SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

ITEM
15.3
(ID # 9891)

MEETING DATE:
Tuesday, June 4, 2019

FROM : (RUHSMCGB) Riverside University Health System Medical Center Governing Board:

SUBJECT: RIVERSIDE UNIVERSITY HEALTH SYSTEM-MEDICAL CENTER: Approval of the Policies for Riverside University Health System-Medical Center and Clinics, District 5. [$0]

RECOMMENDED MOTION: That the Governing Board:

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

ACTION:Policy

Jennifer Cruikshank, Chief Executive Officer – Health System 5/13/2019

MINUTES OF THE GOVERNING BOARD

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

Ayes:	Jeffries, Spiegel, Washington, Perez and Hewitt
Nays:	None
Absent:	None
Date:	June 4, 2019
xc:	RUHS-Medical Center,

Kecia Harper
Clerk of the Board
By: _____ Deputy

SUBMITTAL TO THE BOARD OF SUPERVISORS 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: 18/19	

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

Summary

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 the other off 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. The policies developed and/or updated between November 1, 2018 to May 9, 2019 relate to:

HW 1101 Practitioner Notification and Accountability of Incomplete and/or Delinquent Medical Records in Ambulatory Care	3/4/2019
HW 147 Guidelines for Requesting the Purchase of New Medical Devices , Supplies, Equipment, and Procedure-Based Services	2/11/2019
HW 149 Medical Supply, Device and Service Suppliers/Vendors/Manufacturer Representatives Management	1/29/2019
HW 420.1 Employee Identification	5/6/2019
HW 512 Code Purple	5/6/2019
HW 513.1 High Profile Patients, Publics, and Does	12/10/2018
HW 630 Restraints and Seclusion	5/6/2019
HW 660 Scope of Service Palliative Care	5/6/2019
HW 676 Medication Alteplase Activase for Use in Submassive Pulmonary Embolism	12/10/2018
HW 702 Disclosure of Patient Directory Information	2/11/2019

HW 707 Patient Photography	5/6/2019
HW 721 Privacy and Security Violation Sanctions	5/6/2019
HW 801 Medication Reconciliation	2/11/2019
HW 815 Patient Controlled Analgesia PCA and End Tidal CO2 (EtCO2) Use and Monitoring	2/5/2019
HW 819 Pediatric Standard IV Medication Concentration	2/11/2019
HW 820 Managing Patients with a Penicillin Allergy and Penicillin Desentisation Protocol	5/6/2019
HW 822 Downtime Inpatient Pharmacy Center	5/6/2019
HW 828 Smart Infusion Pump System	3/4/2019
HW 830 Administration of Parenteral Medications	5/6/2019
HW 836 Look Alike and Sound Alike Medication Error Prevention	12/10/2018
HW 842 Drug Formulary and NonFormulary Process	5/6/2019
HW 851 Handling of Hazardous Medications	5/6/2019
HW 867 Treatment of Gastrointestinal C Difficile CDI	3/4/2019
HW 869 Antimicrobial Prophylaxis for Surgery	3/4/2019
HW 875 Penicillin Allergy Skin Testing Procedure PrePen	3/4/2019
HW 877 Immediate Use Compounded Sterile Preparation (CSP)	2/11/2019
HW 900 EPOC Blood Analysis System Downtime Guidelines for Testing Blood Glucose	2/11/2019

Impact on Residents and Businesses

In 2018, RUHS-MC provided care to residents of the County, including 19,559 inpatient admissions, 118,970 outpatient clinic visits, and 89,024 Emergency Department encounters. As part of its operations, it employs more than 3,000 individuals and contracts with over 1,000 other individuals and businesses. 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: POLICIES

Gregory P. Priamos, Director County Counsel 5/28/2019

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:** 2/11/2019	☐ **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		**Retire Date:** N/A	
Document Owner: Value Analysis		**Replaces Policy:** N.A	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
11/8/2018	Value Analysis Committee	Yes	Minor process clarifications and updated form attachment

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	

VALUE ANALYSIS COMMITTEE – PRODUCT REQUEST FORM - Continued

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?	☐ Yes ☐ No
If yes, is the physician directly or indirectly associated with this hospital?	☐ 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:** 1/29/2019	☐ **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: N/A	**Retire Date:** N/A
Document Owner: Value Analysis	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
2/7/2017	Policy Approval Committee	Yes	Needs more review
2/15/2017	Ad Hoc 147 Committee	Yes	Clarifications and definitions
3/1/2017	Purchasing Manager	No	
3/7/2017	Policy Approval Committee	Yes	
6/14/2018	Policy Approval	No	
6/15/2018	CEO	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM

Housewide

	Document No: 420.1	Page 1 of 3
Title: Employee Identification	**Effective Date:** 5/6/2019	☐ RUHS – Behavioral Health ☒ RUHS – Community Health Centers ☒ RUHS – Medical Center ☒ RUHS – Hospital Based Clinics ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☒ Policy ☒ Procedure ☐ Guideline

1. DEFINITIONS

1.1 **Employee** is defined for this policy as regular employees, volunteers, residents, contract workers, temporary employees and affiliates. It includes staff who work off site in clinics or ancillary locations, and any staff who are on paid time. (Examples: attending meetings or events or working in the field).

2. PROCEDURES

2.1 Approved identification (ID) Badges must be worn by all employees at all times while on duty. All badges will include the following information:

a. First name. In some circumstances staff may wish to limit full names as a safety precaution. Any employee may request to have first name only on their ID badge. No portion of the first name or photo shall be covered or hidden.

b. County classification. Official County of Riverside classification title must be included on the ID badge.

c. Photograph of employee. A photograph is required on the ID badge for County employees. A non-County employee ID may or not include a photograph.

d. Color strip on bottom of badge. The color strip indicates certain classifications or units and provides for easy identification related to patient safety.

1. Pink = Pediatrics, Pediatric ICU, Neonatal ICU, Labor & Delivery, Post-Partum and Nursery
2. Blue = All regular employees (unless otherwise indicated on this list)
3. Green = TAP/Per diem staff; Students/Interns and Volunteer employees
4. Yellow = Contractor Employees

2.2 Obtaining an approved ID badge:

a. County Human Resources (HR) will provide each employee with an approved ID badge upon:

1. Initial hire
2. Change in classification/assignment
3. Change of employee name

b. Initial badges for new hires or changes in title are provided at no cost. Employees will be charged a replacement fee for new badges that are issued as a result of lost or broken ID badges. Employees who would like a new badge displaying first name only may request a replacement from HR, which is also subject to the associated replacement fee.

