce initial dose by 25% to 50% of usual dose depending on degree of impairment	• Women appear to have a 25% higher C max than men • Hepatic metabolism via glucuronidation to inactive metabolites, mainly to hydro-morphone 3-glucuronide, a potentially neuroexcitatory metabolite which can accumulate in renal impairment
Morphine • Available as ⇨ 10 or 20 mg/5 ml, or 100 mg/5ml oral solution for opioid- tolerant [d] patients only ⇨ OR as 15 or 30 mg tablets ⇨ OR as a 5, 10,20, and 30 mg rectal suppository and as a solution for injection in various concentrations	• 10 to 30 mg • every 4 hr	• There is no optimal or maximum dose of morphine; patients on Lot are likely to become tolerant [d] and require doses higher than the usual dosage range to maintain the desired effect	• Analgesic Onset(min): 30 • Peak (min): 60 • Duration (hr): 3 to 5 • t½ (hr): 2 to 4 in adults	• *Elderly or debilitated*: Give with extreme caution; use lower dose • *Hepatic dysfunction*: Use carefully in patients with cirrhosis and consider reducing dose or extending dosing interval by 1.5 to 2 times; half-life may be doubled (3 to 4 hr) and bioavailability is increased • *Renal dysfunction*: Reduce dose or, if severe renal impairment exists, avoid use (see Other Considerations)	• M6G, an active metabolite, may accumulate in renal impairment • M3G, a metabolite without analgesic activity, may accumulate in renal impairment; this metabolite has been implicated in morphine-induced neurotoxicity, hyperalgesia, and allodynia

Short-acting Opioids[a]	Initial Oral Dosage (in opioid-naïve)	Additional Dosage Information	Timing	Dosing In Special Populations	Other Considerations
Oxycodone (alone or in combination with APAP or ASA) • Single-agent oxycodone available as oral solution 5 mg/5ml, 20 mg/1 ml, and oral tablet 5, 10, 15,20, and 30 mg • Combination products vary in oxycodone content, 2.5 to 10 mg per dose unit	• 5 to 15 mg every 4 to 6 hr • Initial dose based upon oxycodone component • Maximum dose based upon non-opioid component	• For combination products, maximum dose is limited by APAP or ASA content (4000 mg/d for both; 2000 mg/d APAP in chronic alcohol or hepatic impairment patients) • There is no optimal or maximum dose of oxycodone; patients on LOT are likely to become tolerant [d] and require doses higher than the usual dosage range to maintain the desired effect	• Analgesic Onset (min): 10 to 15 • Peak (min): 30 to 60 • Duration (hr): 3 to 6 • t½ (hr): 3.2 to ~4	• *Elderly or debilitated*: Reduce dosage • *Hepatic / Renal*: Use with caution; consider reducing dose and increasing frequency of dosing	• Conversion to the active metabolite, oxymorphone(< 15% plasma concentration), may be decreased in patients with decreased CYP-2D6 activity (due to poor CYP-2D6 metabolism or CYP-2D6 inhibiting drugs [b]) • Higher peak plasma oxycodone (50%) and noroxycodone (20%), higher AUC for oxycodone (60%), noroxycodone (50%), and oxymorphone (40%) in patients with CrCl < 60 ml/min • Higher oxycodone peak plasma concentration (50%) and AUC values(95%) in mild to moderate hepatic impairment; oxymorphone peak plasma concentration and AUC values are lower by 30% and 40%, respectively
Oxymorphone • Available as 5 or 10 mg tablets and 1 mg/ml solution for injection	• 5 to 10 mg • every 4 - 6 hr	• There is no optimal or maximum dose of oxymorphone; patients on LOT are likely to become tolerant and require doses higher than the usual dosage range to maintain the desired effect	• Analgesic Onset (min): 30 to 45 • Peak (min): N/A • Duration (hr): 4 • t½ (hr): 7 - 10	• *Elderly or debilitated*: Use with caution and start at low end of dosing range; levels are increased 40% inpatients ≥ 65 years	• Food: When taken orally with a high-fat meal, food has been shown to increase peak levels of oxymorphone immediate-release are 38 to 50% greater; must be taken on an empty stomach at least 1 hr before or 2 hr after a meal

Short-acting Opioids [a]	Initial Oral Dosage (in opioid-naïve)	Additional Dosage Information	Timing	Dosing In Special Populations	Other Considerations
Oxymorphone (cont.)				• *Hepatic dysfunction* • Mild hepatic impairment: Use cautiously, start at low end of dosing range • Moderate and severe hepatic impairment: Contraindicated • *Renal dysfunction*: Bioavailability is increased 57 – 65% in moderate and severe impairment; start at lower doses and adjust slowly	• Must NOT be taken concomitantly with alcohol; alcohol (240 ml of4% to 40% ethanol) can cause highly variable effects on peak drug levels, ranging from a decrease of 50% to an increase of 270% (demonstrated with ER oxymorphone)
Tapentadol • Available as 50, 75, or 100 mg tablets	• 50 mg every 4 to 6 hr For diabetic peripheral neuropathy (DPN): 50 mg every 4 hr	• Subsequent dose is 50, 75, or 100 mg every 4 to 6 hr, adjusted to analgesia and tolerability • Second dose may begiven 1 hr after the first dose if necessary • Max recommended dose: 700 mg on first day, 600 mg on subsequent days • Use tapentadol only under careful medical supervision at lowest effective dose • Patients on LOT are likely to become tolerant [d] and require doses higher than the usual dosage range to maintain the desired effect	• Analgesic Onset (min): N/A (rapid) • Peak (min): 60 • Duration (hr): 4 to 6 • t½ (hr): ~4	• *Elderly:* Consider starting at the lowest recommended dose • *Hepatic dysfunction*: • Mild hepatic impairment: No dosage adjustment • Moderate hepatic impairment: Start at 50 mg and give subsequent doses at least 8 hr apart (max. 3 doses in 24 hr) • Severe hepatic impairment: Use is not recommended • *Renal dysfunction*: No dosage adjustment for mild or moderate renal impairment; not recommended in severe renal impairment (CrCl <30 ml/min)	• Must NOT be taken concomitantly with alcohol which can increase serum tapentadol concentration • Food: When administered after a high fat/calorie meal, the AUC and C max increased by 25% and 16% respectively; management: may administer without regards to meals • If used in combination with other CNS depressants, consider dose reduction of one or both agents • Use with or within 14 days of MAOIs is contraindicated • Monitor for signs and symptoms of serotonin syndrome when used in combination with serotonergic agents

Short-acting Opioids [a]	Initial Oral Dosage (in opioid-naïve)	Additional Dosage Information	Timing	Dosing In Special Populations	Other Considerations
Tapentadol (cont.)		• For DPN: Titrate in increments of 50 mg no more frequently than twice daily every3 days to effective dose (therapeutic range: 100 to 250 mg every 12 hrs)		• *Respiratory dysfunction*: Use with caution because of respiratory depressant effects; consider non–mu opioid agonist analgesics	
Tramadol (alone or in combination with APAP) • Tramadol available as 50 mg and 100 mg tablets, • AND as a tablet in combination with APAP (325 mg APAP, 37.5 mg tramadol)	• 25 mg every morning	• May increase by 25 mg per day every 3 days to 100 mg tramadol/d (25 mg every 6 hr) • Subsequent increments of 50 mg/d may then be made every 3 days to 200mg/d (50 mg every 6 hr) • After titration, may give 50 to 100 mg every 4 to 6 hr • Maximum daily dose of tramadol: 400 mg/d • Combination product: maximum 4000 mg/d APAP; 2000 mg/d APAP in chronic alcoholics or in hepatic impairment	• Analgesic Onset(min): < 60 • Peak (min): ~120 to 180 • Duration (hr): 6 • t½ (hr): 6.3 – 7.9	• *Elderly or debilitated*: In elderly patients >75 years: give <300 mg/d in divided dose; use with caution in debilitated patients • *Hepatic dysfunction*: Decrease dosage to 50 mg once every 12 hr inpatients with cirrhosis • *Renal dysfunction*: CrCl > 30 ml/min: No change in dose or frequency required • CrCl < 30 ml/min: Increase dosing interval to 12 hr and decrease maximum daily dose to 200 mg • *Dialysis patients*: Can receive their regular dose on the day of dialysis (< 7% of a dose is removed by hemodialysis)	• Slower initiation and titration improves tolerability • Inhibits reuptake of serotonin and norepinephrine; concomitant use with MAOIs or SSRIs may increase risk of seizures, serotonin syndrome • Dose carefully or use another agent in patients on serotonergic agents • Seizures reported within the recommended dosage range; increased risk above recommended dosage range and in patient with seizure disorder, history of seizures, in conditions with increased risk of seizures, or with other drugs that increase seizure risk; observe maximum dose limits

Short-acting Opioids [a]	Initial Oral Dosage (in opioid-naïve)	Additional Dosage Information	Timing	Dosing In Special Populations	Other Considerations
Tramadol (alone or in combination with APAP) (cont.)					• Serious anaphylactoid reactions reported, often following first dose; patients with a history of anaphylactoid reaction to codeine and other opioids may be at increased risk

a VA/DOD The Use of Opioids in the Assessment and Management of Pain, available at http://www.healthquality.va.gov
b CYP-2D6 Inhibiting Drugs: Antiarrhythmics (amiodarone, propafenone, quinidine [strong inhibitor]); analgesics (methadone [weak inhibitor], propoxyphene); antihistamines (diphenhydramine, chlorpheniramine [in vitro], brompheniramine [in vitro], triprolidine [in vitro]); histamine2 receptor antagonists (cimetidine); neuroleptics (chlorpromazine, haloperidol, methotrimeprazine, perphenazine, thioridazine); protease inhibitors (ritonavir), quinine compounds (hydroxychloroquine, quinacrine, quinine); selective serotonin reuptake inhibitors (fluoxetine, fluvoxamine, paroxetine, sertraline), miscellaneous compounds (clomipramine, ketoconazole, ticlopidine)
c CYP-2D6 ultra-rapid metabolizers include 1% of Asian and Hispanic, 1-10% of Caucasians, 3% of African-Americans, and 16-28% of N. African and Middle Eastern populations
d Opioid tolerance is assumed in patients already taking fentanyl 25 mcg/hr OR daily doses of the following oral agents for ≥ 1 week: ≥ 60 mg oral morphine, 30 mg oxycodone, 8 mg hydromorphone, 25 mg of oxymorphone, or an equianalgesic dose of another opioid

Abbreviations: APAP: acetaminophen; ASA: acetylsalicylic acid; CNS: central nervous system; CrCl: creatinine clearance; d: day(s); ER: extended-release; hr: hour(s); IBU: ibuprofen; LOT: long-term opioid therapy; M3G: morphine-3-glucuronide; M6G: morphine-6-glucuronide; MAOIs: monoamine oxidase inhibitors; mg: milligram(s); min: minute(s); mL: milliliter(s); SSRIs: selective serotonin reuptake inhibitors

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
HOUSEWIDE

	Document No: 609	Page 1 of 6
Title: Access to Medical Cannabis for Terminally Ill Patients	**Effective Date:** 2/15/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1. This document applies to all terminally ill adult and pediatric patients admitted to Riverside University Health System-Medical Center's Moreno Valley campus.

1.2. Permission to use medicinal cannabis does not apply to a patient receiving emergency services or care by the Emergency Departments.

2. DEFINITIONS

2.1. Medical Marijuana Program Act of 2003 – expands the rights of patients by establishing a voluntary ID card program that exempts from arrests.

2.2. MMIC – Medical Marijuana Identification Card – an identification card issued by the county health department for use of medical cannabis.

2.3. Terminally ill patient – a patient with a medical condition resulting in a prognosis of life of one year or less if the disease follows its natural course.

2.4. Compassionate Use Act of 1996 (Proposition 215)– a law that exempts patients and their designated caregivers from criminal penalties relating to the use, possession, and cultivation of cannabis with an oral 3or written recommendation or approval from a physician.

2.5. Ryan's Law, SB 311 of 2022– requires all healthcare facilities to allow the use of medical cannabis on the premises for terminally ill patients with a valid Medical Marijuana Identification Card (MMIC) and/or a recommendation from an attending physician.

3. GUIDELINES

3.1. A terminally ill patient may present to RUHS-Medical Center requesting to use their personal medical cannabis while admitted.

3.2. A Palliative Care consult may be requested if needed by nursing assessment, or by patient's primary provider.

3.3. The admitting team will evaluate the patient for the following:

a. Terminally ill status

b. Confirm the request for medical cannabis use

c. Verification of MMIC or document/documentation for use by a provider

d. Patient's capacity and ability to self-administer

3.4. Once the conditions for self-administration of medical cannabis have been met, the admitting team will:

a. Document the allowance in the patient health record

b. Enter an order for use of home supply of medical cannabis, within the medical record, i.e. as a nursing order "Patient Own Medical Marijuana"

c. Medical cannabis/marijuana use should be recorded in the problem list

3.5. Home use of medical marijuana should be updated in the patient's prior to admission medication list and history.

3.6. Nursing will document if the patient is still using approved marijuana during the required shift documentation.

a. Use will not be documented in the medication administration record.

3.7. Smoking or vaping are prohibited as methods to use medicinal cannabis at the Medical Center and defined premises.

3.8. The Medical Center is not responsible for procuring or administering medical cannabis.

a. The patient, or caregiver, will bring in the patient's medical cannabis. Should the patient run out of medical cannabis while still hospitalized, it is the responsibility of the caregiver or family to procure more medical cannabis.

3.9. Personal medical cannabis will be administered by the patient or designated caregiver.

3.10. Use of medical cannabis does not need to be included in the discharge plan as described in law.

4. VERIFICATION / VALIDATION OF APPROVED USE

4.1. Prior to use, the patient or family must provide a copy of the patient's:

a. Valid MMIC, or

b. Copy of the patient's written documentation that the use is recommended by a physician, for example a letter from their own doctor from the outpatient setting, or

c. If the patient does not have personal doctor letter or MMIC, the attending provider can "recommend" or agree to support use of medical cannabis while an inpatient and will document as such in the medical record.

4.2. The admitting team will:

a. Validate the patient's documentation for medical cannabis use and note in the patient health record.

b. Confirm the patient's terminal status and document this in the patient health record.

- MMIC Cards may be validated via the California Department of Public Health (CDPH) MMIC Program web-based verification system at: https://mmic.cdph.ca.gov/MMIC_Search.aspx
- Quick link available in the order references

c. Review the Patient Guidelines & Responsibilities for Access to Medical Cannabis and obtain patient signature of agreement. See attachment. Document to be scanned into the patient health record.

5. REVOCATION

5.1. At any point in time, the patient's treating healthcare provider may revoke the use of medical cannabis based on patient's clinical status and/or the patient not following hospital policy and procedure (e.g. vaping or smoking medical cannabis, not keeping cannabis locked while not in use, etc.).

5.2. The members of the care team should alert the Primary Team to changes in patient status that affect the patient ability to self-administer medical cannabis.

6. STORAGE

6.1. The patient, or their family, will provide a locked container for the storage of their medical cannabis.

6.2. Should the patient not have access to a locked container, the Medical Center will provide one. Lock box available through the House Supervisor.

6.3. The patient will always store their medical cannabis in a locked container when it is not in use.

6.4. No other items are permitted to be stored in this container.

6.5. The patient will ensure the medical cannabis is secure from other individuals, patients, and employees at all times.

7. ADDITIONAL GUIDANCE

7.1. Medical cannabis that is unattended or remains after discharge should attempt to be returned to patient or caregiver in a manner similar to the return of personal home medications.

7.2. If a patient expires prior to discharge, medical cannabis should attempt to be returned to caregiver or family in a manner similar to return of personal home medications.

7.3. Medical cannabis that cannot be returned to patient or caregiver will be turned over to law enforcement for appropriate disposal.

8. REFERENCES

8.1. California Department of Public Health – All Facilities Letter 22-04, January 2022. Senate Bill 311. Compassionate Access to Medical Cannabis Act.

8.2. Health and Safety Code Uniform Controlled Substances Act Article 2. Cannabis. California Legislative Information. (1996, November 5). Section 11362.5

8.3. Health and Safety Code Uniform Controlled Substances Act Article 2.5 Medical Marijuana Program Section 11362.7

8.4. California Department of Public Health. (n.d.). Medical Marijuana Identification Card Verification. Mmic.cdph.ca.gov. Retrieved September 29, 2023, from https://mmic.cdph.ca.gov/MMIC_Search.aspx

8.5. RUHS HW Policy 857 Patient Personal Home Medications

9. ATTACHMENTS

9.1. Patient Guidelines & Responsibilities for Access to Medical Cannabis-agreement

Document History:

Prior Release Dates: 8/10/2023	**Retire Date:** N/A
Document Owner: Palliative Care	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
9/2022	Policy Workgroup: Nursing, Pharmacy, Regulatory, Palliative Care, Executive Leadership		New policy development
9/27/2022	Policy and patient agreement language reviewed by County Counsel	No	
03/16/2023	Nursing Policy & Procedure Committee	Yes	Added references, admitting team will evaluate instead of palliative care team, minor edits
04/03/2023	Pharmacy & Therapeutics Committee	Yes	Clarifications added from Medicine, Surgery, Family Med. Added 4.1.3 document of support; 7.2 patient expiration. Revise and return.
05/01/2023	Pharmacy & Therapeutics Committee	No	
7/11/2023	HW Policy Advisory Committee	Yes	
8/10/2023	Medical Executive Committee	No	
10/5/2023	Pre-Nursing Policy & Procedure Committee	Yes	Revised to update workflow language to align with health record build elements. Change EHR to patient record throughout.
11/6/23	P&T	No	

12/5/2023	PAC	No	
2/8/24	MEC	No	

Riverside University HEALTH SYSTEM

Patient Acknowledgement & Responsibilities for Access to Medical Cannabis

California law allows certain patients who have a Medical Marijuana Identification Care (MMIC) or a recommendation from a physician to use medical cannabis while in a hospital.

The following is a set of guidelines the RUHS Medical Center has developed to meet the requirements of this law. Please read and sign if you wish to use Medical Marijuana during your hospital stay.

In order to use medical marijuana within Riverside University Health System Medical Center, a patient must be terminally ill.

- Prior to using medical marijuana, you or your caregiver must show us a valid MMIC and/or physician's recommendation.
- Your documentation will be reviewed by your admitting healthcare provider.
- Your doctor may stop you from using cannabis while here based on other drugs or therapies that you are receiving while in the hospital.
- Smoking or vaping of any products, including those containing cannabis, is prohibited within RUHS-MC facilities. If you smoke or vape cannabis you may be prevented from using medical cannabis in other forms while in the hospital.
- Your medical cannabis must be always stored in a locked box while not in use. No other items are permitted to be stored in the locked box.
- You are responsible to keep your medical cannabis secured from other persons, healthcare workers, etc.
- You – not the Medical Center – are responsible for the security of your medical cannabis. If it is lost or stolen, the Medical Center will not pay to replace it.

I understand these guidelines and agree to follow them.

Signature:
Printed
Name:
Date:

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 620	Page 1 of 16
Title: Code Blue, Code White, and Code MET	**Effective Date:** 9/26/2023	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1 To ensure a medical emergency response plan is established for the area within 250 yards of the Riverside University Health System – Medical Center for all staff, patients, and visitors.

2. DEFINITIONS

2.1 Advanced Cardiac Life Support (ACLS): A group of interventions used to treat and stabilize adult victims of life-threatening cardio-respiratory emergencies and to resuscitate victims of cardiopulmonary arrest. These interventions include but are not limited to (CPR), basic and advanced airway management, medications, and defibrillation.

2.2 Basic Life Support (BLS): A group of interventions used to treat and stabilize adult victims of life-threatening cardio-respiratory emergencies and to resuscitate victims of cardiac arrest. Interventions include but are not limited to recognition of cardiopulmonary emergencies or stroke and to activate the emergency response team (code team), implement Cardiopulmonary Resuscitation (CPR), utilize the Automatic External Defibrillator (AED), and assist with foreign-body airway obstruction relief.

2.3 Cardiopulmonary arrest (CPA): Absence of cardiac activity or ineffective cardiac activity to produce cardiac output and/or absence of breathing or ineffective breathing to sustain life.

2.4 Code Blue: an emergency code called for any patient, staff, or visitor ≥ 18 years old who is in cardiopulmonary arrest or impending loss of airway.

2.5 Code White: an emergency code called for any patient, staff, or visitor, from birth to 17 years old who is in cardiopulmonary arrest or impending loss of airway.

2.6 Code MET (Medical Evaluation Team): is the term used to request urgent assistance for ANY patient that does not have an assigned bed within the hospital, and for ANY staff or visitor.

2.7 Emergency Nursing Pediatric Course (ENPC): A group of interventions used to treat and stabilize pediatric victims of life-threatening cardio-respiratory emergencies and to resuscitate victims of cardiopulmonary arrest. These interventions include but are not limited to CPR, basic and advanced airway management, medications, and defibrillation.

2.8 Full Code Status: Perform all life saving measures in the event of a cardiopulmonary arrest or other life-threatening event.

2.9 Neonatal Resuscitation Program (NRP): An evidence-based approach to care and cardiopulmonary resuscitation of the new born at birth and facilitate team based care for healthcare professionals who care for newborns at the time of delivery.

2.10 Pediatric Advanced Life Support (PALS): A group of interventions used to treat and stabilize pediatric victims of life-threatening cardio-respiratory emergencies and to resuscitate victims of

cardiopulmonary arrest. These interventions include but are not limited to CPR, basic and advanced airway management, medications, and defibrillation.

3. CODE BLUE Guideline / Procedure

3.1 Activating a Code Blue

a. A Code Blue should be activated for any patient, staff, or visitor ≥ 18 years old who require Cardiopulmonary resuscitation or impending loss of airway, with the consideration of the patient's code status.

- Please refer to policy *HW 623: Code Status* for further description of allowed interventions

b. Any staff member may activate a Code Blue by dialing the internal 9-1-1 activation system or by pushing the code blue button in the area closest to the event or in the specific room of the event.

c. Approved locations for a Code Blue Activation:

- Medical Center

  i. The Emergency Department may manage a Code Blue without activating a Code Blue through the internal 9-1-1 activation system.

- Medical – Surgical Center, Same Day Surgery Suite
- Surrounding parking lots and exterior locations within 250 yards of the medical center (Attachment 8.5).

3.2 Code Blue Procedure

a. For clinical staff members trained or certified in ACLS or BLS, will initiate current American Heart Association ACLS or BLS guidelines. Any variations will be under the guidance of the provider.

b. Upon activation of a Code Blue, roles will be delegated by the Code Lead at the time. Roles are identified in Attachment 8.1

c. Code Blue Leader role will be maintained by the highest qualified personnel responding to the activation.

d. Any personnel not actively involved in the Code Blue resuscitation should not remain in the room or vicinity to allow for clear communication and crowd control. Please see Attachment 8.6 for list of appropriate staff responding to a Code Blue.

3.3 Code Blue Documentation

a. Every Code Blue resuscitation must be documented on the approved Code Blue Documentation forms in the electronic health record, or downtime forms when appropriate.

3.4 Post Code Blue Resuscitation

a. Immediately following the Code Blue, the Code Leader (or Code Nurse) will hold a debriefing to identify areas of improvement.

- The debriefing will be documented on the approved Code Blue Documentation forms in the electronic health record (EHR), or downtime forms when appropriate. (Attachment 8.8)

b. Transfer of patient based on outcome:

- Patients seeking continued treatment or needing a higher level of care, will be transported to the Emergency Department or Intensive Care based on the determination of the physician lead in the Code Blue.

c. Activations within MSC-SDS with Return of Spontaneous Circulation (ROSC) achieved.

- Please refer to Attachment 8.2 for guidance on the transfer of the patient.

4. CODE WHITE Guideline / Procedure

4.1 Activating a Code White

a. A Code White should be activated for any patient, staff, or visitor ≤ 17 years old who require Cardiopulmonary resuscitation or impending loss of airway, with the consideration of the patient's code status.

- Please refer to policy HW 623: Code Status for further description of allowed interventions.

b. Any staff member may activate a Code White by dialing the internal 9-1-1 activation system.

c. Approved locations for a Code White Activation:

- Medical Center

i. The Emergency and NICU department may manage a Code White without activating a Code White through the internal 9-1-1 activation system.

- Medical – Surgical Center, Same Day Surgery Suite
- Surrounding parking lots and exterior locations within 250 yards of the medical center (Attachment 8.5).

4.2 Code White Procedure

a. For clinical staff members trained or certified in PALS or BLS, ENPC, or NPR, will initiate American Heart Association PALS or BLS, ENPC, or NPR guidelines. Any variations will be under the guidance of the provider.

b. Upon activation of a Code White, roles will be delegated by the Code Lead at the time. Roles are identified in Attachment 8.1

c. Code White Leader role will be maintained by the highest qualified personnel responding to the activation.

d. Any personnel not actively involved in the Code White resuscitation should not remain in the room or vicinity to allow for clear communication and crowd control. Please see Attachment 8.6 for list of appropriate staff responding to a Code White.

4.3 Code White Documentation

a. Every Code White resuscitation must be documented on the approved Code White Documentation forms in the EHR, or downtime forms when appropriate. (Attachment 8.8)

4.4 Post Code White Resuscitation

a. Immediately following the Code White, the Code Leader (or Code Nurse) will hold a debriefing to identify areas of improvement.

- The debriefing will be documented on the approved Code White Documentation forms in the electronic health record, or downtime forms when appropriate.

b. Transfer of patient based on outcome:

- Patients seeking continued treatment or needing a higher level of care, will be transported to the Emergency Department or Intensive Care based on the determination of the physician lead in the Code White.

c. Activations within MSC-SDS with ROSC achieved.

- Please refer to Attachment 8.2 for guidance on the transfer of the patient.

5. CODE MET Guideline / Procedure

5.1 Activating a Code MET

a. A Code MET should be activated for ANY patient that does not have an assigned bed within the hospital, and for ANY staff or visitor that require urgent medical attention.

b. Any staff member may activate a Code MET by dialing the internal 9-1-1 activation system.

c. Approved locations for a Code MET Activation:

- Medical Center
- Medical – Surgical Center
- Surrounding parking lots and exterior locations within 250 yards of the medical center (Attachment 8.5).

5.2 Code MET Procedure

a. For clinical staff members trained or certified in BLS, will initiate the current American Heart Association BLS guidelines. Any variations will be under the guidance of the provider.

b. Upon activation of a Code MET, roles will be prescriptive to the location the Code MET is called. See Attachment 8.7

c. Code MET Leader will be maintained by the highest qualified personnel responding to the activation.

d. Any personnel not actively involved in the Code MET response should not remain in the room or vicinity to allow for clear communication and crowd control.

5.3 Code MET Documentation

a. Every Code MET response must be documented in the EHR, or downtime forms when appropriate.

b. If the patient is not registered in the EHR and will not be registered due to refusal, the Code MET will be reported to quality.

5.4 Post Code MET Resuscitation

a. Transfer of patient based on outcome:

- Patients seeking continued treatment or needing a higher level of care, will be transported to the Emergency Department via RUHS staff, or Emergency Medical Services (EMS).
- In the event a Code MET is called for a patient with an assigned bed within the medical center, the patient will be transferred back to the patient's assigned room by RUHS staff.

b. If Code Nurse(s) are concerned the patient is too unstable to transport to the ED, then staff will activate a Code Blue or White through the internal 9-1-1 system.

6. Performance and Quality Improvement

6.1 Performance and Quality metrics will be reported to Code Blue Committee, Critical Care Committee, and Performance Improvement and Patient Safety Committee.

6.2 Code Blue/White Committee

a. Code Blue/White Committee will review and maintain all matters regarding Code Blue, White or MET, with Code Blue Committee Voting Members (Attachment 8.3).

b. Code Blue/White Committee will meet at least once every quarter.

6.3 Quality Management:

a. Reviews code documentation and patient records for data collection and quality and performance improvement.
b. Reports code blue/white data to the American Heart Association, Get with the Guidelines Database (GWTG).
c. Initiate and manage special inquiries and case/peer reviews.
d. Audits and reviews Code blue/white and assigns appropriate stakeholders for audit and feedback on cases.

6.4 Education:

a. Certifications must be maintained in accordance with prescribed organization, please see Attachment 8.4.

b. All licensed clinical staff will be educated and will maintain competency in cardiopulmonary resuscitation.

7. Related Policies

7.1 HW 618: Code Cart Readiness

7.2 HW 619: Rapid Response Team Activation

7.3 NURS SP 400: Rapid Response Team RRT Standardized Procedure

7.4 HW 691.1: Scope of Service Inpatient Sepsis Rapid Response Team Program

7.5 HW 623: Code Status

8. Attachments

8.1 Code Blue/White Response Roles

8.2 Medical-Surgical Center – Same Day Surgery, Code Blue/White Response Algorithm

8.3 Code Blue Committee Voting Members

8.4 Certification Requirements

8.5 Response Perimeter

8.6 Staff Responding to Code Blue or White

8.7 Code MET Response Algorithm

8.8 Code Blue / White Downtime forms

9. REFERENCES

9.1 American Heart Association – Adult. (2019). https://cpr.heart.org/en/resuscitation-science/cpr-and-ecc-guidelines/algorithms

9.2 Get With The Guidelines® - Resuscitation. (2019). www.heart.org. https://www.heart.org/en/professional/quality-improvement/get-with-the-guidelines/get-with-the-guidelines-resuscitation

9.3 Merchant, R. M., Topjian, A. A., Panchal, A. R., Cheng, A., Aziz, K., Berg, K. M., Lavonas, E. J., & Magid, D. J. (2020). Part 1: Executive Summary: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation, 142(16_suppl_2). https://doi.org/10.1161/cir.0000000000000918

9.4 Textbook of Neonatal Resuscitation, 8th Ed. American Academy of Pediatrics and American Heart Association; 2021.

Document History:

Prior Release Dates: 3/2000, 3/2003, 12/2006, 8/2008, 1/2010, 2/2016, 9/16/2019, 8/24/2020	**Retire Date:** N/A
Document Owner: Code Team Coordinator	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
9/6/2023	Code Blue Committee	Yes (e-vote)	Complete modification of entire document
9/21/23	Nursing Policy & Procedure Committee	Yes(E-vote)	Updated section 2.7 and 2.9 References updated and Attachment 8.3
9/26/2023	Policy Approval Committee (PAC)	No	
9/26/2023	Chief Medical Officer/ Chair, Medical Executive Committee	No	
9/26/2023	Associate Chief Medical Officer	No	

Attachment 8.1

Respiratory - Airway
- Assist with airway management
- Supplies for Intubation
- Ventilatory set-up

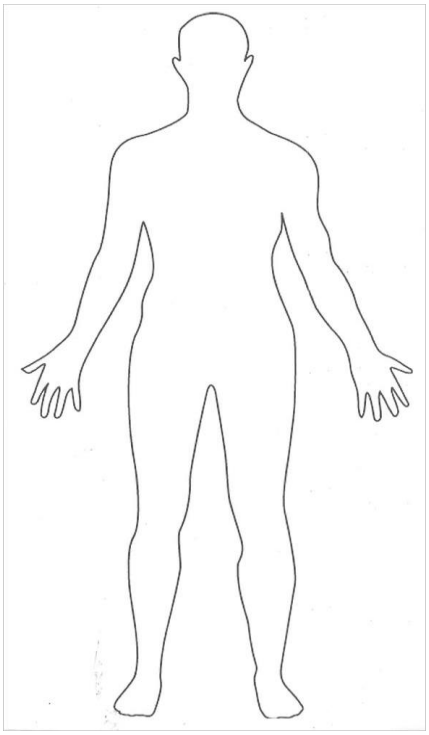
Physician - Airway
- Assist with airway management
- Intubation, if needed

RN #1 - Interventions
- IV starts, Medication administration, IV pump preparation, etc.

RN #2 - Interventions
- IV starts, Medication administration, IV pump preparation, etc.

RN #3 – Crash Cart / Medications
- Maintains the defibrillator and monitor
- Oversees supplies within the crash cart
- Assists with ACLS medications

RN #4 – Recorder / Documentation
- Documents code and interventions
- Maintains the time intervals



Code Leader
- Assigns roles
- Directs code interventions
- Maintains closed loop Communication

Respiratory or ED Tech - Compressions
- Perform Compressions
- Back-up to current compressor

Respiratory or ED Tech - Compressions
- Perform Compressions
- Back-up to current compressor

Respiratory or ED Tech - Compressions
- Perform Compressions
- Back-up to current compressor

Pharmacist
- Assist with ACLS medications
- Assist with compounds
- Assist with drips

Runner
- Assists with providing supplies not readily available within room

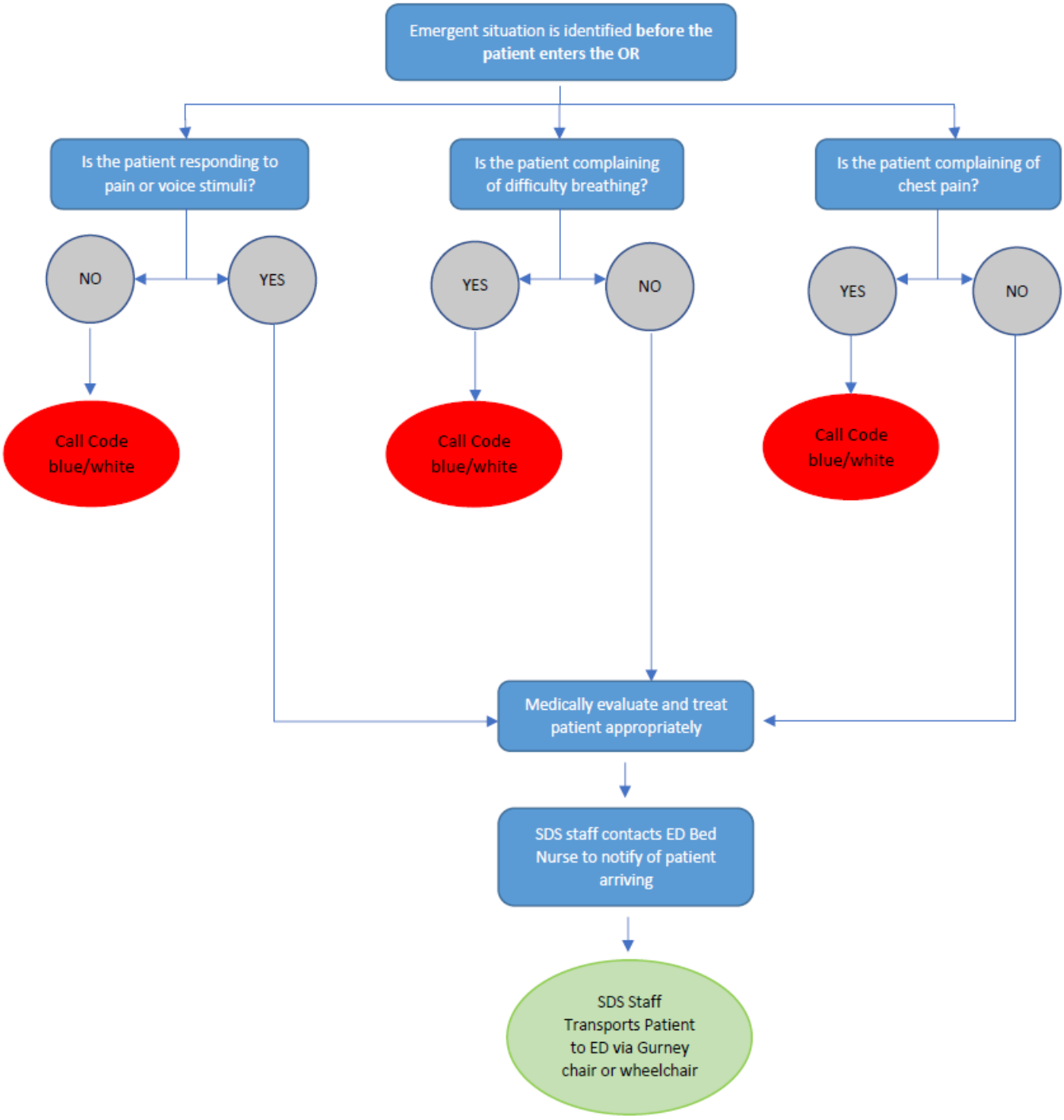
Runner
- Assists with providing supplies not readily available within room

House Supervisor
- Oversees crowd control
- assist with bed assignment

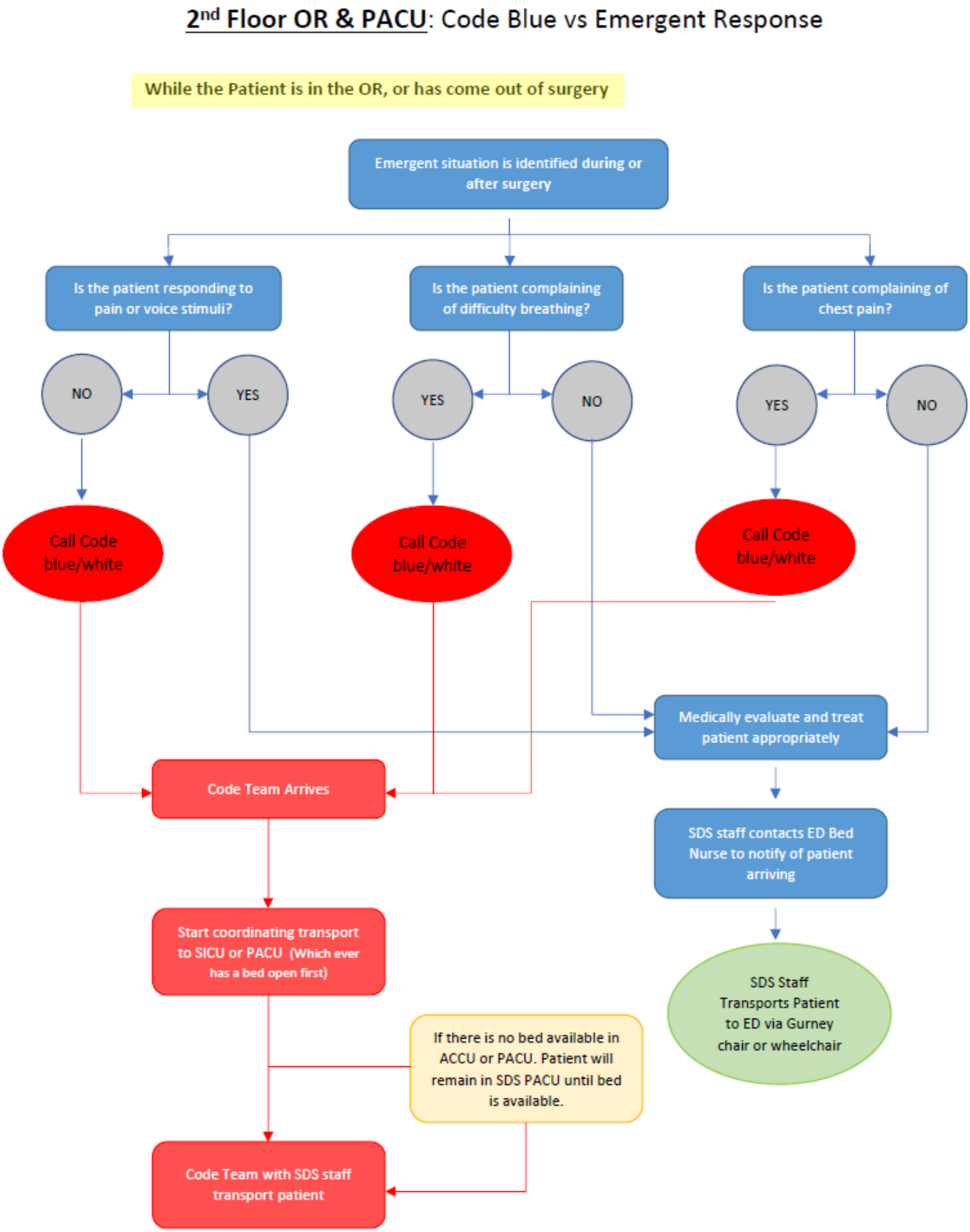
Attachment 8.2

2nd Floor Pre-Op: Code Blue vs Emergent Response

Before the patient enters the Operating Room.



Attachment 8.2 continued



Attachment 8.3

Code Blue Committee Voting Members

I. Adult Critical Care Medical Director-Chair
II. Code Team Coordinator – Co Chair
III. Medical/Surgical Nursing Directors
IV. Pediatrics Chair or representative
V. Assistant Chief Nursing Officer or Representative
VI. Clinic Nurse Manager or Representative
VII. Trauma Department Director
VIII. Emergency Department Nurse Director or Representative
IX. Adult Critical Care Nurse Director
X. Quality Management Nurse
XI. Pediatrics and Neonatal Medical Director.
XII. Pediatric, Pediatric Intensive Care Nurse Director of Representative
XIII. Neonatal Intensive Care Nurse Director or Representative
XIV. Materials Management / Purchasing or Representative
XV. Department of Anesthesia Chair or representative
XVI. Director of Pharmacy/Critical care or representative
XVII. Respiratory Care Manager or designee
XVIII. 2500 Nurse Manager or Representative
XIX. ED Chair or Representative
XX. Family Medicine Chair or Representative
XXI. Education Services
XXII. Administration

Attachment 8.4

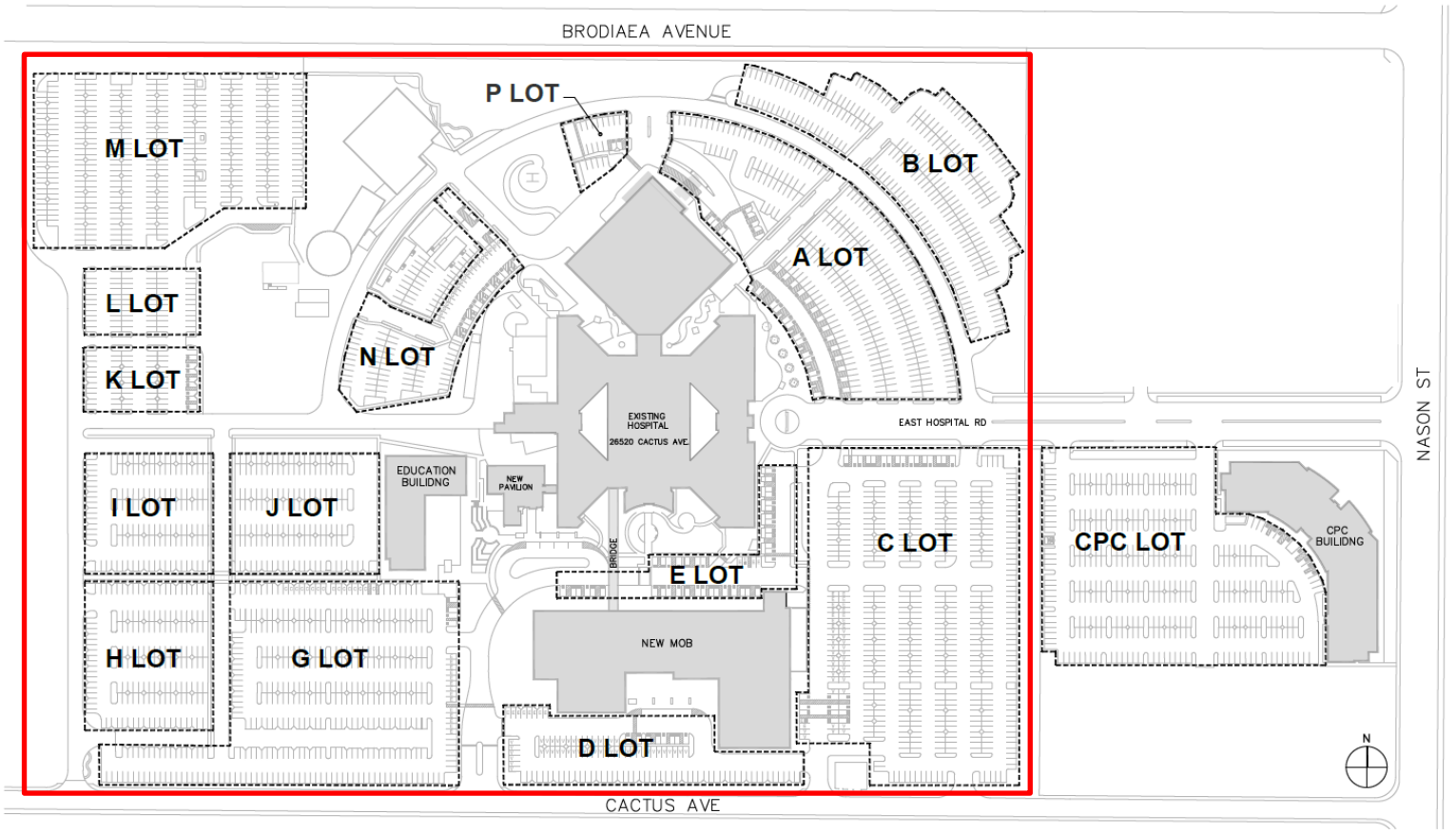
Below ✓ indicates the certification or skill required per department within RUHS-MC.