2.3 Students are expected to wear their own school ID badges. Instructors must obtain and wear a contractor's ID badge. These badges must be clearly visible and worn at all times while functioning in a professional capacity.

2.4 Wearing ID Badges: Badges must be easily visible and worn at all times.

a. Worn on the outermost garment (not hidden by sweaters, lab coats, etc.)

b. In an area above the waist, most preferable near the collar.

c. Will not be adorned in any way that covers up the employee information/photo or makes the badge appear unkempt and/or unprofessional.

2.5 For infection control purposes, employees may remove their ID badge when entering the Operating Room, Interventional Radiology procedure room and the Pharmacy sterile compounding room(s).

2.6 Employees may also remove their ID badge when entering the Magnetic Resonance Imaging (MRI) room due to demagnetizing of the badge.

2.7 Non-compliance: Employees who report to work without their ID badge will not be permitted to perform their duties until they secure an appropriate badge. If the badge is lost, employees should report to HR for a replacement. If an employee is found to not be wearing an ID badge at work, the department/manager will provide appropriate follow up and/or disciplinary action.

2.8 ID badges must be returned to the manager or the HR department upon termination or request.

3. REFERENCES

3.1 California Code of Regulations, Title 22 70721

3.2 California Business and Professions Code, Chapter 1, Article 7.5

3.3 RUHS – Medical Center Policy 420, Dress Code

Document History:

Prior Release Dates: 9/21/16	**Retire Date:** N/A
Document Owner: (Human Resources Department	**Replaces Policy:** N/A

Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
9/25/18	Revised by J. Rustad, CEO JC agrees to first name only. Forwarding to Carly Obenberger	Yes	Changed to allow all departments to have first name only on ID badge. Added Women's areas to pink band). Updated information on student badges. Added add 'l reference from CBP codes
11/2019	Input from S. Beale and C. Obenberger, HR	Yes	Grammatical
2/25/19	Janis Rustad and Carly Obenberger	Yes	Specific fee amount removed. Fee for changing at staff request to include first name only added.
4/2/2019	Policy Approval Committee	Yes	Minor wording. Delete sentence in 3.1 c related to visitor ID's, which belongs in Visiting policy.

RIVERSIDE UNIVERSITY HEALTH SYSTEM
Housewide

	Document No: 512	Page 1 of 5
Title: Code Purple – Child Abduction	**Effective Date:** 5/6/2019	☐ 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 Child. Minor, under age 18, excluding newborns on their birth admission

1.2 Code Purple. A security alert issued in the event of an actual or suspected abduction of a child, from hospital patient care areas including the Pediatric Unit or Pediatric Intensive Care Unit (PICU), the Emergency Department and the Perioperative Areas; Code Purple does not apply to infants from Labor and Delivery (L&D), Newborn Nursery (NBN), Obstetrics/Post-Partum (OB) or the Neonatal Intensive Care Unit (NICU), who are covered by Code Pink.

2. POLICY

2.1 Riverside University Health System - Medical Center and Arlington Campus seeks to maintain the safety of child patients by ensuring.

a. The location of the child is always known.

b. The Code Purple response is uniformly carried out throughout the hospital in the event of a suspected or actual child abduction.

3. PROCEDURE

3.1 Medical Center and Arlington Campus Staff Responsibilities:

a. The hospital Chief Executive Officer and Executive Directors will ensure compliance to this Policy.

b. The hospital Patient Safety Officer will ensure that all regulatory reporting is completed.

c. Medical Center Department Managers/Directors are responsible for ensuring staff members are trained in their duties during "Code Purple" alerts. Staff duties include:

d. Ensure the safety of the children assigned to their care and/or units;

- Observe the hospital exit / entry ways for any suspicious person(s) or activity and immediately notifying law enforcement of observations including taking notes and report any identifying factors or characteristic of suspicious person(s);
- Verify the identification of visitors
- Carrying-out other duties as assigned by the law enforcement personnel or management personnel.

3.2 Any hospital staff member may initiate a Code Purple upon suspicion or verification of a child abduction.

a. Staff who identifies a need for a Code Purple activation shall call the switchboard operator by dialing "911" and initiating an overhead page to announce a Code Purple. **Arlington Campus:** Staff who identifies a need for a Code Purple activation shall call 911 and notify the Charge Nurse, Duty Officer, Executive Director, and Operations Manager.

b. Staff will physically search for the child in the immediate area and in additional locations that may be identified via security cameras, radio frequency tracking devices or other means.

c. The Nurse Manager/Director, the House Supervisor/Arlington Campus Duty Officer, or their designee, will be the point of contact for the missing child's legally recognized caregiver(s); and will coordinate activities with law enforcement personnel, the administrator on-call, and the legally recognized caregiver(s) of the missing child.

d. Law enforcement personnel assigned to the Medical Center will dispatch personnel to respond to the Code Purple activation.

- Law enforcement personnel will coordinate all activities related to the search for the missing child and brief/debrief staff, as appropriate.
- Arlington Campus: Once law enforcement arrives on scene, law enforcement personnel will coordinate all activities related to the search for the missing child and brief/debrief staff, as appropriate.

e. Integrated Care Management social workers will be available to assist with communication and support to the legally recognized caregiver(s) and relatives of the missing/abducted child.

3.3 During a Code Purple, when it is confirmed that a child is missing, staff will:

a. Perform duties as described earlier in Section 3.1 Medical Center Staff Responsibilities

b. Immediately notify the Nurse Manager/Director and House Supervisor/Arlington Campus Duty Officer, if not previously done;

c. Ensure that the involved area is preserved, undisturbed, or otherwise unchanged until approval is received from law enforcement personnel in charge of the incident;

d. Provide assistance to law enforcement personnel, as needed;

e. Remain available to assist the investigation until dismissed by Administration, law enforcement personnel, or respective designees;

f. Complete the Infant / Child Abduction Distribution Report (Attachment I);

3.4 In cases where a child's whereabouts are unknown or if an actual abduction has occurred, an interdisciplinary team will be convened:

a. The Nurse Manager/Director or House Supervisor/Arlington Campus Duty Officer will notify the legally recognized caregiver(s) that the child is missing, if not already done.

b. A private room, away from the affected area, will be provided for legally recognized caregiver(s) and their support persons.

c. Social worker(s) from Integrated Care Management will facilitate communication and services to the legally recognized caregiver(s) and their support persons.

d. The Nurse Manager/Director, House Supervisor/Arlington Campus Duty Officer or social worker will contact pastoral and/or other support person(s) as indicated and authorized by the legally recognized caregiver(s).

3.5 In the case of an actual abduction, regulatory reports, documentations, and analysis will be completed as follows:

a. The Medical Center/Arlington Campus staff who initiated the Code Purple will document the Code Purple events in the child's medical record

b. Hospital Administration will complete steps required for a Sentinel Event.

c. Hospital Administration will notify County Risk Management and County Counsel of the abduction.

d. Hospital Administration will make a report to the California Department of Public Health.

3.6 Media, press, or other public statements regarding a Code Purple will be made only by the Chief Executive Officer (CEO), Public Information Officer (PIO) or authorized designee. Media and public statements will be coordinated with law enforcement to ensure messages do not obstruct any criminal investigation or efforts to safely locate the child.

3.7 "Code Purple, All Clear"

a. "Code Purple, All Clear" at the Moreno Valley campus will be determined and authorized by law enforcement personnel in charge of the incident and will be announced by the hospital operator an overhead page when notified.
b. "Code Purple, All Clear" at Arlington Campus will be determined and authorized by law enforcement personnel in charge of the incident and will be announced using the overhead paging system by the Duty Officer.

4. ATTACHMENTS:

4.1 Infant / Child Abduction Distribution Report.

Document History:

Release Dates:	**Retire Date:** N/A
Sponsored by: Emergency Management Committee	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
3/28/2019	Arlington Campus Administration	Yes	Implemented Arlington Campus response procedures
3/20/2019	Nursing P&P	Yes	Formatting; added Section 4. Attachment
1/2/2019	Security Manager	Yes	Edited, Section 3.6
12/28/2018	Nursing Director, NICU, PICU and Pediatrics	No	
4/3/2019	Policy Approval Committee	Yes	Minor wording

ATTACHMENT 1.

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
INFANT / CHILD ABDUCTION DISTRIBUTION REPORT

OBSERVATIONS
SUSPECT'S
DESCRIPTION

Sex: Hair Color:

Approximate Age: Eye Color:

Race: Weight:

Unusual Characteristics:

Objects/packages being

carried: Clothing:

Synopsis (include Direction of travel, other parties with the suspect, time of occurrence, etc.)

OBSERVATIONS
INFANT/CHILD
DESCRIPTION

Sex: Hair Color:

Approximate Age: Eye Color:

Race: Weight:

Unusual Characteristics:

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER HOUSEWIDE

	Document No: 513.1	Page 1 of 2
Title: Doe Registration	**Effective Date:** 12/10/2018	☐ 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 This policy pertains to any person presenting to any unit of the Riverside University Health System – Medical Center and Arlington campuses when that person cannot be identified.

2. DEFINITIONS

2.1 Doe. A placeholder last name used when a patient cannot be identified.

3. PROCEDURES

3.1 Admitting staff, including the Admissions Nurse as applicable, shall be responsible for:

a. learning from Nursing whether a patient should be identified as a Doe when the patient cannot be identified at the time of registration;

b. selecting the private encounter flag "Strict Confidentiality" in the electronic health record (EHR) at the time of registration;

3.2 Nursing staff shall be responsible for:

a. obtaining the legal identification of any Doe admitted to the Medical Center and forwarding it to Admitting staff to update the EHR;

b. notifying Admitting staff of any changes to the private encounter flag in the EHR;

3.3 "DOE" Unidentified Patients: The Doe Name

Any patient who cannot be identified will be given the last name of "Doe." The first name given to a "Doe" patient will be assigned from a randomized file of non-gender specific names. A Doe patient will be assigned a medical record number and entered in the Hospital Patient Directory with the unique full Doe name.

3.4 Updating the Medical Record to reflect Doe's Legal Name

a. Once the Doe patient is identified, nursing staff will send documentation and/or the identifying family member or friend to Admitting to provide the necessary patient information. Admitting staff will then follow the Name Changes Tip Sheet.

b. Nursing and/or Admitting staff will advise the patient or their representative of their "Strict Confidentiality" status, explain their right to continue to restrict the disclosure of their protected health information, and document any changes to those restrictions using the Hospital Patient Directory Form #3. Refer to Policy HW 702 for detailed information.

4. REFERENCES

4.1 RUHS-Medical Center HW Policy 702 Hospital Patient Directory

5. ATTACHMENTS

5.1 Hospital Patient Directory Form #3

5.2 RUHS – "Name Changes" Tip Sheet

Document History:

Prior Release Dates: NA	**Retire Date:** NA
Document Owner: Admitting	**Replaces Policy:** High Profile, Publics, Does Policy 513.1

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
9/19/2018	Compliance and Ethics Committee	No	NA
10/30/2018	Nursing Policy and Procedure Committee	Yes	Removed reference to High Profile patients. Minor change to procedure (3.4a) for updating name through LLU.
11/6/2018	Policy Approval Committee	Yes	Added "or their representative" to 3.4b

Riverside University HEALTH SYSTEM

HOSPITAL PATIENT DIRECTORY FORM

How Should We Answer?

We want to protect your privacy and help you heal in the way that is best for you. Please read below and tell us how you would like us to answer when someone calls the hospital and asks for information about you.

This form tells you what information we will share UNLESS you tell us not to.

When Someone Asks for You by Name

Unless you tell us not to, if someone asks for you by name we will tell them:

- Where you are in the hospital - your room number
- Your general condition in one-word such as – "good", "fair" or "serious."
- Your religious affiliation (clergy only)

If you do not want us to share some or all of this information, please check one of the statements below and sign at the bottom.