- NOTE: certifications are required for Nursing staff. Physicians may have a certification or training/skills for each resuscitation practice.
- NOTE: PALS and ENPC can be interchangeable

DEPARTMENT	BLS	ACLS	PALS	ENPC	NRP
ACCU	✓	✓			
PCU	✓	✓			
OR	✓	✓			
ER	✓	✓	✓	✓	
SDS/PACU	✓	✓			
L & D	✓	✓			✓
POSTPARTUM	✓				✓
MED/SURG	✓				
PEDS	✓		✓		
PICU	✓		✓		
NICU	✓				✓
ADULT CLINICS	✓				
PEDS CLINICS	✓				
PROCEDURE RN	✓	✓			
CATH LAB	✓	✓			
GI LAB	✓	✓			
RESPIRATORY THERAPY	✓	✓	PRN	PRN	PRN
TRAUMA TEAM	✓	✓	✓	✓	
BERT TEAM	✓				
PICC/VAT TEAM	✓				
CODE BLUE TEAM	✓	✓	✓	✓	
WOUND CARE TEAM	✓				
DIABETES TEAM	✓				
PALLIATIVE CARE	✓				
GI CLINIC	✓	✓			

Attachment 8.5

Riverside University Health System Medical Center Campus



MASTER PARKING LOT COUNT DIAGRAM

Moreno Valley, CA 92555

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

Attachment 8.6

Staff Response for Code White

TEAM MEMBER	FIRST FLOOR/LL/OUTSIDE ED	2ND-4TH FLOOR INPATIENT/OUTPATIENT	NBN/OB AREAS	PEDS/PICU	NICU/LABOR & DELIVERY
MD	SENIOR FAMILY MED RESIDENT	SENIOR FAMILY MED RESIDENT OR PEDS RESIDENT	NEONATALOGIST	SENIOR FAMILY MED RESIDENT/PEDS ATTENDING OR RESIDENT	NEONATALOGIST
MD	ANESTHESIOLOGIST	ANESTHESIOLOGIST	ANESTHESIOLOGIST	ANESTHESIOLOGIST	ANESTHESIOLOGIST
MD	PEDS RESIDENT	PEDS ATTENDING (if available and in-house)	PEDS RESIDENT	FELLOW/NP (if available and in house)	PEDS RESIDENT
MD/NP	ED ATTENDING OR ED SENIOR RESIDENT	PEDS INTENSIVIST (if available and in house)	NEONATAL FELLOW/NNP (if available and in house)	PEDS INTENSIVIST (if available and in house)	NEONATAL FELLOW/NNP
CHARGE RN	ED CHARGE RN OR DESIGNEE	X	NICU CHARGE RN	PICU CHARGE RN	NICU CHARGE RN
RN	CRITICAL CARE CODE NURSE	PICU RN	NICU RESPONSE RN	PICU RN	NICU RESPONSE RN
RN	CRITICAL CARE CODE NURSE	CRITICAL CARE CODE NURSE	CRITICAL CARE CODE NURSE	CRITICAL CARE CODE NURSE	CRITICAL CARE CODE NURSE
RCP	RCP	RCP	RCP	RCP	RCP
PHARMACY	CODE PHARMACIST	CODE PHARMACIST	CODE PHARMACIST	CODE PHARMACIST	CODE PHARMACIST
SOCIAL SERVICES	ED SOCIAL WORKER	SOCIAL WORKER	NICU SOCIAL WORKER	PEDS SOCIAL WORKER	NICU SOCIAL WORKER
SOCIAL SERVICES	ON CALL SOCIAL WORKER	ON CALL SOCIAL WORKER	ON CALL SOCIAL WORKER	ON CALL SOCIAL WORKER	ON CALL SOCIAL WORKER
EVS	EVS	EVS	EVS	EVS	EVS
HOUSE SUPERVISOR	HOUSE SUPERVISOR	HOUSE SUPERVISOR	HOUSE SUPERVISOR	HOUSE SUPERVISOR	HOUSE SUPERVISOR
COMPRESSORS	ED TECH/RCP	UNIT STAFF/RCP	UNIT STAFF/RCP	UNIT STAFF/RCP	UNIT STAFF/RCP
RUNNERS		UNIT STAFF	UNIT STAFF	UNIT STAFF	UNIT STAFF

Staff Response for Code Blue

TEAM MEMBER	FIRST FLOOR/LL OUTSIDE THE EMERGENCY (250 yard perimeter excluding the education building and CPC) DEPARTMENT	2ND-4TH FLOOR INPATIENT/OUTPATIENT, 2500 AND GENERAL NURSING UNITS	ICU
MD	INTERNAL MEDICINE RESIDENT	INTERNAL MEDICINE SENIOR RESIDENT	INTENSIVIST
MD	ANESTHESIOLOGIST 2ND YEAR OR GREATER	ANESTHESIOLOGIST 2ND YEAR OR GREATER	ANESTHESIOLOGIST 2ND YEAR OR GREATER
MD		PRIMARY MD	PRIMARY MD
MD		INTENSIVIST	INTERNAL MEDICINE SENIOR RESIDENT
CHARGE RN		UNIT CHARGE RN	UNIT CHARGE RN
RN	CRITICAL CARE CODE RN	CRITICAL CARE CODE RN	CRITICAL CARE CODE RN
RN	CRITICAL CARE ED RN	CRITICAL CARE RN	CRITICAL CARE RN
RCP	RCP	RCP	RCP
PHARMACY	CODE PHARMACIST	CODE PHARMACIST	UNIT/CODE PHARMACIST
SOCIAL SERVICES	ED SOCIAL WORKER	UNIT SOCIAL WORKER	UNIT SOCIAL WORKER
SOCIAL SERVICES	ON CALL SOCIAL WORKER	ON CALL SOCIAL WORKER	ON CALL SOCIAL WORKER
EVS	EVS	EVS	EVS
HOUSE SUPERVISOR	HOUSE SUPERVISOR	HOUSE SUPERVISOR	HOUSE SUPERVISOR
PRIMARY RN		PRIMARY RN	PRIMARY RN
RUNNER		UNIT STAFF	UNIT STAFF
COMPRESSORS	ED TECHS/RCP STAFF	UNIT STAFF/RCP STAFF	UNIT STAFF/RCP STAFF

One or more physicians and one or more critical care RNs will respond from the list above

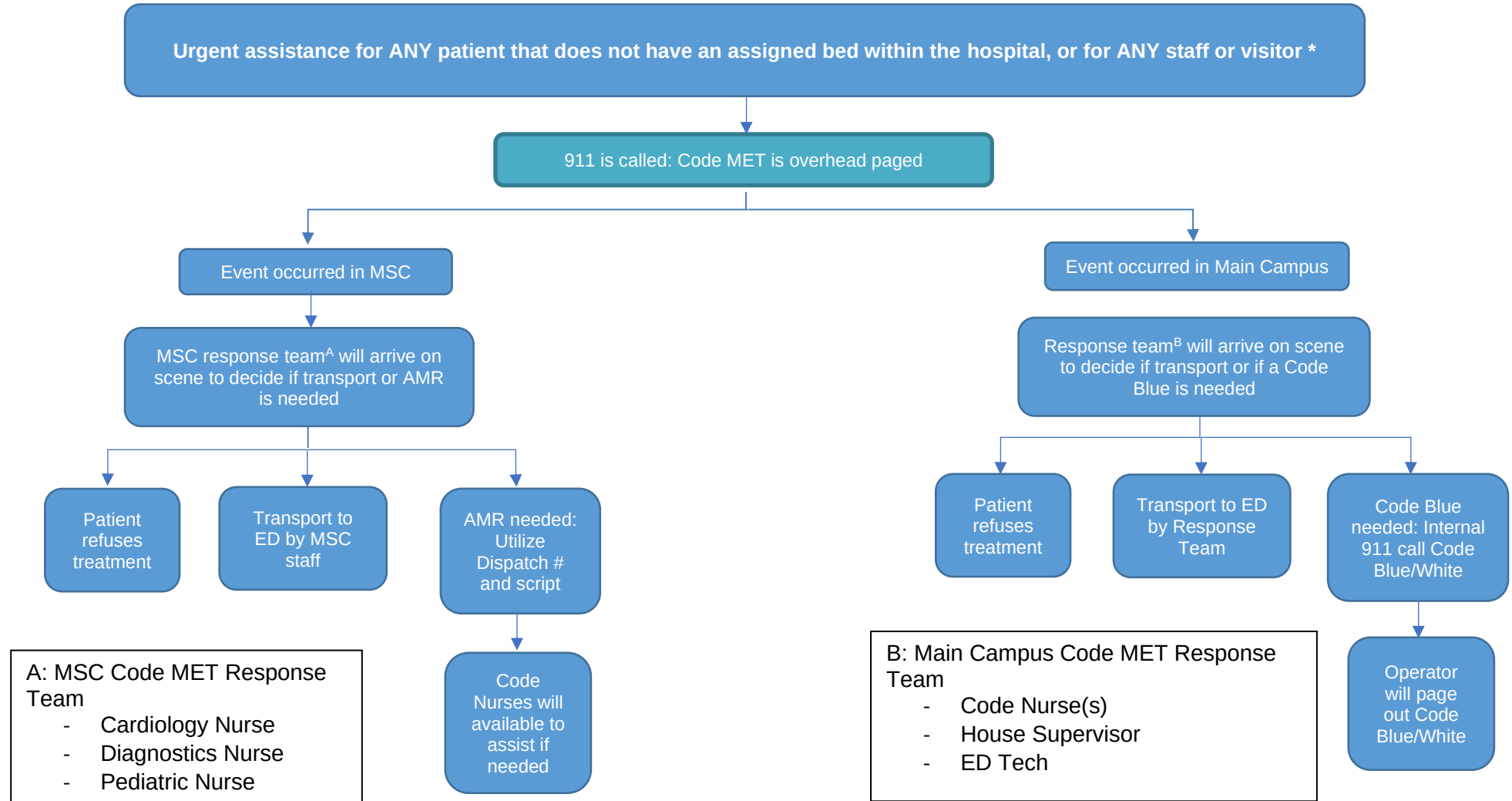
Rev 3/8/20

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

Attachment 8.7

CODE MET RESPONSE



A: MSC Code MET Response Team

- Cardiology Nurse
- Diagnostics Nurse
- Pediatric Nurse
- Diabetic Nurse
- ACC or Screener

B: Main Campus Code MET Response Team

- Code Nurse(s)
- House Supervisor
- ED Tech

Updated: 6/4/2023

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

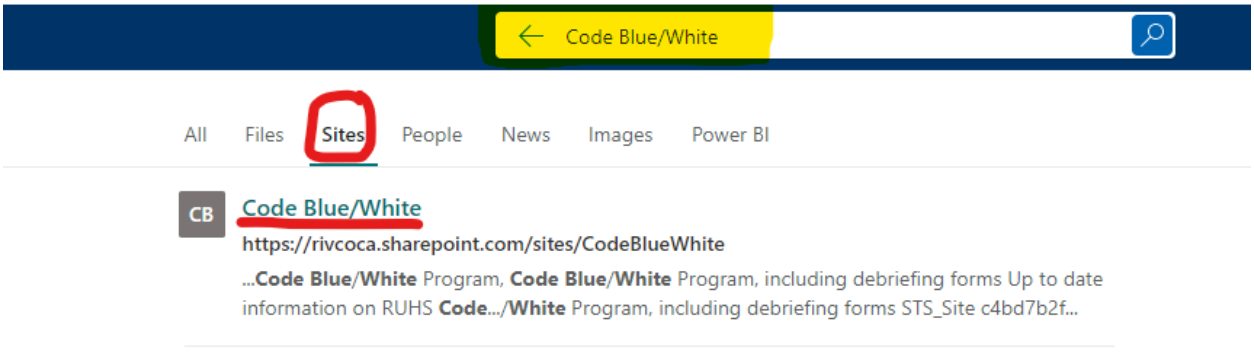
Attachment 8.8

All approved downtime Code Blue/White documentation forms can be found on the Code Blue/White SharePoint site or within the unit code binder.

Step 1: Find the intranet icon on the desktop

Step 2: Select 'SharePoint' link

Step 3: Type Code Blue/White into search bar, filter to 'Sites', and select the title Code Blue/White



RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 625	Page 1 of 11
Title: Guideline for Prevention of Catheter-Associated Urinary Tract Infections	**Effective Date:** 3/15/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☒ **Procedure** ☒ **Guideline**

1. SCOPE

To outline the management of patients with indwelling urinary catheters. To reduce the risk of indwelling urinary catheter associated urinary tract infections (CAUTI).

2. DEFINITIONS

2.1 Catheter Associated Urinary Tract Infection (CAUTI): is a urinary tract infection associated with the use of a urinary catheter (see Appendix C)

2.2 HOUDINI[10.2]: is an acronym for indications to continue use of an indwelling urinary catheter (Hematuria, Obstruction, Urologic surgery, Dermis (skin breakdown, decubitus ulcer), Intake & output requirements, No code/comfort care/hospice, Immobility due to physical constraints).

2.3 Nurse-led protocol is a well-defined document that provides governance to enable nurses to make certain decisions based on their scope of practice and drive the delivery of high-quality patient care without delay.[1]

2.4 External Urine Collection Devices (EUCD): are external devices used for collecting and containing urine without having to insert an indwelling urinary catheter.[10.9] Examples of EUCDs may include:

a. Male external catheters (MECs)

b. External Female Urinary Catheters

2.5 Urinalysis: examines the chemical constituents in the urine to evaluate various disease processes. A microscopic examination (microscopy) is done to help detect the presence of abnormal urine cells and formed elements.

2.6 Urine Culture: identifies the type of organism that may be causing an infection. The urine culture may indicate the presence of infection, or urinary contamination with bacteria.

2.7 Reflex urine culture: samples from the urinalysis are reflexed to a urine culture when the urine is identified as “positive”. A “positive” urinalysis indicates the presence of at least two of the following three criteria: WBC >5 / hpf, presence of Leukocyte Esterase (LE), or Nitrites.

2.8 Bacteriuria: is defined as the presence of bacteria in the urine and can be classified as symptomatic or asymptomatic.

2.9 Post Void Residual (PVR): is a measurement of the remaining urine in the bladder shortly after a voluntary void. The measurement can be accomplished using a bladder scan (i.e., ultrasound) or by measuring urine volume drained by urinary catheterization.

a. Bladder scanning limitations include, but are not limited to, (a) Abdominal ascites may cause falsely elevated measurements, and (b) Bladder scanning is not suitable in patients with severe abdominal scars, prolapses of the uterus or current pregnancy.

3. GUIDELINES

3.1 Alternatives to Indwelling Catheter

a. Scheduled Toileting

b. Intermittent Catheterization

c. Employ external urine collection devices (EUCD) when appropriate for both male and female anatomies. The procedural technique reference material is in Elsevier Nursing Skills. Indications for EUCDs include but are not limited to:
- Pressure ulcers or contact dermatitis from urine-associated skin injuries
- Urinary incontinence
- Nocturia
- Need for accurate Intake and Output measurement
- Patients with bedrest orders
- Patients with mobility restrictions inhibiting use of bedpans and urinals

3.2 Indications for an Indwelling Catheter (HOUDINI Acronym) (see Appendix A)

a. Hematuria causing obstruction or retention (not simple hematuria)

b. Obstruction (acute urinary retention or obstruction)

c. Urologic surgery (perioperative use in selected surgeries)

d. Dermis (assist healing of stage 3 or 4 perineal and sacral wounds, in incontinent patients)

e. Intake and Output (accurate measurement of urinary output in critically ill patients with hemodynamic instability: ICU ONLY)

f. No Code; Hospice or Comfort Care

g. Immobility due to prolonged physical constraints (e.g., unstable spine or multiple traumatic injuries such as pelvic fractures)

h. Indications also included intrabdominal pressure monitoring, irrigation, and chronic urinary catheter on admission

3.3 Insertion of Indwelling Urinary Catheter (IUC)

a. A physician order is required for insertion

b. Ensure sterile technique

c. Nursing Procedure Skill is referenced in Elsevier Nursing Skills
- Appropriately trained nursing staff may place standard and coude urinary catheters, and exchange of pre-existing supra-pubic catheters (SPC) with a mature tract.

3.4 **Urinalysis with reflex culture**

a. Urinalysis with reflex culture will be obtained per nurse-led protocol for all **initial urinary catheter** insertions and for patients who present with a catheter placed outside RUHS.

b. Exception: Urinalysis with reflex to culture is not required on initial urinary catheter placement in the operating room as long as the catheter is promptly removed at the end of the procedure.

c. For patients with an IUC inserted for more than 2 consecutive days (with day of IUC placement being Day 1), a urinalysis with reflex culture should only be ordered for patients in which the provider has a HIGH INDEX OF CLINICAL SUSPICION for active urinary infection.

d. Given the often-non-specific signs and symptoms associated with CAUTI, including but not limited to, suprapubic or flank pain, fever, and leukocytosis, the provider should consider other alternative diagnoses PRIOR to ordering a urinalysis with reflex culture.

e. Urinalysis with reflex culture should not be ordered for other non-infectious indications, including but not limited to, evaluating for myoglobinuria, testing for urine electrolytes, etc.

3.5 **Catheters Present on Admission**

For patients with an existing indwelling urinary catheter in place on admission, it is recommended to consider the following:

a. On initial admission, an assessment for the medical necessity of the IUC should occur. If the IUC is determined not clinically necessary by the provider, the catheter should be removed. If it is clinically necessary to maintain the IUC, strong consideration should be made to exchange the IUC WITHIN 24 hours if the exchange is deemed clinically appropriate and safe by the provider.

b. If an IUC is inserted in the Emergency Department (ED) without documentation of aseptic technique upon insertion, and there continues to be a medical necessity for continuing the IUC on the inpatient unit, the IUC should be exchanged. If documentation of aseptic technique is present, the existing catheter may be left in place.

4. Catheter Associated Urinary Tract Infection Prevention Bundle

4.1 Employ hand hygiene before and after any manipulation of the catheter site or apparatus.

4.2 Complete perineum (including meatal care) and catheter care each shift and PRN with bowel clean up using soap and water or department approved pre-moistened wipes.

a. If completing catheter care after bowel clean up, remove dirty gloves, perform hand hygiene, don clean gloves, and perform catheter care.

4.3 Use securement device.

4.4 Maintain closed drainage system.

a. Only break tamper evident seal when clinically indicated.

b. Collaborate with provider before breaking tamper evident seal.

c. Urinary catheter and drainage system should be replaced using aseptic technique in the event when the integrity of a close system is compromised or disconnected.

4.5 Maintain the drainage bag below the level of the bladder.

a. Do not place bag on the floor

4.6 No dependent loops in tubing

a. Empty drainage bag when half full

4.7 Empty drainage bag prior to transporting patient regardless of volume

4.8 Use new canister or urinal for each bag drainage.

a. Avoid contacting drainage spigot with the nonsterile container when draining catheter bag

4.9 Exchange catheters when clinically indicated; infection, obstruction, or when the closed system has been compromised.

4.10 Collect urine specimen using sterile technique.

a. When collecting a urinary specimen from an IUC, the specimen sampling port shall be cleansed with alcohol for 30 seconds and allowed to dry prior to specimen collection.

b. To lessen the risk of contamination, urinary specimens should be contained in the hospital approved urine specimen collection medium or arrive to lab within 20 minutes of collection or be stored on ice if delivery exceeds 45 minutes from collection.

5. Discontinuation of Indwelling Catheters (HOUDINI PROTOCOL)[10.2]

5.1 HOUDINI is a nurse-led urinary catheter removal protocol (See appendix A)

5.2 Nursing shall assess and document HOUDINI indication every shift.

a. If Indications are not present, the Registered Nurse (RN) shall confirm with the patient's physician that no indications for continued use of the IUC exists, and confirm it is clinically appropriate to remove the catheter. Once confirmed, the Registered Nurse (RN) will then discontinue the IUC prior to end of shift per protocol and implement post catheter removal cares.

b. All patients who have had their IUC removed will be assessed for urinary retention and adequate bladder emptying by nursing staff. (see Appendix D: Bladder Management Algorithm)

Note: Bladder scans may be unreliable in patients with ascites.

6. Post Indwelling Catheter Removal Cares

6.1 **Assess for spontaneous voiding or discomfort and urge to void.**

a. Bladder scan after four (4) to six (6) hours if:
   - Patient has not voided,
   - First post catheter void was unmeasured, or
   - First post catheter void was measured and < 300 ml.

b. See Appendix D: Urinary retention algorithm

7. Patients with Severe Renal Disease and Oliguria

a. All patients who have or develop severe oliguria (less than 300ml per day) due to severe renal disease should have their catheter removed.

8. Nursing Documentation

8.1 Perineal care every shift and PRN

8.2 HOUDINI group information

8.3 Sterile technique upon placement of indwelling catheter

8.4 Skin assessment

8.5 Intake and output

8.6 Urine assessment

8.7 LDA information for indwelling catheter or external collection device

8.8 Care Plan and patient education

8.9 Bladder pressure if indicated/ordered.

9. Physician Documentation

9.1 Indications for ongoing use of indwelling catheters should be documented in daily progress note.

10. Elsevier Nursing Skills shall be referenced for appropriate nursing interventions.

10.1 Urinary Catheter: Indwelling (Foley) Catheter Care - CE

10.2 Urinary Catheter: Straight and Indwelling (Foley) Catheter Insertion and Specimen Collection (Female) - CE

10.3 Urinary Catheter: Straight, Indwelling (Foley), and Coudé Catheter Insertion and Specimen Collection (Male) - CE

10.4 Urinary Catheter: Indwelling (Foley) Catheter Removal - CE

10.5 Urinary Catheter: Closed Continuous (Foley) Irrigation - CE

10.6 Urinary Catheter: Suprapubic Catheter Care - CE

10.7 Urinary Catheter: Condom - CE

10.8 Urinary Catheter: External Female - CE

10.9 Intraabdominal Pressure Monitoring - CE

10.10 Bladder Scan - CE

10.11 Specimen Collection: Urine from Indwelling (Foley) Catheter - CE

11. REFERENCES

11.1 The Joint Commission. (2013) . Spotlights on success: Implementing nurse-driven protocols to reduce CAUTIs. Retrieved https://store.jcrinc.com/spotlight-on-success-implementing-nurse-driven-protocols-to-reduce-cautis/

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12. APPENDIX

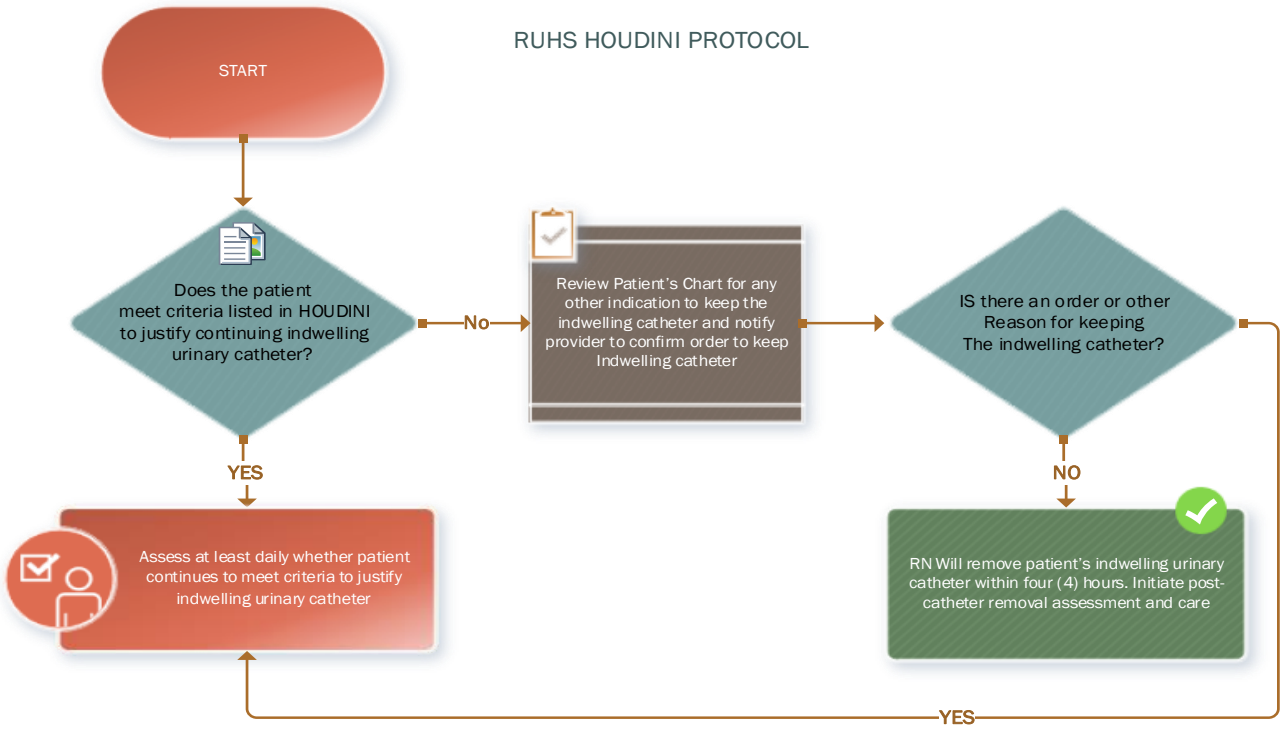
12.1 Appendix A: HOUDINI Algorithm

12.2 Appendix B: Urinary Retention Protocol

12.3 Appendix C: CDC criteria for diagnostic CAUTI

13. Appendix A

HOUDINI Protocol. Adopted from Adams, D., Bucior, H., Day, G., & Rimmer, J.-A., 2012.



HOUDINI

A nurse-led urinary catheter removal protocol which is an acronym for indication to continue use of an indwelling catheter.

H = Hematuria, presence of gross hematuria or blood clots

O - Obstruction. Can include obstruction from calculi, tumors, anatomical abnormalities, urethra tear, urinary tract obstruction, neurogenic bladder dysfunction and urinary retention

U – Urology placement or selected surgical procedures. Include placement or selected surgical procedures; for example: Surgery on continuous structures of GU trac, such as colorectal surgery, prostate surgery, vulvectomy.. Consider prolonged post-op indications, such as perineal flaps in incontinent patient, prolonged effects of epidural anesthesia.

D – Dermis. To assist in healing of sacral/coccyx/perineal wounds in patients with incontinence.

I - Intake and Output, as ordered for every four hours or less.

N - No Code/ comfort care/hospice. For comfort care in an actively dying patients.

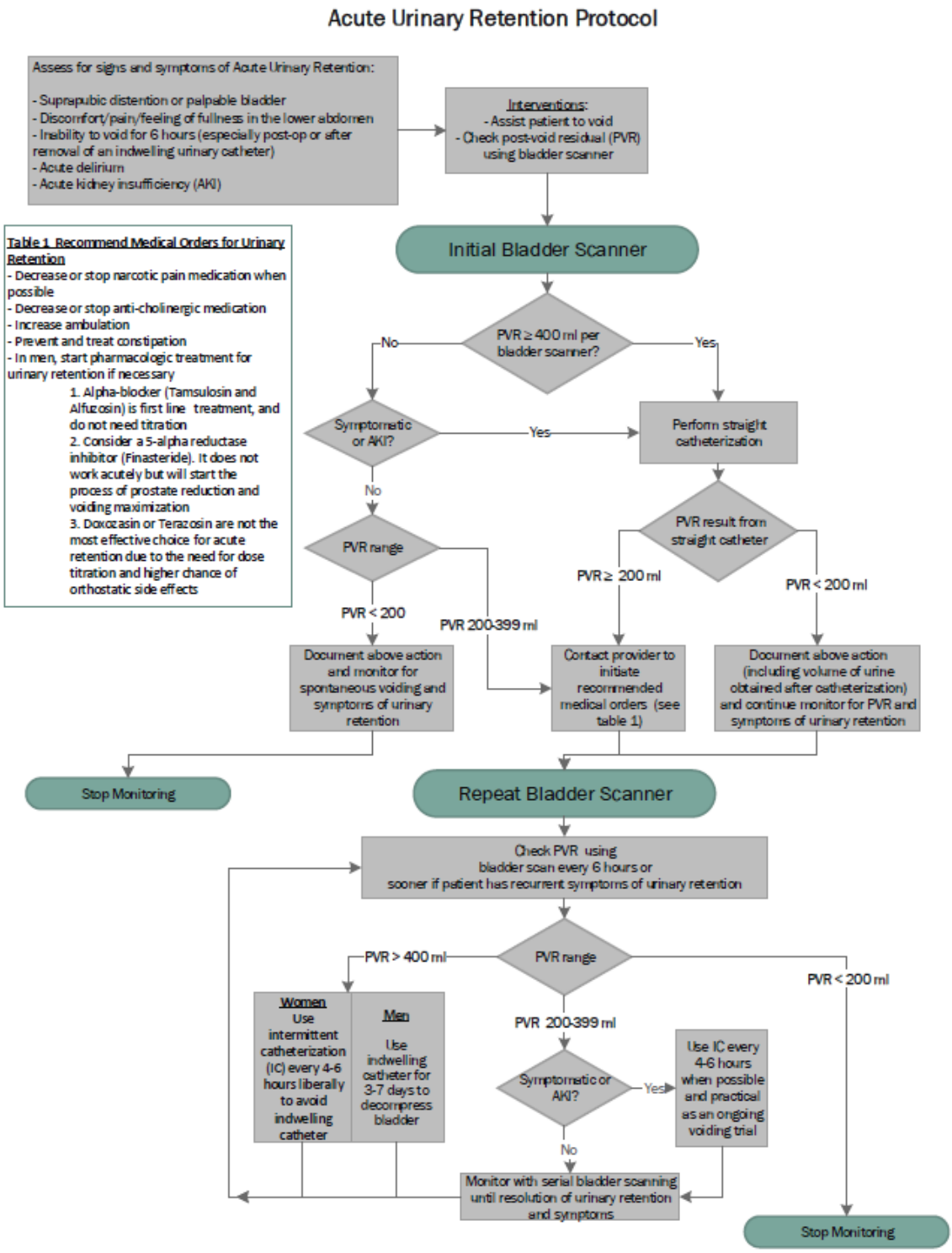
I – Indications. Immobilization due to physical constraints (i.e. unstable pelvic or spine fractures or encephalopathy. Patients with intra-abdominal pressure monitoring irrigation.

CAUTI BUNDLE

- Maintain a closed drainage system
- Maintain unobstructed urine flow, drainage bag should be positioned below the bladder and free of independent loops
- Drainage bag less than half full and off the floor. Empty prior to transport
- Use securement device
- Foley/per care completed and documented every shift and when needed (PRN) such as in stool incontinence
- Practice Hand Hygiene and standard precaution measures or as appropriate for type of isolation(s).

14. Appendix B

Acute Urinary Retention Protocol



15. Appendix C

Table 1. Catheter-associated Urinary Tract Infection (CAUTI) - CDC Criteria
NHSN (2023) https://www.cdc.gov/nhsn/pdfs/pscmanual/7psccauticurrent.pdf

SUTI 1a **Catheter-associated Urinary Tract Infection (CAUTI)** **in any age patient**	Patient must meet 1, 2, and 3 below: 1. Patient had an indwelling urinary catheter that had been in place for more than 2 consecutive days in an inpatient location on the date of event AND was either: • Present for any portion of the calendar day on the date of event†, **OR** • Removed the day before the date of event‡ 2. Patient has at least ***one*** of the following signs or symptoms: • fever (>38.0°C) • suprapubic tenderness* • costovertebral angle pain or tenderness* • urinary urgency ^ • urinary frequency ^ • dysuria ^ 3. Patient has a urine culture with no more than two species of organisms identified, at least one of which is a bacterium of $\geq 10^5$ CFU/ml (See Comments). All elements of the SUTI criterion must occur during the IWP (See IWP Definition Chapter 2 Identifying HAIs in NHSN). † When entering event into NHSN choose "INPLACE" for Risk Factor for IUC ‡ When entering event into NHSN choose "REMOVE" for Risk Factor for IUC *****With no other recognized cause (see Comments) **^** These symptoms cannot be used when catheter is in place. An IUC in place could cause patient complaints of "frequency" "urgency" or "dysuria". **Note:** • Fever is a non-specific symptom of infection and cannot be excluded from UTI determination because it is clinically deemed due to another recognized cause.

Document History:

Prior Release Dates: n/a	**Retire Date:** N/A
Document Owner: Director of ACCU	**Replaces Policy:** IC 04-07, IC 02-09

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
11/28/2023	(Nicole Hadad, Dr. Thompson, Dr. Garrison, Urology, Cedric Bol, Kim Hoyer	(Yes/No)	(Fill in descriptions of revisions requested)
2/1/2024	Pre-Nursing P&P	Yes	Section 10 recommendation as attachment
2/8/2024	Nursing P&P	No	
2/8/2024	PAC	No	
3/15/2024	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 656	Page 1 of 7
Title: Screening, Stabilizing Treatment and Transfer of Patients with Emergency Medical Conditions	**Effective Date:** 2/1/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 This policy applies to:

a. An outpatient during the course of a scheduled visit;

b. An inpatient (including inpatients who are "boarded" in the dedicated emergency department waiting for an available bed);

c. An individual who presents to any off-campus department of the Hospital that is not a dedicated emergency department;

2. DEFINITIONS

2.1 Appropriate Transfer means a transfer of an individual with an emergency medical condition to another acute care hospital in accordance with federal and state law.

2.2 Hospital Capacity means the ability of the Hospital to accommodate an individual requesting or needing examination or treatment. Capacity encompasses the number and availability of qualified staff, beds, equipment, medical specialties and the Hospital's past practices of accommodating additional individuals in excess of its occupancy limits.

2.3 Central Log means a log maintained by the Hospital listing each individual who comes to its dedicated emergency department(s) or any location on the Hospital property seeking emergency assistance and the disposition of each individual.

2.4 Comes to a Dedicated Emergency Department means an individual who—

a. Presents at the Hospital's dedicated emergency department and requests or has a request made on his/her behalf for examination or treatment for a medical condition, or a prudent layperson observer would believe, based on the individual's appearance or behavior, that the individual needs examination or treatment for a medical condition;

b. Presents on Hospital property other than a dedicated emergency department, and

(i) requests or has a request made on his/her behalf for examination or treatment for what may be an emergency medical condition, or

(ii) a prudent layperson observer would believe, based on the individual's appearance or behavior, that the individual needs emergency examination or treatment;

c. Is in a non-Hospital owned ground or air ambulance that is on Hospital property for presentation for examination or treatment for a medical condition at the Hospital's dedicated emergency department.

2.5 Dedicated Emergency Departments. The following departments of the Hospital are dedicated emergency departments:

a. Emergency Department

b. Labor & Delivery

c. Arlington Emergency Treatment Services (ETS)

2.6 Emergency Medical Condition means:

a. A medical condition manifesting itself by acute symptoms of sufficient severity (including severe pain, psychiatric disturbances and/or symptoms of substance abuse) such that the absence of immediate medical attention could reasonably be expected to result in:

- Placing the health of the individual (or, with respect to a pregnant woman, the health of the woman or her unborn child) in serious jeopardy;
- Serious impairment to bodily functions; or
- Serious dysfunction of any bodily organ or part; or

b. With respect to a pregnant woman who is having contractions:

- When there is inadequate time to effect a safe transfer to another hospital before delivery; or
- The transfer may pose a threat to the health or safety of the woman or the unborn child.

2.7 Hospital Property means the entire main Hospital campus, including parking areas and structures that are located within 250 yards of the main buildings. Neither the Campus Professional Center (CPC) building nor the Education building are part of the Hospital’s property for this purpose.

2.8 Inpatient means an individual who is admitted to the Hospital for purposes of receiving inpatient services with the expectation that he/she will remain at least overnight and occupy a bed, even though the individual may be later discharged or transferred to another facility and does not actually use a Hospital bed overnight.

2.9 Labor means the process of childbirth beginning with the latent or early phase of labor and continuing through the delivery of the placenta. A woman undergoing contractions is in “labor” until a physician, certified nurse midwife or another qualified person acting within the scope of his/her practice (and the Medical Staff

Bylaws), certifies that, after a reasonable period of observation, the woman is in false labor.

2.10 Medical Screening Examination means the process required to determine within reasonable clinical confidence, whether or not a patient has an emergency medical condition or a woman is in labor

2.11 On-Call List means the list of physicians who are "on-call" after the initial medical screening examination to provide further evaluation and/or treatment necessary to stabilize an individual with an emergency medical condition.

2.12 Outpatient means an individual who has begun to receive outpatient services as part of a scheduled encounter.

2.13 Physician means: (i) a doctor of medicine or osteopathy; (ii) a doctor of dental surgery or dental medicine; or (iii) a doctor of podiatric medicine; each acting within the scope of his/her respective licensure and clinical privileges.

2.14 Physician Certification means a written certification by the treating physician ordering a transfer and setting forth, based on the information available at the time of transfer, that the medical benefits reasonably expected from the provision of appropriate medical treatment at another medical facility outweigh the increased risks to the individual and, in the case of a woman in labor, to the unborn child, from effecting the transfer.

2.15 Qualified Medical Person means the individuals who are qualified to determine if person, based on a complete medical screening examination, has an emergency medical condition. At RUHS – Medical Center this determination can be made by:

a. A licensed physician;

b. A physician assistant practicing in the Emergency Department or in Labor and Delivery

c. A nurse practitioner practicing in the Emergency Department or in Labor and Delivery;

d. A registered nurse operating under a standardized procedure within the Labor and Delivery Department

2.16 Stabilized means, with respect to an emergency medical condition, either:

a. That a patient’s emergency medical condition has been resolved; or

b. That no material deterioration of the patient’s condition is likely within reasonable medical probability, to result from or occur during a transfer to another Hospital or

c. In the case of a woman in labor, that the woman delivered the child and the placenta.

2.17 Stable for Discharge means a determination by the treating physician, within reasonable clinical confidence, that an individual has reached the point where his/her continued care, including diagnostic work-up and/or treatment, could reasonably be performed as an outpatient or later as an inpatient, provided the individual is given a plan for appropriate follow-up care with the discharge

instructions. For the purpose of discharging an individual with psychiatric condition(s), the individual is considered to be stable for discharge when he/she is no longer considered to be a threat to himself/herself or to others.

2.18 Transfer means the movement of a patient to another acute care hospital at the direction of a physician on the Hospital's medical staff and with the agreement of the hospital to which the patient is being transferred.

2.19 Triage means a process to determine the order in which individuals will be provided a medical screening examination by a qualified medical person. Triage is not the equivalent of a medical screening examination and does not determine the presence or absence of an emergency medical condition.

3. POLICY

3.1 Signage. The Hospital will post signage conspicuously in lobbies, waiting rooms, admitting areas and treatment rooms where examination and treatment occurs in the form required by law that specifies the rights of individuals to examination and treatment for emergency medical conditions and that the Hospital participates in the Medi-Cal program

3.2 Central Log. Each dedicated emergency department of the Hospital will maintain a central log recording the names of all individuals who come to the emergency department and whether the person refused treatment, was refused treatment by the Hospital or whether the individual was transferred, admitted and treated, stabilized and transferred or discharged. Each dedicated emergency department will establish its own central log procedure.

3.3 On-Call Coverage. The Hospital will maintain a list of physicians who are on-call to come to the Hospital to consult or provide treatment necessary to stabilize an individual with an emergency medical condition. The notification of an on-call physician will be documented in the medical record and any failure or refusal of an on-call physician to respond to call will be reported to the medical staff and in the clinical documentation sent to a subsequent hospital if that failure or refusal results in the transfer of the patient to another facility.

3.4 Maintenance of Records. Medical and other records related to this policy (such as transfer logs, on-call lists and changes to the on-call list and central logs) will be maintained in accordance with County of Riverside record-retention policies, but not less than five years.

3.5 Reporting EMTALA Violations. The Hospital will report to CMS or the state survey agency if it has a reason to believe that it has received an individual who has been transferred in an unstabilized emergency medical condition from another acute care facility within 72 hours of the occurrence. All Hospital personnel who believe that an EMTALA violation has occurred will report the violation to the RUHS – Medical Center Compliance Officer promptly and as soon as possible.

3.6 Retaliation. The Hospital will not retaliate, penalize or take adverse action against any physician or qualified medical person for refusing to transfer an individual with an emergency medical condition that has not been stabilized, or against any Hospital employee for reporting a violation of EMTALA or state laws to a government enforcement agency.

3.7 Medical Screening Examination

a. A medical screening examination will be offered to any individual who comes to a dedicated emergency department. The medical screening examination includes ancillary services routinely available to the dedicated emergency department (including the availability of on-call physicians). The medical screening examination must be the same appropriate examination that the qualified medical person would perform on any individual with similar signs and symptoms, regardless of the individual's ability to pay for medical care.

b. The scope of the medical screening examination should reflect the presenting complaint and the medical history of the individual. The process may range from a simple examination (such as a brief history and physical) to a complex examination that may include laboratory tests, MRI or diagnostic imaging, lumbar punctures, other diagnostic tests and procedures and the use of on-call physicians.

3.8 Authorizations, Insurance or Method of Payment

a. The Hospital will provide a medical screening examination, and, as clinically indicated, initiate necessary stabilizing treatment, without first inquiring about an individual's method of payment or insurance status.

b. Prior Authorization. The Hospital will not seek, or direct an individual to seek, authorization from the individual's insurance company or health plan until the hospital has provided the medical screening examination and initiated any further examination and treatment that may be required to stabilize the emergency medical condition.

3.9 Transfer of Individuals with an Emergency Medical Condition

a. The Hospital will not transfer an individual with an unstabilized emergency medical condition unless either (a) the individual requests the transfer having been informed of the related risks or (b) a physician certifies that the medical benefits reasonably expected from the provision of treatment at the receiving facility outweigh the risks to the individual from the transfer.

b. Requirements for an Appropriate Transfer. An individual with an unstabilized emergency medical condition may be transferred only after:

i. The Hospital provides medical treatment within its capacity to minimize the risks to the individual's health and, in the case of a woman in labor, the health of the unborn child;

ii. The patient or a legal representative on the patient’s behalf has consented to the transfer;

iii. The medical record reflects the vital signs and condition of the individual at the time of the transfer;

iv. The receiving facility has available space and qualified personnel for treatment of the individual; and the receiving facility and receiving

physician's
agreement to accept the individual and provide appropriate medical treatment is documented in the patient's record;

v. A copy of all medical records available at the time of transfer related to the emergency medical condition, including records related to the individual's emergency condition;

- The individual's informed written consent to transfer
- The physician certification ;
- And the name and address of any on-call physician who has refused or failed to appear within a reasonable time to provide necessary stabilizing treatment has been prepared; and

vi. Proper personnel and equipment, as well as necessary and medically appropriate life-support measures during the transfer has been obtained. The transferring physician is responsible to determine whether an individual is stabilized and the mode of transportation, equipment and personnel required for transfer

3.10 Refusals

a. A patient has the right to refuse necessary stabilizing treatment and further medical examination, as well as a transfer to another facility.

b. Refusal of Medical Screening Examination. If an individual leaves the Hospital before receiving a medical screening examination, either with or without notice to staff of his/her departure, staff should document the circumstances and reasons (if known) for the individual's departure and the time of departure in either the department's central log or in the individual's medical record if a record has been started.

c. Refusal of Examination or Stabilizing Treatment. If an individual who has received a medical screening examination refuses to consent to further examination or stabilizing treatment, the attending physician will offer the examination and treatment to the individual, inform the individual of the risks and benefits of the examination and treatment and request that the individual sign a form that he/she has refused further examination or treatment.

d. Refusal of a Transfer. If an individual refuses to consent to a transfer, the attending physician must inform the individual of the risks and benefits to the individual of the transfer and request that the individual sign a form that he/she has refused the transfer.

3.11 Acceptance of Transfers

a. The Hospital has the obligation to accept an appropriate transfer of an individual with an unstabilized emergency medical condition who requires specialized capabilities or facilities if the Hospital has the capacity to treat the individual.

4. REFERENCES

4.1 California Hospital Association Consent Manual, Chapters 5 and 9.

4.2 California Hospital Association EMTALA—A Guide to Patient Anti-Dumping Laws Manual.

4.3 Title 22, California Code of Regulations, Section 70717

4.4 Health and Safety Code 1317.3

4.5 42 CFR Subpart B, Section 489.2-489.29

4.6 42 U.S.C. Section 1395cc, 1395dd

Document History:

Prior Release Dates: 8/2011, 8/2014, 9/5/2017, 12/9/2020	**Retire Date:** N/A
Document Owner: Clinical Nursing Director – Emergency Department	**Replaces Policy:** HW 637 Transfers and Transfer Closures: Patients from Other Facilities to RCRMC HW 637.1Recording Transfers of Patients and Inappropriate Transfers Received. HW 638 Emergency Medical Response to Off-Campus Facilities having a Potential Emergency Medical Condition Patient Presenting HW 639 Evaluation, Treatment, and Transfer of ED Patients Physicians On Call to the ED HW 639.2 Emergency Medical Response to On Campus Call 250 Yard perimeter

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
1/4/2024	Pre-Nursing P&P	Y	Clarification 2.3, 2.4, 2.6 and corrected formatting
1/18/2024	Nursing P&P	Y	Correction abbreviations
1/29/2024	PAC	N	
	MEC – No changes to practice since they last approved this doc, so at their request, not necessary to repeat approval		

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 674	Page 1 of 2
Title: Child Passenger Restraint Education	**Effective Date:** 2/1/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. POLICY

1.1 Riverside University Health System – Medical Center will provide and discuss information regarding California law mandating the use of child passenger restraint systems (car seats) to the parent(s) or the person(s) to whom a child under the age of 8 years is released from inpatient and outpatient treatment areas. This information will include, at a minimum:

a. A summary of current state law regarding child passenger restraint systems to be used when transporting a child or children in motor vehicles, safety belts, and the transportation of children in rear seats;

b. Information describing the risks of death or serious injury associated with the failure to use a child passenger restraint system;

c. Contact information to direct the person to an internet website or other contact that could provide, at no cost or low cost, information and assistance relating to child passenger restraint system requirements, installation, and inspection.

d. A list of child passenger restraint low-cost purchase or loaner programs in Riverside County.

1.2 Medical Center staff will not attempt to prevent a parent or other authorized person from transporting a child in a vehicle that does not have a child passenger restraint system. [NOTE: Per Vehicle Code Section 27363.5(c): Facilities that provide the required information to the person to whom the child is released cannot be held legally responsible for the failure of that person to properly transport the child.]

1.3 Medical center staff shall only instruct or assist parents/guardians on how to install a car seat if they are a certified Child Passenger Safety Technician (CPST). Staff without a CPST certification may still provide the car seat information from 1.1a-d above and may refer the child's parent/guardian to (866) SEAT- CHECK or **www.seatcheck.org** to locate free car seat inspection facilities.

2. REFERENCES

2.1 California Vehicle Code section 27363.5

2.2 California Health and Safety Code 1268

2.3 National Highway Traffic Safety Administration. (n.d.). Car Seats and Booster Seats [www.seatcheck.org]. https://www.nhtsa.gov/equipment/car-seats-and-booster-seats

2.4 Safe Kids Worldwide. (2023). Child Passenger Safety Certification. www.cert.safekids.org

Document History:

Release Dates: 4/25/2012, 8/24/2016, 9/12/2019	**Retire Date:** N/A
Document Owner: Director, NICU, PICU, Pediatrics	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
10/18/2023	Trauma Svcs	Yes	Added section 1.4, car seat fitting by CPST certified staff and references
10/19/2023	Pediatrics, PICU	No	Agree with changes
10/19/2023	Nursing Admin	No	Agree with changes
10/19/2023	Women's Svcs	No	Agree with changes
12/5/2023	Policy Approval Committee	Yes	Delete one new section

RIVERSIDE UNIVERSITY HEALTH SYSTEM
Housewide

	Document No: 709	Page 1 of 5
Title: Amendments and Addendums to the Medical Record	**Effective Date:** 2/15/2024	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☒ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 Under the Health Information Portability and Accountability Act (HIPAA) along with other federal laws and regulations, patients have the right to inspect, obtain a copy of and request an amendment of their protected health information (PHI) found within their designated record set. Riverside University Health System – Medical Center, Hospital Based Clinics, and Community Health Centers may accept or deny the requested amendment following review by the physician/licensed practitioner compliance to this procedure. Individuals may request to add an addendum to their medical record.

2. DEFINITIONS

2.1 Addendum is defined as an addition to the protected health information (PHI) in the medical record.

2.1 Amendment is defined as the patient's right to add to (or append) information with which he/she disagrees. It does not include deleting, removing or otherwise changing the content of the record.

2.2 Designated record set (DRS) is defined as a group of records, which are the property of RUHS, consisting of one or more of the following types of information:

a. Medical documentation, in any medium, of RUHS healthcare services provided to an individual (e.g. healthcare professional's documentation, discharge summaries, orders, assessments, consultation reports, care plans, consents, advance directives, individually identifiable data, etc.).

b. Billing records, patient-identifiable claims, supporting documentation for the reimbursement of services provided to the patient.

c. Other information used to make healthcare decisions including healthcare records that RUHS has accepted from other healthcare professionals.

2.3 Electronic Health Information:

a. Electronic Protected Health Information (ePHI)[1] to the extent it would be included in a Designated Record Set, regardless of whether the group of records are used or maintained by or for a HIPAA covered entity; and

b. Individually Identifiable Health Information (IIHI)[3] that:

2.3.b.1 is maintained in electronic media or transmitted by electronic media; and

2.3.b.2 is included in one of the following groups of records; and

- medical records and billing records of a health care provider about individuals; or
- enrollment, payment, claims adjudication, and case or medical management record systems maintained by or for a health plan; or
- records used in whole or in part, to make decisions about individuals.

c. Electronic Health Information (EHI) does not include:

2.3.c.1 psychotherapy notes as defined in 45 CFR 164.501

2.3.c.2 information compiled in reasonable anticipation of, or for use in, a civil, criminal, or administrative action or proceeding

2.3.c.3 individually identifiable health information in education records covered by the Family Educational Rights and Privacy Act, as amended, 20 U.S.C. 1232g

2.3.c.4 individually identifiable health information in records of an adult student or a student attending a postsecondary educational institution, which are made, maintained or used only in connection with the provision of treatment to the student as described at 20 U.S.C. 1232g(a)(4)(B)(iv)

2.3.c.5 individually identifiable health information in employment records held by a covered entity in its role as employer

2.3.c.6 individually identifiable health information regarding a person who has been deceased for more than 50 years

2.3.c.7 De-identified protected health information[4] as set forth in 45 CFR 164.514(a)-(c)

2.4 Protected Health Information (PHI) is verbal, written, or electronic information created or maintained by RUHS that identifies an individual patient. Patient PHI includes, but is not limited to:

a. The patient's presence or location in the hospital

b. Demographic information, such as name, age, date of birth, address, telephone and/or fax number, email, income, social security number, account number, driver's license number, health plan, and/or medical record number

c. Information about the patient's medical condition, diagnostics/testing, treatment, and prognosis

3. RESPONSIBILITIES

3.1 Physicians/licensed practitioner shall be responsible to:

a. Review and accept or deny requests from individuals to amend information in the medical record.

b. Properly execute an amendment in the medical record.