☐		***Do not share my location*** *with someone that calls or visits and asks for me by name.*
☐		***Do not share information about my general condition*** *with someone that calls or visits and asks for me by name.*
☐		***Do not provide general information or my religious affiliation to members of the clergy.***
☐		***Do not share any information about me.*** *I understand the facility will not tell anyone calling or visiting and asking for me by name (including family, friends, and clergy) that I am here. I understand that I may not receive mail, gifts or flowers that may be left at the hospital for me.*

Patient/Legal Representative Signature _____ **Print Full Name** _____

Date/Time: _____

Ref: Hospital Patient Directory, Policy 702

Riverside University Health System – Medical Center
Moreno Valley, California 92555

HOSPITAL PATIENT DIRECTORY FORM

 # 3 **9/18**

White – Chart Pink - Patient

Tip Sheet 

Name Changes

Below are the methods of contact for a name change in the following circumstances:

- **Safe transition**
- **Patients not on blood products**
- **No outstanding labs**
- **Baby name change**
- **No pending diagnostics**
- **Transfer orders in place**
- **Discharge orders in place**

Contact Methods for Number Control

1. If a patient is a victim, they need to be updated in the system to represent that.
2. If there is active blood product being provided to the patient - do not change the name until discontinued
3. If there are any outstanding orders for the patient - do not change the name until the orders have been completed
4. If there are no active blood products and outstanding orders during a safe transition, it would be okay to make the name change and it will send to the downstream systems.
5. Name changes cannot be performed on babies until after they have been discharged
6. No outstanding or pending diagnostic testing (not just lab) since this affects CDS (cardio) and Medical Imaging
7. Ensure name bands are updated immediately at time of call
8. Ensure patient is not within transition of units (i.e. ED to unit), etc...

To Reach LL Data Integrity Analysts in Number Control

Email: NumberControl@llu.edu
Phone: 909-558-4000 - Option #2 - ext. 58235 (Business hours are M-Th 7am-5pm and Fri 7am-4pm)
After-hours pager: 909-558-1717 + page number **6423** + your phone number, then press #key to end **or** NumberControl@my2way.com

(After-hours is for name changes and DOB updates. Everything else is processed during business hours) **Do not provide RUHS main number for call back**

Contact information to include at minimum:

- **Contactor's name**
- **Contactor's return phone number – including extension**
- **Short explanation of what is needed. For example – name update, doe name update, DOB update, etc.**

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 630	Page 1 of 6
Title: Restraints and Seclusion	**Effective Date:** 5/6/2019	☐ 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 **Chemical Restraint** is the use of a medication used to restrict the patient's freedom of movement that is not a standard treatment for the patient's new or continuing medical or behavioral condition.

1.2 **Restraint** is any manual method, physical or mechanical device, material, or equipment that immobilizes or reduces the ability of a patient to move his or her arms, legs, body, or head freely.

1.3 **Seclusion** is the involuntary confinement of a person alone in a room or an area from which the patient is physically prevented from leaving.

1.4 **Violent Behavior** is violent or self-destructive behavior that jeopardizes the immediate safety of the patient, a staff member or others.

1.5 **Non Violent Behavior** is the behavior that interferences with medical treatments, lifesaving interventions or ambulating before medically appropriate.

1.6 **Physical Restraint** is the use of a manual hold to restrict freedom of movement of all or part of a patient's body, or that restrict normal access to the patient's body and that is used as a behavioral restraint.

2. PROCEDURES FOR ALL RESTRAINT USAGE

2.1 Patients shall be restrained only when clinically justified for violent or non-violent behavior as defined above in 1.4 and 1.5 and in accordance with applicable state and federal statutes and regulations.

2.2 Indications:

a. Restraint or seclusion may be used when less restrictive means are not sufficient to protect the physical safety of patients, staff members or others.

b. Seclusion may only be used for the management of Violent Behavior as defined in 1.4 above.

2.3 Use of Antipsychotic Medications to Manage Violent Behavior: Antipsychotic medications shall be used in doses consistent with the community standard, to protect the patient or others and to allow the patient to more effectively interact with their environment. Such use is not considered Chemical Restraint. We do not use chemical restraints.

2.4 Initiation: Each episode of restraint or seclusion shall be initiated:

a. Upon the order of a physician who is responsible for the patient, or
b. By a trained registered nurse when he or she determines it is necessary when he or she determines it is necessary to protect the patient.
c. An order from a physician who is responsible for the patient shall be obtained as soon as clinically possible after such initiation.

2.5 Notification of the Attending Physician: If the restraint was not ordered by a physician with attending responsibility for the patient, an attending physician shall be notified that restraint was applied within 24 hours following initiation. Documentation anywhere within the medical record by an attending physician, whether or not it addresses restraint, is considered evidence that the physician was notified of the restraint episode.

2.6 PRN Orders: PRN orders for restraint or seclusion shall not be used.

3. RESTRAINT PROCEDURES FOR MANAGEMENT OF VIOLENT BEHAVIOR

3.1 Duration of Restraint/Seclusion Orders for Violent Behavior:

a. Orders for restraint or seclusion applied to manage Violent Behavior shall remain in effect until the patient's behavior or situation no longer requires restraint or seclusion, but no longer than:
   - 4 hours for adults 18 years of age or older;
   - 2 hours for children and adolescents 9 to 17 years of age; or
   - 1 hour for children 8 years of age or younger.
b. Should the initial need for restraint/seclusion for the management of violent behavior continue beyond 23 hours the following must occur:
   - An in-person evaluation by a responsible licensed independent practitioner with issuance of a new order.
   - The in-person evaluation and issuance of a new order is required every 24 hours the patient continues to require the restraint for management of violent behavior in addition to the hour limitations defined in 3.1.a.

3.2 Assessment and Monitoring of Restraint/Seclusion Used for the Management of Violent Behavior:

a. One-hour Face-to-face Assessment: A licensed independent practitioner shall perform a face-to-face assessment of the patient's physical and psychological status within one hour of the initiation of restraint or seclusion.
b. Monitoring: Restrained or secluded patients shall be subject to monitoring by individuals trained to do so.
c. Simultaneously restrained and secluded patients shall be continuously monitored through
   - Face-to-face observation by staff members or
   - Remote observation by staff members located near the patient who are viewing a simultaneous video image and audio signal of the patient.
d. Assessment: Assessments by a registered nurse or physician assistant or evaluations completed by a responsible physician shall occur as often as indicated by the patient's condition, behavior, and environmental considerations and observed at least once every fifteen minutes for safety by staff trained to do so.

4. RESTRAINTS PROCEDURES FOR THE MANAGEMENT OF NON-VIOLENT BEHAVIOR

4.1 Duration of Restraint/Seclusion Orders for **Non-Violent** Behavior:

a. Orders for restraint for the management of Non-Violent Behavior shall remain in effect until the patient's behavior or situation no longer requires restraint. ***The restraint order expires at the end of the next calendar day.***

4.2 Assessment and Monitoring of Restraint/Seclusion Used for the Management of Non-Violent Behavior.

a. Restraint used for the management of Non-Violent Behavior shall be subject to ongoing monitoring and assessment as specified in the patient's plan of care. Monitoring and assessments shall occur at least every two hours.