3.2 Health Information Management (HIM) department shall be responsible to:

a. Receive and process requests for amendments.

4. PROCEDURES

4.1 Request for Amendment. The right to request an amendment and the process for making a request is outlined in the Notice of Privacy Practices given to all patients.

4.2 The *Notification of Amendment to Protected Health Information* form may be used by an individual to submit their request in writing. All requests for corrections or amendments to the medical record must be forwarded to the HIM department.

4.3 HIM department response to request procedures:

a. The request for amendment shall be logged in the Electronic Health Record (EHR), which identifies the specific PHI request to be amended, and verifies the health care provider authoring the note.

b. The request for amendment shall be forwarded to the department executive assistant and the author(s) or responsible health care provider(s) for review and a determination of acceptance or denial. If the author(s) is no longer a workforce member, then the request for amendment is forwarded to the author(s) Division Chair.

c. The author(s) shall inform the HIM department of their decision.

d. The HIM department shall communicate the decision via letter, *Response to Amend Protected Health Information,* to the individual in writing within 60 calendar days after the request is received; **or**

e. Inform the individual that more time is needed (no more than 30 days) to act on the request, or that RUHS does not maintain the record.

- If RUHS does not maintain the record, the individual shall be provided with the name and address, if known, of the person who maintains the record.

4.4 Acceptance of Amendment.
If the author(s) agrees to the amendment request, the correction or addition shall be documented by:

a. Identifying the specific records affected **and**

b. Electronically documenting or writing (during downtime) an addendum to the note in question and providing the correct or missing information.

c. Creating a written or electronic document from the old document to the new amended document.

- Drawing a single line through the information, initial and date next to it, and reference the amendment note when maintained in a paper document.
- Using the addendum functionality of the Electronic Health Record (EHR) to satisfy the requested changes in an electronic report. The addendum is electronically dated and signed.

d. Narrating a “late entry” for missing or incomplete information.

e. ***Note:*** Original information should never be removed, deleted, destroyed, and rewritten. The inaccurate information should still be accessible.

4.5 Informing Others of Amendments Made.
To reduce the chances of previously incorrect or missing information affecting other treatment decisions for the individual, the HIM department shall provide the amended information within ten (10) calendar days to:

a. Persons identified by the individual.

b. Third party payers or insurers.

c. Business associates known to have the PHI that is subject to the amendment.

d. Appropriate individuals in the billing department for review of potential billing issues.

4.6 Denial of a Request for Amendment.
RUHS may deny a patient’s request to amend their PHI if:

a. The request is not in writing

b. The request does not include a reason to support the request

c. The documentation was not created by RUHS.

d. The documentation is not part of the Designated Record Set.

e. The documentation is accurate and complete.

4.7 Rights and Obligations Related to an Amendment Denial.
Upon denying a request for an amendment, in whole or in part, the HIM department shall send a *Response to Amend Protected Health Information* and a copy of the initial request to the individual informing them of the denial, the reason why, and further steps the individual may take such as:

a. Submitting a written "Statement of Disagreement" with the denial, including specific reasons for the disagreement.
   - RUHS may prepare a written rebuttal to the individual's statement of disagreement and must provide a copy of the rebuttal to the individual.
   - The statement as well as any rebuttal by RUHS will be attached to the document which is subject to the denied amendment and included with any future disclosures of that document.

b. Requesting in writing for the Request for Amendment and the denial to be included in any future disclosures of the disputed records.

c. Submitting a written addendum and requesting that it be included in their medical record and in any future disclosures of the disputed records.

d. Filing a complaint.

e. All correspondence shall be entered into the individual's medical record.

4.8 Statement of Disagreement and Rebuttal.
If the patient submits a statement of disagreement after receiving the denial, the HIM department may provide a response statement (rebuttal) to the patient.

a. The HIM department shall append or link the patient's request for an amendment, the denial, the statement of disagreement, and the written rebuttal to the specified designated record set.

b. Any future releases must include:
   - The request for amendment and its denial; and
   - The statement of disagreement and its rebuttal.
   - If a release is made in a standard electronic transaction the amendment may be separately transmitted via paper, encrypted email, or fax.

4.9 Request for Addendum.
California state law provides individuals with the right to submit a written addendum for information found in their medical record they believe is inaccurate or incorrect.

a. The written addendum shall be submitted to the HIM department.
   - The submitted addendum must clearly state that the statement is to be made part of the patient's medical record.
   - The HIM department shall attach the addendum to the patient's medical records and include the addendum whenever the information subject to the addendum is disclosed to a third party.

4.10 Notices of Amendments from other Covered Entities.
Upon receipt of a letter informing RUHS of an amendment to an individual's PHI, the HIM department shall;

a. Identify the information subject to the amendment;

b. Append or link the amendment in the medical record; and

c. Notify the appropriate health care provider of the additional documentation.

4.11 Required Documentation. The HIM department shall document and retain the following:

a. The designated record sets that are subject to amendment by individuals.

b. The titles of the persons or offices responsible for receiving and processing requests for amendment by individuals.

4.12 Records Retention.
All correspondence and associated documentation related to patient amendment of the designated record set must be maintained and retained in compliance with Federal and State laws and per the County of Riverside Records Retention Schedule.

4.13 Complaints.
Patients may file a complaint regarding RUHS denial of their amendment request by calling the Compliance Hotline at (951) 486-4659.

5. REFERENCES

5.1 California Health and Safety Code Section 123111

5.2 California Civil Code Section 56 et seq.

5.3 45 CFR Part 164; Section 164.524 Access of Individuals to Protected Health Information

5.4 45 CFR Part 164; Section 164.526 Amendment of Protected Health Information

5.5 45 CFR Part 160.103

5.6 45 CFR Part 164 Sections 164.501; 164.514 (a)-(c); 164.524(a), (b), (c), (e); 164.526(a), (b), (c), (d), (e)

5.7 45 CFR Section 171.102

5.8 20 U.S.C. 1232g

5.9 RUHS - MEDICAL CENTER Nursing Policy No.120 Documentation Standards – Nursing

Document History:

Prior Release Dates: 9/11/13, 5/22/2017	**Retire Date:** N/A
Document Owner: Health Information Management	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
1/29/2024	Director of Health Information Management	Yes	Added EHI definition
1/29/2024	Policy Approval Committee	No	Added references
2/8/2024	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM

Housewide

	Document No: 738	Page 1 of 2
Title: Transportation of Protected Health Information	**Effective Date:** 3/13/2024	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 This document applies to all instances when protected health information (PHI) is transported for operational needs, from one location to another, within a Riverside University Health System (RUHS) location or to another offsite location.

1.2 This document does not apply to Release of Information. All Release of Information requests and functions shall be referred to the Medical Records Department.

2. DEFINITIONS

2.1 **Offsite location** refers to a location that is not within the same physical campus or facility. This includes RUHS and non-RUHS locations.

2.2 **Protected Health Information (PHI)** is verbal, written, or electronic information created or maintained by RUHS that identifies an individual patient. Patient PHI includes, but is not limited to:

a. The patient's presence or location at RUHS.

b. Demographic information, such as name, age, date of birth, address, telephone and/or fax number, email income, social security number, account number, driver's license number, health plan, and/or medical record number.

c. Information about the patient's medical condition, diagnostics/testing, treatment, and prognosis.

2.3 **Minimum Necessary Standard** when using or disclosing PHI, or when requesting PHI from others, RUHS must take reasonable steps to limit uses and disclosures of PHI to the "minimum necessary" to accomplish the intended purpose of the use, disclosure, or request. This standard does not apply to requests of PHI for treatment, or when the individual requests their PHI.

2.4 **Secure Area** is defined as a location within the office, department, or unit that is not accessible to the general public.

3. POLICY

3.1 Appropriate safeguards should be applied whenever business practices require that PHI be transported between RUHS areas or offsite. If possible, utilize Care Everywhere to share records between RUHS areas or other facilities.

3.2 The decision to transport PHI from one RUHS area to another or to an offsite location shall only be based on a business need.

3.3 Transportation of PHI should be limited to the “minimum necessary” to accomplish the sanctioned, envisioned purpose.

3.4 The workforce member is responsible for maintaining the privacy and security of all PHI they are transporting.

3.5 Healthcare items (e.g., specimens, slides, and medication bottles) labeled or marked with patient identifiers shall be safeguarded during transport by using covered bags, cases, or containers.

3.6 Documents containing PHI shall be safeguarded during transport by using an envelope, folder or locked bag, or covered by a sheet or tarp when being transported in a cart.

3.7 When transporting, PHI shall be delivered directly to the intended recipient, department, or secure area.

3.8 Loss, theft, or tampering of PHI during transport shall be immediately reported to the department manager and to the Compliance Department.

3.9 When transporting PHI from one location to another, PHI must be safeguarded as described herein and shall not be left unattended in vehicles.

4. REFERENCES

4.1 45 C.F.R. § 164.530(c)(1)

4.2 45 C.F.R. § 160.103

Document History:

Prior Release Dates: 3/20/2018		**Retire Date:** N/A	
Document Owner: Compliance Department		**Replaces Policy:** N/A	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
3/17/2021	Compliance	No	
3/5/2024	Compliance	Y	3.1 Added use of Care Everywhere 3.6 Added “locked bag”
3/6/2024	PAC	N	

	Document No: HW 807	Page 1 of 3
Title: Rabies Post Exposure Prophylaxis Guideline	**Effective Date:** 11/2/2023	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. Scope

1.1 To establish a guideline for rabies post exposure prophylaxis.

2. Definitions

2.1 Rabies
- a. Rabies is a disease caused by RNA viruses in family *Rhabdoviridae*, genus *Lyssavirus.* It is transmitted in the saliva of rabid mammals and after entry to the central nervous system, cause an acute, progressive encephalomyelitis. Prompt wound care and administration of post exposure prophylaxis are highly effective in preventing rabies after exposure.

2.2 Post exposure prophylaxis (PEP)
- a. Preventative medical treatment following possible exposure to rabies in order to prevent infection from occurring.

2.3 Day 0
- a. Day of first dose of PEP regimen. First dose should be administered as soon as possible after exposure.

3. Guideline

3.1 Indications by animal type

Animal Type	Evaluation of animal	PEP Recommendations
Dogs, cats, and ferrets	Regarded as not rabid	No prophylaxis
Skunks, racoons, foxes, and most other carnivores	Regarded as rabid unless animal proven by negative laboratory tests	Immediate prophylaxis
Bats	Regarded as rabid unless animal proven negative by laboratory tests	Immediate prophylaxis when direct contact *might* have occurred and a bite or scratch cannot be confidently ruled out
Livestock, rodents, and other mammals	Consider individually	Consult public health officials*

*Riverside County Department of Public Health Disease Control: (951) 358- 5107

3.2 Indications by exposure category
   a. Category I: Touching or feeding animals, animal licks on intact skin (no exposure)
   b. Category II: Nibbling of uncovered skin, minor scratches or abrasions without bleeding (exposure)
   c. Category III: Single or multiple transdermal bites or scratches, contamination of mucous membrane or broken skin with saliva from animal licks, exposures due to direct contact with bats (severe exposure)

	Category I Exposure	**Category II Exposure**	**Category III Exposure**
Rabies Vaccine	Not recommended	Immediate vaccination	Immediate vaccination
Rabies Immunoglobulin	Not recommended	Not recommended*	Recommended if not previously immunized

*Immunocompromised patients with category III exposure should get full course of rabies vaccine, RIG, and serological testing to evaluation for further vaccine requirement even if previously immunized

3.3 PEP Regimen
   a. Thorough cleansing of all wounds with soap and water
   b. Not previously vaccinated
      i. Rabies Vaccine
         - 4 dose (4 day) regimen: 1-site intramuscular (IM) on days 0, 3, 7, and 14
         - **OR** 4 dose (3 day) regimen: 2-site IM on day 0 and 1-site IM on days 7 and 21
         - Immunosuppressed patients should receive a 5 dose vaccine regimen on days 0, 3, 7, 14, and 28
      ii. Rabies Immunoglobulin (RIG)
         - 20 IU/kg (using actual body weight) infiltrated into and around the wounds
         - For large and multiple wounds, RIG can be diluted to ensure infiltration of all wounds
         - Do not administer RIG if first dose of rabies vaccine was received more than 7 days prior
   c. Previously vaccinated
      i. Rabies Vaccine
         - 2 dose (2 day) regimen: 1-site IM on days 0 and 3
      ii. Rabies Immunoglobulin (RIG)
         - Should not be administered if patient was previously vaccinated within 3 years
   d. IM injections should be administered in deltoid area for adults and children aged ≥ 2 years. Outer aspect of thigh may be used for children aged < 2 years. Gluteal area should be avoided

3.4 Documentation
   a. County of Riverside Department of Animal Services Rabies Control Program Form (Appendix A) will be completed and sent to the Department of Animal Services of Riverside County

4. References

4.1 Manning, Susan E., et al. "Human rabies prevention—United States, 2008: recommendations of the advisory committee on immunization practices." *MMWR Recomm Rep* 57.RR-3 (2008): 1-28.

4.2 Rupprecht, Charles E., et al. "Use of a reduced (4-dose) vaccine schedule for postexposure prophylaxis to prevent human rabies: recommendations of the advisory committee on immunization practices." *MMWR Recomm Rep* 59.RR-2 (2010): 1-9.

4.3 World Health Organization. "Rabies vaccines: WHO position paper, April 2018–Recommendations." *Vaccine* 36.37 (2018): 5500-550.

5. Attachments

5.1 **Appendix A:** County of Riverside Department of Animal Services Rabies Control Program Form

Guideline should be followed: however, exceptions are not viewed as violation of hospital policy if they are justified by reasonable clinical or operational consideration.

Document History:

Prior Release Dates: N/A		**Retire Date:** N/A	
Document Owner: Pharmacy		**Replaces Policy:** N/A	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
5/9/23	PRC	N	
06/07/23	P&T	N	
08/01/23	PAC	N	
9/14/23	MEC	N	

COUNTY OF RIVERSIDE
DEPARTMENT OF ANIMAL SERVICES
RABIES CONTROL PROGRAM
Tel: (951) 358-7345
Fax: (951) 358-7738
Email: rabiescontrol@rivcocha.org
http://www.rcdas.org

PERSON BITTEN

Victim Name (Last and first)	Date of Birth	Address (number, street, city and zip)

Victim phone number	Reported by:	Reporter phone number

Date bitten	Time bitten	Address where bitten (if no address make sure to put city)	Body location bitten

How bite occurred (if other, explain)

☐ Provoked ☐ Vicious ☐ Playful ☐ Sick ☐ Breakup Fight ☐ Unknown ☐ Other

Date Treated	Treated By	Phone Number

Type of Treatment

ANIMAL

Owner Name (last and first)	**Address (number, street city and zip)**

Phone Number	**Type of animal** ☐ **Dog** ☐ **Cat** ☐ **Other**	**Description of Animal**

Animal Impounded ☐ YES ☐ NO	**Animal Shelter**	**Impound #**

Remarks

Report taken by:

Date	**Time**	**Faxed:** ☐ **yes** ☐ **no**	**Initials**

It is your legal responsibility to initiate communicable disease reports within the required time frame (California Code of Regulations, Title 17, Section 2500). Reliance on laboratory reporting to Public Health is not a substitute. The HIPAA Privacy Rule recognizes the legitimate need for public health authorities (state and local health departments) and others responsible for ensuring public health and safety to have access to protected health information. There is an explicit exemption for public health activities in HIPAA (Section 164.512(b)). Patient consent or authorization is not needed. Your report must provide information, which will enable public health investigation. The information requested is the minimum necessary for public health purpose.

This information is also used for the purpose of communicable disease surveillance, prevention and control within Riverside County. Reporting materials are available by calling (951) 358-7345.

Date 01/12

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
HOUSE WIDE

	Document No: 828	Page 1 of 5
Title: Smart Infusion Pump System	**Effective Date:** 2/1/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1 This policy applies to RUHS Medical Center and Infusion Center, encompassing guidance for use of the various smart infusion pump systems.

2. DEFINITIONS

2.1 Drug Library: a drug data set to define a list of drugs and concentrations appropriate for each profile. Programming via the drug data set automates programming steps, including the drug name, drug amount and diluent volume, and represents established best practice.

2.2 DERS: Drug Error Reducing Software for the smart pump

a. Hard Limit: Does not allow the operator of the infusion system to adjust the rate of drug delivery outside of the parameters currently set within the dataset.

b. Soft Limit: Allows the operator of the infusion system to adjust the rate of drug delivery above the maximum dose or below the minimum dose. When a soft limit is reached, the operator will be asked to review and approve the infusion rate to assure that an error has not been made before overriding and guardrails limit. A visual and auditory prompt will occur indicating that the infusion is being delivered above or below the guardrails limit when a soft limit is overridden. The visual alert will stay visible during the infusion.

2.3 Smart Infusion Pump: A programmable infusion device used to control the administration of drugs, fluids or blood products by establishing standard concentrations, dose limits, and clinical advisories to reduce medication administration errors.

a. ALARIS™ Infusion System is a smart infusion pump system used for intravenous drug delivery.

- Profile: Represents a specific drug library for a corresponding patient care area within the ALARIS™ Infusion System. Each profile contains drugs configurations that are appropriate for that patient population or mode of delivery (Epidural, Critical Care, Medical/Surgical, Oncology, Pediatrics, and Nursery).

- Programming (Point-of-Care) Module: The PC unit of the ALARIS™ Infusion System provides a common interface for programming infusions and monitoring. Each programming module has the ability to control various pumping modules (PCA, Syringe, and Pump).
- Pumping Module: The ALARIS™ module that is attached to the programming module for the delivery of intravenous fluids or medications.
- Syringe Module: The ALARIS™ module that is attached to the programming module for the delivery of intermittent medications via syringe. This attaches to the ALARIS™ Point of Care unit for the delivery of concentrated drugs through advance pressure monitoring and rate flow accuracy.
- PCA module integrates a syringe-based patient-controlled analgesia (PCA) device with a large volume pump, syringe and EtCO2 modules on a single hardware platform. The PCA module is indicated for use on adults, pediatrics and neonates for continuous or intermittent delivery through clinically acceptable routes of administration: such as intravenous (IV), subcutaneous or epidural.

b. SAPPHIRE™ Pump works in accordance with an Epidural infusion platform to allow for dedicated epidural and regional applications. It includes several modes of epidural delivery including continuous infusion, patient controlled epidural analgesia (PCEA), intermittent epidural also known as programmed intermittent epidural boluses (PIEB). Regional analgesia can be delivered as Patient Controlled Regional Analgesia (PCRA).

2.4 Epidural Anesthesia: a type of anesthesia block in which a local anesthetic with or without analgesic drugs are injected into the epidural space surrounding the spinal cord. The pump module used for epidural drug delivery must be clearly differentiated from those used for other routes of administration.

2.5 Manual flow regulator a.k.a Dial-a-flow®: is a device that regulates the infusion rate.

3. GUIDELINE

3.1 Intravenous medications, solutions, and blood products for infusion shall be administered via a smart infusion pump.

a. Exception: perioperative area may utilize manual flow regulator for maintenance fluid only.

3.2 All staff that utilize the smart infusion system shall complete an education program and a hands-on demonstration prior to utilization of the pump. The Chief Nursing Officer is responsible for training of nursing users, the Director of Pharmacy is responsible for training of pharmacy users, and other respective managers are responsible for training their staff.

3.3 Drug Library

a. The library will be routinely maintained and updated by pharmacy in collaboration with other disciplines, at least annually, or more often as necessary.

b. The Chair of Pharmacy & Therapeutics (P&T) Committee, a pharmacy director, or a pharmacy director's designee will review and approve each infusion pump drug library update. Once approved, the new infusion pump drug library will be uploaded to the server and activated. In addition, the infusion pump drug library will be reported at the subsequent P&T Committee meeting.

3.4 When a patient transfers from one unit to another, the receiving unit is responsible to check and/or change the smart infusion pumps' profile to meet the level of care provided on that unit.

3.5 Excluding dedicated smart infusion pumps for epidural procedure in the L&D, all pumps and modules are returned to Central Processing Department after their use for proper cleaning and disinfection.

a. Dedicated smart infusion pumps for epidural procedure in the L&D will be cleaned and maintained in the unit.

3.6 DO NOT USE Smart Infusion System pumps less than the maximum close distance from the magnetic resonance imaging (MRI) suite. The exception to this is the MRidium® MRI-Safe smart infusion pump.

3.7 Infusion pumps used for enteral feeding **shall NOT be used to administer medications.**

4. ALARIS™ INFUSION SYSTEM

4.1 Assemble all needed equipment, open tubing and solution packages, prime tubing, invert all y-ports to purge air. When priming is complete use roller clamp to stop flow.

4.2 Ensure that secondary tubing is unclamped before infusion.

4.3 Medications and solutions delivered by the ALARIS™ Infusion System shall be administered using the appropriate clinical profile entry from the GUARDRAILS DRUGS or GUARDRAILS IV FLUIDS library.

4.4 BASIC INFUSION and DRUG CALCULATION modes shall only be used when there is no option for the medication or concentration in the drug library. In these instances, the user will notify pharmacists or to use QR code reporting system so that the medication can be added to the drug library in the future.

4.5 When initiating intravenous therapy, select YES when the programming module asks "Is this a new patient?" This will clear the settings from the prior patient.

4.6 Select the appropriate profile for the area in which the infusion will run.

4.7 Verify medication administration information that appears on the Alaris™ pump screen matches providers' orders and relevant pharmacy labels, e.g. dose, rate, and volume.

4.8 Any alerts must be reviewed and addressed prior to starting medication infusion.

4.9 Refer to the ALARIS™ Quick Reference Guide for further instructions.

5. SAPPHIRE™ PUMP

5.1 Infusion delivered via the epidural or regional route will be administered by a dedicated infusion pump.

5.2 Assemble all needed equipment, epidural tubing and solution packages, prime tubing, invert all ports to purge air. When priming is complete, use clamp to stop flow.

5.3 Ensure all tubing is unclamped prior to beginning infusion.

5.4 Medications delivered by the Sapphire™ Epidural Pump shall be administered by selecting the "Find" button and correctly choosing the patient's ordered medication.

5.5 When initiating infusion therapy, select YES when the programming module asks "New Infusion" This will clear the settings from the prior patient.

5.6 Verify medication administration information that appears on the Sapphire™ Epidural Pump screen matches the corresponding provider's order and relevant pharmacy label, e.g. infusion mode, dose, rate, and volume.

5.7 Any alerts must be reviewed and addressed prior to initiating medication infusion.

5.8 Refer to the SAPPHIRE™ Quick Guide for further instructions.

6. NEONATAL TRANSPORT PUMP

6.1 During neonatal transport, a smart infusion pump (Perfusor® Space Syringe Pump) will be used if medication administration is required.

a. Prior to overriding the dose in Perfusor® Space Infusion Pump, the nurse shall:

- Complete a two practitioners, RN, and RN designee, verification of the Dose Mode entry screen with the original physician order. The RN designee must be a licensed individual competent in medication administration to the neonatal patient.
- If an original order is outside the pre-programmed limits, the nurse will notify the physician to verify the infusion order.
- The nurse will document the verification in the progress notes and nursing flow sheet.

7. MRidium® MRI IV Infusion System

7.1 MRidium® MRI IV Infusion System is the only MRI-Safe smart infusion system that can be used in an MRI Room.

a. Transition of continuous medications to the MRidium® Infusion System will occur in the MRI holding area prior to MRI procedure.

7.2 This system is not intended for long term patient care outside of an MRI environment.

8. Safety and Malfunction Concerns

8.1 Suspected infusion pump malfunction:

a. 2nd qualified staff member to verify the provider's order and smart infusion pump programming to see if the error/malfunction still happens despite correct programming.

b. If the smart infusion pump is found to be malfunctioning:

- Remove the smart infusion pump including disposables (i.e. tubing) and medications involved in the incident from patient care area.
- Notify nurse manager/director or chain of command.
- Follow institution policy for reporting broken or malfunctioning equipment.

9. REFERENCES

9.1 ALARIS™ Infusion System, version 9.33, September 2017

9.2 ALARIS™ Infusion System User Manual Addendum, January 2018

9.3 Alaris™ System User Manual, Version 9.33, July 2019

9.4 SAPPHIRE™ Quick Guide February 2022.

9.5 ASHP. (2018, October). ASHP Guidelines on Preventing Medication Errors in Hospitals. American Journal of Health-System Pharmacy, 75(19), 267-289.

9.6 Centers for Medicare & Medicaid Services Conditions of Participation §482.23(c)(4)

9.7 IRadimed Corporation 3860+ MRidium Infusion System Operator's Manual September 2018.

9.8 ISMP. Proceedings from the ISMP Summit on the Use of Smart Infusion Pumps: GUIDELINES FOR SAFE IMPLEMENTATION AND USE. 2009

9.9 ISMP. Acute Care ISMP Medication Safety Alert. Epidural – IV Route Mix-ups: Reducing the Risk of Deadly Errors. July 3, 2008.

9.10 HW 555: Reporting Broken and Malfunctioning Equipment

9.11 HW 603.6: Regional and Epidural Anesthesia Care via Catheter

Document History:

Prior Release Dates: 6/15/2018, 3/4/19, 12/10/20, 1/7/21	**Retire Date:** N/A
Document Owner: Pharmacy Department	**Replaces Policy:** Pharmacy Dept PnP C315 ALARIS™ Infusion Pump Nursing Dept PnP 718 Infusion Pump: ALARIS™ Infusion System Pharmacy Dept PnP377 Neonatal Transport: SPACE Infusion Pump System HW 845 Smart Infusion Pumps for Epidural Infusion

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
5/9/2023	PRC	Yes	Updated sections pertaining to Sapphire Pump
6/5/2023	P&T	No	
11/30/23	PAC	No	
1/11/24	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 829	Page 1 of 11
Title: Ordering, Preparing, and Monitoring Parenteral Nutrition in Adult Patients	**Effective Date:** 12/20/2020	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. DEFINITIONS

1.1 PN: Parenteral Nutrition

1.2 TPN: Total Parenteral Nutrition

1.3 RMR: Resting Metabolic Rate

1.4 AEE: Actual Energy Expenditure

1.5 MAP: Mean Arterial Pressure

1.6 IBW: Ideal Body Weight

1.7 GI tract: Gastrointestinal tract

1.8 ASPEN: American society for parenteral and enteral nutrition

1.9 BMI: Body mass index

1.10 ~~IVFE~~ ILE: Intravenous lipid emulsion

1.11 ~~SO~~ ILE: soybean oil intravenous lipid emulsion

1.12 SMOF-ILE: Containing four different types of oils: 30% SO, 30% MCT, 25% OO, and 15%FO

1.13 CRRT: Continuous Renal Replacement Therapy

1.14 TRIG: Triglyceride

1.15 SCAPN: Standardized Commercially Available PN formulations

1.16 ACD: Automatic Compounding Devices

2. GUIDELINES FOR ORDERING/PRESCIBING PN

2.1 The physician may consult the clinical pharmacist to manage the patient's TPN by writing for "TPN per pharmacy". All consult requests need to be received before 14:00 for patient to receive PN on that same day. All consult requests not received on time will be started the next day and the physician as well as the nurse taking care of the

patient must be informed by the Pharmacist.

2.2 The clinical pharmacist is responsible for writing completed chart orders for TPN including indications, co-morbid conditions, and weight daily as well as supplementary orders related to clinical monitoring, and, if necessary, electrolyte replenishment in the form of oral or intravenous electrolyte riders.

2.3 Standardized electronic PN orders (eg, a computerized prescriber order entry CPOE system) should be used to prescribe PN for all patients. When CPOE system is not available, a standardized order template should be used, and it should include all the required components of the electronic orders

2.4 All PN ingredients shall be ordered in amounts per days. Electrolytes shall be ordered as the complete salt form rather than the individual ion.

2.5 Prescribing a PN formulation that includes non-nutrient medications should be avoided and shall only be included if data support compatibility/stability.

2.6 A progress note must be written daily by the clinical Pharmacist, which documents dietician recommendation is reviewed, must detail the rationale for any adjustments to the patient's formula, include all relevant information and describes the patient's clinical response to TPN.

2.7 The TPN order will undergo a second check review by another pharmacist prior to compounding. The second pharmacist will confirm the appropriateness of the written TPN order for compatibility of formula, electrolytes, and other additives.

2.8 The TPN goal time for administration is 21:00.

2.9 The clinical Pharmacist may:

a. Add/decrease/discontinue main IV fluids to prevent excessive administration of fluid volumes when PN begins.

b. Initiate bedside glucose monitoring every 6 hours and more frequently in hyperglycemic patients.

c. Discontinue TPN if the TPN bag is refused for more than 2 times by a patient and notify Physician.

d. Upon a request from the physician cycle TPN infusions in select patients over less than 24 hours to encourage transition to an oral diet, to minimize long-term hepatic complications of TPN or to prepare for discharge.

e. Wean calories/volume as patients transition to an enteral or oral diet and discontinue TPN when enteral or oral intake provides at least 60% of caloric needs.

f. Convert between intravenous and oral dosage forms of TPN additives (e.g., zinc supplementation) when patients are taking other medications orally.

g. Order baseline labs at initiation of TPN: Comprehensive Metabolic Panel, Magnesium, Phosphate, Triglycerides. Ammonia, and pre-albumin may be ordered only if needed. The previous day's lab values may be used upon initiation of TPN if today's lab results are not available. Daily labs may include Comprehensive (or Basic) Metabolic Panel, Magnesium and Phosphate. Triglyceride may be ordered at baseline and weekly or more frequent if needed.

h. Monitor clinical and laboratory parameters necessary to ensure safe and efficacious use of TPN (e.g., patient weight, serum chemistries, lipid profiles, prealbumin, and complete blood count).

i. Initiate and titrate insulin in PN to minimize hyperglycemia.

2.10 Absolute Indications for Parenteral Nutrition (PN): Patient shall have an appropriate indication for PN therapy consistent with published guidelines, which shall be documented in the medical record. Below are some examples of PN indications:

a. Patient is malnourished and unable to ingest/absorb adequate nutrients for >7 days.

b. Failed Enteral Feeding (Patient is unable to tolerate or meet nutrition requirements with enteric route). Or EN is contraindicated

c. Cardiac: Patient is having postoperative complications that preclude use of GI tract.

d. Liver: Perioperative nutrition for patients undergoing liver resection for hepatocellular carcinoma associated with cirrhosis.

e. Severe necrotizing Pancreatitis: Only if enteral feeding is not tolerated, not available, or not meeting caloric requirements.

f. Intestinal Tract: Severely diminished function due to underlying disease or treatment. Specific conditions are as follows: Paralytic Ileus, Mesenteric Ischemia, Small bowel obstruction, Short bowel syndrome (less than 100 cm of functional gut), and hypoperfusion of gut (MAP less than 79) while on multiple vasopressors.

g. Preoperative: Nutrition for moderately to severely malnourished patients undergoing major GI surgery.

h. Postoperative: Support to patients anticipated to be unable to meet their nutrient needs orally or enterally for 7 to 10 days or longer.

i. Inflammatory Bowel Disease: Patients not tolerating enteral nutrition or perioperative patients who are severely malnourished.

j. Crohn's disease with fistulae: Brief course of bowel rest and parenteral nutrition can be attempted.

k. Gastrointestinal Fistulae: PN should be reserved for those patients with high fistula output (more than 200ml output in 24 hours), except when enteral access may be placed posterior to the fistula, who cannot meet their needs by oral intake or who are malnourished or expected to have inadequate oral intake for 7- 14 days or more.

l. Hyperemesis Gravidarum: PN should be used when enteral nutrition is not tolerated.

m. Continuation of home PN

2.11 **Allergy**: No SO-ILE shall be provided to patients with a known hypersensitivity to eggs or soybean or peanut. No SMOF-ILE shall be provided to patient with a known allergy to eggs, soybean, peanut, fish and olive.

2.12 **Contraindications to Peripheral Parenteral Nutrition** (Central Parenteral Nutrition is necessary in these situations)

a. Significant malnutrition

b. Severe metabolic stress

c. Large nutrient or electrolyte needs

d. Fluid restriction

e. Need for prolonged parenteral nutrition (greater than 2 weeks)

f. Renal or liver compromise

2.13 **Energy Prediction Considerations**

- Indirect Calorimetry: to be used when available and in the absence of variables that affect the accuracy of measurement.
  - Indirect calorimetry is the most accurate method to measure resting metabolic rate (RMR) in the clinical setting.
  - In addition to estimating resting energy expenditure, indirect calorimetry may be used to calculate a respiratory quotient: results in excess of 1.0 generally indicate overfeeding, while results less than 0.82 suggest underfeeding.
  - Certain patient characteristics tend to limit the accuracy of predictive energy equations; patients likely to benefit from indirect calorimetry assessment are those who fail to respond to nutrition support based on predictive equations, to evaluate the contribution of overfeeding/underfeeding to those who have metabolic or respiratory derangements, or patients with any of the following: acute or chronic respiratory distress syndrome, large open wounds or burns, malnutrition with altered body composition (underweight, obesity, limb amputation, peripheral edema, ascites), multiple or neurological trauma, multisystem organ failure, post-operative organ transplantation, sepsis, systemic inflammatory response syndrome, or use of paralytic or barbiturate agents.
  - Factors leading to decreased accuracy of indirect calorimetry and recommendations to improve accuracy have been described in the literature.
- Predictive Energy Equations
  - Because of the highest level of accuracy in estimating caloric needs, resting metabolic rate (RMR) must be calculated using the **Mifflin-St. Jeor** equation in non-critical care adults.
  - Use of this equation is endorsed by the American Dietetic Association.
  - Calculated RMR requires adjustment factors for stress and activity to estimate the patient's actual energy expenditure (AEE).
  - Based on metabolic research, the multiplication factors are 1.2 for elective surgery, 1.4 for trauma, 1.8 for sepsis, and 2.3 for burns. Disease-specific recommendations are provided elsewhere in this document.

Mifflin-St. Jeor Equation

Men: RMR = 5 + 10 (wt in kg) + 6.25 (ht in cm) – 5 (age in years)

Women: RMR = -161 + 10 (wt in kg) + 6.25 (ht in cm) – 5 (age in years)

- Using predictive equations to estimate energy requirements for critically ill patients has, at best, been tenuous. Many equations exist which factor in moment-to-moment variables such as minute ventilation and body temperature. **Ireton-Jones** developed a more practical equation to estimate actual energy expenditure (and thus multiplication factors for injury and illness are not required). **Penn State** equation is widely used in critically ill patients for energy requirement calculation.

Ireton-Jones Equations

Spontaneously breathing patients= 629 – 11(A) + 25(W) – 609 (O)

Ventilator-dependent patients= 1784 – 11(A) + 5(W) + 244 (S) + 239 (T) + 804(B)

A = age (years); W = actual body weight (kg); S = sex (male = 1, female = 0); T = diagnosis of trauma (present = 1, absent = 0);

B = diagnosis of burn (present = 1, absent = 0); O = obesity above 30% of ideal body weight (present = 1, absent = 0)

Penn State

Penn State (modified): RMR (kcal/d) = Mifflin (0.71) + V_E (64) + T_m (85) – 3085

T_m = maximum body temperature in the previous 24 hours, RR = respiratory rate (breath/min), V_E = minute ventilation (L/min)

- The use of both predictive equations and simplistic formulas (25-30 kcal/kg/day) has been endorsed for critically ill patients. It is generally considered adequate to aim for 25 kcal/kg/day as long as subsequent adjustment in calorie goal is made based on the patient's clinical response. Both predictive equations and kcal/kg methods must be calculated, and the results must be checked against each other for similarity. The Pharmacist may consult with Dietician if there is discrepancy between the two methods.

2.14 **Composition of Calories**

a. Calories: Unless described elsewhere in a disease-specific context, nutrition goals for Riverside University Health System (RUHS) – Medical Center patients generally contain 20 – 35 kcal/kg/day. Patients may be initiated at approximately 50-60% of goal kcals and advanced to goal as tolerated over 3-5 days. Exceptions include patients on TPN at goal before hospital admission or not malnourished or no risk of developing refeeding syndrome.

b. Protein: Protein must be provided based on patient-specific needs and clinical response. Azotemia is a risk factor for the development of uremic encephalopathy. However, allowing BUN to increase up to 100 mg/dL is generally well-tolerated. In cases where dialysis is not desired or clinically advisable, administration of amino acids might be restricted or reduced to prevent BUN in excess of 100 mg/dL (up to and including discontinuation of PN, if necessary).

c. Dextrose: Carbohydrate content in PN must be provided as recommended in various disease-specific conditions as discussed below however, carbohydrate content must not exceed 7g/kg/d or oxidation rate of 5mg/kg/min in adults.

d. Lipid**:** ILE intake should be limited to less than 30% of total calories or 1g/kg/d. Acceptable serum triglyceride concentrations are less than 400 mg/dL. In the case should a patient suffer from fat intolerance, IVFE must be reduced or discontinued until level is below 400mg/dL. IVFE is considered safe for use in patients with pancreatitis without hypertriglyceridemia. Propofol infusion provides 1.1 fat kcal/mL. Patients receiving propofol infusion must have PN fat calories reduced in an amount equal to that provided by propofol. Additionally, serum triglyceride level in excess of 400 mg/dL is a known risk factor for pancreatitis. In such cases, IVFE administration may be removed or reduced to two to three times weekly. Special considerations for IVFE in adults during a national shortage are as follows; IVFEs must not be administered to adults, mild to moderately undernourished patients on PN less than 2 weeks. Adults requiring PN longer than 2 weeks must receive a total of 100 g of fat per week in order to avoid essential fatty acid deficiency. Special populations requiring PN such as patients with glucose intolerance, at risk for refeeding syndrome and during pregnancy must receive lipids daily.

e. Hang times of 12 hours for lipid administration as a separate infusion and 24 hours when in a total nutrition admixture

f. Soy-bean oil ILE to be used for adult patients. When switching from SO-ILE to SMOF-ILE, begin at SO-ILE dose and advance to goal as tolerated. SMOF-ILE recommended dose is 1-2 g/kg/day with max dose = 2.5 g/kg/day

2.15 **Fluid volumes**. Unless patients need to be fluid restricted, PN volumes may contain between 30 – 40 mL/kg/day. Adjustments may be required to account for administration of other fluids (main IV fluids, IV piggybacks, tube feeds, etc.).

2.16 **Electrolytes.** Electrolytes must be added to PN formulas, initially based on estimated TPN requirements and then titrated to maintain normal serum levels. Normal serum electrolyte concentrations and usual requirements are summarized in Appendix, Table 1. Titration of electrolytes depends on disease state, clinical picture and degree of electrolyte loss. Abnormalities in renal excretion and excessive losses from the GI tract (i.e., vomiting, nasogastric suctioning, diarrhea) are often cited as primary contributors to electrolyte imbalances as shown in Appendix, Table 2. Parenteral nutrition solutions must be formulated only to maintain normal serum electrolytes. If correction is required for low serum values, the patient must be provided with electrolytes by an appropriate route of administration. The TPN pharmacist must replace electrolytes with riders if not already replaced by the physician. The TPN pharmacist must use their clinical judgment when following empiric treatment of electrolyte replacement recommendation by the ASPEN guidelines as shown in Appendix, Table 3. The TPN pharmacist must not correct electrolytes at critical values instead the physician must be informed and together must formulate a plan to correct the electrolyte in question.

2.17 **Vitamins, and Trace Minerals:** Patients ~~may~~ shall receive ~~a standard mixture of~~ multivitamins and trace mineral daily in PN admixtures unless there are contraindications. In the event of product shortage, follow the ASPEN parenteral nutrition shortage considerations.

2.18 **Additives.** Thiamin, ascorbic acid, folic acid and zinc should be provided daily to all patients for the first three days and for longer period when there are indications for them, and they cannot be given via orally or enterally.

2.19 **Insulin** may be added in PN to maintain Blood sugar within the acceptable range of 140-180 mg/dL. An initial regimen of 0.05 to 0.1 units of insulin per gram of dextrose in the PN solution is common or 0.15 to 0.2 units of insulin per gram of dextrose in patients already hyperglycemic. Up to two thirds of the total sliding scale insulin required over 24 hours might be added to next day's PN formulation.

2.20 **Intravenous Access**

2.20.1 An IV line is reserved solely for PN administration. PN should be administered as a primary infusion. When it is impossible or impractical to maintain a dedicated line for PN administration, pharmacist must conduct a comprehensive review of stability and compatibility before co-infusing medications through the same line of PN

2.20.2 Central administration- Use of a central venous catheter is required for administration of full nutrient support with PN. This allows for administration of highly concentrated and osmotic fluids.

2.20.3 Peripheral administration- To prevent phlebitis, PN may be provided via a peripheral line with maximum of 900 mOsm/L, 10% dextrose and 3% amino acid. Peripheral formulas exceeding 900 mOsm/L must be recalculated by the TPN pharmacist to 900mOsm/L or less. Peripherally administered PN usually requires large fluid volumes to adequately dilute the solution below these maximums.

2.21 **Condition-specific recommendations**

a. **Burns**

Amino acids: 1.5-2 g/kg/d which is equivalent to 20-25% of total calories from amino acids
60-65% from dextrose
10-15% as IVFE

b. **Head Injury**

Total calories* = 1.4 x RMR
1.3 – 2.5 gm/kg/day amino acids
* Reduce by 20-50% if sedated

c. **Spinal Cord Injury**

1.5 – 2.0 gm/kg/day amino acids
~~28~~ 22-24 kcal/kg/day for paraplegics
~~23~~ 20-22 kcal/kg/day for quadriplegics

d. **Sepsis**

1.5 – 2.0 gm/kg/day amino acids
Maximum glucose infusion rate: 5 mg/kg/min
Maximum calories from fat: 30% goal kcals or 1 gm/kg/day (whichever is less)

e. **Acute Kidney Injury**

0.8 – 1 gm/kg/day amino acids in AKI without dialysis
1 – 1.5 gm/kg/day amino acids in AKI on RRT

f. **Peritoneal dialysis and hemodialysis**

1.2 - 1.3 gm/kg/day amino acids
Up to 1.5-1.8 gm/kg amino acids

g. **CRRT patients**

1.5 - 2 gm/kg/day amino acids
Up 2.5 gm/kg amino acids

h. **Critically ill patients**

1.2-2.0 gm/kg/day amino acids

i. **Obesity:** Patients must receive no more than 80% of goal kcals until their critical disease process has stabilized. When feasible, providing soy-based lipid solutions must be avoided for the first seven days in the ICU. Serum glucose levels should be maintained between 140 to 180 mg/dL.
- Caloric goals for obese patients are to provide 60-70% of needs (or 11-14 kcal/kg/day based on TBW when BMI in the range of 30-50 and 22-25 kcal/kg/day based on IBW when BMI > 50)
- Protein ≥2 gm/kg (based on IBW) for BMI 30-40 and protein ≥2.5 gm/kg/day for BMI>40 (based on IBW).

j. **Pregnancy**

To support fetal growth, patients in the second trimester must receive an additional 340 kcal/day while those in the third trimester must receive an additional 452 kcal/day. Patients in the second or third trimester of pregnancy must receive an additional 25 gm of amino acids per day

k. **Wound Healing**

To support wound healing, additional vitamin C and zinc may be added.

3. GUIDELINE FOR PREPARING/COMPOUNDING PN

3.1 When an ACD is used to prepare PN admixtures:

3.1.1 An independent double-check process for the initial daily ACD setup shall be performed by two staff members (one must be a pharmacist). Tubing sets shall be traced from the source container to the port where it is attached during the initial daily ACD setup and with each change in the source container. An ACD should deliver all ingredients. Manual compounding should only be used

3. 1.1.1 If the volume of a PN component to be mixed is less than the ACD can accurately deliver.

3.1.1.2 If there is an interaction between a PN component and a component of the ACD (eg, insulin and tubing).

3.1.1.3 If there is a chemical interaction between PN components that cannot be mitigated sequencing the addition of ingredients.

3.1.1.4 During a shortage, manual compounding can be a consideration as part of conservation efforts

3.1.2 The additive sequence in compounding shall be optimized and validated as a safe and efficacious method.

3.1.3 The use of a checklist or signoff sheet shall be required when adding new products, changes in vial size or concentration and when making other modifications to the ACD database. Two staff members (one must be a pharmacist) shall be required to sign off on or validate changes.

3.1.4 Barcode verification shall be used to verify product identity during ACD setup and replacement of ingredients.

3.2 Standardized, commercially available PN products may be viable options to manually compounded sterile PN products. These are multi-chamber bags separate components of the PN formulation with a seal to reduce the risk for instability or precipitation. Pharmacy staffs will mix and add additives under aseptic conditions prior to dispensing for administration. The use of these products may be considered when the formulation meets the metabolic needs of the patients.

3.3 An in-line filter and tubing for administration will be delivered together with PN admixtures. ASPEN recommends using a 1.2 micron in-line filter for administration of all PN admixtures such as 3-in-1, 2-in-1 and ILE. This filter is effective in preventing Candida albicans, a pathogen frequently associated with PN administration, from reaching the patient.

4. GUIDELINE FOR MONITORING PN

4.1 Will monitor serum glucose, electrolytes, BUN, creatinine, triglycerides, total & direct bilirubin, Alkaline Phosphate, V/S, MAP, changes to patient weight, I&Os, urine output, UA/electrolytes, GI effluent, ventilatory status, arterial blood gases, presence of wounds, tolerance to enteral feeding, medication profile and signs or symptoms of vascular access device complications daily.

4.2 Will monitor Refeeding Syndrome (RS) – patients deemed at risk for RS should at first receive conservative calories, be monitored closely and receive appropriate treatment for electrolyte abnormalities. Patients with low electrolyte levels before PN initiation should undergo more aggressive supplementation prior to PN.

4.3 Patients who are new to PN should be monitored daily until stable (more frequently if patient is at high risk for refeeding syndrome).

4.4 Stable patients with no or minor changes in formulation for 1 week should be monitored every 2-7 days as deemed appropriate.

5. REFERENCES:

5.1 Mueller, Charles. The ASPEN. Nutrition Support Core Curriculum, 3rd Edition, Silver Spring: American Society for Parenteral and Enteral Nutrition; 2017.

5.2 McClave, SA., & et.al. Guidelines for the provision and assessment of nutrition support therapy in the adult critically ill patient: Society of critical care medicine (SCCM) and American society for parenteral and enteral nutrition (ASPEN) https://onlinelibrary.wiley.com/doi/10.1177/0148607116680792

5.3 Ayers, P., & et. al. (2014, March). ASPEN Parenteral Nutrition Safety Consensus Recommendations. J Parenter Enteral Nutr., 38(3), 296-333. doi:10.1177/0148607113511992

5.4 Worthington, Patricia & et.al. (2020, October). Update On the Use Of Filters For Parenteral Nutrition: An APSEN position paper.