4.3 Documentation of Monitoring:

a. Episodes of restraint and/or seclusion shall be documented as indicated on currently approved assessments, monitoring and ordering forms and electronic medical records.

4.4 Care Plan: The restrained or secluded patient's written plan of care shall be modified to address appropriate interventions implemented to assure the patient's safety and encourage the least restrictive means of protecting the patient.

5. REPORTING RESTRAINTS RELATED DEATH

5.1 Hospital personnel shall promptly contact hospital administration whenever a patient expires:

a. While restrained;
b. Within 24 hours after being released from restraint; or
c. As the result of a restraint-related condition within 7 days after restraint removal.

5.2 Designated hospital representatives shall notify the Centers for Medicare and Medicaid Services (CMS) Regional Office of such deaths within one business day of their discovery. Such notification shall be documented in the patient's medical record. EXCEPTION: Such deaths may be recorded in a log rather than being reported to CMS if a) the death was not a result of or related to the restraint and b) only soft wrist ties were used to restraint the patient most proximate to death.

6. REFERENCES

6.1 Attachment A, Examples of Restraints

6.2 Attachment B, Restraint and Seclusion Training Plan

Document History

Prior Release Dates: 3/1994, 8/2007, 12/2013, 10/2/2016		**Retire Date:** N/A	
Document Owner: Restraints Committee		**Replaces Policy:** 630.1, 630.2, 630.3	
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
4/17/2019	Nursing Policies and Procedures Committee	Y	4.1.a The restraint order expires at the end of the next calendar day; Attachment A updated. Removed PRN orders language under sections side rails and adaptive devices.

ATTACHMENT A

Examples of Physical Restraint

Device	Not Restraint	Restraint
Devices to protect the patient during a procedure or anesthesia	During a procedure or anesthesia.	Once the patient has recovered from anesthesia and devices are not removed
Side Rails	Used to keep the patient from **falling out of bed or with a specialty mattress**	Used to keep the patient from **getting out of bed.**
Mittens	Not tied down. Allows use of hand / fingers.	Patient cannot flex fingers or does not have access to his / her body.
Arm Boards	To protect site of intravenous access.	If used to prevent the patient from having access to his or her body.
Adaptive Devices: Seat belts, waist belts, Geri chairs, etc.	The patient can remove the device (or remove themselves from the device) in the same manner in which it was applied (e.g. unlatching a seat belt, untying a knot, letting the side rail down)	The patient cannot easily remove the device.
Covered bed	Covered bassinet for infants or toddlers.	For adults to keep them from getting out of bed.
Protective interventions for infants, toddlers and pre- school children	Stroller safety belts; seat belts for high chairs; etc.	N/A
Holding the patient	Light touching during escort	Therapeutic hold
Holding to give medications or treatments	Voluntary	Forced (requires order)
Forensic Devices (handcuffs, shackles)	Used for patients in the direct custody of a law enforcement officer.	May not be used as a device for restraint

Examples of Seclusion

Not Seclusion	Seclusion
Confinement on a locked unit or ward where the patient is with others.	Confinement in a locked room apart from other patients
Having the patient agree to confine their movements to a room with an open door.	Physically preventing a patient from leaving an unlocked room
A "time out" in a quiet (unlocked) location.	Preventing a patient from leaving an unlocked room through intimidation.

Antipsychotic Medications Used to Manage Violent Behavior

Not Chemical Restraint	Chemical Restraint
Common use of medications, within the standard of care and practice, and well-documented by literature	Uncommon or outmoded use of medications for the management of behavior. Lack of documentation of the behaviors indicating the need for the medication. (Such use is generally prohibited.)
Order may be PRN	Orders may **not** be PRN
Order renewed as required in medication management policy.	Order renewed at least every 4 hours for adults, every 2 hours for adolescents, every 1 hours for children. (**One-time orders preferred**.)
Medication and dose are consistent with professional standards of practice.	
Used for the safety of patients or others and to help the patient more effectively interact with their environment.	
May NOT be used for staff convenience.	
Documentation describes the behavior supporting the use of the medication.	
Monitoring of vital signs appropriate for the potential sedating effects of the medication and dose.	

Attachment B
Restraint and Seclusion Training Plan

A. The restraint and seclusion training plan shall be based on the results of quality monitoring activities. Minimum training shall include:
   1. The policy requirements and education for licensed independent practitioners who order restraint or seclusion.
   2. The instruction and competency requirements of hospital staff who assess patients for restraint, determine that restraint is indicated, or who apply restraint including:
      a. Techniques to identify staff and patient behaviors, events, and environmental factors that may trigger circumstances that require the use of a restraint or seclusion.
      b. The use of nonphysical intervention skills.
      c. Choosing the least restrictive intervention based on an individualized assessment of the patient's medical, or behavioral status orcondition.
      d. The safe application and use of all types of restraint or seclusion used by the staff member, including training on how to recognize and respond to signs of physical and psychological distress (for example, positional asphyxia);
      e. Clinical identification of specific behavioral changes that indicate that restraint or seclusion is no longer necessary.
      f. Monitoring the physical and psychological well-being of the patient who is restrained or secluded, including but not limited to, respiratory and circulatory status, skin integrity, and vital signs.
      g. The use of first aid techniques and certification in the use of cardiopulmonary resuscitation, including required periodic re-certification.
      h. Recognition of signs of physical and psychological distress for hospital staff that monitor restrained patients.
   3. Documentation requirements, including but not limited to the plan of care.

RIVERSIDE UNIVERSITY HEALTH SYSTEM-MEDICAL CENTER

HOUSEWIDE

	Document No: 660	Page 1 of 5
Title: Scope of Service for Palliative Care Team	**Effective Date:** 5/6/2019	☐ 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 Center to Advance Palliative Care (CAPC). The Center to Advance Palliative Care provides essential tools, training, technical assistance, and metrics to build and sustain palliative care in all health care settings.

1.2 Continuity of care. The multidisciplinary coordination of care that includes or considers all clinical diagnoses, treatments, psychosocial needs, patient preferences and personal resources.

1.3 Inter-Disciplinary Team (IDT). The palliative care interdisciplinary team includes physicians, nurses, social workers, chaplains, music therapist, psychologist and other specialists who work together with a patient's other doctors to provide an extra layer of support.

1.4 Licensed Independent Practitioners (LIP). A physician, licensed physician resident, physician assistant, and/or advanced practice nurse, acting within the scope of their license.