5.5 Mirtallo, J., & et al. (2020, October). ASPEN Lipid Injectable Emulsion Safety Recommendations.

5.6 Joshua S.V. da Silva. (2020, April). ASPEN Consensus Recommendations for Refeeding Syndrome.

5.7 SMOFLipid prescribing information. Fresenius Kabi LLC USA; 2020

Appendix

Table 1: Normal Serum Electrolyte Concentration and Estimated TPN Requirement

	Sodium	Potassium	Magnesium	Phosphorus	Calcium
Normal values	135-145 mEq/L	3.5-5 mEq/L	1.8-2.4 mg/dl	2.5-4.9 mg/dl	8.5-10.1 mg/dl*
Estimated TPN requirement	1-2 mEq/Kg/day	1-2 mEq/Kg/day	8-24 mEq/day	20-40 mMol/day	10-15mEq/day

*Based on corrected total calcium level (mg/dL) = measured total calcium (mg/dL) + 0.8 x [4 – albumin (g/dL)]

Table 2: Contributors

Source/Type of secretion	Volume (ml/d)	Electrolyte Concentration (mEq/L) Na^+	K^+	Cl^-	HCO_3^-
Saliva	1500	10	26	10	30
Stomach	1500	60	10	130	0
Ileum	3000	140	5	104	30
Colon	Variable	60	30	40	0

Table 3: Empiric Treatment of Electrolytes Replacement Riders

Serum Potassium Concentration (mEq/L)	**IV Potassium Dose (mEq)**
3-3.4	20-40
2.5-2.9	40-80
<2.5	Call Physician

Serum Magnesium Concentration (mg/dL)	**IV magnesium Dose**
1.0-1.5	8-32mEq (1-4 g) magnesium sulfate, up to 1.0 mEq/kg
<1.0	Call Physician
Serum Calcium Concentration (mg/dL)	**IV Calcium Dose**
4-5	2 g calcium gluconate over 2 hours
<4	Call physician

Document History:

Prior Release Dates: 1/10, 6/13, 5/17, 12/9/2020		**Retire Date:** N/A	
Document Owner: Pharmacy Department		**Replaces Policy:** Pharmacy 213, 213.2, C303	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
06/2023	Pharmacist Changes – PRC submission	Y	Title – to include compounding and monitoring Allergy - to include peanut for SOLE and fish and olive for mix-oil ILE Additives - to include thiamin, ascorbic acid, folic acid and zinc IV access - IV line solely for PN administration IC - Lipid – SOLE to be used BG goal – changed to 140-180 mg/dL Obesity – BMI added AKI – protein dose changes Spinal Cord Injury – lower kcal requirement Guideline for compounding and Monitoring PN were added References – more reference
9/11/23	P&T	No	
10/11/23	PAC	No	
11/9/23	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM - MEDICAL CENTER

Housewide

	Document No: 834	Page 1 of 4
Title: Medication Assisted Treatment for Opioid Addicted Patients	**Effective Date:** 2/1/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

1.1. Emergency department, observation and admitted patients at Riverside University Health System Medical Center (RUHS-MC).

2. DEFINITIONS

2.1. Title 21, Chapter 2, Part 1306.07 – Discusses the requirements for administering or dispensing of narcotic drugs.

2.2. Consolidated Appropriations Act, 2023, Section 1262 (Omnibus bill). Removes the federal requirement for practitioners to submit a Notice of Intent (i.e. waiver) to prescribe medications, like buprenorphine, for the treatment of opioid use disorder (OUD). Any prescriber with DEA registration with authority to prescribe Schedule III drugs, will be able to prescribe buprenorphine. SAHMSA will finalize required training through the Omnibus by June 2023.

2.3. DEA. Drug Enforcement Administration, U.S. Department of Justice

2.4. FDA. U.S. Food and Drug Administration

2.5. LIP. Licensed Independent Practitioner: An individual, such as a physician, licensed physician resident, and/or advanced practice nurse, who provides care and services without direction or supervision within the scope of the individual's license, according to law and regulations, and consistent with the privileges granted by the organization.

2.6. MAT. Medication-Assisted Treatment: Utilizing medications in combination with counseling and behavioral therapies to treat substance abuse disorders.

2.7. NAS. Neonatal Abstinence Syndrome: A group of conditions that may occur as a result of intrauterine drug exposure to opioid drugs such as heroin, oxycodone, methadone or buprenorphine

2.8. OTP. Opioid Treatment Program: A SAMHSA certified and DEA registered entity that utilizes medication in conjunction with behavioral therapy for maintenance treatment of opioid addiction.

2.9. Qualified Prescribers, including Licensed Independent Practitioners. An individual, such as a licensed independent practitioner and/or physician assistant; who may

prescribe buprenorphine after receiving special training of 8 hours within the last 5 years or are board certified in addiction medicine or addiction psychiatry.

2.10. SAMHSA. Substance Abuse and Mental Health Services Administration, in 1992 established by Congress, is an agency within the U.S. Department of Health and Human Services that leads public health efforts to reduce the impact of substance abuse and mental illness on America's communities

2.11. Withdrawal. Clinical signs and symptoms consistent with abrupt discontinuation, rapid dose reduction, or decreasing blood levels of medications or recreational drugs, and/or due to the administration of an antagonist.

3. POLICY

3.1. Drugs used for medication-assisted treatment (MAT) for maintaining opioid addicted patients include products containing methadone, buprenorphine, and naltrexone.

3.2. Law and regulations state:

a. A patient with an opioid dependency who is admitted to a hospital for a primary medical problem other than opioid dependency, such as myocardial infarction, may be administered opioid agonist medications such as methadone and buprenorphine to prevent opioid withdrawal that would complicate the primary medical problem.

b. "The admitting qualified provider should consult with the patient's substance misuse treatment provider, when possible, to obtain treatment history" per SAMHSA.

3.3. These medications may be ordered and dispensed for the following uses:

a. **METHADONE**

- To maintain or detoxify a hospitalized patient as an *adjunct to medical or surgical treatment of conditions other than addiction* Note: pregnancy is recognized as a medical condition by both DEA and FDA
  i. For methadone naïve patients, the initial dose should not exceed 30mg of oral methadone.
  ii. For patients currently in an OTP, see 3.3.1b (ii).
- Emergency use for treatment of withdrawal or opioid addiction (abstinence) for a patient hospitalized for addiction or withdrawal whether or NOT currently on MAT with an OTP
  i. For patients currently on MAT with an OTP,
    - The qualified provider will establish that a patient is in an authorized OTP and will ensure notification of the OTP of the patient's admission to the hospital. Failure to notify the OTP may result in the patient's termination from the program
    - The qualified provider must verify and document in the medical record: the medication, dose, frequency, last administration time, authorized prescriber and opioid treatment program
    - The verified dose shall be continued during the hospitalization
    - Pharmacy will verify documentation of aforementioned

information in the medical record
- The dose may be adjusted, ONLY if there is an acute medical indication. Reasons to adjust the dose may include:
  - QTc prolongation
  - Over sedation or obtundation
  - Drug-Drug interactions: when other medications if used in combination may alter metabolism

ii. For patients not currently on MAT with an OTP:
- The qualified provider may initiate methadone MAT as part of a collaborative effort to transition to an outpatient OTP for ongoing treatment
- The initial dose **should not exceed 30 mg** oral methadone.
- The qualified provider must ensure the OTP is contacted for referral within 72 hours.
- The treatment plan will be documented in the medical record by a licensed independent practitioner
- Pharmacy will verify documentation of aforementioned plan in the medical record

- This policy does not apply to:
  i. acute treatment of iatrogenic withdrawal or opioid abstinence, including neonatal abstinence syndrome (NAS)
  ii. Analgesia treatment if the order specifies that the indicated use is for "pain" or similar wording

b. **NALTREXONE CONTAINING PRODUCTS**
- Continuation of home medication
- May be initiated: ONLY when the patient has been opioid-free (including tramadol) for a minimum of 7 days
  i. Additional time may be required in patients on specific opioids or with specific medical conditions (i.e. hepatic failure)
  ii. Urinalysis confirmation required

c. **BUPRENORPHINE CONTAINING PRODUCTS**

- Continuation of home medication when admitted to the hospital for a primary medical problem other than opioid dependency
- May be initiated for the treatment of opioid addiction or withdrawal while being hospitalized for another medical condition.

a. Emergency Department (ED) prescriber will follow department specific procedures for evaluation, screening, and treatment of patients presenting with acute withdrawal symptoms

b. Patients who are evaluated and deemed appropriate for dosing in the ED, will be connected to Riverside University Health System – Behavioral Health, Substance Abuse Prevention and Treatment Program (SAPT)
- Additional treatment programs may be referred to as they are identified

3.5 Additional regulations apply to prescribing for discharges and outpatients not covered in this policy.

4 REFERENCES

4.4 Code of Federal Regulations. (2005, June 23). Administering or dispensing of narcotic drugs. Title 21, 1306, C.

4.5 Consolidated Appropriations Act of 2023 (2023, Feb. 28). HR 1262.Omnibus bill. 118th Congress.

4.6 Narcotic Addict Treatment Act. (1974, May 14). S.1115. 93rd Congress.

4.7 Noska, A., Mohan, A., Wakeman, S., Rich, J., & Boutwell, A. (2015). Managing Opioid Use disorder During and After Acute Hospitalization: A Case-Based Review Clarifying Methadone Regulation for Acute Care Settings. 4, 1000138. doi:10.4172/2324-9005.1000138

4.8 SAMHSA-Substance Abuse and Mental Health Services Administration. (n.d.). Medications for Opioid Use Disorder: for Healthcare and Addiction Professionals, Policymakers, Patients, and Families. Treatment Improvement Protocol: TIP 63. Department of Health & Human Services, USA. Retrieved June 18, 2018, from https://store.samhsa.gov/shin/content//SMA18-5063FULLDOC/SMA18-5063FULLDOC.pdf

4.9 Soyka, M. (2013, Aug). Buprenorphine Use in Pregnant Opioid Users: A Critical Review. CNS Drugs, 27(8), 653-62.

4.10 US Department of Health and Human Services. (2018, June 13). SAMHSA. (S. A. Administration, Editor) Retrieved 2018, from SAMHSA: https://www.samhsa.gov/

Document History:

Release Dates: 12/28/15, 8/26/2019, 8/24/20	**Retire Date:** N/A
Sponsored By: Pharmacy	**Replaces Policy:** Pharmacy B210,

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
4/11/2023	PRC	Yes	Updated guidelines for use of buprenorphine; updated references
5/1/23	P&T	No	
1/2/24	PAC	No	
1/11/24	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM - MEDICAL CENTER

HOUSEWIDE

	Document No: 836	Page 1 of 3
Title: Look-Alike/Sound-Alike Medication Error Prevention	**Effective Date:** 11/18/2023	☐ RUHS – Behavioral Health ☐ RUHS – Community Health Centers ☒ RUHS – Hospital Based Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☐ Procedure ☒ Guideline

1. SCOPE

This policy applies to all medications stored and utilized for adult and pediatric patients: RUHS – Medical Center Moreno Valley and Arlington campuses, and hospital-based clinics.

2. DEFINITIONS

2.1 **Look-Alike/Sound-Alike Medications.** The Joint Commission defines Look-Alike/Sound-Alike Medications as medications with similar medication names, either written or spoken, which may lead to potentially harmful medication errors when confused with each other. In practice, Look-Alike/Sound-Alike Medications are commonly referred to as LASA (Look-Alike/Sound-Alike) or SALA (Sound-Alike/Look-Alike) Medications.

3. GUIDELINES

3.1 The hospital develops and maintains a list of Look-Alike/Sound-Alike Medications

3.2 The hospital annually reviews and, as necessary, revises its list of Look-Alike/Sound-Alike Medications.

a. Reported medication errors involving confusion of similar medication names will be reviewed and considered for addition to the list of Look-Alike/Sound-Alike Medications.

b. New formulary additions will be reviewed for Look-Alike/Sound-Alike concerns and considered for addition to the list of Look-Alike/Sound-Alike Medications.

3.3 The hospital takes actions to prevent errors involving the interchange of medications on its list of Look-Alike/Sound-Alike Medications, including:

a. The Look-Alike/Sound-Alike Medications list will be readily available (in either electronic or hard copy format) in pharmacy and patient care areas where medications are stored, dispensed, or administered.

b. Maintain awareness of Look-Alike/Sound-Alike Medications

c. When unclear, determine the indication of the medication before dispensing or administering.

d. Accept verbal or telephone orders only when truly necessary, and NEVER for chemotherapy. Read back and verify all orders, spell product name, and state its indication.

e. Use standardized order sets or pre-printed prescription forms if available.

f. Change appearance of product names on computer screens, storage bins, pharmacy product labels, and medication administration records when possible by changing font appearance to draw attention to the parts of the names that differ. Strategies can include:
   - Use of tall man lettering as recommended by the Institute for Safe Medication Practices (e.g. hydrOXYzine and hydrALAzine).
   - Use of highlighting
   - Use of boldface type
   - Use of different colors

g. Set computerized alerts to help clinicians differentiate Look-Alike/Sound-Alike Medications.

h. Judiciously use Look-Alike/Sound-Alike Medications auxiliary stickers.

i. Consider storage of Look-Alike/Sound-Alike Medications in different locations; also consider procuring medications from different manufacturers when high risk products may *look similar* and create confusion when storing and dispensing.

j. Encourage reporting of errors due to Look-Alike/Sound-Alike Medications.

4. REFERENCES

4.1 The Joint Commission standards MM.01.02.01 and MM.04.01.01 EP4 - Effective date January 1, 2021

4.2 Centers for Medicare & Medicaid Services §482.25(a) Standard: Pharmacy Management and Administration

4.3 Institute for Safe Medication Practices: List of Confused Drug Names - Published 2019

4.4 Institute for Safe Medication Practices: Look-Alike Drug Names with Recommended Tall Man Letters - Published 2023

5. ATTACHMENTS

5.1 APPENDIX A

Document History:

Prior Release Dates: 12/28/2015, 12/2018, 9/7/21, 2/10, 2023	**Retire Date:** N/A
Document Owner: Pharmacy Department	**Replaces Policy:** Pharmacy Department Policy F623: Look-Alike, Sound-Alike Medications

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
7/11/23	MSO/PRC	Yes	Annual Review with revisions: Add/update 20 LASA drugs; Arranged alphabetically to include reverse drug lookup
8/7/23	P&T	No	
9/14/23	MEC	No	

RUHS MEDICAL CENTER: LOOK-ALIKE/ SOUND-ALIKE DRUG LIST

RUHS MEDICAL CENTER: LOOK-ALIKE/ SOUND-ALIKE DRUG LIST

Drug names can look or sound like other drug names, which may lead to potentially harmful medication errors. Measures that can help prevent drug mix-ups of Look-Alike/ Sound-Alike Medications include: Confirm indication * Include both brand and generic names * Use tall man lettering as suggested by the Institute for Safe Medication Practices * Judiciously use Look-Alike/ Sound-Alike Medications auxiliary stickers * Encourage reporting of errors due to Look-Alike/ Sound-Alike Medications

DRUG NAME	CONFUSED WITH	EXPLANATION
Adacel® (Tdap)	Daptacel® (DTaP)	Both Adacel® (Tdap) and Daptacel® (DTaP) are vaccines that contain diphtheria and tetanus toxoids as well as acellular pertussis, but each brand contains different amounts of antigens, have different frequencies, and are used for different age ranges.
ALPRAZolam	LORazepam	ALPRAZolam and LORazepam are two different medications in the same drug class (benzodiazepines) used for similar indications.
amphotericin B *(liposomal)* AmBisome®	amphotericin B (conventional)	AmBisome® is the brand name for liposomal amphotericin B and can be confused with conventional amphotericin B, which is dosed differently and has more toxic side effects.
amphotericin B *(conventional)*	amphotericin B *(liposomal)* AmBisome®	
buPROPion	busPIRone	buPROPion is used to treat depression or as an aid to smoking cessation. busPIRone is used to manage anxiety disorders.
busPIRone	buPROPion	
BUPivacaine	ROPivacaine	BUPivacaine and ROPivacaine are two different local anesthetics used for similar indications.
carBAMazepine	OXcarbazepine	carBAMazepine and OXcarbazepine are two different antiseizure agents used for the management of epilepsy and neuropathic pain.
ceFAZolin	cefTRIAXone	Both ceFAZolin (Ancef®) and cefTRIAXone (Rocephin®) are cephalosporin antibiotics. ceFAZolin (Ancef®) is a first-generation cephalosporin typically dosed THREE times a day, while cefTRIAXone (Rocephin®) is a third-generation cephalosporin typically dosed ONCE a day.
cefTRIAXone	ceFAZolin	
chlordiazePOXIDE	chlorproMAZINE	chlordiazePOXIDE is used for the management of acute alcohol withdrawal symptoms and anxiety disorders. chlorproMAZINE is used for the treatment of bipolar disorder, schizophrenia, and nausea/vomiting.
chlorproMAZINE	chlordiazePOXIDE	
cloNIDine	clonazePAM (KlonoPIN®)	KlonoPIN® is the brand name for clonazePAM which is typically used for anxiety. cloNIDine is in a completely different drug class and typically used for blood pressure control.
clonazePAM (KlonoPIN®)	cloNIDine	
Daptacel® (DTaP)	Adacel® (Tdap)	Both Adacel® (Tdap) and Daptacel® (DTaP) are vaccines that contain diphtheria and tetanus toxoids as well as acellular pertussis, but each brand contains different amounts of antigens, have different frequencies, and are used for different age ranges.
Depo-Medrol®	Solu-MEDROL®	Depo-Medrol® and Solu-MEDROL® are different parenteral formulations of methylprednisolone. Depo-Medrol® should only be given IM.
dexAMETHasone	dexmedeTOMIDine	dexAMETHasone is a systemic corticosteroid used to treat inflammatory disorders, including adrenal insufficiency. dexAMETHasone is available as both parenteral and oral formulations. dexmedeTOMIDine (Precedex®) is an alpha-adrenergic agonist used for sedation. dexmedeTOMIDine (Precedex®) is available only as a parenteral formulation.
dexmedeTOMIDine	dexAMETHasone	
diazePAM	dilTIAZem	diazePAM is a benzodiazepine used for the management of alcohol withdrawal syndrome, anxiety, and seizures. dilTIAZem is a calcium channel blocker used for the management of hypertension, angina, and atrial fibrillation.
dilTIAZem	diazePAM	
DOBUTamine	DOPamine	Both DOBUTamine and DOPamine are continuous infusions commonly used in critically ill patients. DOBUTamine is typically used more for inotropic support while DOPamine is typically used for hemodynamic support.
DOPamine	DOBUTamine	
droNABinol	droPERidol	droNABinol is a cannabinoid used as an antiemetic and appetite stimulant. droPERidol is a first-generation antipsychotic used for the management of acute agitation and postoperative nausea/vomiting. droNABinol is only available orally, whereas droPERidol is only available parenterally.
droPERidol	droNABinol	
DULoxetine	FLUoxetine	Both DULoxetine and FLUoxetine are antidepressants. DULoxetine is a serotonin/norepinephrine reuptake inhibitor (SNRI). FLUoxetine is a selective serotonin reuptake inhibitor (SSRI).
EPINEPHrine	ePHEDrine	ePHEDrine and EPINEPHrine are both adrenergic agonists. ePHEDrine is typically used for anesthesia-induced hypotension. EPINEPHrine is typically used in a variety of indications including hypotension/shock, hypersensitivity reactions, or in certain ACLS pathways.
ePHEDrine	EPINEPHrine	
FLUoxetine	DULoxetine	Both DULoxetine and FLUoxetine are antidepressants. DULoxetine is a serotonin/norepinephrine reuptake inhibitor (SNRI). FLUoxetine is a selective serotonin reuptake inhibitor (SSRI).
fluPHENAZine	fluvoxaMINE	fluPHENAZine is a first-generation antipsychotic used for the management of psychotic disorders. fluvoxaMINE is an antidepressant used for the management of depression and anxiety disorders. fluPHENAZine is available in oral and parenteral formulations, whereas fluvoxaMINE is only available orally.
fluvoxaMINE	fluPHENAZine	
glipiZIDE	glyBURIDE	glipiZIDE and glyBURIDE are two different medications in the same drug class (sulfonylureas) used for treatment of diabetes mellitus.
glyBURIDE	glipiZIDE	
guaiFENesin	guanFACINE	guaiFENesin is an expectorant used for the management of acute or chronic cough. guanFACINE is an alpha-adrenergic agonist used for the management of hypertension.
guanFACINE	guaiFENesin	
HBIG (hepatitis B immune globulin)	hepatitis B vaccine	Hepatitis B vaccine is a vaccine which stimulates the immune system to make antibodies and provides long term protection against the hepatitis B virus but does not work immediately. HBIG is hepatitis B immune globulin (not a vaccine). It contains large amounts of hepatitis B antibodies when immediate protection against hepatitis B is needed, but the protection is only short-term.
hepatitis B vaccine	HBIG (hepatitis B immune globulin)	

RUHS MEDICAL CENTER: LOOK-ALIKE/ SOUND-ALIKE DRUG LIST

HBIG (hepatitis B immune globulin)	Hib (*Haemophilus Influenzae* Type b) vaccine	HBIG is hepatitis B immune globulin (not a vaccine) and is used when immediate protection against the hepatitis B virus is needed. Hib (*Haemophilus influenzae* Type b Vaccine) is a vaccine to protect against the bacteria *Haemophilus influenza.*
Hib (*Haemophilus Influenzae* Type b) vaccine	HBIG (hepatitis B immune globulin)	
hepatitis B vaccine	Hib (*Haemophilus Influenzae* Type b) vaccine	Hepatitis B vaccine is a vaccine to protect against the hepatitis B virus. Hib (*Haemophilus influenzae* Type b Vaccine) is a vaccine to protect against the bacteria *Haemophilus influenza*.
Hib (*Haemophilus Influenzae* Type b) vaccine	hepatitis B vaccine	
HumuLIN®	HumaLOG®	HumaLOG® is the brand name for insulin lispro and is considered a rapid-acting insulin. HumuLIN® is a brand name for insulin regular which is considered a short-acting insulin. HumaLOG® (insulin lispro) has a faster onset compared to HumuLIN® (insulin regular).
HumaLOG®	HumuLIN®	
HumuLIN®	NovoLIN®	Both NovoLIN® and HumuLIN® are different brand names for insulin regular.
HumaLOG®	NovoLOG®	Both NovoLOG® (insulin aspart) and HumaLOG® (insulin lispro) are rapid-acting insulins but are not interchangeable without a physician order/prescription or therapeutic interchange process in place.
hydrALAZINE	hydrOXYzine	hydrOXYzine is typically used for anxiety or itching. hydrALAZINE is in a completely different drug class and typically used for blood pressure control.
hydrOXYzine	hydrALAZINE	
HYDROmorphone	morphine	HYDROmorphone (commonly referred to by its brand name Dilaudid®) and morphine are both opioids used to control pain but are dosed differently.
lamiVUDine	lamoTRIgine	lamiVUDine (Epivir® or Epivir HBV®) is typically used for the treatment of hepatitis B or as part of an HIV regimen. lamoTRIgine (LaMICtal®) is a completely different drug typically used to manage seizures or certain psychiatric conditions.
lamoTRIgine	lamiVUDine	
levETIRAcetam	levoFLOXacin	levETIRAcetam is used for the treatment of seizures. levoFLOXacin is a fluoroquinolone antibiotic used for the treatment of certain infections.
levoFLOXacin	levETIRAcetam	
LORazepam	ALPRAZolam	ALPRAZolam and LORazepam are two different medications in the same drug class (benzodiazepines) used for similar indications.
medroxyPROGESTERone	methylPREDNISolone	medroxyPROGESTERone is a progestin contraceptive available to be administered as orally, IM, and SQ. methylPREDNISolone is a systemic corticosteroid used to treat inflammatory disorders available to be administered orally, IV, IM and intra-articular.
methylPREDNISolone	medroxyPROGESTERone	
methIMAzole	metOLazone	methIMAzole is an antithyroid agent used for the management hyperthyroidism and thyrotoxicosis. metOLazone is a thiazide diuretic used for the management of edema or volume overload.
metOLazone	methIMAzole	
metoprolol succinate	metoprolol tartrate	Metoprolol succinate (brand name Toprol XL®) is the extended-release version of metoprolol which is typically dosed ONCE a day while metoprolol tartrate (Lopressor®) is the immediate release version of metoprolol which is typically dosed TWICE a day.
metoprolol tartrate	metoprolol succinate	
Versed® Midazolam	verapamil	Midazolam is a benzodiazepine and anticonvulsant, while verapamil is a calcium channel blocker.
morphine	HYDROmorphone	HYDROmorphone (commonly referred to by its brand name Dilaudid®) and morphine are both opioids used to control pain but are dosed differently.
niCARdipine	NIFEdipine	niCARdipine (Cardene®) and NIFEdipine (Procardia XL®) are both calcium channel blockers used to treat hypertension. niCARdipine (Cardene®) is available orally and parenterally. NIFEdipine (Procardia XL®) is only available orally. NIFEdipine IR is not recommended for use due to safety concerns, including hypotension, MI, arrythmias, and stroke.
NIFEdipine	niCARdipine	
NovoLIN®	HumuLIN®	Both NovoLIN® and HumuLIN® are different brand names for insulin regular.
NovoLIN®	NovoLOG®	NovoLOG® is the brand name for insulin aspart and is considered a rapid-acting insulin. NovoLIN® is a brand name for insulin regular which is considered a short-acting insulin. NovoLOG® (insulin aspart) has a faster onset compared to NovoLIN® (insulin regular).
NovoLOG ®	NovoLIN®	
NovoLOG ®	HumaLOG®	Both NovoLOG® (insulin aspart) and HumaLOG® (insulin lispro) are rapid-acting insulins but are not interchangeable without a physician order/prescription or therapeutic interchange process in place.
OLANZapine	QUEtiapine	Both OLANZapine (ZyPREXA®) and QUEtiapine (SEROquel®) are second-generation antipsychotics used for similar indications. OLANZapine (ZyPREXA®) is available orally and parenterally, whereas QUEtiapine (SEROquel®) is only available orally.
OXcarbazepine	carBAMazepine	carBAMazepine and OXcarbazepine are two different antiseizure agents used for the management of epilepsy and neuropathic pain.
oxyCODONE	OxyCONTIN®	oxyCODONE is available in either immediate release tablets or extended-release tablets. OxyCONTIN® is the brand name for oxyCODONE extended-release tablets.
OxyCONTIN®	oxyCODONE	
prednisoLONE	predniSONE	prednisoLONE and predniSONE are both systemic corticosteroids used to treat inflammatory disorders. predniSONE is the prodrug of prednisoLONE. Dose equivalency is 1:1.
predniSONE	prednisoLONE	
QUEtiapine	OLANZapine	Both OLANZapine (ZyPREXA®) and QUEtiapine (SEROquel®) are second-generation antipsychotics used for similar indications. OLANZapine (ZyPREXA®) is available orally and parenterally, whereas QUEtiapine (SEROquel®) is only available orally.
rifabutin	rifAMPin	Both rifabutin and rifAMPin are antitubercular agents but have different indications and are dosed differently. Rifabutin is only available orally, while rifAMPin is commercially available in both parenteral and oral formulations.
rifAMPin	rifabutin	
rifAMPin	rifAXIMin	rifAMPin and rifAXIMin are two different medications in the same drug class (rifamycins) but have different indications and are dosed differently. rifAMPin is available in both parenteral and oral formulations, whereas rifAXIMin is only available orally.
rifAXIMin	rifAMPin	

RUHS MEDICAL CENTER: LOOK-ALIKE/ SOUND-ALIKE DRUG LIST

risperiDONE (RisperDAL®)	rOPINIRole	RisperDAL® is the brand name for risperiDONE which is a second-generation antipsychotic typically used in certain psychiatric disorders. rOPINIRole anti-Parkinson agent typically used in Parkinson disease or restless leg syndrome.
rOPINIRole	risperiDONE (RisperDAL®)	
ROPivacaine	BUPivacaine	BUPivacaine and ROPivacaine are two different local anesthetics used for similar indications.
Solu-MEDROL®	Depo-Medrol®	Depo-Medrol® and Solu-MEDROL® are different parenteral formulations of methylprednisolone. Depo-Medrol® should only be given IM.
sulfADIAZINE	sulfaSALAzine	sulfADIAZINE is an antibiotic typically used in certain infections. sulfaSALAzine is a medication typically used in certain autoimmune diseases.
sulfaSALAzine	sulfADIAZINE	
traMADol	traZODone	traMADol is a C-IV opioid analgesic used for the management of pain. traZODone is serotonin reuptake inhibitor used for the management of depression and is often used off-label for sleep.
traZODone	traMADol	
valACYclovir	valGANciclovir	Both valACYclovir and valGANciclovir are antivirals. valACYclovir is used for the treatment of herpes and varicella. valGANciclovir is used for the treatment of cytomegalovirus (CMV).
valGANciclovir	valACYclovir	

APPENDIX A: LOOK-ALIKE/ SOUND-ALIKE DRUG LIST
From Document No. 836 Look-Alike, Sound-Alike Medication Error Prevention (Last revised: 7/11/23)

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 849	Page 1 of 2
Title: Automatic Medication Substitution for Adult Outpatient Prescriptions	**Effective Date:** 2/15/2024	☐**RUHS – Behavioral Health** ☒**RUHS – Community Health Centers** ☒**RUHS – Hospital Based Clinics** ☒**RUHS – Medical Center** ☐**RUHS – Public Health** ☐**Departmental**
Approved By:  Jennifer Cruikshank CEO/Hospital Director		☐**Policy** ☒**Procedure** ☐**Guideline**

1. SCOPE

1.1 This auto-substitution policy is only applicable to outpatient prescriptions.

1.2 This procedure is performed by the Riverside University Health System (RUHS) Retail Pharmacies with prescriptions ordered by prescribers from any of the following:

a. RUHS – Medical Center and Arlington Mental Health Facility, including Hospital Based Clinics
b. RUHS – Community Health Centers

1.3 Prescribers unaffiliated with RUHS are not bound by this policy.

2. PROCEDURES

2.1 The RUHS – Medical Center P&T, and RUHS – CHCs P&T provide formulary guidelines for various classes of pharmaceuticals. They are jointly responsible for updates to this policy.

2.2 Auto-substitution provides standardized, safe and appropriate, clinically effective, and cost effective use of pharmaceuticals.

2.3 Prescribers may exclude prescriptions from this policy if clinically indicated. For all prescriptions to be excluded, prescriber must add “DO NOT SUBSTITUTE” to prescription.

2.4 This auto-substitution policy will be periodically reviewed at least every 3 years, and updated as new medications become available and recommended pharmacotherapy guidelines emerge.

2.5 Prescribers will receive updates or revisions made to this policy.

2.6 According to the attached Dosage Conversion Tables or listed Therapeutic Substitution Lists, pharmacists will automatically substitute P&T approved medications.

2.7 Combination medications that are not on formulary will be filled with the individual components.

a. This applies to any combination formulation: oral, topical, inhaled, etc.
b. Individual components will be the equivalent strength and frequency as written in the prescriber's prescription.
c. For example, the combination medication Lotrel® will be substituted with amlodipine and benazepril.
d. The prescriber will be contacted if substitution is not possible.

2.8 The substitution will be transcribed by the pharmacist onto the hardcopy of the prescription.

2.9 The prescription will be scanned into the pharmacy system to serve as a record of the substitution.

2.10 The patient shall be notified of the medication substitution(s) and the reasons for the substitution during consultation.

3. REFERENCES

3.1 California Pharmacy Law 2012. BPC § 4052.2: Permitted Pharmacist Procedures in Health Care Facility, Home Health Agency or Clinic with Physician Oversight. Accessed 26 July 2012.
3.2 California Pharmacy Law 2012. BPC § 4052.5: Pharmacist May Select Different Form of Medication with Same Active Chemical Ingredient; Exceptions. Accessed 26 July 2012.
3.3 California Pharmacy Law 2012. BPC § 4073: Substitution of Generic Drug - Requirements and Exceptions. Accessed 26 July 2012.
3.4 California Pharmacy Law 2012. CCR § 1716: Variation from Prescriptions. Accessed 26 July 2012.
3.5 Gray T, et al. ACCP Position Statement: Guidelines for Therapeutic Interchange – 2004. Pharmacotherapy 2005;25(11): 1666-1680.

4. ATTACHMENTS

4.1 Appendices: Dosage Conversion Tables and Therapeutic Substitution Lists

Release Dates: 3/15/17, 4/25/18, 10/12/18		**Retire Date:** N/A	
Sponsored by: Pharmacy		**Replaces Policy:** Pharmacy 465, D421	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
2/5/2024	P&T Committee	No	No content changes to policy portion. Minor clarifying name changes to policy title and appendix. Changes to appendices 10,16, and 17.
2/6/2024	PAC	Yes	Minor wording clarifications
2/8/2024	MEC	No	

HW 849 APPENDICES: Dosage Conversion Tables and Therapeutic Substitution Lists

I. ORAL MEDICATIONS

APPENDIX 1. ANGIOTENSIN CONVERTING ENZYME (ACE) INHIBITOR AUTOMATIC SUBSTITUTION[1]

Drug Ordered								**Drug for Substitution**
Trandolapril (Mavik)	Ramipril (Altace)	Quinapril (Accupril)	Perindopril (Aceon)	Moexipril (Univasc)	Lisinopril (Prinivil, Zestril)	Fosinopril (Monopril)	Enalapril (Vasotec)	**Benazepril (Lotensin)**
--	--	--	--	--	2.5 mg DAILY	--	2.5 mg DAILY	**2.5mg DAILY**
0.5 mg DAILY	1.25 mg DAILY	5 mg DAILY	2 mg DAILY	3.75 mg DAILY	5 mg DAILY	--	5 mg DAILY	**5 mg DAILY**
1 mg DAILY	2.5 mg DAILY or divided BID	10 mg DAILY	4 mg DAILY or divided BID	7.5 mg DAILY or divided BID	10 mg DAILY or divided BID	10 mg DAILY or divided BID	10 mg DAILY or divided BID	**10 mg DAILY**
2 mg DAILY	5 mg DAILY or divided BID	20 mg DAILY or divided BID	8 mg DAILY or divided BID	15 mg DAILY or divided BID	20 mg DAILY or divided BID	20 mg DAILY or divided BID	20 mg DAILY or divided BID	**20 mg DAILY or divided BID***
4 mg DAILY	10 mg DAILY or divided BID	40 mg DAILY or divided BID	16 mg DAILY or divided BID	30 mg DAILY or divided BID	40 mg DAILY or divided BID	40 mg DAILY or divided BID	40 mg DAILY or divided BID	**40 mg DAILY or divided BID***
4 mg BID	20 mg DAILY or divided BID	80 mg DAILY or divided BID	--	60 mg DAILY or divided BID	80 mg DAILY or divided BID	80 mg DAILY or divided BID	--	**80 mg DAILY or divided BID***

***New order will be given the same frequency as the original order.**

APPENDIX 2. ANGIOTENSIN RECEPTOR BLOCKER (ARB) AUTOMATIC SUBSTITUTION[2]

Drug Ordered						**Drug for Substitution**
Valsartan (Diovan)	Telmisartan (Micardis)	Olmesartan (Benicar)	Irbesartan (Avapro)	Eprosartan (Teveten)	Candesartan (Atacand)	**Losartan (Cozaar)**
40 mg DAILY or 20 mg BID	20 mg DAILY	10 mg DAILY	75 mg DAILY	400 mg DAILY	4 mg DAILY	**25 mg DAILY**
80 mg DAILY or 40 mg BID	40 mg DAILY	20 mg DAILY	150 mg DAILY	600 mg DAILY	8 mg DAILY or divided BID	**50 mg DAILY or divided BID***
160 mg DAILY	80 mg DAILY	40 mg DAILY	300 mg DAILY	800 mg DAILY or divided BID	16 mg DAILY or divided BID	**100 mg DAILY or divided BID***

***New order will be given the same frequency as the original order.**

APPENDIX 3. H2-RECEPTOR ANTAGONIST AUTOMATIC SUBSTITUTION[3]

Drug Ordered			**Famotidine Dose for Substitution**
Cimetidine	Nizatidine	Ranitidine	
100 mg PO BID	75 mg PO BID	75 mg PO BID	**10 mg PO BID**
300 mg PO QDAY	150 mg PO QHS	150 mg PO QHS	**20 mg PO QHS**
400 mg PO QHS	---	---	
300 mg PO BID – 4x/DAY	150 mg PO BID	150 mg PO BID	**20 mg PO BID**
400 mg PO BID – 4x/DAY	---	---	
800 mg PO QHS	300 mg PO QHS	300 mg PO QHS	**40 mg PO QHS**

HW 849 APPENDICES: Dosage Conversion Tables and Therapeutic Substitution Lists

HW 849 APPENDICES: Dosage Conversion Tables and Therapeutic Substitution Lists

APPENDIX 4. ORAL PROTON PUMP INHIBITOR (PPI) AUTOMATIC SUBSTITUTION[4]

Drug Ordered					Pantoprazole Dose for Substitution*
Dexlansoprazole (Dexilant)	Esomeprazole	Lansoprazole	Omeprazole	Rabeprazole	
30 mg	20 mg	15 mg	10 – 20 mg	---	**20 mg**
60 mg	40 mg	30 mg	40 mg	20 mg	**40 mg**

***If Pantoprazole is not covered by the patient's insurance/medication coverage**, the preferred formulary agent will be dispensed.

APPENDIX 5. HMG-CoA REDUCTASE INHIBITOR ("STATIN") AUTOMATIC SUBSTITUTION[5,6]

Comparable dose based on LDL-C reduction

Drug Ordered								Drug for Substitution*
Pitavastatin (Livalo)	Fluvastatin (Lescol)	Lovastatin (Mevacor)	Pravastatin (Pravachol)	Simvastatin (Zocor)	Atorvastatin (Lipitor)	Rosuvastatin (Crestor)	Simvastatin / Ezetimibe (Vytorin)	
1 mg	40 mg	20 mg	20 mg	10 mg				**Pravastatin 20 mg qhs**
2 mg	80 mg	40 mg	40 mg	20 mg	10 mg			**Atorvastatin 10 mg daily**
4 mg		80 mg	80 mg	40 mg	20 mg	5 mg	10/10 mg	**Atorvastatin 20 mg daily**
				80 mg	40 mg	10 mg	10/20 mg	**Atorvastatin 40 mg daily**
					80 mg	20 mg	10/40 mg	**Atorvastatin 80 mg daily**
						40 mg	10/80 mg	**Contact physician to consider Atorvastatin 80 mg daily if appropriate, or to request by non-formulary process.**

***If a prescribed statin is not covered by the patient's insurance/medication coverage**, the equipotent statin that is the preferred formulary agent will be dispensed.

APPENDIX 6: PHENOBARBITAL AUTOMATIC SUBSTITUTION

Drug Ordered	Drug for Substitution
Phenobarbital 15 mg	**Phenobarbital 16.2 mg**
Phenobarbital 30 mg	**Phenobarbital 32.4 mg**
Phenobarbital 60 mg	**Phenobarbital 64.8 mg**
Phenobarbital 100 mg	**Phenobarbital 97.2 mg**

APPENDIX 7. SELECTIVE SEROTONIN REUPTAKE INHIBITOR (SSRI) AUTOMATIC SUBSTITUTION[7,8]

Drug Ordered	Drug for Substitution*
Citalopram (Celexa) 10 mg PO Daily	**Escitalopram (Lexapro) 5 mg PO Daily**
Citalopram (Celexa) 20 mg PO Daily	**Escitalopram (Lexapro) 10 mg PO Daily**
Citalopram (Celexa) 40 mg PO Daily	**Escitalopram (Lexapro) 20 mg PO Daily**

***If Escitalopram is not covered by the patient's insurance/medication coverage**, Citalopram will be dispensed according to the preferred formulary agent.

APPENDIX 8. MACROBID AUTOMATIC SUBSTITUTION

Drug Ordered	Drug for Substitution
Macrodantin 100 mg PO Four Times Daily	**Macrobid 100 mg PO BID**

HW 849 APPENDICES: Dosage Conversion Tables and Therapeutic Substitution Lists

APPENDIX 9. DEPAKOTE AUTOMATIC SUBSTITUTION[9]

Drug Ordered	Drug for Substitution
Depakote ER® (divalproex sodium extended-release) **Total Daily Dose (mg)**	**Depakote ® (mg)** (divalproex sodium delayed-release) **Recommended Total Daily Dose (mg)**
750	**250 mg BID**
1000	**250 mg QAM 500 mg QHS**
1250	**500 mg BID**
1500	**500 mg QAM 750 mg QHS**
1750	**750 mg BID**
2000	**750 mg QAM 1000 mg QHS**
2250	**1000 mg BID**
2500	**1000 mg QAM 1250 mg QHS**
2750	**1250 mg BID**
3000	**1250 mg QAM 1500 mg QHS**
3250	**1500 mg BID**
3500	**1500 mg QAM 1750 mg QHS**

All adult patients on Depakote ER® will be converted to estimated equivalent Depakote® dose to be administered in divided doses unless indicated by the prescribing physician. For total daily doses below 750mg or above 3500mg of Depakote ER®, the prescriber will be contacted regarding the conversion.

Depakote Sprinkles and Valproic acid are available for patients who are unable to take Depakote® (i.e. patients with NG tubes). Conversion between formulations for divalproex sodium delayed release : Valproic acid is 1:1.

Patients discharged on valproic acid solution will be automatically substituted to valproic acid capsules unless indicated by the prescribing physician.

APPENDIX 10. DIPEPTIDYL PEPTIDASE-4 (DPP-4) INHIBITORS AUTOMATIC SUBSTITUTION[10]

Drug Ordered			Drug for Substitution
Saxagliptin (Onglyza)	Alogliptin (Nesina)	Linagliptin (Tradjenta)	**Sitagliptin (Januvia)**
-----	6.25 mg	-----	**25 mg**
2.5 mg	12.5 mg	2.5 mg	**50 mg**
5 mg	25 mg	5 mg	**100 mg**

***If Sitagliptin is unavailable or not covered by the patient's insurance/medication coverage**, the equipotent DPP-4 inhibitor will be dispensed according to the preferred formulary agent.

APPENDIX 11. DIHYDROPYRIDINE CALCIUM CHANNEL BLOCKERS[11,12,13]

Drug Ordered	Drug for Substitution
Nifedipine Extended Release (Adalat CC)	**Nifedipine Extended Release (Procardia XL)**
30 mg	**30 mg**
60 mg	**60 mg**
90 mg	**90 mg**

***If Nifedipine Extended Release (Procardia XL) is unavailable or not covered by the patient's insurance/medication coverage,** Nifedipine Extended Release (Adalat CC) will be dispensed according to the preferred formulary agent.
Note: CC – Coat Core; XL – Gastrointestinal Therapeutic System (GITS) formulation

APPENDIX 12. PALIPERIDONE AUTOMATIC SUBSTITUTION[14,15,16,17]

Drug Ordered	Drug for Substitution
Paliperidone (Invega) 3 mg daily	**Risperidone (Risperdal) 1 mg BID**
Paliperidone (Invega) 6 mg daily	**Risperidone (Risperdal) 2 mg BID**
Paliperidone (Invega) 9 mg daily	**Risperidone (Risperdal) 3 mg BID**

Paliperidone (Invega) 12 mg daily	**Risperidone (Risperdal) 4 mg BID**

APPENDIX 13. RIFAXIMIN AUTOMATIC SUBSTITUTION[18]

Drug Ordered	Drug for Substitution*
RifAXIMin (Xifaxan) 550 mg one tablet BID	**RifAXIMin (Xifaxan) 200 mg two tablets (= 400 mg) TID**

***If drug formulation is unavailable or not covered by the patient's insurance/medication coverage**, the equivalent substitute will be dispensed according to the preferred formulary agent.

II. ORAL INHALATIONS

APPENDIX 14. SHORT- ACTING BETA AGONIST (SABA) AUTOMATIC SUBSTITUTION[19]

Drug Ordered		Drug for Substitution
Albuterol (ProAir HFA, Ventolin HFA)	Levalbuterol (Xopenex HFA)	**Albuterol (Proventil HFA)***
90 mcg 1 puff	45 mcg 1 puff	**90 mcg 1 puff**
90 mcg 2 puffs (= 180 mcg)	45 mcg 2 puffs (= 90 mcg)	**90 mcg 2 puffs (= 180 mcg)**

***If Proventil HFA is unavailable or not covered by the patient's insurance/medication coverage**, either Xopenex, ProAir, or Ventolin will be dispensed according to the preferred formulary agent.

APPENDIX 15: INHALED CORTICOSTEROID (ICS) AUTOMATIC SUBSTITUTION

Drug Ordered			Drug for Substitution*
Budesonide (Pulmicort)	Mometasone (Asmanex)	Beclomethasone (QVAR/QVAR Redihaler™)	**Fluticasone (Flovent HFA)**
-----	110 mcg daily	40 mcg BID	**44 mcg BID**
180 mcg BID	220 mcg daily	80 mcg BID	**88 mcg BID**
-----	-----	120 mcg BID	**110 mcg BID**
360 mcg BID	-----	160 mcg BID	**176 mcg BID**
540 mcg BID	440 mcg daily	240 mcg BID	**220 mcg BID**
720 mcg BID	-----	320 mcg BID	**440 mcg BID**

***** If Substituted brand is unavailable or not covered by the patient's insurance/medication coverage**, the covered brand will be dispensed according to the preferred formulary agent

APPENDIX 16: COMBINATION ICS/LABA AUTOMATIC SUBSTITUTION[19]

Drug Ordered			Drug for Substitution
Fluticasone/Salmeterol (Advair Diskus)	Fluticasone/Salmeterol (Advair HFA)	Mometasone/Formoterol (Dulera)	**Budesonide/Formoterol (Symbicort)**
100/50 mcg 1 puff BID	45/21 mcg 2 puff BID	-----	**80/4.5 mcg 2 puffs BID**
250/50 mcg 1 puff BID	115/21 mcg 2 puff BID	100/5 mcg 2 puffs BID	**160/4.5 mcg 2 puffs BID**
500/50 mcg 1 puff BID	230/21 mcg 2 puff BID	200/5 mcg 2 puffs BID	**----***

***For high dose Budesonide**, recommend providers to use noncombination high dose budesonide inhaler.

APPENDIX 17. INHALED ANTICHOLINERGIC AUTOMATIC SUBSTITUTION

Drug Ordered		Drug for Substitution*
Tudorza 400 mcg 1 puff BID	Incruse Ellipta 62.5 mcg INH 1 puff daily	**Spiriva 18 mcg INH 1 Cap Daily**

*Only for COPD indication

***If Substituted brand is unavailable or not covered by the patient's insurance/medication coverage**, the covered brand will be dispensed according to the preferred formulary agent

III. DIABETIC SUPPLIES

APPENDIX 18. DIABETIC SUPPLIES AUTOMATIC SUBSTITUTION

Brand Ordered		Brand for Substitution*
Accu-Chek Glucometer	TRUEresult Glucometer	**TRUE METRIX Glucometer Kit**
Accu-Chek Test Strips	TRUEtest Strips	**TRUE METRIX Strips**
Accu-Chek Lancets	TRUEplus Lancets	**TRUEplus Lancets**

***Substitution not applicable to "Sweet Success" program patients.** RUHS pharmacies will continue to dispense the Accu-Chek glucometer and its supplies for pregnant diabetic patients participating in the "Sweet Success" program.

***If Substituted brand is unavailable or not covered by the patient's insurance/medication coverage**, the covered brand will be dispensed according to the preferred formulary agent.

IV. NASAL MEDICATIONS

APPENDIX 19. NASAL CORTICOSTEROID SPRAYS AUTOMATIC SUBSTITUTION

Drug Ordered	Drug for Substitution*
Mometasone (Nasonex)	**Fluticasone Propionate (Flonase)**

***If Fluticasone Propionate is not covered by the patient's insurance/medication coverage**, Mometasone will be dispensed according to the preferred formulary agent.

V. INJECTABLES

APPENDIX 20. INSULIN AUTOMATIC SUBSTITUTION[20]

Drug Ordered	Drug for Substitution*§
Rapid-Acting Insulins	
Insulin, Aspart (Novolog) Vial	**Insulin, Lispro (Admelog) Vial**
Insulin, Aspart (Fiasp) Vial	
Insulin, Glulisine (Apidra) Vial	
Insulin, Lispro (Humalog) Vial	
Insulin, Aspart (Novolog Flexpen) Pen	**Insulin, Lispro (Admelog SoloStar) Pen**
Insulin, Aspart (Fiasp FlexTouch) Pen	
Insulin, Glulisine (Apidra SoloStar) Pen	
Insulin, Lispro (Humalog KwikPen) Pen	
Intermediate-acting (NPH)	
Insulin, NPH (Humulin N) Vial	**Insulin, NPH (Novolin N) Vial**
Short-acting (regular)	
Insulin, Regular (Humulin R) Vial	**Insulin, Regular (Novolin R) Vial**
Short-acting (regular) and Intermediate-acting (NPH)	
Insulin, Premixed (Humulin 70/30) Vial	**Insulin, Premixed (Novolin 70/30) Vial**
Short-acting (regular) and Intermediate-acting (NPH)	
Insulin, Premixed (Humulin 70/30) KwikPen	**Insulin, Premixed (Novolin 70/30 FlexPen) Pen**
Long-Acting Insulin	
Insulin, Glargine (Lantus Vial or Lantus SoloStar)	**Insulin, Glargine (Basaglar KwikPen) Pen**
Insulin, Glargine-yfgn (Semglee)	
Insulin, Glargine	

***If Drug for Substitution is unavailable or not covered by the patient's insurance/medication coverage**, the preferred formulary agent will be dispensed.
§If not ordered on prescription, add pen needles for insulin pen prescriptions, OR add syringes for insulin vial prescriptions.

Notes:
1. Insulin, NPH branded as Novolin N is not on the market in pen formulation. Insulin, NPH branded as Humulin N KwikPen is the only NPH pen formulation available.
2. Semglee (insulin glargine-yfgn) is both biosimilar to, and interchangeable with (can be substituted for), its reference product Lantus (insulin glargine), a long-acting insulin analog.[21]

VI. OPHTHALMIC MEDICATIONS

APPENDIX 21. OPHTHALMIC MEDICATIONS AUTOMATIC SUBSTITUTION

Drug Ordered	Drug for Substitution*
Ofloxacin 0.3% Ophthalmic	**Ciprofloxacin 0.3% Ophthalmic**
Brimonidine 0.15% Ophthalmic	**Brimonidine 0.2% Ophthalmic**
Ketorolac 0.4% Ophthalmic	**Ketorolac 0.5% Ophthalmic**

***If Substituted agent is unavailable or not covered by the patient's insurance/medication coverage**, the covered medication will be dispensed according to the preferred formulary agent.

VII. TOPICAL MEDICATIONS

APPENDIX 22. LIDOCAINE PATCH AUTOMATIC SUBSTITUTION[22,23,24]

Drug Ordered		Drug for Substitution*
Lidocaine Patch 5%	Lidocaine Patch 4% (non-prescription strength)	**Lidocaine Topical System Patch 1.8% (ZTLido)**

***If Substituted agent is unavailable or not covered by the patient's insurance/medication coverage**, equivalent medication will be dispensed according to the preferred formulary agent/patient preference for out of pocket expenses.

REFERENCES

[1] ACE Inhibitor Antihypertensive Dose Comparison. Pharmacist's Letter/Prescriber's Letter. November 2016.
[2] Angiotensin Receptor Blocker (ARB) Antihypertensive Dose Comparison. Pharmacist's Letter/Prescriber's Letter 2009 (Full update February 2012);25(8):250801.
[3] Histamine H2 blocker oral dose comparison. Pharmacist's Letter/Prescriber's Letter 2009;25(8):250801.
[4] Proton pump inhibitor dose comparison. Pharmacist's Letter/Prescriber's Letter 2009;25(8):250801.
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RIVERSIDE UNIVERSITY HEALTH SYSTEM - MEDICAL CENTER

Housewide

	Document No: 853	Page 1 of 4
Title: Pharmacist Management of Epoetin Alfa in Adult Patients	**Effective Date:** 3/15/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1 This guideline is to provide a mechanism by which patients receiving erythropoiesis stimulating agents or iron replacement therapy shall be dosed appropriately and safely in the adult inpatient population at Riverside University Health System – Medical Center.

1.2 This document only applies to patients who are 18 years of age and older.

a. A prescriber may request for support from the inpatient clinical pharmacist in medication management of ESAs or consultation with a pharmacist for patients not included in this guideline.

1.3 This document describes how inpatient pharmacists may order medication therapy, order weight check, and order and monitor pertinent labs.

2. DEFINITIONS

2.1 ESA: Erythropoiesis Stimulating Agent

2.2 TIBC: Total Iron Binding Capacity

2.3 Tsat: Transferrin Saturation

2.4 CBC: Complete Blood Count

2.5 Hgb: Hemoglobin

2.6 TIW: three times weekly

2.7 SubQ: Subcutaneous

2.8 IV: Intravenous

2.9 PRCA: Pure red cell aplasia

3. GUIDELINES

3.1 A physician order for “Pharmacy to dose Epoetin” will invoke this protocol

3.2 The RUHS preferred ESA is Retacrit (when available) or use Epogen when Retacrit unavailable.

3.3 Pharmacists are authorized to order the following pharmaceuticals “per protocol,”:

a. Erythropoetin Alfa

b. Iron replacement: IV/PO

3.4 Clinical laboratory tests should be ordered when necessary at baseline and periodically during treatment if not already ordered by physicians

a. Iron studies to include: Iron, TIBC, Transferrin Saturation, Ferritin

b. CBC with differential

3.5 NOTE: per the FDA in 2017,
completion of risk evaluation and mitigation strategy (REMS) for Epogen (epoetin alfa), known as APPRISE, is no longer required for patients with cancer.

3.6 **Retacrit does not contain human albumin** and can be utilized for patients who require blood transfusions but decline blood products.

4. ASSESSMENT

4.1 Epoetin Alfa should be initiated when patient meets clinical indications (see section 4.1) and has Hgb < 10 g/dL.

4.2 Epoetin Alfa should not be initiated when Hgb ≥10 g/dL regardless of indications.

5. INDICATIONS

5.1 Anemia due to chronic kidney disease on dialysis and not on dialysis

5.2 Anemia due to Zidovudine in HIV-infected patients
- a. When serum erythropoietin level ≤500 milliunits/mL and Zidovudine dose ≤ 4200 mg/week

5.3 Anemia due to chemotherapy in cancer patients with anticipated duration of myelosuppressive chemotherapy of at least 2 additional months
- a. NOT indicated for patients receiving myelosuppressive therapy when anticipated outcome is cure
- b. Epoetin Alfa should be discontinued following completion of chemotherapy course

5.4 Reduction of allogeneic blood transfusion in patients undergoing elective, non-cardiac, non-vascular surgery

6. CONTRAINDICATIONS

6.1 Uncontrolled hypertension

6.2 PRCA that begins after treatment with Epoetin Alfa

6.3 Serious allergic reactions to Retacrit or other epoetin alfa products

6.4 Multiple-dose vials contain benzyl alcohol and are contraindicated in pregnant and breastfeeding women (single does vials should be used in these populations)

6.5 For Epogen products: Known hypersensitivity to human albumin or to mammalian cell-derived products (Canadian labeling only, not in US labeling)

7. DOSAGE INITIATION GUIDELINE

Anemia due to CKD	<u>On dialysis</u>: 50-100 units/kg IV/SubQ TIW <u>Not on dialysis</u>: 50-100 units/kg IV/SubQ once weekly or 10,000-20,000 units every other week
Anemia due to Zidovudine in HIV-treated patients	100 units/kg IV/SubQ TIW
Anemia due to chemotherapy in cancer patients	150 units/kg SubQ TIW or 40,000 units once weekly until completion of chemotherapy
Reduction of allogenic blood transfusion in surgery patients	300 units/kg/day SubQ for 10 days before surgery, on the day of surgery, and for 4 days after surgery (15 days total) or

	600 units/kg SubQ once weekly x 4 doses: given 21-, 14-, and 7- days before surgery and on the day of surgery

8. DOSAGE ADJUSTMENT GUIDELINE

8.1 Anemia due to CKD (either on dialysis or not on dialysis): do not increase dose more frequently than every 4 weeks, dose decreases may occur more frequently

If Hgb does not increase by >1 g/dL after 4 weeks	Increase dose by 25%
If Hgb increases >1g/dL in any 2-week period	Reduce dose by ≥25%
If Hgb approaches 11 g/dL.	Hold dose. Restart with a 25% dose reduction once Hgb <11 g/dL

8.2 Anemia due to Zidovudine in HIV-treated patients

If Hgb does not increase after 8 weeks	Increase dose by ~ 50-100 units/kg at 4-8 week intervals until Hgb reaches a level sufficient to avoid RBC transfusion Maximum dose: 300 units/kg
If Hgb increase is not achieved with 300 units/kg for 8 weeks	Discontinue Epoetin Alfa
If Hgb exceeds 12 g/dL	Hold dose. Restart with a 25% dose reduction once Hgb <11 g/dL

8.3 Anemia due to chemotherapy in cancer patients

If Hgb does not increase by 1 g/dL and remains below 10 g/dL after initial 4 weeks	Increase to 300 units/kg TIW or 60,000 units once weekly Stop Epoetin Alfa after 8 weeks if no response
Hgb increases >1 g/dL in any 2-week period or If Hgb reaches a level sufficient to avoid RBC transfusion	Reduce dose by 25%
If Hgb exceeds a level needed to avoid RBC transfusion.	Hold dose. Restart with a 25% dose reduction when Hgb approaches a level where transfusion may be required

9. SUPPLEMENTAL IRON THERAPY

9.1 Evaluate iron status in all patients before and during treatment (at least every 3 months) by checking iron panel (Iron, TIBC, Transferrin Saturation, Ferritin)

9.2 Iron therapy is recommended if
   a. Transferrin Saturation <20% or
   b. Ferritin <100 ng/mL (non-dialysis) or Ferritin <200 ng/mL (dialysis)

9.3 Oral iron therapy is the mainstay due to its safety, cost and convenience
   a. 65-200 mg elemental iron PO daily or once every other day

9.4 IV iron therapy is reserved for patients who failed oral iron therapy or require quick recovery, or individuals who refused blood products or with end-stage CKD receiving dialysis.
   a. Ferrlecit (preferred agent) 125 mg IV Q24H for a maximum of 8 doses OR
   b. Iron dextran: need to call MD for test dose and dosage

c. Hold iron therapy when Ferritin >500 ng/mL and/or Transferrin Saturation >50%

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Document History

Prior Release Dates: 2/17, 12/9/2020	**Retire Date:** N/A
Document Owner: Pharmacy	**Replaces Policy:** Pharmacy 355, C305 9/08, 11/10, 2/11, 9/11, 4/14

Date Reviewed	**Reviewed By:**	**Revisions Made?**	**Revision Description**
12/2023	Pharmacist	Yes	Converted all EPOGEN to Epoetin Alfa RETACRIT is RUH preferred agent. Added 2.8 Added on HD and not on HD for 4.1.a CKD: Updated reference with Retacrit package insert. 7.3 removed (in divided dose), added "once every other day" and its reference 8.4 7.4 soften the language for Jehovah witness + instead of CKD, changed to CKD receiving dialysis
12/12/23	PRC	Yes	Keep Epogen still in references since we are using this still due to Retacrit shortage.
1/8/24	P&T	No	
01/29/24	Housewide Policy Advisory Committee	Yes	Recommendation to add to scope guidance – 1.2(a) regarding patients less than 18 yo
3/15/2024	Medical Executive Committee		

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 860	Page 1 of 5
Title: Adult Renal Dosing Protocol by Pharmacy	**Effective Date:** 2/1/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

This policy applies to adult inpatients admitted to RUHS – Medical Center Moreno Valley and Arlington campuses currently treated with antimicrobials.

2. DEFINITIONS

2.1 ABW: Actual body weight

2.2 AdjBW: Adjusted body weight for obese patients greater than 130% of their IBW

2.3 AKI: Acute kidney injury defined by a serum creatinine increase ≥ 0.3 mg/dL within 48-hour, serum creatinine increase ≥ 50% within 48-hours, or urine output < 0.5 mg/kg/hour for > 6 hours per Acute Kidney Network (AKIN) and Kidney Disease: Improving Global Outcomes (KDIGO) criteria

2.4 CrCL: Estimated creatinine clearance calculated by Cockcroft-Gault method

2.5 CRRT: Continuous renal replacement therapy

a. CVVH: Continuous veno-venous hemofiltration

b. CVVHD: Continuous veno-venous hemodialysis

c. CVVHDF: Continuous veno-venous hemodiafiltration

2.6 IBW: Ideal Body Weight

2.7 iHD: Intermittent hemodialysis

2.8 LD: Loading dose

2.9 MD: Maintenance dose

2.10 Obesity: Defined by the National Institute of Health as a body mass index ≥ 30. For the purposes of this policy and recommendations for dosing weight, obesity is defined by an ABW greater than 130% of their IBW.

2.11 Peritoneal dialysis: Antibiotic administration in peritoneal dialysis can be in the form of intravenous antibiotics or antibiotics included in peritoneal dialysate. For the purposes of this policy, antibiotic doses recommended for patients on peritoneal dialysis are in the form of IV antibiotics.

2.12 SDD: Susceptible dose dependent, as defined by the Clinical Laboratory Standards Institute, refers to an organism that can be considered susceptible to an antimicrobial if higher drug exposure is achieved through higher antimicrobial doses

3. POLICY

3.1 Per physician "renal dosing per pharmacy protocol" order, pharmacists are authorized by the medical staff to adjust the dosages of renally eliminated medications based upon creatinine clearance rates calculated for each patient.

3.2 Clinical pharmacists will actively review patient profiles for renal dose adjustments.

a. Pharmacists will communicate with the physician to obtain an order for "renal dosing per pharmacy protocol" as appropriate.

b. In the absence of a physician order, pharmacists are authorized to place "renal dosing per pharmacy protocol" order per protocol when:

3.2.b.1 Patient is expecting to receive renal replacement therapy based on Nephrology Consultation and/ or patient medical history.

3.2.b.2 Patient's clinical presentation is consistent with AKI based on RIFLE, AKIN, or KDIGO definition (see **Figure 1** in Appendix)

3.2.b.3 Patient's calculated creatinine clearance is ≤ 50 mL/ min (see **3.3**)

3.3 When the pharmacist receives order "renal dosing per pharmacy protocol", the pharmacist shall:

a. Review patient's profile to screen for renally eliminated drugs and make dose adjustments as deemed clinically appropriate based on recommendations in Table 1.

b. Document medication changes that are made per policy in patient medical record via i-Vent.

c. Calculate the patient's specific CrCL

- For patient's weighing 120-130% of IBW or patients > 65 years of age with a serum creatinine < 1 mg/dL, it is recommended that pharmacists manually calculate patient CrCL as specified below.
- For non-obese patients, the pharmacist will calculate CrCL by Cockcroft-Gault method using IBW.

$$\text{Estimated CrCL (mL/min)} = \frac{(140 - \text{Age})\,(\text{IBW in kg})}{(72)\,X\,\text{Serum Creatinine}} \quad X\ 0.85 \text{ if female}$$

- For obese patients (greater than 130% of their IBW), the pharmacists shall calculate CrCL by Cockcroft-Gault method using AdjBW in place of IBW**.**

$$\text{AdjBW (kg)} = \text{IBW (kg)} + 0.4(\text{ABW} - \text{IBW in kg})$$

d. Screen any for significant changes in renal function (e.g. change in serum creatinine ≥ 0.3 mg/dL over a 48-hour period, change in serum creatinine ≥ 50%

within 48-hours, or urine output < 0.5 mg/kg/hour for > 6 hours) or initiation / change of dialysis modalities.

e. Use clinical judgment considering fluid status, administration of contrast and other potential nephrotoxic agents, disease status, patient demographics (height, weight, muscle mass, amputations, etc.), and other factors when evaluating a patient's need for dosage adjustment.

f. Communicate with the physician for clarification of patient clinical condition as needed.

3.4 Dose recommendations under the "renal dosing per pharmacy protocol" shall utilize:

a. **Table 1** for antimicrobial dosing recommendations based on CrCL or dialysis modality.

b. If a medication is not listed in **Table 1**, dosing recommendations will utilize appropriate drug information resources.

3.5 Once a patient has been identified as having reduced / changing renal function, that patient shall be monitored daily for changes in serum creatinine, renal function, dialysis modalities, and dose adjustments will be made accordingly.

4. ATTACHMENTS

4.1 Table 1: Adult Antimicrobial Dosing Reference

4.2 Figure 1: Acute Kidney Injury Criteria

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Document History:

Prior Release Dates: 2/2017, 12/9/2020	**Retire Date:** N/A
Document Owner: Department of Pharmacy	**Replaces Policy:** Pharmacy Policy C321, 8/12

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
01/25/23	ID Pharmacist Review	Yes	Added pharmacist authority to place renal dosing consult
2/14/23	Pharmacy Review Committee	Yes	Table 1 comments on ampicillin / sulbactam in Acinetobacter spp., cefepime in CRRT, 3.3b documentation requirement edit
12/4/23	P&T	No	
1/2/24	PAC	No	
1/11/24	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM ANTIMICROBIAL REFERENCE GUIDE

HW860 Att. 4.1 - P&T Approved: 12/4/23
MEC Approved: 1/11/24

Table I. Adult Antimicrobial Dosing Reference

Drug	CrCL > 50 mL/min	CrCL 10-50 mL/min	CrCL < 10 mL/min	iHD	CRRT	PD
Acyclovir (IV) *IBW, AdjBW if obese	*CrCL > 50*	*CrCL 25-50*	*CrCL 10-25*	*CrCL < 10*		
-HSV	5 mg/kg q8h	5 mg/kg q12h	5 mg/kg q24h	2.5 mg/kg q24h	2.5 mg/kg q24h administer after HD	5-10 mg/kg q24h	2.5 mg/kg q24h
-HSV CNS, Zoster	10 mg/kg q8h	10 mg/kg q12h	10 mg/kg q24h	5 mg/kg q24h	5 mg/kg q24h administer after HD	10 mg/kg q12h	5 mg/kg q24h
Acyclovir (PO)	*CrCL > 25*	*CrCL 10-25*	*CrCL < 10*			
-HSV	400 mg q8h Alt: 200 mg 5x daily	200 mg q8h	200 mg q12h	200 mg q12h administer after HD	insufficient data	200 mg q12h
-HSV CNS, Zoster *10-20% bioavailability, consider valacyclovir	800 mg q4h Alt: 800 mg 5x daily	800 mg q8h	800 mg q12h	800 mg q12h administer after HD	insufficient data	800 mg q12h
Liposomal Amphotericin B (IV) *IBW, ABW if < IBW, AdjBW if obese	3-6 mg/kg q24h Incompatible with NS, flush line with D5W before and after infusion Give 250-500mL NS before and after infusion			No dose adjustment	No dose adjustment	No dose adjustment
Amoxicillin (PO)	*CrCL > 30*	*CrCL 10-30*	*CrCL < 10*	250-500 mg q24h administer after HD Avoid ER formulation	insufficient data	Insufficient data
-Uncomplicated	500 mg q8h Alt: 875 mg q12h	250-500 mg q12h Avoid ER formulation	250-500 mg q24h Avoid ER formulation			
-H. pylori (in specific triple & quadruple regimens)	1 g q12h					
-Procedural prophylaxis	2 g x 1 given 30-60 minutes prior to procedure‡					
Amoxicillin / Clavulanate (PO) *Dose by amoxicillin	500 mg q8h 875 mg q12h	250-500 mg q12h	250-500 mg q24h	250-500 q24h administer after HD	insufficient data	insufficient data
Ampicillin (IV)						
-Mild, Uncomplicated	2 g q6h	1 g q6h	1 g q12h	1 g q12h administer after HD	1 g q6-12h	250-500 mg q12h
-Meningitis, PJI, Endovascular	2 g q4h	2 g q6h	1 g q8h	2 g q12h administer after HD	2 g q6h	500 mg - 1g q12h
Ampicillin / Sulbactam (IV) ▲Acinetobacter	*CrCL > 30* 3g q6h	*CrCL 15-30* 3g q12h	*CrCL < 15* 3g q24h	3g q12-24h administer after HD	3 g q8h	insufficient data
Azithromycin (IV/PO)	500 mg q24h Alt: 500mg x1, followed by 250mg q24h			No dose adjustment	No dose adjustment	No dose adjustment
Aztreonam (IV)	*CrCL > 30*	*CrCL 10-30*	*CrCl < 10*	Standard dose x1, followed by	2 g q12h	1 g q24h
-Uncomplicated	1-2 g q8h	1 g q8-12h	500 mg q8-12h	1 g q24h administer after HD		
-Meningitis, severe, Pseudomonas	2 g q6-8h	1 g q6-8h	1 g q12h	1 g q12h administer after HD		
Cefazolin (IV)	*CrCL ≥ 35*	*CrCL 11-34*	*CrCL ≤ 10*	1 g q24h Alt: 2g/2g/3g on HD days administer after HD	2 g q12h	1 g q24h
-Uncomplicated	1 g q8h	500 mg q12h	1 g q24h			
-Blood stream infection, osteomyelitis, complicated	2 g q8h	1 g q12h	1 g q24h			

Drug	CrCL > 50 mL/min	CrCL 10-50 mL/min	CrCL < 10 mL/min	iHD	CRRT	PD
Cefdinir (PO)	*CrCL ≥ 30* 300 mg q12h	*CrCL < 30* 300 mg q24h		300 mg q48h administer after HD	insufficient data	insufficient data
Cefepime (IV)	*CrCL > 60*	*CrCL 30-60*	*CrCL 10-29* / *CrCL < 10*	1 g q24h Alt: 2 g on HD days administer after HD	2 g q12h Alt: 2 g q8h if effluent rate ≥ 35 mL/kg/hour	1-2 g q48h
-Uncomplicated	1 g q8h Alt: 2 g q12h	1 g q12h Alt: 2 g q24h	1 g q24h / 500 mg q24h			
-CNS / complicated	2 g q8h	2 g q12h	2 g q24h / 1 g q24h			
Cefotaxime (IV)	1-2 g q6-8h	1-2 g q8-12h	1-2 g q24h	1-2 g q24h administer after HD	*CVVH* 1-2 g q12h *CVVHD / CVVHDF* 1-2 g q8h	1 g q24h
Cefoxitin (IV)	*CrCL > 50* 1-2 g q6-8h	*CrCL 30-50* 1-2 g q8-12h	*CrCL 10-29* 1-2 g q12-24h / *CrCL 5-9* 0.5-1 g q12-24h / *CrCL < 5* 0.5-1 g q24-48h	1-2 g q12-24h administer after HD	insufficient data	insufficient data
Ceftriaxone (IV)		No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
-Uncomplicated	1g q24h					
-Bloodstream infection, endocarditis‡	2g q24h					
-Meningitis, endocarditis‡	2g q12h					
Cefuroxime (IV)	*CrCL > 20* 750 - 1500 mg q8h	*CrCL 10-20* 750 mg q12h	*CrCL < 10* 750 mg q24h	750 mg q24h administer after HD	750 mg q8-12h	750 mg q24h
Cefuroxime (PO)	*CrCL > 30* 250-500 mg q12h	*CrCL 10-30* 250-500 mg q24h	*CrCL < 10* 250-500 mg q48h	250-500 mg q24h administer after HD	insufficient data	insufficient data
Cephalexin (PO)	*CrCL > 30* 250-500 mg q6h Alt: 500 mg q12h NTE 1g q24 CrCL< 60	*CrCL 15-29* 250mg q8-12h	*CrCL 5-14* 250 mg q24h / *CrCL 1-4* 250 mg q48h	250-500 mg q12-24h administer after HD	insufficient data	250-500 mg q12-24h
Ciprofloxacin (IV, PO)	*CrCL > 50*	*CrCL 30-49*	*CrCL < 30*	400 mg IV q24h 500mg PO q24h administer after HD	400 mg IV q12-24h 500mg PO q12-24h	200-400 IV mg q24h 250-500 mg PO q24h
-Uncomplicated	400 mg IV q12h 500 mg PO q12h	400 mg IV q12h 500 mg PO q12h	200 mg IV q12h 250 mg PO q12h			
-Pseudomonas, severe	400 mg IV q8h 750 mg PO q12h	400 mg IV q8h 500 mg PO q12h				
Clindamycin (IV, PO)						
-Necrotizing fasciitis, GAS	900 mg q8h	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
-Uncomplicated	450 - 600 mg q8h					
Daptomycin (IV) *ABW, AdjBW if obese	*CrCL ≥ 30*	*CrCL < 30*		*Dose as CrCL < 30* Alt: 6 / 6 / 9 mg/kg 3x/week post-HD administer after HD	8 mg/kg q48h	*Dose as CrCL < 30*
-Staph & other GP -SSTI, Septic arthritis, DFU	6-8 mg/kg q24h	6-8 mg/kg q48h				6-8 mg/kg q48h
-VRE (E. faecalis or Enterococcus spp.)	8-10 mg/kg q24h	8-10 mg/kg q48h				8-10 mg/kg q48h
-VRE (E. faecium SDD)	10-12 mg/kg q24h	10-12 mg/kg q48h				10-12 mg/kg q48h
Doxycycline (IV/PO)	100mg q12h	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
Ertapenem (IV)	*CrCL > 30* 1 g q24h	*CrCL ≤ 30* 500 mg q24h		500mg q24h Alt: 1 g 3x/week† after HD administer after HD	1 g q24h	500 mg q24h†

Drug	CrCL > 50 mL/min	CrCL 10-50 mL/min	CrCL < 10 mL/min	iHD	CRRT	PD
Flucytosine (PO) ᵟ *IBW, IBW if obese	*CrCL > 40* 25 mg/kg/dose q6h	*CrCL 21-40* 25 mg/kg/dose q12h	*CrCL 10-20* 25 mg/kg/dose q24h	*CrCL < 10* 25 mg/kg/dose q48h	25-50 mg/kg/dose q48-72h administer after HD	insufficient data	insufficient data
Fluconazole (IV/PO)	*CrCL ≥ 50*	*CrCL < 50*				
-Uncomplicated	400-800 mg x1, followed by 200-400 mg q24h	200-400 mg x1, followed by 100-200 mg q24h		200-400 mg 3x/week after HD	400-800 mg q24h	200 mg q24-48h
- Severe, CNS, SDD Candida glabrata	800 mg q24h	800 mg x1, followed by 400 mg q24h		800 mg 3x/week after HD		
Ganciclovir (IV) *IBW, AdjBW if obese	*CrCL ≥ 70*	*CrCl 50-69*	*CrCL 25-49*	*CrCL 10-24*	*CrCL < 10 or iHD*		
-Induction	5 mg/kg q12h	2.5 mg/kg q12h	2.5 mg/kg q24h	1.25 mg/kg q24h	1.25 mg/kg 3x/week after HD	*CVVH* 2.5 mg/kg q24h *CVVHD / CVVHDF* 2.5 mg/kg q12h	1.25 mg/kg 3x/week
-Maintenance	5 mg/kg q24h	2.5 mg/kg q24h	1.25 mg/kg q24h	0.625 mg/kg q24h	0.625 mg/kg 3x/week after HD	*CVVH* 1.25 mg/kg q24h *CVVHD / CVVHDF* 2.5 mg/kg q24h	0.625 mg/kg 3x/week
Gentamicin (IV)	Refer to policy HW843: Management of Vancomycin / Aminoglycoside Therapy in Adults						
Levofloxacin (IV/PO)	*CrCL > 50*	*CrCL 20-49*	*CrCL < 20*	*administer after HD*			
-Uncomplicated	250-500 mg q24h	250 mg q24h 500 mg q48h	500 mg x1, followed by 250 mg q48h	500 mg x1, followed by 250 mg q48h	*CVVH* 750 mg x1, followed by 250 mg q24h *CVVHD/CVVHDF* 750 mg x1, followed by 500-750 mg q24h	500 mg x1, followed by 250 mg q48h
-Pseudomonas, Stenotrophomonas	750 mg q24h	750 mg q48h	750 mg x1, followed by 500 mg q48h	750 mg x1, followed by 500 mg q48h		750 mg x1, followed by 500 mg q48h
Linezolid (IV/PO)	600 mg q12h	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
Meropenem (IV)	*CrCL > 50*	*CrCL 26-50*	*CrCL 10-25*	*CrCL < 10 or iHD*		
-Uncomplicated	1 g q8h	1 g q12h	500 mg q12h	500 mg q24h administer after HD	1 g q12h consider 1 g q8h for CVVHDF rate > 2L/h	insufficient data
-Meningitis, cystic fibrosis	2 g q8h	2 g q12h	1 g q12h	1 g q24h administer after HD		
Metronidazole (IV/PO)	500 mg q8h	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
Micafungin (IV)	100 mg q24h	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
Nafcillin (IV)	2 g q4h	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
Nitrofurantoin monohydrate (PO)	*CrCL > 61* 100 mg q12h	*CrCL 30-60* Contraindicated per mfg, limited data suggest safe	*CrCL < 30* Not recommended in patients ≥ 65	Contraindicated	Contraindicated	Contraindicated
Piperacillin / Tazobactam (IV)	Refer to policy HW848: Automatic Substitutions for Adult Inpatients					
Rifampin (IV/PO)						
-Tuberculosis	weight based	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
-Prosthetic joint infection	300mg q12h	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
-Endocarditis	300mg q8h	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment

Drug	CrCL > 50 mL/min	CrCL 10-50 mL/min	CrCL < 10 mL/min	iHD	CRRT	PD
Tobramycin (IV)	Refer to policy HW843: Management of Vancomycin / Aminoglycoside Therapy in Adults					
Trimethoprim / Sulfamethoxazole (IV/PO) *AdjBW, AdjBW if obese	*dose based on Trimethoprim (TMP): SS tablet = 80 mg TMP, DS tablet = 160mg TMP					
	CrCL > 30	*CrCL 15-30*	*CrCL < 15*			
-UTI	1 DS PO q12h	1 DS PO q24h	Not recommended	1 SS PO 3x/week after HD	Insufficient data	Insufficient data
-SSTI	1-2 DS PO q12h	1 DS PO q12-24h				
-PJP pneumonia, stenotrophomonas	5 mg/kg IV q6-8h 2 DS PO q8h	5 mg/kg IV q12h 2 DS PO q12h	5 mg/kg IV q24h 1 DS PO q12-24h Consider alternative	5 mg/kg IV q24h 2 DS PO q24h administer after HD	15 mg/kg/day IV divided q8-12h	
-PJP and/or toxoplasma prophylaxis	1 SS/DS PO q24h Alt: 1 DS 3x/week	1 SS q24h Alt: 1 DS 3x/week	1/2 SS q24h Consider alternative	1 SS PO 3x/week after HD	Insufficient data	
Valganciclovir (PO)	*CrCL > 60*	*CrCL 40-59*	*CrCL 25-39*	*CrCL 10-24*	*CrCL <10 or HD*	
-Induction	900 mg q12h	450 mg q12h	450 mg q24h	450 mg q48h	200 mg 3x/week after HD consider Ganciclovir	Insufficient data
-Maintenance	900 mg q24h	450 mg q24h	450 mg q48h	450 mg 2x/week	100 mg 3x/week after HD consider Ganciclovir	
Vancomycin (IV)	Refer to policy HW843: Management of Vancomycin / Aminoglycoside Therapy in Adults					
Voriconazole (IV/PO) *IBW, AdjBW if obese	400 mg PO q12h x 2 doses, followed by 200mg q12h 6 mg/kg IV q12h x 2 doses, followed by 4mg/kg q12h Note: IV voriconazole in CrCL < 50 mL/min can result in intravenous vehicle (cyclodextrin) accumulation, PO voriconazole is recommended in these patients			No dose adjustment	No dose adjustment	No dose adjustment

† Limited data exist to support PK/PD target attainment at this dose however, safety data is limited. Caution for seizure and other ADE.
‡ For species specific endocarditis dosing recommendations and procedural prophylaxis criteria, please refer to the AHA Endocarditis Guidelines.
▲Sulbactam is among the most efficacious studied agents against Acinetobacter spp. and may be prescribed, as ampicillin/sulbactam, in patients regardless of reported susceptibilities (though often in combination with other agents). Sulbactam targets in normal renal function range from 1 g q3-4h or ampicillin/sulbactam 3g q3-4h as the formulation is 2:1 ampicillin to sulbactam. Please consider Infectious Diseases consult for Acinetobacter spp. treatment in patients with normal or impaired renal function.
ǂ Consider measuring peak serum flucytosine levels for prolonged therapy, target 30-80 mcg/mL, level should be drawn 2-hours post-dose after a minimum of 3-5 doses to reach steady state concentrations.

In serious infections or use of antimicrobials approaching MIC breakpoints, consider continuous infusion dosing for time dependent antimicrobials such as penicillin, cephalosporin, carbapenem, and monobactam classes.

Figure 1 AKI Criteria

Stage	RIFLE	AKIN	KDIGO
Stage 1/ Risk	SCr 1.5x baseline (within 7 days) **or** GFR decrease >25%	SCr 1.5–2.0x baseline (within 7 days) **or** ≥0.3 mg/dl increase (within 48 h)	SCr 1.5–1.9x baseline (within 7 days) **or** ≥0.3 mg/dl increase (within 48 h)
	Urine Output <0.5 ml/kg/h x 6 h		
Stage 2/ Injury	SCr 2x baseline **or** GFR decrease >50%	SCr 2–3x baseline	SCr 2.0–2.9x baseline
	Urine Output <0.5 ml/kg/h x 12 h		
Stage 3/ Failure	SCr 3x baseline **or** GFR decrease 75% **or** Cr ≥4 (*with acute rise ≥0.5 mg/dl*)	SCr >3x baseline **or** SCr ≥4 (*with acute rise ≥0.5 mg/dl*) **or** initiation of KRT	SCr 3x baseline **or** increase in Cr ≥4 *(with ≥0.3 mg/dl increase within 48 h or 1.5x baseline)* **or** initiation of KRT
	Urine Output <0.3 ml/kg/h x 24 h **or** anuria x 12 h		
Loss	Complete loss of kidney function >4 weeks		
ESRD	End-stage kidney disease (>3 months)		

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 861	Page 1 of 3
Title: Inpatient Pharmacy Order Review and Entry Process	**Effective Date:** 11/18/2023	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☒ **Procedure** ☐ **Guideline**

1. **SCOPE**

1.1 Areas where medication orders are reviewed and verified prior to administration by RUHS – Medical Center staff, including but not limited to inpatients, operating rooms, and emergency departments.

2. DEFINITIONS

2.1 Intravenous (IV): situated, performed, or occurring within or entering by way of a vein.

2.2 Pediatric: Less than 18 years of age.

2.3 Childbearing age: Women from menses to menopause: approximately 12-55 years old.

3. POLICY

3.1 All medication orders must be complete and accurate as defined in the RUHS – Medical Center policy HW 802 Medication Orders.

3.2 All medication orders will be reviewed by a pharmacist for appropriateness based on age, weight, and prescribed indication.

3.3 All pediatric medication orders must include the patient's current weight in kilogram (kg), appropriate dosing parameters when available and clinically relevant – applies to Main Campus only.

3.4 Pregnancy test must be reviewed and requested for all medication orders with drug-associated risks in pregnancy, lactation, and females of childbearing age or reproductive potential.

3.5 All medication orders must be reviewed and approved by the pharmacist prior to administration, except in urgent situations (when delay would harm the patient) or when the licensed independent practitioner is immediately available.

3.6 Appropriate references should be used during the medication order review and entry.

3.7 The previous orders of injectable narcotics and benzodiazepine will be discontinued upon placement of new therapeutic duplicate orders.

3.8 All concerns, issues, or questions must be clarified with the prescriber before dispensing.

3.9 For Antihemophilic Factor [Recombinant] (ADVATE®) Antithrombin III, Coagulation Factor IX, Prothrombin PCC, pharmacist will change the dose, within +/- 10% of ordered dose, to match the product(s) being dispensed.

4. PROCEDURE

4.1 All Medication Orders

All medication orders must be reviewed for the following:

a. Age
b. Sex
c. Diagnosis
d. Allergies and/or sensitivities
e. Current Medications
f. Height and weight (when necessary)
g. Pregnancy and lactation information (when necessary)
h. Laboratory results (when necessary)
i. Therapeutic duplications
j. Other contraindications or warnings
k. Other pertinent information as clinically indicated
l. All concerns, issues, and questions must be clarified with the prescriber before dispensing

4.2 Pediatric Medication Orders

In addition to Section 3.1:

a. The pharmacist shall review to ensure accurate pediatric dosing for all pediatric orders with respect to indication, age-specific recommendations, and/or weight-based dosing recommendations.

b. Neonates require gestational age (GA) for many medications. The pharmacist shall obtain gestational age for neonates, when dosing information is specified according to GA

c. Pediatric patients generally require weight-based dosing, however each case must be evaluated individually and the dose should not exceed the maximum adult dose

d. IV syringes must be used for all pediatric IV solutions for volumes up to 50 mL (reference the Pediatric IV Compounding Manual)

e. IV piggybacks must be used for volumes greater than 50 mL.

f. Tablets and capsules may only be used when appropriate for the age and ability of the child to swallow.

4.3 Dual Verification of Pediatric Orders

a. Dual or Double verification is a hard-stop safety feature in the electronic record that does not allow for dispensing of the order until double verification is completed

b. Neonatal Medication Orders

- Pharmacists will perform double verification of all medication orders for NICU patients

c. Pediatric Medication Orders

- Pharmacists will perform double verification of selected medication orders:
  i. Aminoglycosides: gentamicin, tobramycin, amikacin
  ii. Vancomycin
  iii. TPN – total parenteral nutrition

4.4 Medication Orders with High Risk of Harm in Pregnancy

In addition to section 3.4:

a. The pharmacist shall verify orders for appropriateness, lack of ambiguity, and safe use in the patient.

b. If pregnancy status or test is not documented, the prescribing provider will be contacted. The discussion between the prescriber and pharmacist should be documented in the medical record including the evaluation of the circumstances, rationale for ordering the medication, and/or potential alternative pharmacotherapy for the patient.

4.5 Use of Pre-printed Orders/Order-sets

a. Use of the order sets are encouraged when available

5. REFERENCES

5.1 The Joint Commission standards MM.05.01.01 and MM.04.01.01 – Effective date January 18, 2018**.**

5.2 RUHS – Medical Center Policy HW 802 Medication Orders last updated 3/3/2020.

5.3 California Code of Regulations, Division 17, Title 16. 1793.1 Duties of a Pharmacist; 1761 Erroneous or Uncertain Prescriptions

5.4 Lexi-Comp Website. Available at: http://online.lexi.com..

5.5 US Pregnancy and Lactation Labeling Final Rule. Food and Drug Administration Website. Available at: http://www.fda.gov.

Document History

Release Dates: 10/10, 1/12, 3/13, 3/16, 3/17,3/18, 12/9/2020		**Retire Date:** N/A	
Sponsored by: Pharmacy		**Replaces Policy:** Pharmacy Dept 155, B207	
Date Reviewed	**Reviewed By:**	**Revisions Made?**	**Revision Description**
03/12/2020	Pharmacy Director	Yes	Urgent safety update CDPH: added section 3.3 Dual Verification (hardstop) of selected pediatric and all NICU orders
4/6/2020	P&T Committee	Yes	Removed verbiage "Intensive Care (NICU)" from 3.3b.
9/16/20	PAC	Yes	Added Scope.
10/8/20	MEC	No	
7/11/23	PRC	No	
8/7/23	P&T	No	
9/14/23	MEC	No	
11/18/2023	PAC	N	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 865	Page 1 of 7
Title: Hazardous Drug Spill Deactivation and Waste Management	**Effective Date:** 2/15/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☒ **Procedure** ☐ **Guideline**

1. DEFINITIONS

1.1 Class II Biological Safety Cabinet (BSC): a ventilated cabinet with an open front and inward and downward unidirectional HEPA-filtered airflow and HEPA-filtered exhaust. The BSC is designed to provide worker protection from exposure to airborne drugs and to provide an ISO Class 5 or better environment for preparing CSPs.

1.2 Hazardous Drugs (HDs): Hazardous drugs include those used for cancer chemotherapy, antiviral drugs, hormones, some bioengineered drugs, and other miscellaneous drugs. Drugs considered hazardous include those that exhibit one or more of the following six characteristics in humans or animals:

a. Carcinogenicity

b. Teratogenicity or other developmental toxicity

c. Reproductive toxicity

d. Organ toxicity at low doses

e. Genotoxicity

f. Structure and toxicity profiles of new drugs that mimic existing drugs determined hazardous by the above criteria

1.3 Primary Engineering Control (PEC): A device or zone that provides an ISO Class 5 environment for sterile compounding.

1.4 Personal protective equipment (PPE): Items such as gloves, gowns, respirators, goggles, faceshields, and others that protect individual workers from hazardous physical or chemical exposures.

1.5 National Institute of Occupational Safety and Health (NIOSH): NIOSH is the main US federal agency responsible for conducting research into occupational safety and health matters. It is part of the U.S. Centers for Disease Control and Prevention, in the U.S. Department of Health and Human Services.

1.6 High efficiency particulate air (HEPA) filter: A HEPA filter is a type of mechanical air filter. It works by forcing air through a fine mesh that traps harmful particles such as pollen, pet dander, dust mites, and tobacco smoke.

1.7 Compounded sterile preparations (CSPs): are sterile pharmaceuticals that have been prepared by a pharmacist, or under the supervision of a pharmacist.

2. POLICY

2.1 Since safe levels of exposure to HDs cannot be determined and no reliable methods of monitoring exposure exist, it is imperative that the work practice controls established to minimize exposure of employees and other environment be established and strictly adhered to by all staff.

2.2 Persons who handle HDs must have access to spill kits and be trained on spill management and use of PPE and NIOSH-certified respirator. Spill management must be part of an institution-wide safety program and developed in conjunction with other departments and disciplines.

2.3 The areas used to compound HDs must be decontaminated by chemical deactivation of the HDs prior to cleaning and disinfection.

2.4 This policy is strictly limited to the generic waste management provisions of those drugs designated as hazardous by the National Institute of Occupational Safety and Health (NIOSH). Though these substances will be handled and managed was RCRA (RCRA means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. section 6901) waste, there are other substances that require special handling and disposal that are not the subject of this policy.

2.5 Local, state and federal guidelines have been established relative to the management of hazardous drugs; employee safety and the right to know; regulated waste management and transport and related topics and pharmacies must establish policies per individual local and state requirements. Policy and procedure must be established related to all Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA) and Department of Transportation (DOT) requirements.

2.6 Safety Data Sheet (SDS) for all HDs shall be maintained by the Safety Department.

3. PROCEDURES

3.1 **Cleaning and Decontamination of PEC**

a. When working with HDs, the ISO Class 5 environment of the PEC must first be decontaminated prior to being cleaned.

b. The SDS for each HD will specify chemical agents that can be used to deactivate them, however many are deactivated by simple sodium hypochlorite solution. Sterile 70% Isopropyl Alcohol (IPA) does not deactivate HDs therefore cleaning with IPA serves only to spread existing HD contamination.

c. The following factors must be considered relative to decisions about how to decontaminate and clean PECs used for HD compounding:

- Use pre-moistened wipes for cleaning. Any cleaning tools and containers must be surface cleaned with 70% sterile IPA prior to being introduced into an ISO Class 5 area.

- Consideration must be given to the size of the PEC, containers and packages must not interfere with the unidirectional airflow or disrupt the first air in the critical area where HD compounding is to take place.

- Any decontaminating or cleaning agent used inside of a PEC that must be mixed with water should be mixed with sterile water for irrigation.
- Decontamination and cleaning of the surfaces under the work tray must also be accomplished.

d. Decontamination is performed regularly between batches/patient-specific compounding; before daily cleaning and in the event of a spill.

e. Decontamination will only occur when compounding is not taking place.

f. Person performing decontamination will be fully garbed per Hazardous Drug Compounding Techniques including gowns, head, hair, shoe covers, two pairs of chemotherapy gloves and NIOSH-certified respirators (N-95 or N-100).

g. An appropriate full-facepiece, chemical cartridge-type respirator or powered air-purifying respirator (PAPR) should be worn when there is a risk of respiratory exposure to HDs, including when attending to HD spills larger than what can be contained with a spill kit or when cleaning underneath the work surface of the CACI.

3.2 **HD Spill Management**

a. All personnel handling/administering HD's must be trained on the cleaning of HD spills, including the use of PPE and NIOSH-Certified respirators (N-95 or N-100).

b. Spill kits will be kept in areas where HD are handled such as inventory receiving area; inventory storage area; compounding room; carts used for HD transport and nursing units where antineoplastic HDs are administered.

c. Each department is responsible to maintain two spill kits in their department, when a spill kit gets used it will be the department's responsibility to order a replacement through a County authorized vendor.

d. Spills must be contained and cleaned immediately by all qualified personnel with appropriate PPE.

e. Call EVS and ask for secondary cleanup of hazardous spill that has been contained and picked up

f. Call EVS and ask for assistance for a hazardous spill if not contained with one spill kit

g. Signs must be available for restricting access to the spill area.

h. All spills materials must be disposed of as hazardous waste.

i. Information related to care of persons with direct eye and skin contact to HDs as a result of a spill is contained in policy Hazardous Drug Employee Training and Safety Program.

3.3 **Spills occurring inside of PEC (BSC):**

a. Always leave the PEC on; do not turn it off,

b. Opening the C-PEC

- If the entire spill can be cleaned properly without opening the front sash of the BSC, that is acceptable as long as the spill has not penetrated the deck.
- If the C-PEC will be opened, the worker will first don the full face respirator.

- The C-PEC will not be opened until the spill has been maximally contained and cleaned to the extent possible with the C-PEC closed.

c. Wipe the contents of the spill kit package with sterile 70% IPA and use technique appropriate to the C-PEC being used to transfer the spill kit into the ISO Class 5 compounding area.

d. If the HD is a liquid, place an absorbent towel gently on top of the liquid to prevent splashing of HD liquid.

e. If HD is a solid or powder, cover and wipe with a low-lint wipe that has been moistened with sterile water for irrigation.

f. Place saturated/contaminated wipes into hazardous waste bag contained in spill kit.

g. Clean up any broken glass fragments and place into the rigid container in the spill kit

h. Place any contaminated non-sharps supplies into the hazardous waste bag contained in the spill kit which will be deposited into a RCRA container.

i. Once the visually evident spill has been contained, wipe the area thoroughly with a low-lint wipe moistened with sterile water for irrigation from the areas of lesser concentration to the areas of highest concentration of HD.

j. Then follow by decontaminating the area with the designated agent.

k. Once the spill has been contained are decontaminated, then entire C-PEC must be surface decontaminated, then cleaned with germicidal detergent (or sporicidal) and then disinfected with sterile 70% IPA.

l. If an HD is spilled into the intake perforations of the C-PEC, remove the work surface according to the manufacturer's directions and thoroughly clean the drain pan in the proper manner, discarding all cloths and other materials used in the cleaning process into the waste bag provided in the spill kit.

m. Once the spill has been cleaned, remove PPE.

n. Any wipes used for the macro decontamination along with the spill itself must be disposed in a black RCRA container. All other supplies and PPE may be disposed in the trace yellow receptacles.

o. If the HEPA filter of the C-PEC is contaminated with HD

- Turn the C-PEC off
- Post a sign on the C-PEC that says "Do Not Use-Contaminated with Hazardous Drug" and take this C-PEC out of use in compounding.
- Personnel changing the HEPA filter must be informed that the HEPA filter may be contaminated with HD. They must also be properly garbed and wear a NIOSH-certified respirator and eye protection during the procedure. Respirator cartridges must be disposed of as hazardous waste.
- The HEPA filter must be changed as soon as possible according to the manufacturer's instructions.
- The filter must be disposed of in the appropriate hazardous waste container.