1.5 Palliative Care. Specialized medical care for people with serious illness.

1.6 Palliative Care Quality Network (PCQN). The Palliative Care Quality Network is a database that is committed to improving the quality of palliative care services. They strive to help sustain and grow palliative care by providing teams with the tools, data, and support needed to demonstrate value, build strong teams, and promote resilience in their clinicians.

2. GUIDELINES

2.1 Riverside University Health System-Medical Center's (RUHS-Medical Center) Palliative Care Program is established to ensure excellent palliative care for adult patients with serious illness. The program goal is to provide comfort and to improve the quality of life for both the patient and family as well focus on providing relief from the symptoms and stress of a serious illness.

2.2 Services provided by palliative care team:

a. Optimize symptom control.

b. Promote the highest quality of life for patient and family.

c. Educate patients and family to promote understanding of the underlying disease process and expected future course of the illness.

d. Establish an environment that is comforting and healing.

e. Help plan a discharge to the appropriate level of care in a timely manner

f. Assist patients and their families in preparing for and managing life closure.

g. Serve as educators and mentors for staff.

h. Promote a system of care that fosters timely access to palliative care services

i. To facilitate communication with the patient, family, and primary team of providers regarding patient care concerns.

2.3 Location, hours of service

a. 24 hours per day, 7 days per week.

- In-house services Monday-Saturday 0800-1700.
- After hours, Sundays and holidays via phone with ability to travel to the hospital to see patient and/or family if indicated.
- Coverage identified via hospital call schedule.

2.4 Referral process

a. A referral to the palliative care service must come from a LIP.

b. Identification of Palliative Care Patients

- Nursing staff completes the Palliative Care Assessment in the Electronic Medical Record.

c. If one of the questions is answered yes, a Best Practice Advisory (BPA) is sent to the LIP suggesting a palliative care consult. The LIP can order the consult directly from the BPA.

d. LIP may recognize the patient would benefit from palliative care and place an order separate of the nursing assessment.

2.5 Consultations

a. Routine consultations shall be completed within 24 hours.

b. Exception: for requests during after hours, Sundays and holidays, consults shall be completed by the next business day.

2.6 Initial and Subsequent Assessment.

a. The Interdisciplinary Team (IDT) completes Initial and subsequent assessments through patient and family interviews, review of medical records, discussion with other providers, physical examination, review of laboratory and diagnostic tests and procedures.

b. Initial assessment includes but is not limited to: Disease status/treatment history, functional status, expected prognosis, comorbid disorders, advance care planning preferences, surrogate decision maker, physical, psychological, social and spiritual aspects of care. This may include: pain, dyspnea, constipation, cultural, spiritual and religious beliefs and practices important to the patient and family, anxiety, stress, grief, and coping.

c. Reassessment is performed as needed.

2.7 Plan of Care

a. Plan of Care is based upon an ongoing assessment, determined by goals set with the patient and family, and with consideration of the changing benefit/burden assessment at critical decision points during the course of illness.

b. Care plan assessment and documentation shall include:

- Physical and psychological assessment
- Social and spiritual assessment
- Cultural assessment

c. The IDT shall meet weekly to discuss and document the plan of care.

d. Family meetings with the patient and family shall occur regularly to determine the most appropriate goals of care.

e. The palliative care team provides support for decision making, develops and carries out the care plan and communicates the plan to the patient, family, and LIP.

2.8 Continuity of Care

a. A palliative care team member is responsible for working with the Integrated Care Management team, (social work, discharge planner, case manager) for coordinating the discharge plan.

b. A team member confirms access to services that can assist following discharge: specialists, nursing home, hospice, home health, outpatient palliative care, durable medical equipment, rehabilitation services, and or counseling services.

2.9 Palliative Care Committee

a. Medical Director or representative (Palliative Care Program Chair)

b. Palliative care program coordinator (Palliative Care Program Co-Chair)

c. Department of Internal Medicine Chair or representative

d. Department of Family Medicine Chair or representative

e. Chief Nursing Officer or representative

f. Director of Pharmacy or representative (optional)

g. Chaplaincy representative

h. Quality Management representative

i. Emergency Department manager or representative (optional)

j. Adult Critical Care manager or representative (optional)

k. Department of Oncology Chair or representative (optional)

l. Psychologist representative (optional)

m. Information Technology representative (optional)

n. Department of Neurosciences or representative

2.10 Meetings are conducted quarterly and as needed.

2.11 Education

a. The ***core*** palliative care interdisciplinary team includes a LIP, a nurse, a social worker, and a chaplain. The core interdisciplinary team is educated on the domains of palliative care, assessment and management of pain and other physical symptoms, assessment and management of psychological symptoms and psychiatric, diagnoses, communication skills, cross-cultural knowledge and skills, information on a specific population(s) served, grief and bereavement, ethical principles that guide provision of palliative care, community resources for patients and families, and hospice care.

b. ***Core*** Interdisciplinary Team Education

- Palliative Care Medical Director
  - i. Training in palliative care or clinical experience in palliative medicine, completion of palliative care fellowship training, or is board-certified or board-eligible for certification in Hospice and Palliative Medicine.
- Palliative Care Physician
  - i. Training in palliative care or clinical experience in palliative medicine, completion of palliative care fellowship training, or is board-certified or board-eligible for certification in Hospice and Palliative Medicine.
- Registered Nurse Palliative Care Program Coordinator
  - i. Palliative care training or clinical experience.
  - ii. Annual palliative care conference or 4 CAPC online modules.
  - iii. Maintenance of nationally recognized palliative care certification.
- Social Worker/Chaplain
  - i. Palliative care training such as CAPC online modules, or minimum of six months experience in palliative care.
  - ii. Completion of palliative care certification.

c. House wide general education for LIPs, nurses, social workers and chaplains

- Completion of the Palliative Care on-line module annually.

2.12 Quality improvement: The effectiveness of the palliative care program is evaluated through data collection, data monitoring, and performance improvement as follows:

a. Performance improvement:

- Monitor performance of the palliative care program by the palliative care committee through case review, concurrent and retrospective chart review, and palliative care performance measures.
- Identify and analyze problems and or issues.
- Plan and implement resolutions to identified problems and or issues as they arise including corrective action as indicated.
- Evaluate effectiveness of corrective actions.

2.13 Data collection

a. Data collection and maintenance will be gathered from patient care records and entered into Palliative Care Quality Network (PCQN) database.

b. Charts will be audited for compliance with The Joint Commission recommendations.

2.14 Reporting data

a. The Palliative Care Committee will report to the Performance Improvement & Patient Safety Committee and the Medical Executive Committee.