3.4 **Spill occurring outside of a PEC including patient care areas**

a. Clear area of visitors and unnecessary staff to prevent exposure to spilled chemotherapy. Notify the chemotherapy certified RN of the spill where patient is receiving treatment.

b. Isolate the area of the spill to reduce the risk of exposure to additional personnel.

c. Obtain a spill kit.

d. Immediately post sign from spill kit to warn others of the presence of hazardous spill.

e. Put on one pair of chemo gloves, disposable chemo gown, second pair of gloves over cuff of gown, shoe covers, and safety glasses. Note: If the patient or the nurse is allergic to latex, use chemotherapy approved, non-latex gloves.

f. Don a NIOSH-certified respiratory protection if there is a risk of respiratory exposure to HDs (e.g. HD spills larger than what can be contained with a spill kit or suspected airborne exposure to power or vapors)

g. Respiratory cartridges used during spill cleanup must be disposed of in hazardous waste.

h. If the spill is liquid, place absorbent towels on top of spill gently to prevent splashing of HD.

i. If the spill is a solid, place absorbent towels wetted with water on top of the spill.

j. Use the absorbent towels to contain the spill and carefully place the contaminated towels in the HD waste bag provided in the spill kit.

k. Clean up any broken glass fragments using utility gloves (placed over double chemotherapy gloves) and place into designated sharps container along with any contaminated sharps.

l. Place any contaminated non-sharps supplies into the hazardous waste bag contained in the spill kit.

m. Once the visible spill has been visibly removed, use absorbent towels wetted with bleach solution to clean the affected area. Allow the bleach to dry.

n. Clean the area with the designated disinfectant solution.

o. Place pads, towels, and all contaminated materials (sheets or gowns) into leak proof waste bag. Place glass fragments in a hard sided chemo bin. Seal the bag and place inside another bag. Both bags appropriately labeled as hazardous waste. Leave outer bag open for now.

p. Once the spill has been cleaned, remove PPE per policy Hazardous Drug Compounding Techniques and discard as hazardous waste.

q. Seal the outer chemo waste disposal bag and place it in a puncture proof container chemotherapy container

r. Any linens contaminated with chemotherapy shall be disposed of as chemotherapy waste in the yellow bins.

s. Notify oncologist of the type and amount of chemotherapy spilled and how much patient actually received of that chemotherapy.

3.5 **For any spill with patient exposure to chemotherapy**

a. For eye exposure, immediately rinse eye thoroughly with running water at sink or eye wash station if nearby

b. For skin exposure, wear PPE and remove contaminated clothing in chemotherapy bag provided in spill kit. Place bag in yellow chemotherapy waste bin. Cleanse the patient's skin with soap and water, rinse with water, and repeat this process again.

3.6 **For any staff member exposed to spill**

a. For eye exposure, immediately rinse eye thoroughly with running water at sink or eye wash station if nearby.

b. Notify supervisor and follow employee work injury process.

3.7 **Documentation of Spills**

a. Spills and spill cleanup must be documented via the online incident reporting system.

3.8 **Disposal of HD Waste**

a. All items used in the preparation of hazardous drugs are considered contaminated and should be discarded in the appropriate waste container and further disposed of per local, state and federal regulations.

b. Discard all supplies used to make and administer chemotherapy medications (tubing, empty bags, bottles, vials, syringes, gloves, pads, masks, gowns, wipes, etc.) in the Chemo waste.

c. Outer gloves are to be considered contaminated. When removing/changing the outer gloves, they are to be placed into the Chemo waste.

d. The inner glove stays in place once the contaminated outer gloves are removed. The inner gloves are used to affix labels and place the CSP/s into a sealable containment bag which is used during transport.

e. Discard PPE and wash hands before leaving the preparation area. Gloves and gowns should not be worn outside the drug preparation area.

f. Documentation of waste generation and disposal will be completed in accordance with applicable local, state and federal guidelines.

g. Needles, syringes, and breakable items used to compound HDs will be handled in the same manner as those contaminated by blood or other potentially infectious materials, should be disposed in chemo sharp container.

h. HD waste must be kept inside covered waste containers clearly labeled as "Hazardous Drug Waste Only".

i. Bags are never acceptable as final waste storage containers, they are may only be used as a transport mechanism for non-sharps contaminated waste until it is disposed of a in a rigid container designated for hazardous waste.

j. At least one such receptacle will be located in each area where HDs are handled.

k. HD waste containers are moved from their location to the designated HD storage area by staff that has been trained in these procedures.

l. When containers are full, they will be sealed and dated.

m. HD waste waiting for removal by a waste hauler properly certified and licensed to remove HD waste must be kept in a secure and segregated area in sealed, labeled drugs with plastic liners to which only authorized personnel are admitted.

4. REFERENCES

4.1 The United States Pharmacopeial Convention (USPC). Chapter <800>: Hazardous Drugs—Handling in Healthcare Settings. In: The United States Pharmacopeia, 39th rev., and The National Formulary, 34th ed. First supplement. Rockville, MD: USPC; 2016

Document History:

Prior Release Dates: 2/15/17, 6/15/18, 9/21/2020	**Retire Date:** N/A
Document Owner: Pharmacy Department	**Replaces Policy:** A151, , Nursing Policy 703.03

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
01/2024	PRC	No	Triennial review- no change
2/5/24	P&T	No	
2/6/2024	PAC	No	
2/8/2024	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 868	Page 1 of 6
Title: Hazardous Drug Employee Training and Safety Program	**Effective Date:** 2/15/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☒ **Procedure** ☒ **Guideline**

1. SCOPE

1.1 The scope of this policy is limited to pharmacy training and a compounding pharmacy safety program associated with the defined as Tier 1- Antineoplastic Hazardous Drugs (HDs) by The National Institute for Occupational Safety and Health (NIOSH).

2. DEFINITION

2.1 *Class II Biological Safety Cabinet (BSC):* A ventilated cabinet with an open front and inward and downward unidirectional HEPA-filtered airflow and HEPA-filtered exhaust. The BSC is designed to provide worker protection from exposure to airborne drugs and to provide an ISO Class 5 or better environment for preparing compounded sterile products.

2.2 *Hazardous Drugs (HDs)*: Hazardous drugs include those used for cancer chemotherapy, antiviral drugs, hormones, some bioengineered drugs, and other miscellaneous drugs. Drugs considered hazardous include those that exhibit one or more of the following six characteristics in humans or animals:

a. Carcinogenicity

b. Teratogenicity or other developmental toxicity

c. Reproductive toxicity

d. Organ toxicity at low doses

e. Genotoxicity

f. Structure and toxicity profiles of new drugs that mimic existing drugs determined hazardous by the above criteria

2.3 *Personal protective equipment (PPE):* Items such as gloves, gowns, respirators, goggles, face shields, and others that protect individual worker from hazardous physical or chemical exposures.

3. POLICY

3.1 This policy governs worker and environmental safeguards/surveillance as well as required employee training and competency evaluation required relative to all aspects NIOSH designated Tier 1-HDs handling, storage, compounding, transport, and disposal.

3.2 Hazardous Drugs (HDs) will be stored, handled, prepared, transported, and disposed of only under conditions that protect healthcare workers.

a. Handle all drugs on the organizational HDs list with full USP <800> precautions unless an assessment of risk defines specific drug and dosage form handling instructions.

3.3 A HDs safety program that incorporates administrative, engineering, and work practice controls is developed and maintained in order to provide maximum protection to healthcare workers.

3.4 Any personnel who may come in contact with HDs during the normal course of their job duties will receive training on HDs handling that is specific to their job duties. Personnel who may not be involved in compounding, but may be expected to participate in hazardous drug inventory receiving, stocking, transport, or cleaning of areas associated with hazardous drug preparation must also receive training prior to performing those activities.

3.5 Compounding personnel must take all required training associated with non-hazardous drug compounding as well as complete non-hazardous compounding written tests and competencies prior to completing training and competency requirements associated with HDs.

4. PROCEDURES

4.1 Administrative Controls

a. A list of HDs (Attachment A, B, C and D) handled at the pharmacy will be reviewed and revised annually or as needed and communicated to staff in training programs.
b. Policies, procedures, and forms will be reviewed and revised as needed to reflect relevant local, state, and federal regulatory requirements as well as professional practice standards.
c. Whenever possible, hazardous drug staging and compounding should be limited to as few compounders as possible based on the workload to reduce the exposure across staff.
d. Staff can be rotated through hazardous drug compounding duties.
e. Input from staff who handle, transport, compound and dispose of HDs will be solicited to identify additional methods of reducing risk and improving worker safety.
f. Hazardous Drug Employee Training and Competency Evaluation
   - Prior to HDs training, compounding employees must successfully complete:
     i. All non-hazardous didactic training including safe aseptic manipulation practices;
     ii. All non-hazardous compounding written tests; and
     iii. Competency Assessments on Hand Hygiene and Garbing; Aseptic Technique and Cleaning and Disinfecting.
   - All employees that handle Tier 1-HDs (including Environmental Services personnel who is responsible for cleaning duty of the compounding areas include the negative pressure room)must successfully complete training that includes the following:
     i. Overview of HDs including the NIOSH properties of hazardous drugs

ii. Review of the written policies that apply to the employee's job classification

iii. Disposal procedures

iv. Spill containment, cleanup, and disposal, and

v. Treatment of personnel who experience exposures.

- Additional HDs training must be received by compounding personnel and includes:

i. General compounding practices that are different than or in addition to compounding of non-hazardous drugs

ii. Negative pressure techniques to be used inside the Class II BSC

iii. Proper use of closed system vial-transfer devices (CSTDs)

- Hazardous Drug training, testing and competency evaluation will be successfully completed prior to allowing employees to handle or compound Tier 1-HDs.
- Employee handling HDs must successfully complete the Hazardous Drug Competency annually.
- Environmental Services personnel entering negative pressure room to perform cleaning duties, must complete the appropriate sections of the Hazardous Drug Competency annually in addition to completing the Hand Hygiene and Garbing and Cleaning and Disinfection competencies.

g. Hazardous Drug Risk Acknowledgement (Attachment E)

- At the completion of HDs training and competency evaluation, but before actual HDs handling/compounding, all employees of reproductive age must sign the Hazardous Drug Risk Acknowledgement.
- Note: It is highly recommended that all employees who may handle or compound HDs read and sign the HDs Risk Acknowledgement since adverse effects of HDs exposure are not limited to those of child-bearing age.

h. Alternate Duty

- If requested, it is recommended that workers be given the option of alternate duty under the following circumstances:

i. Females who are pregnant;

ii. Females who are breastfeeding;

iii. Males or Females actively trying to conceive a child.

i. Treatment of Employees with Direct Eye or Skin Exposure to HDs

- Employees will be instructed to call for help if needed.
- Contaminated clothing must be removed immediately.
- The affected eye must be flushed with water or normal saline for at least 15 minutes.
- If skin is affected, it must be washed with soap and water and rinsed thoroughly.
- Obtain medical attention.

- Document the exposure on the form appropriate to the organization (e.g., incident report; unusual occurrence report, medical surveillance log, etc.).

j. Surveillance

- Environmental surveillance of the compounding environment may be considered to evaluate and verify containment and effectiveness of controls.
  - i. Initial sampling might include the Class II BSC; counter tops where finished CSPs are placed to be labeled; and the floor immediately outside of the primary engineering control (PEC).
  - ii. Common HDs may be used as marker drugs (cyclophosphamide, methotrexate, and 5FU).
  - iii. If contamination is found, based on the level of contamination, the decision may be made to perform additional cleaning and evaluate potential change to engineering, work practice or administrative controls.
  - iv. This would be followed by resampling to determine effectiveness of actions.
- Worker/Medical Surveillance
  - i. Occupational exposure to HDs may not result in detectable physiological changes that would be noticeable during physical examination.
  - ii. No single laboratory test has proven to be a reliable indicator of occupational exposure to HDs.
  - iii. Post-exposure evaluation is performed if the employee is directly exposed to HDs. The physical examination would focus on the area involved as well as other organ systems commonly affected. Treatment and laboratory studies follow as indicated.
  - iv. A General and Reproductive Health Questionnaire is completed at the time of hire and yearly thereafter. Health Questionnaires are evaluated for trends or signs of significant health changes that may relate to HDs exposure.
  - v. A complete blood count (CBC) and urinalysis are completed at the time of hire and annually thereafter.
  - vi. A physical examination must be completed at the time of hire and as needed for workers whose Health Questionnaires or laboratory tests indicate abnormal findings.
  - vii. Should the outcomes of future occupational health research provide evidence of effective medical surveillance of workers handling HDs, it will be incorporated into the HDs Safety Program.

4.2 Engineering Controls (equipment or facilities that are designed to contain hazardous substances thereby reducing the risk of employee exposure)

a. Tier 1-HDs compounding will only be performed in negative pressure areas that maintain at least 0.01 inches water column negative pressure to the immediately adjacent room.

b. Class II BSC will be used for Tier 1-HDs compounding and they will be placed in negative pressure areas.

c. 100% external ventilation.

d. Closed System Transfer Devices (CSTDs) are used in addition to the Class II BSC to minimize contamination of the PEC.

e. Areas where HDs are handled must have a sink with an eye wash station.

4.3 **Work Practice Controls**

a. Work practice controls are the specific ways of handling hazardous drugs that reduce employee exposure.

b. Work practice controls are delineated in all of the HDs policies and procedures and include but are not limited to:
   - Use of specific personal protective equipment to provide a barrier between the worker and HDs.

     i. Chemotherapy gloves must meet American Society for Testing and Materials (ASTM) standard D6978. Chemotherapy gloves should be worn for handling all HDs including non-antineoplastics and for reproductive risk only HDs. Chemotherapy gloves must be powder-free and inspected for physical defects before use. When used for sterile compounding, the outer chemotherapy gloves must be sterile. Chemotherapy gloves should be changed every 30 minutes, when torn, punctured or contaminated. Hands must be washed with soap and water after removing gloves.

     ii. Gown must be disposable and shown to resist permeability by HDs. Gowns must close in the back (i.e., no open front), be long sleeved, and have closed cuffs that are elastic or knit. Gowns must not have seams or closures that could allow HDs to pass through. Gowns must be changed every 2-3 hours or immediately after a spill or splash. Gowns worn in HDs handling areas must not be worn to other areas to avoid spreading HDs contamination.

     iii. Head and hair covers (including beard and moustache, if applicable), shoe covers and sleeve covers provide protection from contact with HDs residue. When compounding HDs, a second pair of shoe covers must be donned before entering the negative pressure room and doffed when exiting. Shoe covers worn in HDs handling areas must not be worn to other areas to avoid spreading HDs contamination.

     iv. Appropriate eye and face protection must be worn when there is a risk of spills or splashed of HDs or HDs waste when working outside of Class II BSC. A full-facepiece respirator provides eyes and face protection. Goggles must be used when eye protection is needed. Face shields in combination with goggles provide a full range of protection against splashes to the face and eyes.

     v. OSHA-Certified fit tested respirators (N-95 or N-100) are used in the event that exposure to vapors is likely such as during spill cleanup. An appropriate full-facepiece should be worn when there is a risk of respiratory exposure to HDs, including when cleaning spills larger than what can be contained with a spill kit or deactivating, decontaminating

and cleaning of the Class II BSC, or there is known or suspected airborne exposure to powders or vapors.

- Use of negative pressure and other compounding techniques specifically designed to maintain sterility (protect the product from the environment) but additionally protect the worker from the Tier 1- HDs.
- Pre-priming of administration sets with sterile solutions that are HD free and attaching to the Tier 1- HDs CSP final container for administration.

5. REFERENCES

5.1 The United States Pharmacopeial Convention (USPC). Chapter <800>: Hazardous Drugs—Handling in Healthcare Settings. 2019

5.2 NIOSH list of Antineoplastic and Other Hazardous Drugs in Healthcare Settings, 2016.

5.3 DHHS (NIOSH) Publication Number 2016-161

6. ATTACHMENTS

6.1 Attachment A- Tier 1 Antineoplastic HDs Injectable: IVPB, IVP, IM

6.2 Attachment B- Tier 1 Antineoplastic HDs Oral: Capsule, Tablet

6.3 Attachment C- Tier 2 Non- Antineoplastic HDs

6.4 Attachment D- Tier 3 Reproductive risk HDs

6.5 Attachment E - Hazardous Drug Risk Acknowledgement

Keyword: hazardous, competency, compounding, NIOSH, risk acknowledgment

Document History:

Prior Release Dates: 2/5/18, 9/21/2020		**Retire Date:** N/A	
Document Owner: Pharmacy Department		**Replaces Policy:** N/A	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
1/2024	Pharmacy Review Committee	Yes	Added Tier 1-HD where applicable Removed “buffer” since our compounding areas for Tier 1 HD does not meet the definition as buffer room.
2/5/24	P&T	No	
2/6/2024	PAC	No	
2/8/2024	MEC	No	

Attachment A- Tier 1 Antineoplastic HDs Injectable: IVPB, IVP,IM			
Adotrastuzumab (Kadcyla)	Dacarbazine	Idarubicin (Idamycin PFS)	Pemetrexed (Alimta)
Amsacrine	Dactinomycin (Cosmegen)	Ifosfamide (Ifex)	Pentostatin (Nipent)
Arsenic trioxide (Trisenox)	Daunorubicin	Inotuzumab ozogamicin (Besponsa™)	Pertuzumab (Perjeta)
Azacitidine (Vidaza)	Decitabine (Dacogen)	Irinotecan (Camptosar)	Polatuzumab vedotin (Polivy)
Bacillus Calmette Guerin (BCG)	Degarelix (Firmagon)	Ixabepilone (Ixempra Kit)	Pralatrexate (Folotyn)
Belantamab mafodotin (Blenrep)	Docetaxel (Taxotere)	Larotrectinib (Vitrakvi)	Romidepsin (Istodax)
Belinostat (Beleodaq)	Doxorubicin (Adriamycin, Doxil)	Leuprolide (Lupron; Eligard)	Sacituzumab Govitecan (Trodelvy)
Bendamustine (Bendeka; Treanda)	Enfortumab Vedotin (Padcev)	Loncastuximab tesirine (Zynlonta)	Streptozocin (Zanosar)
Bleomycin	Epirubicin (Ellence)	Lurbinectedin (Zepzelca)	Temozolomide (Temodar)
Bortezomib (Velcade)	Eribulin (Halaven)	Mechlorethamine	Temsirolimus (Torisel)
Brentuximab vedotin (Adcetris)	Etoposide (Toposar)	Melphalan (Alkeran; Evomela,Pepaxto)	Teniposide
Busulfan (Busulfex)	Fam-Trastuzumab Deruxtecan (Enhertu)	Methotrexate (Otrexup; Rasuvo)	Tisotumab Vedotin (Tivdak)
Cabazitaxel (Jevtana)	Floxuridine	Mirvetuximab Soravtansine (Elahere)	Thiotepa (Tepadina)
Carboplatin	Fludarabine	Mitomycin (Mutamycin)	Topotecan (Hycamtin)
Carfilzomib (Kyprolis)	Fluorouracil (Adrucil)	Mitoxantrone	Trabectedin (Yondelis®)
Carmustine (BiCNU; Gliadel Wafer	Fulvestrant (Faslodex)	Moxetumomab pasudotox-tdfk (LUMOXITI)	Trimetrexate (Neutrexin)
Cisplatin	Gemcitabine (Gemzar)	Nelarabine (Arranon)	Triptorelin (Trelstar Mixject; Triptodur)
Cladribine	Gemtuzumab ozogamicin (Mylotarg)	Nilotinib (Tasigna)	Valrubicin (Valstar)
Clofarabine (Clolar)	Goserelin (Zoladex)	Olaratumab (Lartruvo)	Vinblastine
Cyclophosphamide	Histrelin (Supprelin LA; Vantas)	Omacetaxin (Synribo)	Vincristine (Vincasar PFS)
		Paclitaxel	Ziv-aflibercept (Zaltrap)

Attachment B- Tier 1 Antineoplastic HDs Oral: Capsule, Tablet			
Abiraterone (Yonsa; Zytiga)	Dacomitinib (Vizimpro)	Ivosidenib (Tibsovo)	Ponatinib (Iclusig) (TKI)
Afatinib (Gilotrif)	Dasatinib (Sprycel) (TKI)	Ixazomib (Ninlaro)	Procarbazine (Matulane)
Altretamine (Hexalen)	Enzalutamide (Xtandi)	Lapatinib (Tykerb) (TKI)	Regorafenib (Stivarga)(TKI)
Anastrozole (Arimidex)	Encorafenib (Braftovi)	Larotrectinib (Vitrakvi)	Ruxolitinib (Jakafi) (TKI)
Apalutamide (Erleada)	Erlotinib (Tarceva) (TKI)	Lenvatinib (Lenvima) (TKI)	Sonidegib (Odomzo)
Axitinib (Inlyta) (TKI)	Estramustine (Emcyt)	Letrozole (Femara)	Sorafenib (Nexavar) (TKI)
Baricitinib (Olumiant)	Etoposide	Lomustine (Gleostine)	Sunitinib (Sutent) (TKI)
Bexarotene (Targretin)	Everolimus (Afinitor; Afinitor Disperz; Zortress)	Lorlatinib (Lorbrena)	Talazoparib (Talzenna)
Bicalutamide (Casodex)	Exemestane (Aromasin)	Megestrol (Megace)	Tamoxifen (Soltamox)
Binimetinib (Mektovi)	Flutamide	Melphalan (Alkeran)	Temozolomide (Temodar)
Bosutinib (Bosulif) (TKI)	Fostamatinib (Tavalisse)	Mercaptopurine (6-MP; purinethol)	Thioguanine (Tabloid)
Busulfan (Myleran)	Gefitinib (Iressa) (TKI)	Methotrexate (Trexall; Xatmap)	Topotecan (Hycamtin)
Cabozantinib (Cometriq; Cabometyx) (TKI)	Gilteritinib (Xospata)	Mitotane (Lysodren)	Toremifene (Fareston)
Capecitabine (Xeloda)	Glasdegib (Daurismo)	Nilotinib (tasigna) (TKI)	Trametinib (Mekinist)
Ceritinib (Zykadia) (TKI)	Hydroxyurea (Hydrea; Droxia; Siklos)	Olaparib (Lynparza)	Trifluridine/Tipiracil (Lonsurf)
Chlorambucil (Leukeran)	Ibrutinib (Imbruvica) (TKI)	Palbociclib (Ibrance)	Vandetanib (Caprelsa) (TKI)
Crizotinib (Xalkori) (TKI)	Idelalisib (Zydelig)	Panobinostat (Farydak)	Vemurafenib (Zelboraf)
Cyclophosphamide (cytoxan)	Imatinib (Gleevec) (TKI)	Pazopanib (Votrient) (TKI)	Vismodegib (Erivedge)
Dabrafenib (Tafinlar)	Isotretinoin (Absorica; Amnesteem; Claravis; Myorisan; Zenatane)	Pomalidomide (Pomalyst)	Vorinostat (zolinza)

Attachment C- Tier 2 Non- Antineoplastic HDs			
Abacavir (Ziagen)	Estrogen/Progesterone combinations	Mipomersen (Kynamro) (SQ)	Propylthiouracil
Alefacept (Amevive) (IV)	Estrogens esterified (Menest)	Mycophenolate mofetil (CellCept)(IV, PO)	Raloxifene (Evista)
Apomorphine (Apokyn) (subq)	Estropipate	Mycophenolic acid (Myfortic)	Rasagiline (Azilect)
Azathioprine (Azasan; Imuran) (PO, IV)	Fingolimod (Gilenya)	Nevirapine (Viramune)	Sirolimus (Rapamune)
Carbamazepine (TEGretol)	Fluoxymesterone	Ospemifene (Osphena)	Spironolactone (Aldactone)
Chloramphenicol (IV)	Ganciclovir (Cytovene) (IV)	Oxcarbazepine (Trileptal)	Tacrolimus (Prograf)
Cidofovir (IV)	Leflunomide (Arava)	Palifermin (Kepivance) (IV)	Teriflunomide (Aubagio)
Cyclosporine (Gengraf; Neoral; SandIMMUNE) (IV,PO)	Lenalidomide (Revlimid)	Phenoxybenzamine (Dibenzyline)	Thalidomide (Thalomid)
Deferiprone (Ferriprox)	Liraglutide recombinant (Saxenda; Victoza)(IM)	Porfimer (Photofrin)	Tofacitinib (Xeljanz)
Dexrazoxane (Totect; Zinecard) (IV)	Medroxyprogesterone acetate (IM,subq, PO)	Progesterone (PO, IM)	Valganciclovir (Valcyte)
Entecavir (Baraclude)	Methimazole (Tapazole)	Progestins	Zidovudine (Retrovir) (PO,IV)
Estradiol (PO, IM, transdermal, vaginal)			

Attachment D- Tier 3 Reproductive Risk HDs			
Acitretin (Soriatane)	Dronedarone (Multaq)	Macitentan (Opsumit)	Ribavirin (Copegus)
Alitretinoin	Dutasteride (Avodart)	Menotropins (Menopur)	Riociguat (Adempas)
Ambrisentan (Letairis)	Duvelisib (Copiktra)	Mifepristone (Mifeprex)	Topiramate (Topamax)
Bosentan (Tracleer)	Ergonovine/ methylergonovine (IM, IV)	Misoprostol (Cytotec)	Tretinoin
Cabergoline	Eslicarbazepine (Aptiom)	Mogamulizumab-kpkc (Poteligeo)	Ulipristal (Ella)
Cemiplimab-rwlc (Libtayo) (IV)	Finasteride (Proscar)	Nafarelin (Synarel) (nasal)	Vigabatrin (Sabril)
Cetrorelix (Cetrotide) (subq)	Ganirelix (subq)	Pasireotide (Signifor)	Warfarin (Coumadin)
Clomiphene (Clomid)	Gonadotropin,chorionic (Novarel) (IM)	Pentetate calcium trisodium (IV, inhalation)	Ziprasidone (Geodon) (IM,PO)
Choriogonadotropin (Ovidrel)(subq)	Icatibant (Firazyr) (subq)	Peginesatide	Zoledronic acid (Reclast) (IV)
Dinoprostone (Cervidil; Prostin E2)	Iobenguane (AdreView) (IV)	Plerixafor (Mozobil) (subq)	Zonisamide (Zonegran)
	Lomitapide (Juxtapid)		

Attachment E:

Hazardous Drug Risk Acknowledgement

Name of Employee: _____

I understand working with or near hazardous drugs in health care settings may put me at risk of exposure to substances which may cause skin rashes, infertility, miscarriage, birth defects, and possibly leukemia or other cancers.

I understand that the hospital and my department maintain detailed policies and procedures on the proper storage, handling, transport and disposal of hazardous drugs. The hospital has endorsed and implemented a variety of administrative, engineering and work practice controls to reduce the risk of occupational exposure to hazardous drugs. I understand that Hazardous Drug Handling policies and procedures will be amended on an annual basis and the policies and procedures seek to reflect information, standards and regulations from relevant local, state and federal regulatory bodies as well as practice standards from professional associations.

I have been provided with training that reflects the policies and procedures on hazardous drugs and have been afforded the opportunity to ask questions. Retraining and competency evaluation will occur annually. I understand the hospital and my departmental policies and procedures and I agree to abide by them at all times. I will immediately seek out my supervisor should a question arise during work activities.

_____ _____

Signature of Employee Name above Date

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 871	Page 1 of 2
Title: Drug Recalls	**Effective Date:** 3/13/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☒ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 The Pharmacy Department oversees and manages Drug Recalls for RUHS Medical Center Moreno Valley and Arlington campuses, as well as all pharmacies managed by RUHS Medical Center.

2. DEFINITIONS

2.1 **Drug Recall.** The Food and Drug Administration (FDA) defines Drug Recalls as actions taken by a firm to remove a product from the market. Recalls may be conducted on a firm's own initiative, by FDA request, or by FDA order under statutory authority. Drug Recalls may be classified as one of the following:

a. **Class I recall:** a situation in which there is a reasonable probability that the use of or exposure to a violative product will cause serious adverse health consequences or death.

b. **Class II recall:** a situation in which use of or exposure to a violative product may cause temporary or medically reversible adverse health consequences or where the probability of serious adverse health consequences is remote.

c. **Class III recall:** a situation in which use of or exposure to a violative product is not likely to cause adverse health consequences.

2.2 **ONERECALL®.** ONERECALL® is an online, web-based application that provides notifications of drug recalls and a framework to centrally document actions taken.

3. PROCEDURE

3.1 The Pharmacy Director or designee will ensure the following procedure is followed.

3.2 Drug Recall Notifications

a. Drug Recall Notifications are reviewed at least twice a week in the organization's designated system, for example ONERECALL

b. Any Drug Recall Notifications not already found in ONERECALL will be documented in ONERECALL to provide a central location to store drug recall activity. Sources of Drug Recall Notifications external to ONERECALL may include:

- Recall notices from the California Board of Pharmacy
- Safety Alerts from the FDA MedWatch program
- Notifications from Pharmaceutical Distributors or Wholesalers
- Direct notifications from Manufacturers

3.3 Process

a. Twenty four month purchase history is reviewed for all Drug Recall Notifications.

b. Inventory is reviewed and inspected if purchase history found.

c. Affected product(s) are removed from inventory, quarantined, and then processed via reverse distribution. In addition, affected departments are notified as necessary.

d. In the event of a serious drug recall (Class I or II) the pharmacy contacts the prescriber or patient that received the recalled drug as appropriate.

3.4 Drug Recalls are reviewed at Medication Management Committee meeting and Pharmacy & Therapeutics Committee regularly.

4. REFERENCES

4.1 Bus. & Prof. Code 4126.9, 4127.1, 4127.9

4.2 16 CCR § 1751.1 Sterile Compounding Recordkeeping Requirements

4.3 16 CCR § 1751.7 Sterile Compounding Quality Assurance and Process Validation

4.4 The Joint Commission standards MM.05.01.17- Effective date July 1, 2017

4.5 Centers for Medicare & Medicaid Services §482.25 Condition of Participation: Pharmaceutical Services

Document History:

Prior Release Dates: 03/2014, 01/2012, 01/2011, 09/2006, 03/2003, 03/2000, 08/1997, 12/1996, 03/1994, 03/1988	**Retire Date:** N/A
Document Owner: Pharmacy Department	**Replaces Policy:** Pharmacy Department PnP A100 Drug Recalls

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
12/12/23	PRC	YES	Clarify scope to be inclusive of all areas
02/01/2024	Pre-Nursing Policy & Procedure Committee	YES	Minor changes to wording
2/15/2024	Nursing Policy and Procedure	No	
3/4/24	P&T	No	
3/5/2024	PAC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
HOUSEWIDE

	Document No: 873	Page 1 of 155
Title: Cleaning and Disinfecting Sterile Compounding Areas	**Effective Date:** 12/20/2023	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/Hospital Director		☐ **Policy** ☒ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 Describes the procedures for cleaning and disinfecting compounding areas where Compounded Sterile Preparations (CSP) are prepared within Riverside University Health Systems (RUHS).

1.2 Surfaces in classified areas and segregated compounding areas are potential sources of microbial contamination. To reduce the risk of contact contamination, surfaces within classified areas used to prepare CSPs are cleaned, disinfected, and have sporicidal disinfectants applied according to the processes and frequencies described in this document.

2. DEFINITIONS

2.1 Cleaning: Removing organic and inorganic materials (e.g., dirt, debris, microbes, and residual drugs or chemicals) form surfaces with the use of a cleaning agent and manual or mechanical action.

2.2 Disinfecting: Using a chemical or physical agent on surfaces to destroy microorganisms including fungi, viruses, and bacteria.

2.3 Classified area: An area that maintains an air quality classification based on the ISO standards.

2.4 Cleaning agent: An agent for the removal of residues (e.g., dirt, debris, microbes, and residual drugs or chemicals) from surfaces.

2.5 Compounding area: The area where compounding is occurring (i.e., a cleanroom suite or inside the perimeter of the SCA).

2.6 Garb: Items such as gloves, garments (e.g., gowns), shoe covers, head and facial hair covers, masks, and other items designed to reduce particle-shedding from personnel and minimize the risk of contamination of CSP(s).

2.7 Sterile 70% isopropyl alcohol (sIPA): A staple in day-to-day compounding activities and plays a critical role in sanitizing and reducing the bioburden on gloved hands, surfaces, and materials through both chemical application and physical wiping. sIPA, however, is not a cleaning or disinfecting agent. While it does have some disinfectant properties, it does not possess the broad-spectrum coverage of cleaning, disinfecting, or sporicidal agents and requires a lengthy (and impractical) contact time to truly convey bactericidal or fungicidal activity.

2.8 Low-lint wiper: A wiper exhibiting few, if any, fibers or other contamination, visible without magnification, which is separate from, or easily removed from, the wiper material in a dry condition.

2.9 One-step disinfectant cleaner: A product with an EPA-registered (or equivalent) claim that it can clean and disinfect a nonporous surface in the presence of light to moderate organic soiling without a separate cleaning step.

2.10 Pass-through: An enclosure with sealed doors on both sides that should be interlocked. The pass-through is positioned between two spaces for the purpose of minimizing particulate transfer while moving materials from one space to another.

2.11 Primary engineering control (PEC): A device or zone that provides an ISO Class 5 air quality environment for sterile compounding.

2.12 Secondary engineering control (SEC): The area where the PEC is placed (e.g., a cleanroom suite or an SCA). It incorporates specific design and operational parameters required to minimize the risk of contamination within the compounding area.

2.13 Segregated compounding area (SCA): A designated, unclassified space, area, or room with a defined perimeter that contains a PEC and is suitable for preparation of Category 1 CSPs only.

2.14 Sporicidal disinfectant: A chemical or physical agent that destroys bacterial and fungal spores when used in sufficient concentration for a specified contact time. It is expected to kill all vegetative microorganisms

2.15 Triple clean: consists of two separate and distinct applications of an approved one-step disinfectant cleaner (allowing for full wet contact time between applications) followed by a separate application of an approved sporicidal disinfectant; remove cleaning agent residue with sIPA.

3. POLICY

3.1 Cleaning and disinfecting of all surfaces inside compounding areas, including sinks, as well as the application of a sporicidal disinfectant occur on a regular basis and at a minimum frequency as specified in *USP <797> Pharmacecutical Compounding – Sterile Preparations 2022* and according to this policy (see Section 5.1).

3.2 Surfaces in compounding areas are cleaned prior to being disinfected with an EPA-registered (or equivalent outside of the US) agent. An EPA-registered (or equivalent) one-step disinfectant cleaner is an appropriate alternative that allows for both processes to occur in one step.

3.3 Sporicidal disinfecting agents are EPA-registered (or equivalent outside of the US) and allow for cleaning, disinfecting, and sporicidal activity concurrently in a single step.

3.4 Manufacturer's directions or published data for the minimum wet contact time is followed for each of the cleaning, disinfecting, and sporicidal agents used to ensure the agents have full microbial destroying action.

3.5 If compounding (and cleaning) is not performed each day, cleaning and disinfecting is completed before reinitiating compounding.

3.6 Cleaning and sanitizing are repeated when spills occur and when surfaces are visibly soiled.

3.7 All personnel involved in cleaning and disinfecting of classified compounding and segregated compounding areas receive training and demonstrate competency in Hand Hygiene and Garbing initially and at least annually. Refresher training is provided as needed and when changes in procedures or agents occur.

- Primary engineering controls (PECs) are cleaned by trained and qualified compounding personnel only.
- Secondary engineering controls (SECs) or classified compounding areas can be cleaned by trained and qualified compounding personnel and/or internal or external contracted cleaning service who comply with all aspects of this policy.

3.8 All cleaning and disinfecting activities are performed by appropriately garbed personnel using facility-approved agents and procedures including frequency, method, and location of cleaning activity.

3.9 Sterile cleaning agents are used to clean the interior of, and all equipment housed inside of PECs. Sterile cleaning agents are used to clean SECs.

3.10 Cleaning agents and supplies used in PECs and SECs are assigned an expiration date once opened or prepared; expiration dates are clearly and permanently written on the bottle, container, or wrapping of the supply and do not exceed manufacturer expiration dates or recommended "in-use" dates.

Cleaning Agent or Supply	**Location Used**	**Expiration Date*** (from initial puncture, use, or preparation)
Ready-to-Use (RTU) STERILE Cleaning, Disinfecting, and Sporicidal Agents	Inside PECs	15 Days
RTU Nonsterile Cleaning, Disinfecting, and Sporicidal Agents (e.g., PREemptRTU, PeridoxRTU)	All surfaces in SECs; Exterior of PECs	30 Days
STERILE Premoistened or Low-Lint Dry Wipes	Inside PECs	15 Days
Nonsterile Premoistened or Low-Lint Dry Wipes	All surfaces in SECs; Exterior of PECs	30 Days
Sterile 70% Isopropyl Alcohol	All surfaces in SECs; Exterior of PECs	7 days

***Consult the manufacturer for dates for specified products in use at your facility or define a more conservative expiration date.**

3.11 Safety Data Sheets (SDSs) are retained for all cleaning supplies, included in training of cleaning personnel, and are readily retrievable by all compounding staff members.

4. ROLES AND RESPONSIBILITEIS

4.1 Designated Person(s) (DP):

- Ensures cleaning staff receives appropriate training and maintains current cleaning and related competencies.
- Oversees selection of appropriate EPA-registered cleaning, disinfecting, and sporical agents and ensures staff understands and adheres to appropriate dwell times for each agent.
- Ensures the organization or facility maintains a current SDS for each cleaning agent in a readily retrievable format and location and ensures cleaning personnel understand how to access and use the SDS in case of a spill or accident.
- Ensures appropriate qualification, supervision, and quality assurance of non-pharmacy personnel performing cleaning and disinfecting activities.

- Determines appropriate remedial cleaning requirements for ad hoc and out-of-specification occurrences up to and including a triple clean of effected compounding areas including the following circumstances:
  - Actionable environmental findings from total particle counts, viable air sampling, or surface sampling results and/or trends.
  - Scheduled and unscheduled power and/or airflow disruptions directly impacting sterile compounding area(s).
  - Certification of sterile compounding area(s).
  - New or major construction or maintenance work performed within or adjacent to the sterile compounding area(s).

4.2 Compounding personnel:

- Undergo training and demonstrate competency initially and at least once annually in skills and competencies related to cleaning and disinfecting.
- Adhere to all cleaning procedures including cleaning agent selection, frequency, method, and sequence of cleaning activities (i.e., cleanest to dirtiest).
- Ensure appropriate use of sterile 70% IPA before, during, and after the compounding process.
- Complete timely documentation of all cleaning activities performed.

4.3 Environmental Services (EVS) or contracted cleaning personnel:

- Undergo training and demonstrate competency initially and annually in skills and competencies related to cleaning and disinfecting.
  Complete all cleaning tasks as described in this policy, under the supervision of pharmacy personnel.
- Never clean the interior of any PEC and/or equipment housed within a PEC.

5. PROCEDURES

5.1 Frequency of Cleaning, Disinfection, and Application of Sporicidal Disinfectants – Adapted from *USP <797> 2022 Table 8.*

	Cleaning and Disinfecting		**Applying Sporicidal Disinfectant**	
	Frequency	**Who**	**Frequency**	**Who**
Inside PECs – including all surfaces, direct compounding area and work tray, and equipment used inside the PEC	Daily on days when compounding occurs and when surface contamination is known or suspected	Pharmacy Technician	Weekly to at least Monthly	Pharmacy Technician
Work Surfaces Outside of PEC	Daily on days when compounding occurs All "high touch" surfaces daily	Pharmacy Technician	Weekly to at least Monthly All surfaces including high touch and underneath of tables, chairs, and carts plus wheels	Pharmacy Technician
Pass Through(s) – all interior surfaces and external handles (Double Door Refrigerator)	Daily on days when compounding occurs	Pharmacy Technician	Weekly to at least Monthly	Pharmacy Technician
Floors	Daily on days when compounding occurs	EVS	Weekly to at least Monthly.	EVS
Sinks	Daily on days when compounding occurs	EVS	Weekly to at least Monthly	EVS
Walls, Door(s), and Door Frame(s)	Weekly to at least Monthly	EVS	Weekly to at least Monthly	EVS
Ceilings of Sterile Suite	Weekly to at least Monthly	EVS	Weekly to at least Monthly	EVS
Storage Shelves and Bins	Weekly to at least Monthly	Pharmacy Technician	When visibly soiled or if surface contamination is	Pharmacy Technician

	Cleaning and Disinfecting		Applying Sporicidal Disinfectant	
	Frequency	**Who**	**Frequency**	**Who**
			known or suspected	
Equipment Outside of the PEC(s)	Weekly to at least Monthly	Pharmacy Technician	Weekly to at least Monthly	Pharmacy Technician

- Cleaning activities occur from cleanest to dirtiest areas.
- If cleaning and disinfecting are performed as separate steps, cleaning is performed prior to disinfecting.
- After the application of a disinfectant, cleaning agent, or sporicidal disinfectant, the agent is allowed to dwell, or maintain a wet contact time, for the minimum duration specified by the manufacturer or published data to ensure full bactericidal, fungicidal, virucidal, and/or sporicidal action.
- Daily cleaning and disinfecting occur on days when compounding occurs. If compounding does not occur for more than 24 hours (e.g., over a weekend or holiday):
  - Clean and disinfect the sink(s) before initiating hand hygiene and garbing
  - Complete daily cleaning and disinfecting prior to the start of compounding on the day compounding resumes
- Weekly to at least Monthly cleaning and application of sporicidal disinfectants occurs no more than every 30 days, whenever possible, to ensure a regular and consistent cleaning schedule and is completed as one continuous process or, at a minimum, is completed with 72 hours to minimize the risk of cross-contaminating already cleaned areas.
- Cleaning and disinfection of the inside of a PEC and any equipment housed and used inside a PEC occurs prior to and at the conclusion of daily and/or shift compounding.

5.2 Cleaning, Disinfecting, and Applying Sporicidal Disinfectants in the PEC

- If needed, remove visible particles, debris, or residue with an appropriate solution (e.g., Sterile Water for Injection or Sterile Water for Irrigation) using sterile, low-lint wipers.
- **For cleaning and disinfecting**: Use a sterile low-lint wiper and apply a sterile cleaning agent followed by a sterile disinfecting agent or apply an EPA-registered (or equivalent) one-step disinfectant cleaner to equipment and all interior surfaces of the PEC.
- **For application of a sporicidal disinfectant**: After cleaning and disinfecting, apply a sterile sporicidal disinfectant using a sterile low-lint wiper to all equipment, and interior surfaces, if the sporicidal disinfectant is an EPA-registered (or equivalent) one-step disinfectant sporicidal cleaner, separate cleaning and disinfecting steps are not required.
- Ensure the wet contact time specified by the manufacturer is achieved.
- After the application of cleaning, disinfecting, and/or sporicidal agent inside PEC, apply sIPA to equipment and all interior surfaces to remove residue.
- Allow the surface to dry completely before beginning compounding.

5.3 Use of Sterile 70% IPA inside of a PEC

- Do not spray cleaning solutions, including sIPA, inside of a PEC to avoid deteriorating the integrity of the HEPA filter. Wet a sterile low-lint wiper with the

cleaning solution or sIPA and
apply directly with mechanical/manual action to the interior hood surfaces and equipment.

- Apply sIPA to the horizontal work surface of each PEC and allow to dry before compounding:
  - Immediately before initiating compounding or a new compounding process.
  - At least every 30 minutes if the compounding process takes 30 minutes or less
  - After completing a compounding process if the process takes more than 30 minutes.

5.4 Other Cleaning Considerations

- Clean high touch surfaces outside of PECs daily and all other surfaces plus the high touch surfaces monthly, including but not limited to:

High Touch Surfaces*	Other Surfaces
○ Horizontal work surfaces, tables, counters, or carts ○ Chair seats, arms, and backs ○ Keyboards/keypads, mouse, RF scanner, touch screen monitors or tablets ○ Telephones and other communication devices ○ Light switches, door handles or hands- free activator ○ Sink surfaces, drain, and faucet ○ Gowning bench and garb storage handles ○ Pass through handles	○ Exterior of PECs ○ Legs, underside of horizontal surfaces, and feet/wheels of work surfaces, tables, counters, carts, chairs, or benches ○ Trash bins and hazardous waste disposal containers ○ Doorframes, window ledges, and other irregular surfaces

- Cleaning, disinfecting, and the application of a sporicidal agent does not take place while active compounding is occurring.
- Perform cleaning from cleanest to dirtiest areas (e.g. ISO 5, ISO 7, and then ISO 8 areas).
- For all sites, clean and disinfect as needed after spills and when surface contamination (e.g., splashes) is known or suspected.
- Replace all garb that has become visibly soiled or when the integrity is compromised (e.g., becomes moist or wet due to splashing of cleaning agents and/or perspiration) after cleaning and prior to resuming compounding duties; at a minimum, repeat hand hygiene and replace sterile gloves before returning to compounding.
- Use appropriate respiratory support and eye protection when applying a sporicidal agent to surfaces within the compounding area, including the following cleaning tasks:
  - Inside PECs including under the work tray of a Biological Safety Cabinet (BSC)
  - Walls, ceilings, floors, and pass throughs
  - Surfaces outside of PECs

5.5 Refer to USP <800> and related policies for decontamination steps if hazardous drugs are used.

See Appendix A: Cleaning Agents and Procedures for Non-HD and HD sterile compounding.

5.6 Remedial Cleaning for Out of Specification Conditions

- As directed by the Designated Person or designee, perform and document remedial cleaning on an as needed basis. Remedial cleaning ranges from cleaning and disinfection to application of a sporicidal disinfectant to triple cleaning effected compounding areas.
    - A **triple clean** consists of two separate and distinct applications of an approved one-step disinfectant cleaner (allowing for full wet contact time between applications) followed by a separate application of an approved sporicidal disinfectant; remove cleaning agent residue with sIPA.
- At a minimum, document purpose, date, and cleaning agent(s) used when conducting remedial cleaning. Ensure remedial cleaning documentation is retained and readily retrievable.

5.7 Selection and Use of Cleaning Agents

- Select and use cleaning and disinfecting agents with careful consideration of compatibilities, effectiveness, and user safety including, but not limited to, antimicrobial activity, inactivation by organic matter, residue, shelf life, preparation requirements of the agent, and suitability for surfaces being disinfected.
- Use of ready-to-use and one-step disinfectant cleaner solutions is preferred over those requiring dilution or separate cleaning and disinfection steps.
- Clean and disinfect sterile cleaning agent containers prior to introduction into the ISO 5 environment.
- Sterile cleaning and disinfecting supplies (e.g., closed containers of sterile wipers, bottles of 70% sterile IPA) can be used for up to 15 days once opened. Permanently and legibly write or label the expiration date on all cleaning supplies.
- Store opened packages of sterile wipes inside of the PEC; if removed from a PEC once opened, they are no longer considered sterile and can only be used in ISO Class 7 and 8 areas. Disinfect sterile cleaning solution bottles stored outside of a PEC prior to introduction and use inside of the PEC with sIPA.
- Use sterile cleaning and disinfecting agents in all classified areas including PECs and SECs.

5.8 Selection and Use of Cleaning Supplies and Tools

- Use sterile cleaning supplies and tools inside a PEC whenever possible; clean and disinfect prior to use (e.g., tool handles and holders).
- Dedicate and do not remove reusable cleaning tools (e.g. mop frames and handles) to specific classified areas or segregated compounding areas.
    - Use either dedicated mop frames in buffer and ante rooms or use the mop in the buffer room before use in the ante-area.
    - Dedicated mops and cleaning tools are used in hazardous areas.
    - Dispose of cleaning tools in a method that minimizes the chance of dispersing contaminants in the air.

- Cleaning and disinfecting supplies such as wipers, sponges, pads, and mop heads are made of low lint materials and, whenever possible are disposable.
    - Disposable cleaning supplies are discarded after use.
    - Reusable cleaning tools are made of cleanable materials that are nonporous (excluding wood) are are cleaned and disinfected before and after each use.

5.9 Documentation of Cleaning

- Document all cleaning, disinfecting, and application of sporicidal disinfectants on cleaning log or electronically after completion of the task by the personnel performing the work. Detailed cleaning records are retained and readily accessible.

  See Appendix B: EVS cleaning log for Main IV room
  See Appendix C: EVS cleaning log for Infusion Center

6. REFERENCES

6.1 United States Pharmacopeial Convention, Inc. <797> Pharmaceutical Compounding-Sterile Preparations. 2022 version.

6.2 United States Pharmacopeial Convention, Inc. <800> Handling Hazardous Drugs in Health care Settings. 2019 version.

6.3 © 2022 Pharmacy OneSource, Inc. Accessed July 2023 https://aspnet.pharmacyonesource.com/Simplifi/references.

Document History:

Prior Release Dates: 1/20/15, 06/15/18, 09/21/2020	Retire Date: N/A
Document Owner: Pharmacy Department	Replaces Policy: N/A

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
08/26/2023	Pharmacist In Charge	Yes	New USP <797> Practices. New chapter takes effect 11/1/2023. Changes in cleaning practices, and accepted agents.
08/2023	EVS leader		
10/02/2023	Pharmacy Review Committee	No	
11/18/2023	PAC		

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
HOUSEWIDE

Appendix A- CLEANING AGENTS AND PROCEDURES FOR NON-HD AND HD STERILE COMPOUNDING

NON-HD	HD
CLEANING AND DISINFECTING	DEACTIVATION/DECONTAMINATION, CLEANING AND DISINFECTING
Use correct designated cleaning and disinfecting solution -Cleaning and disinfecting agent: PREemptRTU -Disinfecting agent: 70% IPA -Sporicidal agent: PeridoxRTU (3 MINUTES)	Use correct designated deactivating/decontaminating, cleaning, and disinfecting solution -Deactivation, decontamination: PeridoxRTU -Cleaning and disinfection: PeridoxRTU -Disinfecting: 70% IPA -Sporicidal agent: PeridoxRTU (3MINUTES)
Document all cleaning activities.	Document all cleaning activities.
Use new wipes as needed throughout the cleaning process.	Use new wipes as needed throughout the cleaning process.
DAILY	
EVS -Use appropriate container and mop for type of surface to be cleaned (floor, work surface outside of PEC, etc.) - Mop floors using designated mop starting on the wall opposite the room entry door using even strokes toward the operator. -Move carts and rolling shelving to ensure that the entire floor surface is cleaned. - Clean all counters and easily cleanable work surfaces (i.e., the top of metro carts, top of stools). -Clean sink and all easily cleanable horizontal contact surfaces. -Empty trash.	**EVS** -Use appropriate container and mop for type of surface to be cleaned (floor, equipment outside of PEC, production bins, etc.) -Mop floors using designated mop starting on the wall opposite the room entry door using even strokes toward the operator. -Move carts and rolling shelving to ensure that the entire floor surface is cleaned. -Clean all counters and easily cleanable work surfaces (i.e., the top of metro carts, top of stools). -Clean sink and all easily cleanable horizontal contact surfaces. -Empty trash
Technician -At the beginning of each workday or shift, clean all ISO Class 5 devices and surfaces prior to compounding in the following order: walls, IV bars and work surface.	**Technician:** -At the beginning of each workday or shift, clean all ISO Class 5 devices and surfaces prior to compounding in the following order: walls, IV bars and work surface. - Deactivate/decontaminate hazardous drug before cleaning and disinfecting PEC.

-Remove visible particles, debris, or residue with an appropriate solution (e.g., *Sterile Water for Injection* or *Sterile Water for Irrigation*) using sterile, low-lint wipers. -Use a low-lint wiper, apply a cleaning agent, followed by a disinfecting agent, or apply an EPA-registered (or equivalent) one-step disinfectant cleaner to equipment and all interior surfaces of the PEC. -Use a low-lint wiper, apply sterile 70% IPA to equipment and all interior surfaces in the PEC. -Allow the surface to dry completely before beginning compounding. -Remove all compounder components and clean all ISO Class 5 work areas as stated above at the end of each workday/shift.	- Use a lint free wipe soaked with sterile 70% IPA or other approved disinfectant solution and allows to dry completely before compounding. -Remove all compounder components and cleans all ISO Class 5 work areas as stated above at the end of each workday/shift
WEEKLY (to at least Monthly) **Perform all daily cleaning activities in addition to weekly cleaning activities.**	
Apply sporicidal agent for 3 minutes on PECs, equipment inside, outside PECs, work surfaces outside PEC, floors, walls, doors, ceilings, storage shelving and bins. -Remove visible particles, debris, or residue with an appropriate solution (e.g., *Sterile Water for Injection* or *Sterile Water for Irrigation*) using sterile, low-lint wipers. - After cleaning and disinfecting, apply the sporicidal agent using a low-lint wiper to all surfaces and the area underneath the work tray. - If the sporicidal agent is an EPA-registered (or equivalent) one-step disinfectant sporicidal cleaner, separate cleaning and disinfecting steps are not required (e.g., *PeridoxRTU*) - Ensure at least 3 minutes contact time. - Use a low-lint wiper, apply sterile 70% IPA to all interior surfaces, including underneath the work tray. - Allow the surface to dry completely before beginning compounding	Apply sporicidal agent for 3 minutes on PECs, equipment inside, outside PECs, work surfaces outside PEC, floors, walls, doors, ceilings, storage shelving and bins. -Remove visible particles, debris, or residue with an appropriate solution (e.g., *Sterile Water for Injection* or *Sterile Water for Irrigation*) using sterile, low-lint wipers. - After cleaning and disinfecting apply the sporicidal agent using a low-lint wiper to all surfaces and the area underneath the work tray. - If the sporicidal agent is an EPA-registered (or equivalent) one-step disinfectant sporicidal cleaner, separate cleaning and disinfecting steps are not required (e.g., *PeridoxRTU*) - Ensure at least 3 minutes contact time. - Using a low-lint wiper, apply sterile 70% IPA to all interior surfaces, including underneath the work tray. - Allow the surface to dry completely before beginning compounding.
EVS: -Initiate and perform weekly cleaning on the designated day -Use appropriately container and mop for type of surface to be cleaned (floor, wall, door, door frame, equipment, etc.). -Buffer area: clean ceiling, followed by walls and ending with the floor.	**EVS**: -Initiate and perform weekly cleaning on the designated day. -Use appropriately container and mop for type of surface to be cleaned (floor, wall, ceiling, etc.). -Clean room: clean ceiling, followed by walls and ending with the floor -Outside area: clean ceiling, followed by walls and ending with the floor

-Ante-area: clean ceiling and walls and ending with the floor. -Clean chairs, the interior and exterior of trash bins, as well as all other cleanable items. -Clean area carts beginning with the top and working down to the wheels. Clean all vertical and horizontal surfaces including underside of shelves using a new wipe for each cart. - Wipe same cart surfaces using lint-free towels wetted with sterile 70% IPA to remove disinfectant residue. Allows carts to dry before replacing items on shelves. ****Use new wipes to clean the metal ledge trim above the floor in entire buffer and ante areas**	-Clean chairs, the interior and exterior of trash bins, as well as all other cleanable items. -Clean area carts beginning with the top and working down to the wheels. -Clean all vertical and horizontal surfaces including underside of shelves using a new wipe for each cart. -Wipe same cart surfaces using lint-free towels wetted with sterile 70% IPA to remove disinfectant residue. Allows carts to dry before replacing items on shelves. ****Use new wipes to clean the metal ledge trim above the floor in entire buffer and ante areas**
Technician: -Clean all bins/ storage containers removing the contents and using lint-free cloth soaked with the designated germicidal detergent, cleans the inside surface of the containers first followed by the exterior of the containers. Allows containers to dry. -Wipe same bins/storage containers with sterile 70% IPA on a lint-free towel to remove disinfectant residue and allows them to dry before replacing.	**Technician**: -Clean all bins/ storage containers removing the contents and using lint-free cloth soaked with the designated deactivating/decontaminating agents, then cleaning and disinfecting agent, clean the inside surface of the containers first followed by the exterior of the containers. Allows containers to dry. - Wipe same bins/storage containers with sterile 70% IPA on a link-free towel to remove disinfectant residue and allows them to dry before replacing.

Appendix B: RUHS -Medical Center -EVS Cleaning Log- MAIN IV ROOM Month: _____Year_____

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
EVS staff Initial																															
Cleaning Agent Used	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**	**P**

Daily use PREemptRTU **(P)- Clean floor, all counters, easily cleanable work surfaces, sink and Empty trash.**

Weekly Cleaning- Use PeridoxRTU **(D)**

Week 1: Date_____ Staff: _____ Week 2: Date_____ Staff: _____ Week 3: Date_____ Staff: _____

Week 4: Date_____ Staff: _____ Week 5: Date_____ Staff: _____

-Cleaning and disinfecting agent: PREemptRTU (P)
-Disinfecting agent: 70% IPA
-Sporicidal agent: PeridoxRTU (3 MIN)

-Cleaning must be performed from the cleanest area to dirtiest e.g. first clean equipment in ISO Class 7 then clean equipment in ISO Class 8 area).
Buffer area: clean ceiling, followed by walls and ending with the floor.
Ante-area: clean ceiling and walls and ending with the floor.
****Use new wipes to clean the metal ledge trim above the floor in entire buffer and ante areas****
-Clean chairs and benches beginning from the top and working down, back, arm rests, underneath chair, legs, then wheels
-Clean all vertical and horizontal surfaces, shelves, tables, carts beginning from top working down underside surfaces, legs, then wheels using a new wipe for each cart.
-Clean High Touch and other surfaces: Keyboards/keypads, mouse, RF scanner, Touch screen monitors or tablets, Telephones and other communication devices, Light switches, door handles or hands- free activators, Sink surfaces, drain, and faucet, Gowning bench and garb storage handles, Pass Through handles, exterior of PECs, Waste disposal containers, Doorframes, window ledges, gown hooks, and other irregular surfaces
-Remove trash then clean interior and exterior of trash bins, as well as all other cleanable items.

Appendix C: RUHS -Medical Center -EVS Cleaning Log- Infusion Center Month: _____ Year_____

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
EVS staff Initial																															
Cleaning Agent Used	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Daily use PREemptRTU **(P)- Clean floor, all counters, easily cleanable work surfaces, sink and Empty trash.**

Weekly Cleaning- Use PeridoxRTU **(D)**

Week 1: Date_____ Staff: _____ Week 2: Date_____ Staff: _____ Week 3: Date_____ Staff: _____

Week 4: Date_____ Staff: _____ Week 5: Date_____ Staff: _____

Only use cleaning agents provided by Pharmacy Department:

Non-Hazardous:

Cleaning and disinfecting agent:
Disinfecting: 70% IPA
Sporicidal agent: Peridox RTU (3 min)

Hazardous:

Deactivation, Decontamination: PeridoxRTU
Cleaning and Disinfection: PeridoxRTU
Disinfecting: 70% IPA
Sporicidal agent: Peridox RTU (3 min)

-Cleaning must be performed from the cleanest area to dirtiest e.g. first clean equipment in clean room then equipment in outside area.
Clean room: clean ceiling, followed by walls and ending with the floor.
Outside area: clean ceiling and walls then floor.

****Use new wipes to clean the metal ledge trim above the floor in entire buffer and ante areas****

-Clean chairs and benches beginning from the top and working down, back, arm rests, underneath chair, legs, then wheels

-Clean all vertical and horizontal surfaces, shelves, tables, carts beginning from top working down underside surfaces, legs, then wheels using a new wipe for each cart.

-Clean High Touch and other surfaces: Keyboards/keypads, mouse, RF scanner, Touch screen monitors or tablets, Telephones and other communication devices, Light switches, door handles or hands- free activators, sink surfaces, drain, and faucet, Gowning bench and garb storage handles, Pass Through handles, exterior of PECs, Waste disposal containers, Doorframes, window ledges, gown hooks, and other irregular surfaces

-Remove trash then clean interior and exterior of trash bins, as well as all other cleanable items.

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 876	Page 1 of 8
Title: Management of Adult Patients with Personal Insulin Pumps and/or Continuous Glucose Monitors during Hospitalization	**Effective Date:** 10/17/2023	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1 This guideline applies to all patients 18 years and above, admitted at the Riverside University Health System- Medical Center with self-administration of insulin via established insulin pump and/or continuous glucose monitor (CGM).

2. DEFINITIONS

2.1 **Automated Insulin Delivery Insulin Pump** system is interfaced with CGM, which alters basal insulin delivery in response to trajectories and absolute concentrations of interstitial glucose. Importantly, patients will still need to bolus for carbohydrate intake and may need to administer correction does of insulin.

2.2 **Basal Dose**: A continuous delivery of insulin via a self-administering insulin pump. This is the amount of insulin the patient requires to maintain a normal metabolic state when fasting. Rapid/short acting insulin is used.

2.3 **Bolus Dose:** Dose of insulin given at mealtimes/and or for correction/ sliding scale coverage. Rapid/short acting insulin is used.

2.4 **Continuous Glucose Monitors/ Sensor (CGM)** systems use a small “sensor” inserted subcutaneously to continuously measure glucose levels in interstitial fluid. Results from the senor are transmitted to a “receiver” device (which at times can be a smart phone), which displays real-time glucose levels and glycemic trends.

2.5 **Inpatient Diabetes Team:** Including but not limited to an endocrinologist, physician assistant, nurse practitioner, diabetes team coordinator and diabetes nurse educators.

2.6 **Continuous Subcutaneous Insulin Infusion (CSII) / Insulin Pump:** An external continuous infusion device used to deliver a constant infusion of rapid-acting insulin (pre-set basal insulin rates) and patient-delivered pre-meal boluses and correction boluses of insulin to manage glycemic control.

2.7 **Point of Care Testing/ POCT**: (also called “finger-stick,” “accu-check,” “blood sugar check.”) A bedside test done by using a hospital approved (multi-patient) glucometer

2.8 **Primary Physician Team:** Physicians assigned to patient's medical care management.

3. GUIDELINES

3.1 The admitting provider evaluates if the patient or identified caregiver (significant other (SO), caregiver) is capable of self-management of the insulin pump and/or CGM system.

3.2 The patient's insulin pump settings (i.e., basal-bolus settings) may require adjustment during hospitalization to prevent, or at least minimize, hyper- and hypoglycemia, including but limited to:

a. Stress of illness, infection, surgery

b. Alterations in carbohydrate intake

c. Enteral or parenteral nutrition

d. Administration of medications that may alter glycemic control (e.g., steroids, pressors, octreotide, etc.)

3.3 Adjustments to the insulin pump settings are ordered by the provider or endocrinologist.

3.4 The patient maintains and adjusts the settings for his/her insulin pump per provider or endocrinologist order.

3.5 If surgery is planned, the medical team and the patient will collaborate on the use of the insulin pump and/or CGM in perioperative period.

3.6 CGM is not FDA-approved to guide inpatient hospital therapy. However, CGM is sometimes paired to the insulin pump, and therefore when alerting, the patient agrees to inform hospital staff and utilize only hospital approved glucometers for therapeutic intervention and clinical documentation in electronic medical record (EMR).

4. PROCEDURE

Continuous Subcutaneous Insulin Infusion (CSII / Insulin) Pump

4.1 The provider will verify that the patient wishes to maintain control of their medical condition by continuing on his/her insulin pump during the hospital stay and is able to participate in self-care.

4.2 The provider will confirm the patient's (or caregiver's) ability to manage the insulin pump including:

a. Fully alert and oriented to person, place, and time.

b. Manual dexterity to manage insulin pump and infusion set changes.

c. Visual acuity sufficient to properly read the pump screens and device buttons.

d. Ready access to patient's insulin pump supplies, provided by the patient or family/SO from home.

e. A signed agreement form the patient for insulin pump management during admission. The signed form is to be placed in the patient's medical record and a copy given to the patient.

4.3 The provider will assess for potential contraindications to insulin pump management including:

a. Patient unable to manage insulin pump due to change in cognition, impaired level of consciousness, manual dexterity or visual limitations.

b. Behavioral/self-harm concerns (not an absolute contraindication; psychiatrist to determine).

c. Major psychiatric disturbance (not an absolute contraindication; provider to determine).

d. Lack of patient–provided insulin pump supplies.

e. Medical conditions, such as DKA / HHS, critical illness.

f. Insulin pump malfunction.

g. Other reasons as determined by provider.

4.4 The provider will explain to the patient that the health care team reserves the right to remove the pump from the patient at any time during their stay if it is assessed that the patient is no longer able to manage his/her own care.

4.5 The provider will make an alternative insulin replacement plan (Basal-Bolus-Correction insulin regimen or insulin infusion order) and allow removal of the insulin pump from the patient in the event the insulin pump is discontinued.

4.6 Nurse to confirm patient-supplied insulin pump supplies are available to support pump use throughout the hospital stay as the hospital does NOT stock these supplies for insulin pumps. There should be enough supplies for scheduled changes and at least one unscheduled site change. These are to be kept at the patient's bedside.

4.7 Patient supplied insulin will not be used while hospitalized. Provider can order a vial to be verified and supplied by the Pharmacy.

4.8 Nursing will verify that a provider order exists in the patient's medical record for use of insulin pump in the hospital setting. The order must contain the following:

a. To leave insulin pump in place and continue current basal rates and other settings.

b. Manufacturer of insulin pump

c. Generic and Brand name of insulin used in the pump as well as concentration.

d. Basal rate settings including hourly doses with start and stop time.

e. Bolus dose parameters for mealtime and correction insulin for off-target glucose readings.

f. For hybrid closed-loop (HCL) insulin pump systems only, an indication that the insulin pump is capable of "automated delivery mode" for basal insulin alterations and/or auto-boluses

g. Target blood glucose ranges

h. Hospital POC glucose testing with associated Hypoglycemia Management orders

i. Infusion site change at least every 72 hours

- Infusion site may be changed sooner if inflammation, tenderness, redness, swelling, bleeding of site or blood glucose results greater that 250mg/dL for 2 consecutive readings at least 2 hours apart.
- Point of care blood glucose testing one hour after infusion site change to assess insulin delivery /absorption.

j. Removal of insulin pump before radiological procedures unless the device manufacturer provides information supporting safe use. If the device cannot be temporarily stopped, see Appendix B for additional information for evaluation of risks and benefits.

k. Diet order for consistent carbohydrate

l. Consultations as applicable per delivery network:

- Endocrinology
- Diabetes Team RN

4.9 Nurse will document the presence of the insulin pump as well as the date of the last infusion set and site change on admission.

4.10 Nurse will communicate to the patient the POC glucose each time it's performed. Nurse will document in the MAR all patient-administered mealtime bolus and correction doses in real time, which will include the time of administration and the units of insulin given**.**

4.11 Nurse will assess and document the location and appearance of the infusion site for signs of inflammation or infection once a shift.

4.12 Nurse will notify the provider if:

a. Blood glucose targets are not consistently maintained.

b. Any concerns with patient's ability to self-manage their insulin pump.

c. Patient is unable to change infusion set due to lack of supplies or otherwise unable.

4.13 Provider to notify Radiology Department if patient is scheduled for any radiological procedure involving x-ray/fluoroscopy, CT scanning or MRI that the patient utilizes an insulin pump. See Appendix B for additional information.

a. Provider should order to remove the insulin pump prior to these radiological procedures.

- For imaging time less than an hour, the insulin pump may be temporarily disconnected from the patient with no alternate insulin therapy provided.
- For imaging time greater than an hour the provider should consider ordering an alternate form of insulin therapy.

b. The insulin pump must be kept outside of the room where the diagnostic imaging procedure is being performed.

c. Infusion sets that contain a metal cannula must be removed by the patient prior to MRI.

4.14 If insulin pump is discontinued due to patient inability to self-manage, unsupported Insulin, or other critical medical condition the following must occur:

a. Alternate insulin therapy must be immediately ordered (SC or infusion) and initiated.

b. Insulin pump must be disconnected from the patient.

c. Insulin pump will be either secured by staff per individual facility policy or sent home with a designated family member/SO.

Continuous Glucose Monitoring (CGM) System

4.15 The provider will confirm the patient's (or identified SO, Caregiver) ability and understanding for use of CGM in the hospital setting including:

a. Fully alert and oriented to person, place and time

b. Treatment decisions will be based on hospital point of care blood glucose meter results and not CGM values as CGM is not FDA approved for inpatient glycemic monitoring or management.

c. CGM results are for patient's own information only.

d. Manual dexterity to change sensor and calibrate as necessary.

e. Results from hospital POCT glucose may be used for CGM calibration (as indicated by manufacturer)

f. A signed agreement from the patient for CGM monitoring during admission. The signed form is to be placed in the patient's medical record and a copy given to the patient.

4.16 Nurse to confirm patient-supplied CGM supplies are available to support CGM use during admission as the hospital does NOT stock these supplies.

4.17 Nurse to assess CGM insertion site every shift and document site assessment in flowsheet in EMR.

4.18 Provider to notify Radiology Department (if/when scheduled for radiological procedures) that the patient is wearing a CGM. CGM manufacturers indicate that CGM must be removed by patient prior to CT scanning or MRI, and device should not be exposed to X-rays. See Appendix B for additional information.

4.19 Consultations as applicable per delivery network:

a. Endocrinology

b. Diabetes Team RN

4.20 If CGM must be removed because patient is undergoing diagnostic procedures and/or runs out of necessary supplies:

a. Sensor & transmitter must be physically removed from the patient.

b. CGM transmitter and receiver will remain with patient belongings or sent home with designated family member/SO.

Automated Insulin Delivery Insulin Infusion Pump

4.21 Automatic Mode (algorithm-regulated basal rates) may not be appropriate in all clinical situations. Admitting provider to determine if patient situation is appropriate for the HCL pump to operate in "Automatic Mode". This must be indicated in the Insulin Pump Order Set.

a. At RUHS-MC, Endocrinologist, or Diabetes Team RN must be consulted.

4.22 Examples of inappropriate use of automatic mode on admission include, but are not limited to:

a. High-dose steroid therapy

b. DKA, HHS or critical illness

c. Patient without sensor supplies available.

d. Any sensor issues or malfunctions

e. At the discretion of the provider

5. REFERENCES

5.1 The Joint Commission Certification Disease Specific Manual, Comprehensive Certification Manual for Disease Specific Care Including Advanced Programs for DSC Certification

5.2 American Diabetes Association (January, 2023). Standards of Medical Care in Diabetes – 2023. The Journal of Clinical and Applied Research and Education, 45 (Supplement 1). Retrieved on January 10, 2023 from http://care.diabetesjournals.org

5.3 Draznin, B. MD, PhD (2016) Managing Diabetes and Hyperglycemia in the Hospital Setting: A clinician's Guide. Alexandria, VA: American Diabetes Association.

6. ATTACHMENTS

6.1 Attachment A: Continuation of Patient Insulin Pump/ CGM Use Agreement Form in the Hospital (Form # 6)

6.2 Attachment B: Considerations on Insulin Pump / CGM

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

Document History:

Prior Release Dates: 8/6/18, 8/17/21		**Retire Date:** N/A	
Document Owner: Diabetes Coordinator		**Replaces Policy:** N/A	
Date Reviewed	**Reviewed By:**	**Revisions Made?**	**Revision Description**
8/3/2023	Diabetes Care Committee	No	
8/10/2023	Nursing P&P	Yes	References, 1.1, 3.6
9/11/23	P&T	No	
10/11/2023	PAC	No	
10/12/2023	MEC	No	

I, _____, am requesting to use my personal insulin pump and/or continuous glucose monitor (CGM) during my hospitalization. I understand that for my safety during this hospital stay, I must agree to each of the following conditions in order to use my insulin pump and/or CGM. If I feel that I cannot agree to these conditions, I will need to discontinue the use of my insulin pump and/or CGM. If my insulin pump and/or CGM are discontinued, the medical care team will treat my diabetes with insulin injections.

Please read and initial each statement

During my hospital stay:

1) _____ I will only use the basal infusion delivery method on my insulin pump, as prescribed.
   a) If applicable, bolus and correction insulin WILL NOT be given through my pump.
   b) Bolus and correction insulin may be given through subcutaneous injections by the nurse, based on the doctor/ endocrinologist order.

2) _____ I will review my insulin basal and/ or bolus rate(s) with my admitting nurse. I agree NOT to change the basal and/ or bolus settings by myself. I will make changes to my basal and/ or bolus settings with the Diabetes Team nurse supervision, when ordered from the doctor/ endocrinologist.

3) _____ Any bolus or correction insulin dose I receive must be based on a reading from the hospital glucometer. I will not use any other glucometer to measure my blood sugars.

4) _____ The hospital glucometer blood glucose results (not my CGM) will be used to determine diabetes management during my hospital stay.

5) _____ It is my responsibility to provide all pump and/ or CGM supplies during my stay. The hospital will supply an insulin vial for my pump refill.

6) _____ I will report signs and symptoms of low blood sugar to my nurse.

7) _____ I will report any insulin pump and/or CGM problems to my nurse.

8) _____ My insulin pump and/or CGM will be discontinued if I cannot care for it myself for any reason or if deemed necessary by my primary care physician/ Diabetes Team. (examples may include: confusion or medications that may make me sleepy or less alert)

9) _____ My insulin pump and/or CGM may be discontinued for certain tests and procedures, including surgery, MRI, CT Scans or X-rays.

10)_____ I have received training in the use of my personal insulin pump and/ or CGM.

11)_____ I will change the insulin pump insertion site and tubing at least every 72 hours in the presence of my bedside nurse or the Diabetes Team nurse. I will routinely check for kinked tubing or skin irritation.

12)_____ I will change the CGM insertion site at least every 7-14 days (based on model) in the presence of my bedside nurse or the Diabetes Team nurse. I will routinely check for skin irritation.

The manufacture and model of my insulin pump is: _____

The manufacture and model of my CGM is: _____

The doctor coordinating my diabetes care or my Certified Diabetes Care and Education Specialist:

Name: _____ Tel no.: _____

My signature indicates that I have read this agreement, understood it completely and agree to be bound by its terms.

Patient (Print Name): _____ Date: _____

Patient's Signature: _____ Time: _____

Appendix B

The insulin pump or CGM system are to be removed before any radiological procedure involving x- ray/flouroscopy, CT scanning or MRI unless the device manufacturer provides information supporting safe use. If the device cannot be temporarily stopped, see the below for additional information for evaluation of risks and benefits.

Insulin Pump and CGM Systems during X-ray exams, CT scans and MRI

- The presence of an insulin pump or glucose monitor should not preclude medically indicated CT or X-ray imaging but device should be removed whenever possible.
- The probability that x-ray or CT scan irradiation causes a device malfunction and an adverse event is extremely low and even less if the device is not in the region that is being imaged.
- No known adverse events during CT imaging of insulin pumps or glucose monitors are reported. Other electronic devices such as cardiac implantable electronic devices and neurostimulators have reported possible adverse events but there is little evidence that CT irradiation was the direct cause of these events.
- Standard MRI safety precautions should be followed prior to MRI. Many insulin pumps and glucose monitors are deemed MRI UNSAFE and MUST be removed as there is high potential for device damage and potential patient injury.

***Recommendations for Physicians ordering CT scan or X-ray**:*

Advise patient to remove device during exam. If the device can't be removed or patient refuses, assess if imaging will cover the area over the insulin pump or CGM system and see if system can be safely moved, attached to a different location, turned off and for how long, or if alternative diabetes management is required.

Recommendations for Radiologists and X-ray/CT Radiologic Technologists:

1. Advise patient to remove device and store it in control room during imaging procedure.
2. If patient can't remove or refuses to remove device:
    a. Advise patient that device damage is possible and ensure they understand potential risk of damage and agree to proceed with imaging.
    b. If system is tethered to a cannula and can be safely moved, work with the patient to move it to avoid direct exposure to the primary x-ray beam.
    c. If the system cannot be safely moved, ask the patient if it can be safely turned off during the exam. Set a timer and remind the patient to turn their pump back on afterwards and to check it for proper function.
    d. If possible, avoid including the insulin pump or CGM system inside the scanning range. Confirm the required anatomic range with the supervising radiologist.
3. For CT and X-ray procedures where the medical device is located within the programmed scan range and cannot be safely moved or turned off, minimize direct x-ray exposure to the electronics of the infusion pump by following standard ALARA (as low as reasonably achievable) protocol.
4. Imaging exams that would involve scanning directly over the electronics of the device for more than several seconds (i.e. CT perfusion exams or interventional procedures such as CT fluoroscopy), require additional care and should not be performed unless the device can be safely relocated or turned off. If moving or turning the insulin pump or CGM system off is not possible and the scan is urgently needed, careful monitoring of the device during and after the procedure is required and after the procedure is required and after the procedure is required.

RIVERSIDE UNIVERSITY HEALTH SYSTEM –

MEDICAL CENTER, COMMUNITY HEALTH CENTERS, HOSPITAL BASED CLINICS

	Document No: 888	Page 1 of 6
Title: Retail Pharmacy Prescription Pricing Schedule and Special Handling	**Effective Date:** 10/18/2023	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1 Applies to the Retail Pharmacies of Riverside University Health System (RUHS), and the patients of the RUHS Covered Entities seeking pharmacy services. See Appendix 1 for list of pharmacies.

1.2 RUHS Covered Entities participate in the federal 340B Drug Pricing Program, and the RUHS Pharmacies provide comprehensive pharmacy services to the patients of the Covered Entities.

1.3 The RUHS Pharmacies service the safety-net entity by providing a reduced price of pharmaceuticals for all patients served and expanding services to patients as part of the intent of the 340B Program.

1.4 Describes the guidelines for the charging of outpatient prescriptions and Over the Counter (OTC) medications at the RUHS Retail pharmacies for the following:

a. Pharmacy Prescription Benefit

b. Cash pay / RUHS Cash price

c. Over the Counter medications

1.5 Does not apply to Retail Pharmacies that are not operated and managed by RUHS.

1.6 The RUHS Pharmacies are “open” pharmacies in that they service the entire community and are “open” to the public, and not limited to the RUHS Covered Entities. Compliance with the 340B Drug Pricing Program is maintained by the Pharmacies and the Covered Entities.

2. DEFINITIONS

2.1 340B: A federal program that enables Covered Entities to stretch scarce resources as far as possible, reaching more eligible patients and providing more comprehensive services. Manufacturers participating in Medicaid, agree to provide outpatient drugs to covered entities at significantly reduced prices.

2.2 Acquisition Cost/Ingredient Cost: The purchase price to acquire or procure the drug. The portion of a prescription cost attributable to the drug ingredient.

2.3 Average Wholesale Price (AWP): A measurement of the list price for a drug sold by wholesalers to retail pharmacies and non-retail providers.

2.4 Wholesale Acquisition Cost (WAC): The manufacturer's published catalog, or list price for sales of a drug to wholesalers.

2.5 Covered Entities: The participants in the 340B Drug Pricing Program as defined by HRSA (Health Resources and Services Administration).

2.6 Over the Counter Medications (OTC): The medications that do not require a prescription to obtain.

2.7 RUHS Community Medication List: An approved list of medications provided at a discount, including quantities. Medications may include those used to treat mental health conditions.

2.8 Dispensing/Prescription Fee: The portion of a prescription cost charged by a pharmacy for providing comprehensive pharmacy services.

2.9 Comprehensive Pharmacy Services: The actions and processes associated with providing a drug including dispensing, recordkeeping, drug utilization review, formulary maintenance, patient profile, patient counseling, and medication therapy management services.

2.10 Medically Indigent Services Plan (MISP): The indigent care plan of the County of Riverside.

2.11 Prescription Cost. The cost of a prescription that includes both the Acquisition Cost/Ingredient Cost and the Dispensing/Prescription Fee.

2.12 RUHS Cash Price. The quoted price of a prescription to a patient that follows the Pharmacy Pricing Schedule.

3. PRICING GUIDELINES AND PRESCRIPTION BENEFIT PAYOR

3.1 Third-party Pharmacy Prescription Benefit – contracted with RUHS

a. Pharmacy will abide by the third-party contractual agreement.
   - Copays or deductibles are subject to third party's coverage and the pricing structure is determined at the time of adjudication/submitting a claim.

b. If a copay exists, the Pharmacy shall collect the copay during the dispensing process.
   - In some instances, the patient copay may be a greater than the Cash Price of the prescription. The Pharmacy will notify the patient of the Cash Price.
   - The patient will be given the option to utilize their prescription benefit or pay the Cash Price for the prescription.

c. Pharmacy Medications Refilled Too Soon
   - The patient's prescription benefit service will be contacted for approval of early fills, if necessary. An override may be available, depending on benefit, if provided with justification (i.e. prescription stolen, prescription lost, change in directions of use).
   - At the discretion of the pharmacist, the patient may be given the option to pay cash for an early refill of the medication.

3.2 Third-party NOT contracted with RUHS

a. Pharmacy personnel will communicate to the patient as soon as possible if the pharmacy is unable to adjudicate the prescription to the third-party insurance.

b. The patient may pay the cash price, or request to have their prescriptions transferred to a pharmacy that accepts their prescription benefit.

c. The Pharmacy is unable to discount or modify the prescription cost when a prescription benefit is available.

3.3 Cash Price, not having or utilizing a Third-party Prescription Benefit

a. The RUHS Cash Price is based on the RUHS Pharmacy Pricing Schedule (see Appendix). It categorizes the cost based on medication types with consideration to 340B eligibility, controlled substance, and/or OTC.

b. The Pharmacy may identify other mechanisms to provide safe pharmaceutical care to the Patient. Additional mechanisms include:

i. Contacting Prescriber for alternative medications.

ii. Seeking Patient Assistance Programs or other discount programs such as manufacturer coupons.

3.4 Patient Inability to Pay Out-of-Pocket Expenses

a. If the patient is unable to pay the copay or prescription cost, AND is being discharged from the hospital, at the Pharmacist's discretion the Patient will be provided the following options:

i. Receive an invoice to pay the expenses

ii. May be advanced, or receive, a sufficient quantity of medication until the expenses can be met, eligibility services are available, if the prescription, quantity, and duration allow.

3.5 Community Medication List

a. RUHS Pharmacies maintain a Community Medication lists to extend service and access to all patients with chronic illness at a discounted fee.

b. Community Medication List utilizes only the dispensing or prescription fee as cost to patient.

c. Pharmacy Discounted Medication List provides up to a 90-day supply.

d. If medication is not on the RUHS Pharmacy Community Medication List, then Cash Price will be offered.

3.6 Controlled Substances

a. Controlled substances (Schedule II-V) will be handled at the discretion of the Pharmacist-in-Charge and in accordance with the laws of the California Board of Pharmacy, and/or Drug Enforcement Agency.

b. Regulations apply to refills, refills too soon, and transfers.

3.7 Over the Counter Medications

a. May be purchased from the Pharmacy OTC shelves and follow the pricing schedule.

4. ELIGIBILITY GUIDELINES

4.1 RUHS Eligibility Workers are responsible for exploring coverage options for admitted patients by applying to Medi-Cal and MISP. Discharge patients may not yet be enrolled if admission is short and discharge falls on weekend, and holiday when eligibility office is closed.

4.2 Pharmacist or designee will validate patient prescription coverage. Patients without coverage or with limited coverage will be recommended for enrollment into Medi-Cal, MISP, Patient Assistance Programs or offered pricing via the RUHS Cash Price or Community Medication List.

5. REFERENCES

5.1 Public Health Service Act, 42 U.S.C. § 256b.

5.2 https://www.hrsa.gov/opa/index.html

5.3 NACHC 340B Manual for Health Centers. National Association of Community Health Centers. Second Edition, March 2018.

5.4 California Health & Safety Code, Division 10 Uniform Controlled Substances Act

6. ATTACHMENTS

6.1 RUHS Retail Pharmacies

6.2 RUHS Pharmacy Pricing Schedule

Document History:

Prior Release Dates: 1/92, 3/00, 9/03, 12/04, 12/11, 2/12, 12/04, 12/11, 2/12, 8/19	**Retire Date:**
Document Owner: Department of Pharmacy	**Replaces Policy:** D408

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
5/12/2020	Pharmacy Review Committee	Y	Added reference 4.2.
6/10/2020	CHC Board	Y	Removal of Section 7. Appendix 3 Discounted Medication List as it is not reflective of actual program.
7/6/2020	Pharmacy & Therapeutics Committee	N	
¾/2021	Policy Advisory Committee	Y	
9/12/2023	Pharmacy Review Committee	Y	Updated 1.5 – removed reference to Exclusive Care. Added definitions: 2.3 AWP, and 2.4 WAC.Clarified sections 3.1-3.3 to remove redundancies. Replaced Behavioral Health Retail Pharmacy with Palm Springs Retail Pharmacy Appendix 1. RUHS Retail Pharmacies.
9/11/23	P&T	No	
10/11/2023	PAC	No	

7. APPENDIX 1. RUHS Retail Pharmacies

7.1 RUHS Medical Center Retail Pharmacy, 26520 Cactus Ave, Moreno Valley, CA

7.2 RUHS Neighborhood Retail Pharmacy, 7140 Indiana Ave, Riverside, CA

7.3 RUHS Palm Springs Retail Pharmacy, 191 N. Sunrise Way, Palm Springs, CA

7.4 RUHS Corona Retail Pharmacy, 2813 South Main St, Corona, CA

7.5 RUHS Surgical Center Retail Pharmacy, 26600 Cactus Ave, Moreno Valley, CA

8. APPENDIX 2. RUHS Pharmacy Pricing Schedule

Medication Type		**Formula**
Non-Controlled Substance Prescriptions	340B	Prescription Fee* + Acquisition Cost Acquisition Cost = **340B** unit price x # of units
	Non-340B	Prescription Fee* + Acquisition Cost Acquisition Cost = **WAC** unit price x # of units
Controlled Substance Prescriptions		AWP - (10% of AWP) + $1.50 Average Wholesale Price (AWP) = Average Wholesale Price per unit x # of units
OTC		Acquisition Cost of Medication + 20% of Acquisition Cost of Medication + County's Sales Tax Rate

*Current Prescription Fee: $7.50

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No. 891	Page 1 of 6

Title:	**Effective Date:**	
Electrolyte Replacement Guideline: Enteral & Intravenous for Adult Patients	2/15/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1. Addresses the safe and effective use of enteral and intravenous **potassium, magnesium, phosphate, and calcium** for electrolytre repletion in adult patients at Riverside University Health System Medical Center.

1.2. Target audience includes: licensed prescribers, pharmacists, and nurses treating admitted patients with enteral and IV electrolytes.

1.3. Exclusions to this guideline: parenteral nutrition, electrolyte correction during code blue and RRT

2. DEFINITIONS

2.1. IBW: Ideal Body Weight
- a. IBW (male) = 50 + (2.3 x height in inches over 5 feet)
- b. IBW (female) = 45.5 + (2.3 x height in inches over 5 feet)

2.2. ABW: Actual Body Weight

2.3. AdjBW: Adjusted body weight for obese patients greater than 130% of their IBW
- a. Adjusted Body Weight: [IBW + 0.25 (ABW-IBW)]

2.4. mmol: Millimole

2.5. mEq: Milliequivalent

2.6. CrCL: Estimated creatinine clearance calculated by Cockcroft-Gault method

3. GUIDELINES

3.1. **Potassium supplementation recommendations**

a. General Recommendations
- i. See table 1 and table 3 below for dosing recommendations and available formulations.
- ii. Hypokalemia is often refractory to treatment in the setting of hypomagnesaemia, therefore, to achieve successful repletion of potassium, adequate correction of magnesium must occur.
- iii. Oral correction of hypokalemia is the preferred route of administration and should be utilized whenever possible because it is generally safer and reduces the risk of overcorrection and rebound hyperkalemia.
- iv. Potassium acetate is used as an alternative to potassium chloride in the presence of metabolic acidosis and hyperchloremia because acetate is converted to bicarbonate by a normally functioning liver.

v. Potassium phosphate is used to correct coexisting hypokalemia and hypophosphatemia.
vi. Dextrose solutions should be avoided, when possible, because they may worsen hypokalemia by stimulating insulin release and thereby promoting an intracellular shift of potassium.
vii. Each 10mEq of potassium administered is expected to produce a serum potassium increase of 0.1 mg/dL.

b. Oral Replacement and Administration
i. Oral doses > 40 mEq should be given in divided doses at least 4 hours apart to increase tolerability and decrease gastrointestinal (GI) discomfort.
ii. Potassium tablets should be swallowed whole, do not crush or chew.

c. Intravenous Replacement and Administration
i. Potassium will be administered only by intermittent or continuous infusion via an infusion pump.
ii. NEVER administer IV push due to the risk of cardiac depression, arrhythmias, or arrest.
iii. Always check the most recent serum potassium lab result prior to processing potassium repletion orders.
iv. Potassium can be administered as either an additive to large volume IV fluids or as an intermittent infusion. Refer to table 2 for administration considerations.

3.2. **Magnesium supplementation recommendations**

a. General Recommendations:
i. See table 1 and table 3 below for dosing recommendations and available formulations.
ii. Reassess serum levels with morning labs.
- May take up to 36 – 48 hours after dose to allow for tissue redistribution.

b. Oral Replacement and Administration
i. Oral preparations are considered first-line for minor and asymptomatic hypomagnesaemia.
ii. Oral magnesium may be difficult to administer in critically ill patients due to adverse GI effects with an increased risk in single doses > 250 mg of elemental magnesium (Magnesium Oxide 400 mg = 240 mg of elemental magnesium).
iii. If this is problematic, consider splitting the dose or administering IV magnesium sulfate.

c. Intravenous Replacement and Administration
i. Refer to table 1 for dosing recommendation in obese patients.
ii. The general infusion rate is 2 g/hr.
iii. Successful treatment of hypomagnesaemia may take 3-5 days of IV therapy.
iv. Each gram of IV magnesium administered is expected to produce a serum magnesium increase of 0.1 mg/dL.
v. Maximum magnesium: 8g/dose

3.3. **Phosphate supplementation recommendations**

a. General recommendations:
i. See table 1 and table 3 below for dosing recommendations and available formulations.
ii. Replacement must be ordered in mmol of phosphate or a clarification order must be obtained from the prescriber if ordered in mEq.

iii. Either Sodium Phosphate or
Potassium Phosphate may be used, however replacement with potassium phosphate should be reserved for serum K level between 3.5 - 3.9. See Table 3 for available formulations.

b. Oral Replacement and Administration:
   i. Patients with hyperkalemia, impaired renal function, or patients that require large doses of phosphate replacement should receive replacement using the K-Phos Neutral phosphate formulation as it contains less potassium than the PHOS-NAK.
   ii. Phosphate is poorly absorbed via the GI tract and may cause diarrhea. If oral phosphate repletion does not increase serum phosphate or causes severe diarrhea, consider using IV repletion.

c. Intravenous Replacement and Administration:
   i. Do not administer IV push.
   ii. Refer to table 1 for dosing recommendation in obese patients.
   iii. Order IV phosphate in units divisible by 3 mmol.

3.4. **Calcium supplementation recommendations**

a. General Recommendations
   i. See table 1 and table 3 below for dosing recommendations and available formulations.
   ii. Check for hypomagnesia and correct it prior to calcium supplement administration.
   iii. Check for vitamin D deficiency and correct it if present.
   iv. Low albumin concentration can cause total calcium to appear lower than it actually is.
   v. The corrected total serum calcium equation for serum albumin < 4 mg/dL is:
   vi. Corrected total calcium = Measured serum calcium + (4 – measured serum albumin)*(0.8))
   vii. This equation can overestimate total serum calcium concentrations and should not be used to assess critically ill patients.
   viii. Ionized calcium concentrations measure the unbound, active form of calcium.
   ix. This lab is preferred for monitoring calcium in hyperparathyroidism, CVVHD, neonates, and in the critically ill since levels are not affected by albumin. However, it is not routinely used due to high cost and not available to order in EPIC at RUHS. Total serum calcium will be used in all calcium reference range in this policy.

b. Oral Replacement and Administration
   i. In order to maximize absorption, oral calcium carbonate should be administered in doses of ≤500 mg elemental calcium with food.

c. Intravenous Replacement and Administration
   i. Calcium gluconate is the preferred salt form for IV repletion due to its lower risk of venous irritation and metabolic acidosis.
   ii. Calcium chloride may serve as an alternative, however, should be administered through a central line, if possible, due to higher risk of phlebitis and more likely to cause tissue necrosis if extravasated.

4. REFERENCES

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4.8. Salem M, Munoz R, Chernow B. Hypomagnesemia in critical illness: a common and clinically important problem. Crit Care Clin. 1991; 7:225-52.

Document History:

Prior Release Dates: 1/7/2021		**Retire Date:** N/A	
Document Owner: Pharmacy		**Replaces Policy:** HW 879 & HW 817	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
12/12/23	PRC	Yes	Update references 5.3 Table 3: changed KCL IV “20 mEq,30 mEq /500mL (peripheral)” to “20 mEq,30 mEq /250mL (peripheral)”
01/08/24	P&T – not approved	4.9.	Not approved, return to PRC for review of Table 1 references – e.g.cannot order ionized Calcium
1/12/2024	Pharmacist	Yes	Added 2.3 4.4 – check for hypomagnesia and vitamin D deficiency, added risk of Ca chloride Table 1 – Phosphate: removed “while aware” for oral route, removed “consider no replacement or use oral/enteral supplemtation” for phos 2-2.4, added “If NPO” for IV route when phos 1.5-1.9, deleted duplicated (with 4.3.a.i) note. Table 1 – Calcium: removed ionized Ca ranges and replaced with total serum ca ranges, added IV ca gluconate ok to be used if pt is NPO or symptomatic when Ca 5.1-8.4, added ca chloride for Ca < 4 when central line available, added “administer IV Ca separately from tpn, IV phos/bicarb to avoid Ca phos precipitation”, changed MgSulfate dosing from wt-based to fix dose. Table 3 – changed K to 280 mg for Phos-Nak, removed KCL 40 and 60mEq/1L, added 20 and 30 mEq/250 mL (peripheral), added CaCl3 in NS.
2/5/2024	P&T	No	
2/6/2024	PAC	No	
2/8/2024	MEC	No	

5. ATTACHMENTS

5.1. This is for guideline purposes only. Dosing should be individualized based on patient factors and clinical judgment.