3. REFERENCES

3.1 The Joint Commission Certification Manual for Palliative Care, July 2018.

3.2 Center to Advance Palliative Care (CAPC). *Policies and tools for hospital palliative care programs: A crosswalk of national quality forum preferred practices.* Retrieved July 30, 2018 from https://central.capc.org/eco_download.php?id=1766.

3.3 *Clinical practice guidelines for quality palliative care.* Pittsburgh, PA: National Consensus Project for Quality Palliative Care, 2018.

Document History:

Document Owner:
The Palliative Care Team

9/20/18	Reviewed By: The Palliative Care Team	Revisions Made N	
11/30/2018	Nursing P&P approved on e-vote	Y	Shall instead of should/must. Added collective term Integrated Care Management in section 2.8.a. Suggested LIP on section 2.4a, format 2.4b; 2.11c include new hire in the competency
3/7/19	MECC	Y	Removed specific nursing assessment questions in section 2.4. If nursing questions are changed, we will not have to edit the policy.
3/14/19	MEC	N	

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER
HOUSEWIDE

	Document No: 676	Page 1 of 5
Title: Medication: Alteplase (Activase®) For Use in Submassive Pulmonary Embolism	**Effective Date:** 12/10/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank Hospital Director/CEO		☐ Policy ☐ Procedure ☒ Guideline

1. SCOPE OF SERVICE

1.1 The Riverside University Health System-Medical Center's Pulmonary Embolism Response Team program services includes adults ≥ 18 years of age in the Emergency Department (ED) and Inpatient units.

2. DEFINITIONS

2.1 Submassive Pulmonary Embolism. A thrombosis in the pulmonary arterial system leading to hemodynamic compromised as defined by transthoracic echocardiographic evidence of right heart strain, as well as biochemical evidence of heart strain.

2.2 Pulmonary Embolism Response Team (PERT). A multidisciplinary team including but not limited to a physician and registered nurse (RN) to rapidly evaluate intermediate and high risk patients with a pulmonary embolism, formulate a treatment plan, and mobilize the necessary resources to provide the highest level of care.

2.3 Alteplase is the generic drug name for medication used to treat thrombosis in the pulmonary arterial system. Activase® is the trademark drug name used by Riverside University Health System Medical - Center to treat thrombosis in the pulmonary arterial system.

3. COMPETENCY

3.1 Registered nurses must complete the online Alteplase Administration training module prior to administering intravenous (IV) Alteplase (Activase®) for treatment of submassive pulmonary embolism.

3.2 The online Alteplase Administration training module is to be completed by registered nurses working in the critical care areas (Emergency Department, Adult Critical Care Unit & Progressive Care Unit) and PERT (Code Team RN) on an annual basis.

4. GUIDELINES

4.1 Alteplase (Activase®) will be given according to physician orders for patients experiencing sumbassive pulmonary embolism (SPE) by qualified staff, and in accordance with manufacturer's recommendations or best practice.

4.2 Alteplase (Activase®) Adult Use Pulmonary Embolism Physicians Orders will be utilized prior to administration and will include, but is not limited to inclusion criteria, exclusion criteria, bolus dose, and total dose.

4.3 Medication will be infused via a smart infusion pump utilizing the drug library. A second RN will perform an independent double check to confirm that: (1) the correct medication and dose have been prepared and (2) the infusion pump was programmed correctly.

4.4 Ensure the physician has reviewed with the patient the potential risks, consequences and benefits of Alteplase (Activase®) prior to administration for patients deemed appropriate for thrombolytics per the pulmonary embolism response team and the RUHS informed Consent policy.

4.5 A 1:1 nursing ratio shall be implemented for the first 8 hours of the Alteplase (Activase®) infusion or longer based on therapeutic response and/or physician order.

5. PROCESS

5.1 Verify physician Alteplase (Activase®) order.

5.2 Explain procedure to patient and/or family as appropriate.

5.3 Establish continuous cardiac and pulse oximetry monitoring.

5.4 Alteplase (Activase®) is to be reconstituted by pharmacy or RN deemed competent.

5.5 Perform ordered invasive procedures prior to administration.

6. DOSAGE AND ADMINISTRATION

6.1 The recommended dose of Alteplase (Activase®) is 50 mg total.

6.2 A dedicated IV line is required for the administration of IV Alteplase (Activase®).

6.3 The initial 10 mg bolus dose is to be delivered by the Registered Nurse via a smart infusion pump over ten minutes.

6.4 The remaining 40 mg of the Alteplase (Activase®) infusion is to be infused via a smart infusion pump over 60 minutes.

6.5 Once the medication vial is empty give 0.9% Normal Saline IV to ensure the entire therapeutic dose is provided.

6.6 May repeat dose up to one (1) time of 50mg. Typically dosage does not exceed total combined dose of 100mg in the acute period.

7. MONITORING

7.1 Monitor vital signs and neurological assessments:

a. Every 15 minutes x 9 times.

b. Proceed to every 30 minutes x 6 hours.

c. Proceed to every 1 hour x 16 hours during and following Alteplase (Activase®) infusion.

7.2 Monitor blood pressure:

a. Blood pressure should be maintained systolic blood pressure (SBP) < 180 mmHg or diastolic blood pressure (DBP) <105 mmHg during and post Alteplase (Activase®) administration.

b. Notify appropriate provider for SBP >180 mmHg or DBP >105mmHg for intervention orders.

7.3 Continue to reassess and monitor the patient's neurological status. Report any changes immediately to the appropriate provider.

7.4 Alteplase (Activase®) side effects may include, but are not limited to:

a. Bleeding

b. Headache

c. Decreased level of consciousness (LOC)
d. Angioedema

7.5 Intracranial hemorrhage should be suspected secondary to Alteplase (Activase®) administration if the patient exhibits the following signs:

a. Change in level of consciousness.

b. Elevation of blood pressure.

c. Deterioration in gross motor examination.

d. Onset of new headache.

e. Nausea and/ or vomiting.

7.6 If intracranial hemorrhage is suspected:

a. **Discontinue IV Alteplase (Activase®)** ***immediately***

b. Notify the treating physician ***immediately***

c. Consider the following:

- STAT CT scan of head without contrast.
- PTT/PT, INR, CBC with platelets, & fibrinogen.
- Type and cross.
- 6-8 units of cryoprecipitate containing factor VIII IV infusion.
- 6-8 units of platelets IV infusion.