TABLE 1: *Dosing Recommendations*

Electrolyte	Concentration	Oral	IV	Notes
Potassium Reference range: 3.6 - 5 mEq/L	3 - 3.5 mEq/L	20 - 40 mEq PO/IV		- If > 40 mEq of potassium required, split the doses **(Max: 40mEq/dose).** - For both IV and PO repletion, if **CrCL < 30 mL/min** administer approximately 50% of the normally recommended doses.
	2.5 - 2.9 mEq/L	40 - 80 mEq PO/IV		
	< 2.5 mEq/L	80 - 120 mEq IV		
Magnesium Reference range: 1.8 - 2.4 mg/dL	1.6 - 1.8 mg/dL	MagOx 400 mg 1-2 tabs	MgSulfate 1-2 g	- Slow IV infusion (~ 1g/hr) may provide more efficient repletion. - For both IV and PO repletion, if **CrCL < 30 mL/min** administer approximately 50% of the normally recommended doses.
	1.0 - 1.5 mg/dL	IV repletion recommended	MgSulfate 2-4 g	
	< 1.0 mg/dL	IV repletion recommended	MgSulfate 4-8 g	
Phosphate Reference range: 2.5 - 4.9 mg/dL	2.0 – 2.4 mg/dL	1 Phos-Nak packet/Kphos Neutral tab every 4 hours x 3 doses	If NPO, 0.08 - 0.16 mmol/kg	- If actual body weight is **> 130% of ideal body weight (IBW**), use adjusted body weight for dose calculations - **- Replete if:** active alcoholism, malnourished, liver cirrhosis, critical status, hepatectomy, parenteral nutrition, or burn injury if benefit outweighs risk - For both IV and PO repletion, if **CrCL < 30 mL/min** administer approximately 50% of the normally recommended doses.
	1.5 – 1.9 mg/dL	2 Phos-Nak packets/Kphos Neutral tabs every 4 hours x 3 doses	0.16-0.32 mmol/kg	
	< 1.5 mg/dL	IV repletion recommended	0.32-0.64 mmol/kg	
Calcium Reference range: 8.5 – 10 mg/dL	5.1 – 8.4 mg/dL	<u>If pt is asymptomatic:</u> Elemental Ca 500 mg every 4 hours x 4 doses	<u>If pt is symptomatic or NPO:</u> Ca gluconate: 1-2 g over 1-2 hr	- If **CrCL < 30 mL/min,** replete only if symptomatic; Elemental Ca intake not to exceed 1-2 g/d - Administer IV calcium as separately from TPN, IV phosphate and IV bicarbonate to avoid calcium phosphate precipitation.
	4.0 – 5.0 mg/dL	IV repletion recommended	Ca gluconate: 2 g over 2 hrs	
	< 4.0 mg/dL	IV repletion recommended	Ca gluconate: 4 g over 4 hrs	

TABLE 2: *Administration Considerations*

	Maximum Concentration **PERIPHERAL** Line	Maximum Concentration **CENTRAL** Line	Infusion Rate	
			ICU Level of care	**Non-ICU level of care:**
Potassium Chloride/Acetate	Large Volume IV: 80 mEq/L Intermittent Infusion: 40 mEq/250 mL	Large Volume IV: 200 mEq/L Intermittent Infusion: 40 mEq/100 mL	**Peripheral:** 10 mEq/hr **Central:** 20 mEq/hr unless ordered by an attending, up to a maximum of 30 mEq/hr (telemetry monitoring required)	**Peripheral:** 10 mEq/hr **Central:** 10 mEq/hr, up to a maximum of 20 mEq/hr (with telemetry monitoring)
Sodium Phosphate	0.1 mmol/mL (0.13 mEq/mL)	0.3 mmol/mL (0.39 mEq/mL)	**Recommended rate**: 3 – 5 mmol/hour **Max rate:** 7 mmol/hr (central line & telemetry monitoring required)	
Potassium Phosphate	0.067 mmol/mL (0.1 mEq/mL)	0.268 mmol/mL (0.4 mEq/mL)		

TABLE 3: *Available Electrolyte products at RUHS*

	Oral				**Intravenous**
	Product	***Elemental Content***			
Potassium	Potassium Chloride Oral solution (20 mEq/15 mL)	20 mEq			**Potassium Chloride:** • 40 mEq/100 mL, 20 mEq/50 mL(central) • 20, 30 and 40 mEq/250 mL (peripheral) **Potassium Phosphate:** • Use if coexisting hypokalemia and hypophosphatemia (see IV phosphate potassium column)
	Potassium Chloride Oral tablet (Immediate release, extended release, microencapsulated)	10 mEq; 20 mEq			**Potassium Acetate** • 40 mEq/100 mL (central line) • 20 mEq/250 mL (peripheral line) • 40 mEq/250mL (peripheral line)
Magnesium	Magnesium oxide 400 mg tablets	240 mg			**Magnesium Sulfate:** • 1 g /50 mL D5W • 2 g /50 mL PREMIX, 2 g / 100 mL D5W • 4 g /100 mL PREMIX, 4 g / 100 D5W
Phosphate	**(K-Phos Neutral)** Phos-Na-K Tablet	**Phosphorus** 8 mmol (250 mg)	**Sodium** 13 mEq (298 mg)	**Potassium** 1.1 mEq (45 mg)	**Sodium Phosphate:** • 20 mmol, 30 mmol /100 mL (central) • 10 mmol/ 100mL (peripheral) • 20 mmol, 25 mmol /250mL (peripheral)
	(PHOS-NAK) Phos-Na-K Packet	**Phosphorus** 8 mmol (250 mg)	**Sodium** 6.9 mEq (160 mg)	**Potassium** 7.1 mEq (280 mg)	**Potassium Phosphate:** • 20 mmol, 27mmol /100 mL (central) • 10 mmol / 250mL (peripheral) • 20 mmol, 27 mmol / 500mL (peripheral)
Calcium	Calcium Carbonate 1250mg tablet, suspension	500 mg			**Calcium gluconate:** 1 g/ 100 mL D5W or NS 2 g/ 100 mL D5W or NS
	Calcium Carbonate 500mg chewable tablet	200 mg			**Calcium chloride:** (central line preferred) 1 g/ 100mL D5W or NS 2 g/ 100 mL D5W or NS

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 892	Page 1 of 3
Title: Adult Non-Pregnant Inpatient Hypoglycemia Management Policy	**Effective Date:** 10/17/2023	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 This policy scope covers all inpatient units at Riverside University Health System-Medical Center (RUHS-Medical center), excluding Arlington Campus, Pediatrics, Obstetrics, and Labor and Delivery.

2. DEFINITIONS

2.1 **Hypoglycemia**: Blood glucose level is less than 70 mg/dl

- Level 1: blood glucose less than (<) 70mg/dl and greater than (≥) 54mg/dl
- Level 2 (Severe hypoglycemia): blood glucose less than (<) 54 mg/dl.
- Level 3 (Critical hypoglycemia): any hypoglycemic event with altered mental and/or physical status requiring assistance for treatment of hypoglycemia.

2.2 **NPO:** Nothing by mouth

2.3 **POCT:** Point-of-Care Blood Glucose Testing

2.4 **BG:** Blood Glucose

2.5 **CKD**: Chronic Kidney disease

2.6 **Prandial (relating to a meal) Insulin**: Short acting insulin given to cover increases in blood glucose levels following meals.

3. POLICY FOR TREATMENT OF PATIENTS WITH HYPOGLYCEMIA

3.1 If patient is alert and not NPO

a. For BG < 54mg/dl

- Give 8 oz of juice immediately. Avoid orange juice in patients with renal disease.
- Hold prandial insulin dose if due at time of hypoglycemic event.
- Notify provider as soon as possible
- 15 minutes after treatment, if blood glucose monitoring shows blood glucose < 100 mg/dL, the treatment should be repeated.
- Once BG >70 mg/dl, the patient should be provided with a snack or meal within 1 hour

- Contact provider if BG is not above 100 mg/dl in 30 minutes; recommend starting D5 ½ NS IV at 0.5 mL/kg/hour, or D10 IV at 0.5 ml/kg/hour if fluid overload, administer glucagon 1 mg subcutaneously in case of emergency when IV access is unavailable
- Request Diabetes Team Consult
- Re-evaluate current therapy for possible changes in regimen

b. For BG 54 – 69 mg/dl
- Give 4 oz of juice immediately. Avoid orange juice in patients with renal disease.
- Hold prandial insulin dose if due at time of hypoglycemic event.
- Notify provider as soon as possible
- 15 minutes after treatment, if blood glucose monitoring shows blood glucose < 100 mg/dL, the treatment should be repeated.
- When above 100 mg/dl, give scheduled meal or snack
- Contact provider if BG is not above 100 mg/dl in 30 minutes; recommend starting D5 ½ NS IV at 0.5 mL/kg/hour, or D10 IV at 0.5 ml/kg/hour if fluid overload.
- Request Diabetes Team Consult
- Re-evaluate current therapy for possible changes in regimen

3.2 If patient is not alert, NPO, or on TPN

a. For BG < 54 mg/dl
- Administer 50 mL of IV D50%
- Notify provider ASAP
- 15 minutes after treatment, if blood glucose monitoring shows blood glucose < 100 mg/dL, the treatment should be repeated.
- Contact provider if BG is not above 100 mg/dl in 30 minutes; recommend starting D5 ½ NS IV at 0.5 mL/kg/hour, or D10 IV at 0.5 mL/kg/hour if fluid overload
- Administer glucagon 1 mg subcutaneously in case of emergency when IV access is unavailable
- Request Diabetes Team Consult
- Re-evaluate current therapy for possible changes in regimen

b. For BG 54 -69 mg/dl
- Administer 25 mL of IV D50%
- Notify Provider as soon as possible
- 15 minutes after treatment, if blood glucose monitoring shows blood glucose < 100 mg/dL, the treatment should be repeated.
- Contact provider if BG is not above 100 mg/dl in 30 minutes; recommend starting D5 ½ NS IV at 0.5 mL/kg/hour or D10 IV at 0.5 mL/kg/hour if fluid overload
- Request Diabetes Team Consult
- Re-evaluate current therapy for possible changes in regimen

4. ROLES

4.1 Provider

a. Places an order for hypoglycemia management at the time insulin management is ordered. Hypoglycemia management orders are prechecked in the following orders:

- Subcutaneous Insulin orders – Target Blood Glucose is 140-180 mg/dL Orders- Adult
- Insulin Infusion (Insulin drip) Orders – Adult
- Insulin Pump Orders – Adult

b. Evaluates blood glucose levels for adequate insulin regimen

4.2 Registered Nurse

a. Review insulin and hypoglycemia orders
b. Acknowledge insulin and hypoglycemia orders
c. Assess patient for signs and symptoms of hypoglycemia, every shift and as needed
d. Documents hypoglycemia treatment plan and the recheck blood glucose at appropriate intervals.
e. Collect a venous blood draw and send to inpatient lab if there is more than 10% difference between first and second POC level.
f. Document every hypoglycemic event (BG < 70 mg/dl) in the hypoglycemia flowsheet available in EPIC
g. Avoid giving orange juice to patients with CKD or hyperkalemia

5. REFERENCES

5.1 The Joint Commission Certification Disease Specific Manual, Comprehensive Certification Manual for Disease Specific Care Including Advanced Programs for DSC Certification

5.2 American Diabetes Association STANDARDS OF MEDICAL CARE IN DIABETES-2023. (2023, January). *The Journal of Clinical and Applied Research and Education 46(1)*, S104-S106. www.diabetesjournals.org/care

6. ATTACHMENTS

6.1 Hypoglycemia Management Summary Chart

Document History:

Prior Release Dates: 4/14/2021	**Retire Date:** N/A
Document Owner: Diabetes Care Committee	**Replaces Policy:** N/A

Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
8/1/2023	Diabetes Care Committee	No	
8/10/2023	Nursing P&P	Yes	Revised 3.1a-bullet 4, 3.1b-bullet 4, 3.2a-bullet 4, 3.2b-bullet 4, 4.2d and attachment 6.1
9/11/2023	P&T	Yes	Minor revisions to 2.1a-bullet 3, and 4.1
10/11/2023	PAC	No	
10/12/2023	MEC	No	

HYPOGLYCEMIA MANAGEMENT SUMMARY CHART

Blood Glucose (mg/dL)	Definition	Action Required if patient is not alert, NPO, or on TPN	Action required if patient is awake and not NPO
< 54	Severe Hypoglycemia (Level 2) Critical Hypoglycemia (Level 3): if patient has a BG <70 and event is characterized by altered mental and / or physical status requiring assistance for treatment of hypoglycemia	1. Administer 50 mL of IV d 50%. 2. Provider to be notified ASAP 3. BG should be rechecked in 15 minutes until above 100 mg/dl, then 1 hour after. 4. Contact Provider if BG is not above 100 mg/dl in 30 minutes: recommend starting D5 ½ NS IV at 0.5 mL/Kg/hour (or if fluid overload state give D 10 IV at 0.5 mL/kg/hour) 5. Needs re-evaluation of current therapy for changes in regimen 6. Glucagon 1 mg subcutaneously can be given in case of emergency when IV access is not available	1. Give 8 oz of juice immediately. 2. If reading done prior to meal, hold nutritional rapid acting insulin bolus. 3. Provider to be notified ASAP 4. 15 minutes after treatment, if blood glucose monitoring shows blood glucose < 100 mg/dL, the treatment should be repeated. 5. When above 100 mg/dl, give scheduled meal or give snack if outside of mealtimes. 6. Recommend starting D5 ½ NS IV at 0.5 mL/Kg/hour (or if fluid overload state give D 10 IV at 0.5 mL/kg/hour) if blood glucose in < 100mg/dL 7. Needs re-evaluation of current therapy for changes in regimen
54-69	Hypoglycemia (Level 1)	1. Administer 25 mL of IV D 50% 2. Provider to be notified ASAP 3. BS should be rechecked in 15 minutes after until above 100 mg/dl, then 1 hour after 4. Contact provider if BG is not above 100 mg/dl in 30 minutes: recommend starting D5 ½ NS IV at 0.5 mL/kg/hour (or if fluid overload start give D10 IV at 0.5 mL/kg/hour 5. Needs re-evaluation of current therapy for changes in regimen.	1. Give 4 oz of juice immediately 2. If reading done prior to meal, hold nutritional rapid acting insulin bolus 3. Provider to be notified ASAP 4. 15 minutes after treatment, if blood glucose monitoring shows blood glucose < 100 mg/dL, the treatment should be repeated. 5. Recommend starting D5 ½ NS IV at 0.5 mL/kg/hour (or if fluid overload start give D10 IV at 0.5 mL/kg/hour) if blood glucose in < 100mg/dL 6. Needs re-evaluation of current therapy for changes in regimen.
70-100	Borderline Low (on insulin)		1. Administer snack if check done outside of mealtimes 2. Contact provider to reduce mealtime insulin dose by half
Above 100 mg/dL	Acceptable BG in hospital		1. Proceed with normal insulin therapy for mealtime readings 2. No treatment needed if reading done outside mealtimes

Document every POCT hypoglycemic event in the Hypoglycemia flowsheet.

RIVERSIDE UNIVERSITY HEALTH SYSTEM-MEDICAL CENTER

Infection Prevention and Control

	Document No: 1100	Page 1 of 4
Title: Standard Precautions	**Effective Date:** 2/15/2024	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 Riverside University Health System-Medical Center (RUHS-Medical Center) reduces the risk of transmission of microorganisms through Standard Precautions.

1.2 It is the intent of RUHS-Medical Center that all patient blood and body fluids will be considered potentially infectious, and Standard Precautions will be used for all patients.

2. POLICY

2.1 Standard Precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection.

2.2 Standard Precautions apply to all patients receiving care in healthcare settings, regardless of their diagnosis or presumed infection status.

2.3 These precautions are to be applied whenever there is the anticipated or actual risk of exposure to: blood, all body fluids (secretions and excretions regardless of whether or not they contain visible blood), non-intact skin, mucous membranes, or pathologic materials.

2.4 Personal Protective Equipment (PPE)

a. PPE refers to a variety of barriers and respirators that can be used separately or in combination to protect mucous membranes, skin, and clothing from coming in contact with infectious agents.

b. The type of PPE chosen is dependent on the nature of the patient interaction and/or the likely mode(s) of transmission of infectious organisms. PPE includes, but is not limited to: gloves, cover gown, facemasks, N-95 respirator, eye protection, and in select situations, head and shoe covers.

- Gloves prevent contamination of healthcare personnel's hands when direct contact with blood or body fluids, mucous membranes, and nonintact skin is anticipated; when having direct or indirect contact with patients; and, when handling or touching contaminated patient care equipment, including environmental surfaces. Wearing gloves does not replace the need for hand hygiene. Failure to change gloves and perform hand hygiene between patient contacts is in violation of infection prevention and control standards.

- Gowns are worn to prevent contamination of clothing and protect the skin of personnel from blood and body fluid exposures. Clinical and laboratory coats or jackets worn over personal clothing are not considered PPE.
- Goggles or face shields are worn during procedures and patient care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. Personal eyeglasses are not considered PPE.
- Surgical or procedure masks should be worn for respiratory protection when caring for patients with respiratory symptoms. N-95 respirators should be worn for aerosol generating procedures. Face masks should always be worn when performing spinal or epidural space procedures.

2.5 Hand Hygiene

a. Hand hygiene is the single most important measure for preventing the spread of infection. This includes hand washing with soap and water or using alcohol-based hand sanitizers.

b. Cleansing hands as promptly and thoroughly as possible, between patient contacts, and after contact with blood, body fluids, secretions, excretions and equipment or articles contaminated by them, is an important component of infection prevention and control.

c. Artificial fingernails are not to be worn by those employees, students and volunteers who provide either direct or indirect patient care. This includes but is not limited to nail tips, wraps, appliqués, and nail jewelry.

d. Reference policy HW 407 Hand and Nail Hygiene and HW 146 Hand Hygiene Monitoring, as needed.

2.6 Respiratory Hygiene

a. Source control measures (i.e., covering the mouth/nose with a tissue when coughing and prompt disposal of used tissues, using surgical masks on the coughing person when tolerated and appropriate); and hand hygiene after contact with respiratory secretions. If a disposable mask or tissue is not available, cough or sneeze into your upper sleeve or elbow, not your hands.

b. Spatial separation, ideally >3 feet, of persons with respiratory infections in common waiting areas when possible.

2.7 Patient Care Equipment

a. Patient care equipment will be cleaned and disinfected when visibly soiled and in between each use or discarded if disposable.

2.8 Linen

a. Soiled linen should be handled as little as possible.

b. Linen will be bagged in an impervious bag or placed in a container lined with an impervious lining.

c. Key principles for handling soiled linens/laundry are: 1) not to shake the items or handle them in any way that may aerosolize infectious agents; 2) to avoid contact to the body and personal clothing with the linens/laundry; and 3) to contain it in a laundry bag or designated bin.

2.9 Dishes, Glasses, Cups and Eating Utensils

a. No special precautions are needed for dishware (e.g., dishes, glasses, cups) or eating utensils. The combination of hot water and detergents used in hospital dishwashers is sufficient to decontaminate dishware and eating utensils.

2.10 Sharps Precautions

a. Sharps with protective mechanisms to prevent injury should be used when available.

b. Sharps should be placed in an appropriately labeled puncture resistant container.

2.11 Lab Specimens

a. All lab specimens should be placed in a container that prevents leakage and should be labeled with biohazard symbol. If outside contamination of the primary container occurs, it should be placed within a second container.

b. Blood spills—spills of blood or other body fluids should be removed, and the area decontaminated using the facility-approved blood spill kit. Environmental Services (EVS) should be called for any spills over 500mL.

2.12 General Waste:

a. Waste should be bagged in impervious bags.

b. Biomedical waste – refer to biomedical waste policies.

2.13 Food and Drinks

a. No food and/or drink should be present or stored in work areas where there is a reasonable likelihood of exposure to blood or other potentially infectious materials, this includes refrigerators, freezers, or cabinets unless designated as hydration stations.

2.14 Safe Injection Practices

a. Use a sterile, single-use, disposable needle and syringe for each injection given to prevent contamination of injection equipment and medication.

b. Use of single-dose vials is preferred over multiple-dose vials, especially when medications will be administered to multiple patients. Refer to hospital policy on single and multiple dose vials.

c. Safe injection practices are consistent with hospital infection control policies and procedures to maximize the prevention of infection and including the following:

- Injections are prepared using aseptic technique in an area that has been cleaned and free of visible blood, body fluids, or contaminated equipment.

- Bags of IV solution are used for only one patient (and not as a source of flush solution for multiple patients).

- Medication administration tubing and connectors are used for only one patient.

2.15 Visitors

a. Visitors must be instructed in proper hand hygiene techniques, and how to correctly use any personal protective equipment that may be needed.

3. REFERENCES

3.1 Department of Labor Occupational Safety and Health Administration, Occupational Exposure to Bloodborne Pathogens: Final Rule 29 CFR Part. 1910-1030 December 6, 1991.

3.2 CDC, Guideline for Hand Hygiene in Healthcare Settings. Recommendations of the Healthcare Infection Prevention Practice Advisory Committee – the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. October 22, 2002/51 (RR-16); 1-44.

3.3 CDC, Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings 2007 (HICPAC), 2007; 1-219.

3.4 RUHS Policy HW832 Injectable Use Multiple and Single-Dose Vials

3.5 https://www.osha.gov/laws-regs/standardinterpretations/2006-05-17-1

Document History:

Prior Release Dates: New Housewide Conversion	**Retire Date:** N/A
Document Owner: **Infection Prevention and Control Manager**	**Replaces Policy:** IC Departmental Policy 04-02 Standard Precautions 03-1994; 03-2007; 05-2008; 09-2011; 12-2011; 06-2014; 09-2017; 12-2020

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
09/2023	Infection Prevention and Control Committee	Yes	Streamlined wording, removed references to transmission-based precautions
12/7/2023	Pre-Nursing P&P	Yes	Minor wording and formatting changes
1/2/2024	Nursing P&P	Yes	Minor corrections and updates to 2.13 and 2.14 Remove sections in 2.14 related to single/multiple use vials as covered in other policy HW832.
1/29/2024	PAC	No	
2/8/2024	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM-MEDICAL CENTER

Infection Prevention and Control

	Document No: 1101	Page 1 of 10
Title: Transmission-based Precautions (Isolation)	**Effective Date:** 2/15/2024	☐ **RUHS – Behavioral Health** ☒ **RUHS – Community Health Centers** ☒ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/Hospital Director		☒ **Policy** ☐ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 Riverside University Health System-Medical Center (RUHS-Medical Center) utilizes transmission-based precautions in conjunction with Standard Precautions, to prevent the transmission of infectious organisms among patients, staff, and visitors.

2. DEFINITIONS

2.1 Direct Contact Transmission: involves a direct body surface-to-body surface contact and physical transfer of microorganisms between a susceptible host and an infected or colonized person.

2.2 Indirect Contact Transmission: involves contact of a susceptible host with a contaminated intermediate object, a contaminated surface, or patient care devices.

2.3 Standard Precautions: minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient.

2.4 Transmission-based Precautions: additional infection prevention practices used when the route of transmission is not completely interrupted using Standard Precautions alone.

3. POLICY

3.1 Contact Precautions

a. Route of Transmission

- The most frequent mode of transmission, divided into direct and indirect contact transmission.

b. Required Personal Protective Equipment (PPE)

- Gown
- Gloves

c. Special Considerations

- Patient door may remain open.
- Hand hygiene with soap and water must be performed after exiting the room of a suspected or confirmed Clostridioides difficile (C. diff) patient.

- See Clostridioides difficile Isolation Algorithm for deisolation protocols (Attachment I).

3.2 Droplet Precautions

a. Route of Transmission

- Involves contact of the conjunctiva or mucous membranes of the nose or mouth with large-particle droplets that are propelled short distances.

b. Required PPE

- Surgical or procedure mask

c. Special Considerations

- Patient door may remain open.

3.3 Airborne Precautions

a. Route of Transmission

- Occurs by dissemination of either airborne droplet nuclei (small-particle residue [5 microns or smaller in size] of evaporated droplets containing microorganisms that remain suspended in the air for long periods of time) or dust particles containing the infectious agent. Microorganisms carried in this manner can be widely dispersed by air currents and may become inhaled by a susceptible host within the same room or over a longer distance from the source patient, depending on environmental factors, such as heat and humidity.

b. Required PPE

- Fit tested N-95 respirator or higher, e.g., Powered Air Purifying Respirator (PAPR)

c. Special Considerations

- Negative pressure room.
- Patient door must remain closed.
- Respirators must not be removed until the staff member has exited the room and closed the door. Discard disposable respirators in the nearest trash can.
- Terminal cleaning of the room should be delayed for one hour in airborne infection isolation rooms and two hours in non-negative pressure rooms, with the exception of COVID-19 and monkeypox (Mpox) rooms.

3.4 Reverse (Expanded) Precautions

a. Used with patients who are at an increased risk of developing a healthcare acquired infection due to severe immunosuppression. Determination of immunosuppression is based on clinician judgement.

- Examples may include: ANC<500 or organ or bone marrow transplant recipients.

b. Required PPE

- Gown

- Gloves
- Mask

c. Special Considerations

- Patient door must remain closed.
- Negative pressure rooms should be avoided unless clinically appropriate (e.g., neutropenic patient with suspected or confirmed Tuberculosis).
- A neutropenic diet may be ordered based on clinician judgement.
- Plants and dried or fresh flowers are not allowed.
- Pet therapy and/or personal pet visitation may be allowed based on clinician judgment.

3.5 Protective Precautions

a. Used with patients who are at an increased risk of developing a healthcare acquired infection due to immunosuppression. Determination of immunosuppression is based on clinician judgement.

- Examples may include: ANC of 500-1500, patients undergoing chemotherapy, or CD4<200 for HIV+ patients.

b. Required PPE

- Surgical mask or procedure mask.

c. Special Considerations

- Patient door may remain open.
- Negative pressure rooms should be avoided unless clinically appropriate (e.g., neutropenic patient with suspected or confirmed Tuberculosis).

3.6 Additional Considerations

a. Patient Placement

- Every effort should be made to place patients in a private room. If a private room is not available, the patient may be placed in a room with a patient(s) who has an active infection with the same organism but with no other infection (cohorting).
- When a private room is not available and cohorting is not an option, consider the organism and patient population when determining placement. A decision will be made on a case-by-case basis regarding the safety of placing the patient in a room with another patient.
- If a negative pressure room is required per the type of isolation and is not available, the patient should be placed in a regular room and the door must remain closed. The patient should be masked unless medically contraindicated. All attempts should be made to provide portable HEPA filtration until a negative pressure room is available.

b. Standard Precautions will be utilized in addition to any transmission-based precautions.

c. Transmission-based precautions may be combined together for infections/diseases that have multiple routes of transmission (i.e., COVID-19).

d. Donning and Removal of PPE.

- All PPE should be donned prior to room entry.
- All PPE should be removed and discarded prior to room exit with the exception of a respirator.
- See Centers for Disease Control and Prevention (CDC) guidelines for donning and removing PPE sequence (Attachment II).

3.7 Patient Transport

a. Patients infected or colonized with virulent or epidemiologically important microorganisms should leave their room only for essential purposes.

b. If the patient leaves the room, precautions should be maintained to minimize the risk of transmission of microorganisms to other patients and contamination of environmental surfaces or equipment.

c. Before entry to the patient's room

- Drape a clean sheet or blanket over any area of the gurney or wheelchair that will come in contact with exposed patient skin.
- Perform hand hygiene.
- Wear appropriate attire to enter patient's room per the isolation precaution(s) category.

d. Inside the patient room

- Put a clean gown on the patient.
- Wash the patient's hands, or if capable have the patient wash their hands well before exiting the room.
- Assist the patient onto the gurney or wheelchair. After readying the patient for transport, wipe down areas of the gurney or wheelchair that may be touched during transport (handles, rails) with a hospital-approved disinfectant.
- If a mask/respirator is a barrier per the isolation precautions category mask the patient with a surgical or procedure mask. DO NOT PLACE AN N-95 RESPIRATOR ON THE PATIENT.
- If the patient must be transported in the bed, wipe down areas of the bed (head and foot of bed, handrails) that may have been touched during transfer with a hospital-approved disinfectant.
- PPE is removed before leaving the room.
- Perform hand hygiene.

- Cover patient with a clean sheet or blanket obtained outside of the room, fold over patient. Patient's hands should be kept under the sheet/blanket at all times.

e. During transport:

- Single transporter does not wear PPE.
- If there are two transporters due to the patient's condition, one transporter may wear PPE to attend to the patient's needs, if needed. The other transporter does not wear PPE and should open doors, push elevator buttons, etc.

f. Patients on Droplet, Airborne, Expanded, or Protective Precautions should be masked with a surgical or procedure mask prior to transport (if not medically contraindicated).

g. Receiving department should be notified in advance of patient's isolation status.

3.8 Patient Care Equipment

a. Dedicated patient-care equipment should be utilized for all patients in isolation if available.

b. If the use of common equipment or items is unavoidable, the items should be adequately cleaned and disinfected before leaving the room and before use on another patient.

3.9 Patient and Visitor Education

a. Patients will be informed of the reason for isolation by the care team, and will be educated regarding proper hand hygiene, respiratory/cough etiquette (if applicable), and the use of PPE.

b. Visitors of patients on isolation must be educated on hand hygiene and the proper use of PPE.

c. Children under the age of 12 are discouraged from visiting.

d. Visitors of patients on Reverse or Protective Precautions should be free of any signs and symptoms of illness.

3.10 Isolation Order Placement

a. Nursing may initiate isolation precautions as indicated.

b. Specific isolation order to be placed in Epic.

c. The Infection Prevention and Control Department monitors isolation orders on an ongoing basis.

3.11 Deisolation

a. The Infection Prevention and Control Department should be consulted prior to discontinuing isolation orders.

b. Follow current facility guidelines for COVID-19 deisolation.

3.12 Terminal Cleaning

a. Terminal Cleaning will be performed upon patient discharge or transfer.

b. Leave Isolation Sign on door until Environmental Services (EVS) has completed Terminal Cleaning.

4. REFERENCES

4.1 Centers for Disease Control and Prevention. (2019). Precautions to Prevent Transmission of Infectious Agents. Retrieved from: https://www.cdc.gov/infectioncontrol/guidelines/isolation/precautions.html

4.2 Centers for Disease Control and Prevention. (2018). Standard Precautions For All Patient Care. Retrieved from: https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html

4.3 Centers for Disease Control and Prevention. (2018). Type and Duration of Precautions Recommended for Selected Infections and Conditions. Retrieved from: https://www.cdc.gov/infectioncontrol/guidelines/isolation/appendix/type-duration-precautions.html

5. ATTACHMENTS

5.1 Attachment I: Clostridioides difficile Isolation Algorithm

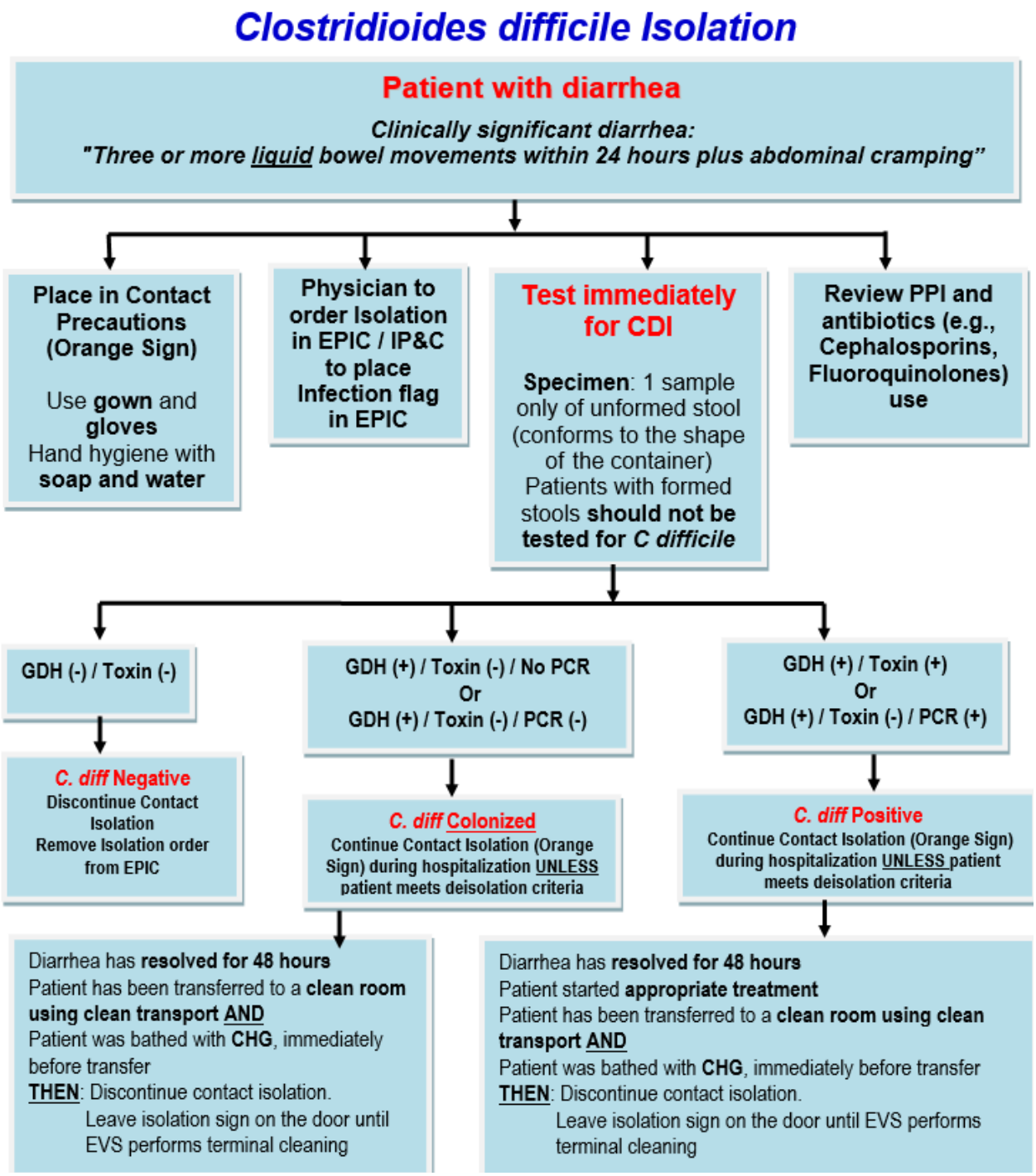
5.2 Attachment II: Centers for Disease Prevention and Control guidelines for donning and removing PPE sequence

Document History:

Prior Release Dates: New Housewide Conversion	**Retire Date:** N/A
Document Owner: **Infection Control Manager**	**Replaces Policy:** Infection Control Departmental policy IC 04-01 ISOLATION PRECAUTIONS DEFINED 09-2011; 06-2014; 06-2015; 09-2017; 12-2020, 12/23

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
11/2023	Infection Prevention and Control Committee	Yes	Streamlined wording, updated current practices, combined policies IC 4-2a, 4-7,4-8, 4-9, changed title
1/4/2024	Pre- Nursing P&P	Y	Changes in formatting and correction to processes
1/18/2024	Nursing P&P	Y	3.10b Verbiage to be changed
1/29/2024	PAC	N	
2/8/2024	MEC	N	

Attachment 1: Clostridioides difficile Isolation Algorithm



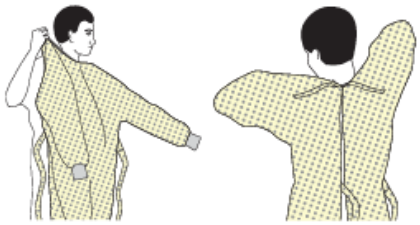
Attachment II: Centers for Disease Prevention and Control guidelines for donning and removing PPE sequence

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

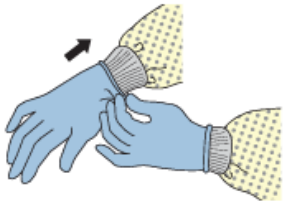
- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit

4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

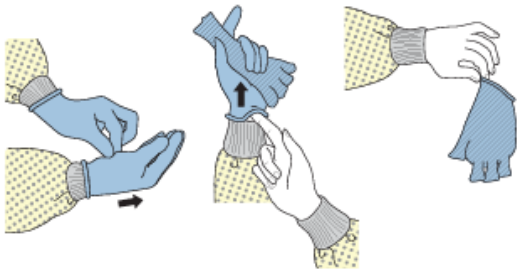
- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container

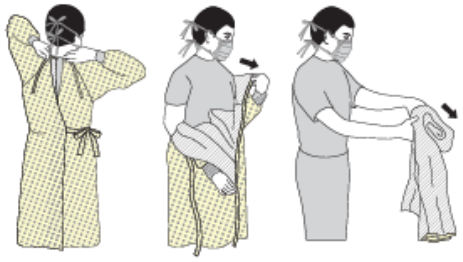


2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

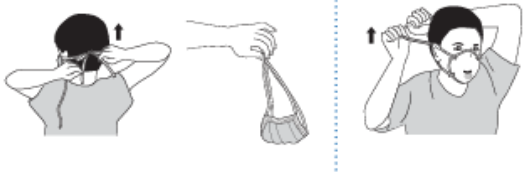
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

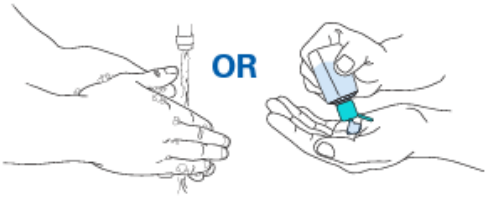


4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



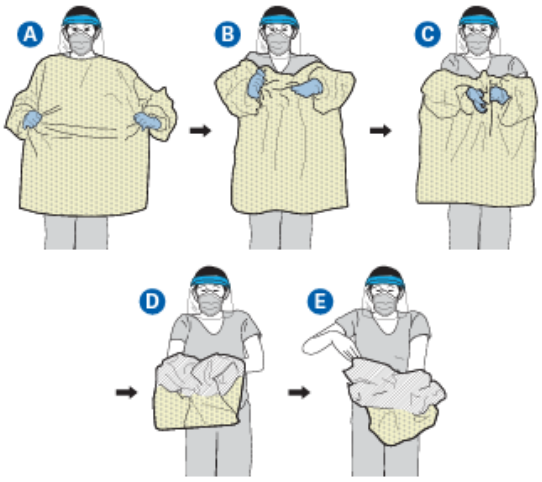
PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container



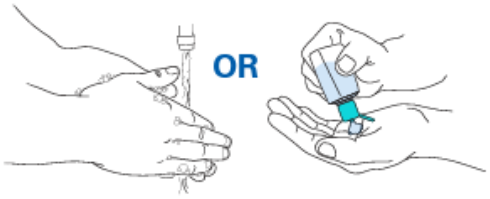
2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container

4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

RIVERSIDE UNIVERSITY HEALTH SYSTEM - MEDICAL CENTER

Housewide

	Document No: 1102	Page 1 of 2
Title: Influx of Patients with Infectious Diseases	**Effective Date:** 2/15/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By:  Jennifer Cruikshank CEO/Hospital Director		☐ **Policy** ☐ **Procedure** ☒ **Guideline**

1. SCOPE

1.1 Riverside University Health System - Medical Center (RUHS – Medical Center) creates guidelines to address the potential for an influx of patients with a specific infectious disease.

2. GUIDELINES

2.1 Implementation of this guideline will be in conjunction with other measures identified in the Emergency Management Plan including triage, staffing, communication, visitors, news media, food/water, etc.

2.2 Community Resources

a. Determine if the influx is a community-wide event and if other facilities, shelters, hotels, etc. are also accepting the infectious patients. If so, coordinate decision-making with community disaster agencies and local/state public health departments.

2.3 Type of Infectious Disease/Mode of Transmission

a. Determine what type of infectious disease the patients have and its mode of transmission.

b. In addition to Standard Precautions, determine if Transmission-based Precautions are also needed.

2.4 Determine if Negative Pressure Rooms are Needed

a. If an adequate number of negative pressure rooms are not available, portable machines should be utilized to create negative pressure if possible.

b. Determine if shared rooms can be utilized in order to increase the availability of negative pressure rooms.

c. Determine if a wing of the building that does not share an air system with the rest of the building can be used if necessary.

2.5 Patient Placement

a. Consider cohorting patients as needed.

b. Determine if the entire building needs to be emptied of patients without the infectious disease so the building can be used for only patients with the specific infectious disease.

c. Determine if an outdoor temporary shelter needs to be utilized.

2.6 Supplies

a. Determine if adequate supplies (including personal protective equipment, hand sanitizer, and hand soap) are available. If not, determine the inventory levels needed and initiate ordering the necessary supplies.

2.7 Staffing

a. Consider and plan for alternative staffing resources, e.g., trained volunteers, agency staff.

b. Refer to Centers for Disease Control and Prevention 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings for further staffing recommendations.

2.8 Medications for Treatment and Prophylaxis

a. If there is an indication for specific drug treatment of the infectious patients and/or prophylaxis for exposed persons, initiate the process for obtaining those medications in adequate quantity. Determine ahead of time major sources of medication dispensing (drug company, pharmacies) that may be used.

3. REFERENCES

3.1 CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.
https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html

Document History:

Prior Release Dates: New Housewide Conversion	**Retire Date:** N/A
Document Owner: **Infection Prevention and Control Manager**	**Replaces Policy:** Infection Control Departmental policy IC 02-07 Influx of People with Infectious Diseases 09-2011; 05-2014; 09-2017, 12-2020

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
12-2023	Infection Prevention and Control Committee	Yes	Streamlined wording, updated formatting.
1/18/2024	Nursing P&P	Yes	2.7a removed and 2.8a pharmacy will add a section
1/29/2024	Policy Approval Committee	Yes	One reference to CDC guidelines in 2.7 a.
2/8/2024	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 1103	Page 1 of 4
Title: Cleaning and Disinfection-Patient Care Equipment	**Effective Date:** 2/20/2024	☐ **RUHS – Behavioral Health** ☐ **RUHS – Community Health Centers** ☐ **RUHS – Hospital Based Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/Hospital Director		☒ **Policy** ☒ **Procedure** ☐ **Guideline**

1. SCOPE

1.1 The policy of Riverside University Health System - Medical Center (RUHS – Medical Center) is to establish guidelines for the cleaning, disinfection, and storage of shared surfaces and equipment.

2. DEFINITIONS

2.1 Cleaning. The removal of organic and inorganic material from objects and surfaces. This is normally accomplished by using detergents or enzymatic products. Thorough cleaning is necessary before disinfection and sterilization because organic and inorganic materials that remain on the surface of instruments interfere with the effectiveness of these processes.

2.2 Decontamination. The use of physical or chemical means to remove, inactivate, or destroy microorganisms on a surface or item so they are not infectious, and the surface or item is rendered safe for handling, use, or disposal. The selection and use of cleaning equipment, chemicals and exposure times suggested by the device manufacturer should be followed to prevent damage to the items.

2.3 Disinfection. A process that reduces the number of microorganisms on inanimate objects. This is done most often by use of a hospital approved detergent/disinfectant.

2.4 Event Related Sterility. An item is sterile until an event occurs to make the sterility of the product questionable (e.g., dropping the item on the floor, moisture detected on the packaging, or an item reaching its expiration date).

2.5 Personal Protective Equipment (PPE). Equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards.

2.6 Sterilization. The complete destruction of all microbial life. It is accomplished by either a physical or chemical process such as steam under pressure, dry heat, vaporized hydrogen peroxide, Ethylene Oxide (EtO) gas, or liquid chemicals.

3. POLICY

3.1 Instrument Classification/Designations (Spaulding Classification)

a. Critical Items

- Level of disinfection required: Sterilization.

- Objects that enter sterile tissue or the vascular system are defined by the Centers for Disease Control and Prevention (CDC) as critical items. They carry a high risk of infection if they become contaminated.
- Critical items will be purchased as sterile or sterilized by approved methods per the Manufacturer's Instructions For Use (IFU).
- Items purchased as sterile must be used on or before the expiration date if one is given. Inspect package integrity before use.
- Shelf life for items sterilized in the hospital is event related. Sterility is verified by intact wrappers, chemical package indicators, and records of sterility equipment functionality monitoring.
- Examples include, but are not limited to, surgical instruments, cardiac and urinary catheters, vascular devices, and implants.

b**.** Semi-Critical Items

- Level of disinfection required: sterilization or at minimum high-level disinfection.
- Semi-critical items come in contact with mucous membranes or nonintact skin.
- Semi-critical items are reprocessed by cleaning, followed by high-level disinfection or sterilization, whether or not a sheath is used.
- Reprocessing by high-level disinfection is documented by the clinical area that performs the high-level disinfection.
- Examples include, but are not limited to, endoscopic equipment, laryngoscope blades, Transesophageal Echocardiograph (TEE) probes, and vaginal ultrasound probes.

c**.** Non-Critical Items

- Level of disinfection required: low-level disinfection.
- Non-critical items come in contact with intact skin but not mucous membranes.
- Non-critical items are thoroughly cleaned and disinfected with hospital approved disinfectants.
- Examples include, but are not limited to, stethoscopes, blood pressure cuffs, bed rails, bedside tables, portable pumps, polyurethane restraints, and assistive device such as crutches.

3.2 General Considerations

a. Appropriate Personal Protective Equipment (PPE) will be used when cleaning and disinfecting.

b. Surfaces and equipment must be cleaned prior to disinfection.

c. Products that include a detergent and disinfectant in one are preferred to utilizing two separate products.

d. Non-critical items may be cleaned and disinfected on the nursing unit by staff using hospital approved detergent/disinfectants.

- This does not include IV pumps, modules, syringe pumps, Patient Controlled Analgesia (PCA) pumps and feeding pumps which should only be cleaned by Sterile Processing Department (SPD) staff or those who have completed specific competencies for cleaning these items.

e. Patient care equipment to be picked up by SPD personnel must have all disposable items removed, cables bound, and placed in the Dirty Utility Room.

f. Patient care equipment must be cleaned and disinfected with a hospital approved disinfectant between patients, daily, when visibly soiled, and if contaminated.

g. If it is unclear whether patient care equipment has been cleaned, it must be cleaned and disinfected before patient use.

h. Disposable, pre-moistened disinfecting wipes must be wet to be effective.

i. Dwell time for disinfectants must be followed per the manufacturer's IFU.

j. Equipment and environmental surfaces will be cleaned and disinfected according to manufacturer's IFU.

k. RUHS – Medical Center recommends that equipment be dedicated for use in an isolation room whenever possible.

l. Computers, Computer Peripherals, and Workstations on Wheels (WOWs):

- Every computer user is responsible for ensuring the computer and their peripheral equipment are kept clean.
- Clean and disinfect keyboard and mouse of multi-user computer workstations daily, when visibly soiled, or if contaminated, using a hospital-approved disinfectant.
- Upper surfaces of the WOW are the responsibility of the user, base and wheels are the responsibility of Environmental Services (EVS).
- Contact Information Technology (IT) if excessive dust buildup is noted on computer fans.

3.3 Equipment Storage

a. Only clean equipment is stored in the Clean Utility Room.

b. Equipment will not be stored on or immediately around the sink to avoid contamination from water splashes.

c. Only patient care equipment affixed or mounted to a stand may be stored on the floor.

d. Equipment that is not clean or cannot be cleaned immediately after use shall be placed in the dirty utility room.

e. Only soiled equipment is stored in the soiled or "dirty" utility room.

3.4 Single Use Devices

a. RUHS – Medical Center does not reprocess single-use devices.

b. Single use devices are discarded after use or sent to an approved third party for reprocessing if eligible.

4. REFERENCES

4.1 Centers for Disease Control and Prevention. (2016). *A rational approach to disinfection and sterilization.* https://www.cdc.gov/infectioncontrol/guidelines/disinfection/rational-approach.html

4.2 RUHS – Medical Center Policy HW 141 High Level Disinfection

4.3 RUHS – Medical Center Policy HW 151 Precleaning for Transportation to Sterilization

Document History:

Prior Release Dates: New Housewide policy conversion from departmental	**Retire Date:** N/A
Document Owner: Infection Prevention and Control Manager	**Replaces Policy:** Infection Control policy IC 09-03 Cleaning and Disinfection Patient Care Equipment 01-2009; 09-2011; 12-2011; 08-2014; 09-2017; 04-2018; 12-2020

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
01-2024	Infection Prevention and Control Committee	Yes	Streamlined wording, removed references to disinfection in home care, updated current practices
2/15/2024	Nursing Policy and Procedure	Yes	Update references. Item F correct verbiage “daily when in use”
2/16/2024	PAC	No	