8. DOCUMENTATION

8.1 Document vital signs and neuro assessments in the patient's electronic health record for Submassive Pulmonary Embolism as appropriate.

8.2 Document response to therapy and other interventions as appropriate.

8.3 Document on Medication Administration Record (MAR) according to policy (2 RN signatures required).

9. PRECAUTIONS

9.1 Standard Precautions

9.2 No anticoagulation or anti-platelet medication for 24 hours post IV Alteplase (Activase®) administration.

9.3 No intramuscular (IM) injections, naso-gastric (NG) tube placement, invasive procedures or invasive line placement for 24 hours post IV Alteplase (Activase®) administration.

9.4 Avoid indwelling urinary catheter placement during and 30 minutes post Alteplase (Activase®) infusion.

9.5 IV Alteplase (Activase®) is for intravenous administration only. Extravasations of Alteplase (Activase®) can cause ecchymosis and/or inflammation.

a. Extravasation management consists of terminating the infusion at the IV site and application of local therapy

10. RELATED RUHS – MEDICAL CENTER POLICIES

10.1 Alteplase (Activase), Adult Pulmonary Embolism Management

10.2 Housewide policy, 852 Medication Administration

10.3 Housewide policy, 804 Medication : High Risk and High Alert Administration

10.4 Housewide, 602 Patient Informed Consent policy

11. REFERENCES

11.1 Genentech, In. (2015). Activase (alteplase) full prescribing information. Retrieved February 28, 2018, from https://www.gene.com/download/pdf/activase_prescribing.pdf

11.2 Jauch, E., Saver, J., Adams, H., Bruno, A., Connors, J., Demaerschalk, B., et al (2013). Guidelines for the Early Management of Patients with Acute Ischemic Stroke: A Guideline for Healthcare Professionals from the American Heart Association/American Stroke Association. *Stroke 2013; 44:870-947*

11.3 Sharifi, M, Bay, C, Skrocki, L, Rahimi, F, Mehipour, M. (2013). Moderate pulmonary embolism treated with thrombolysis (from the "MOPETT" trial). *The American Journal of Cardiology, 111* (2), 273-277. doi:10.1016/j.amjcard.2012.09.027 (level

12. ATTACHMENTS

12.1 PERT work flow chart

a. Emergency Department

b. Inpatient

12.2 Alteplase for Submassive Pulmonary Embolism Vital Sign and Neurological Assessment Handoff Sheet

12.3 Indications: Inclusion/Exclusion Criteria guide

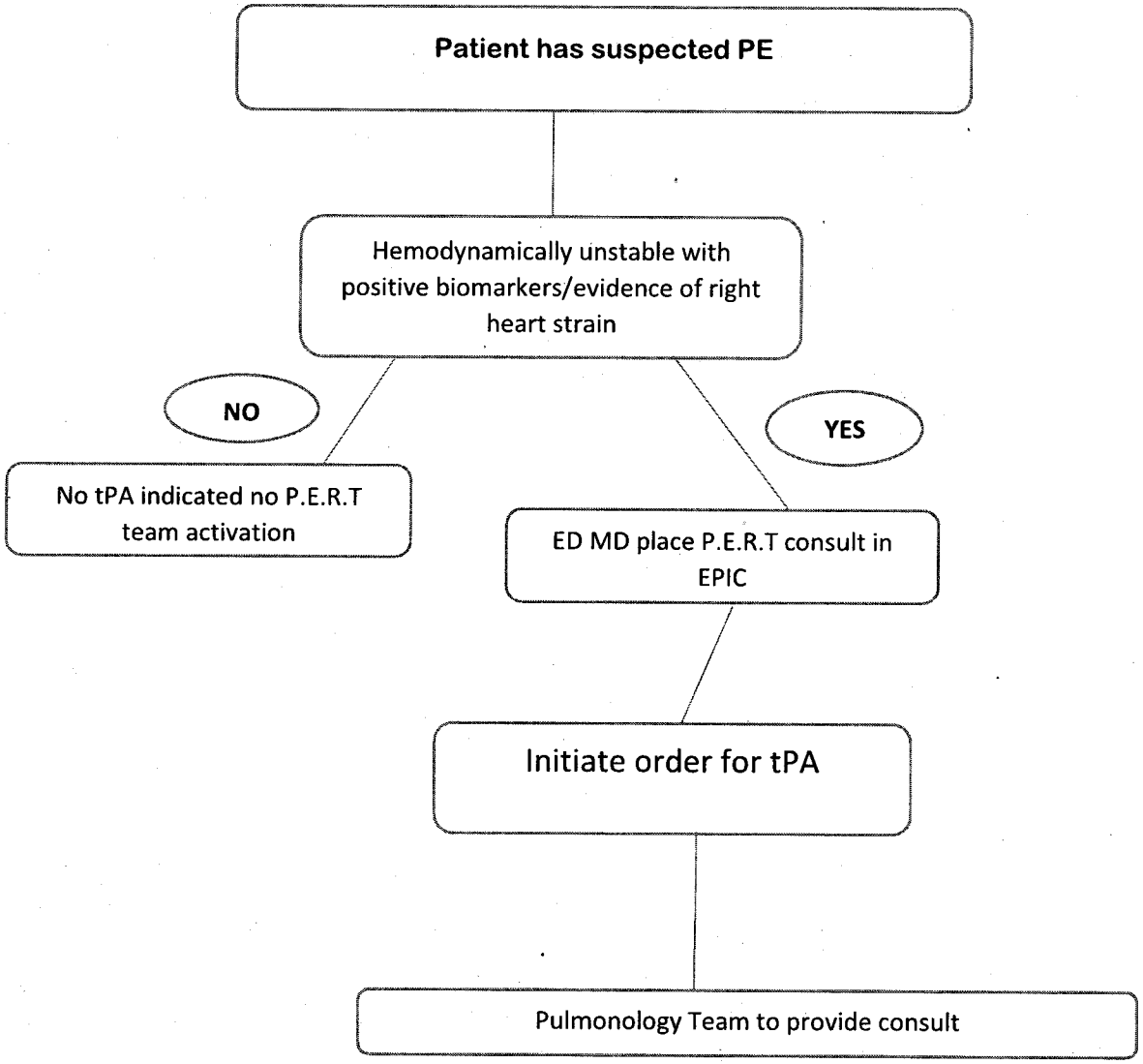
12.4 Physician/Nurse report

Document History:

Prior Release Dates: N/A	**Retire Date:** N/A
Document Owner: Code/RRT Program Coordinator	**Replaces Policy:** N/A

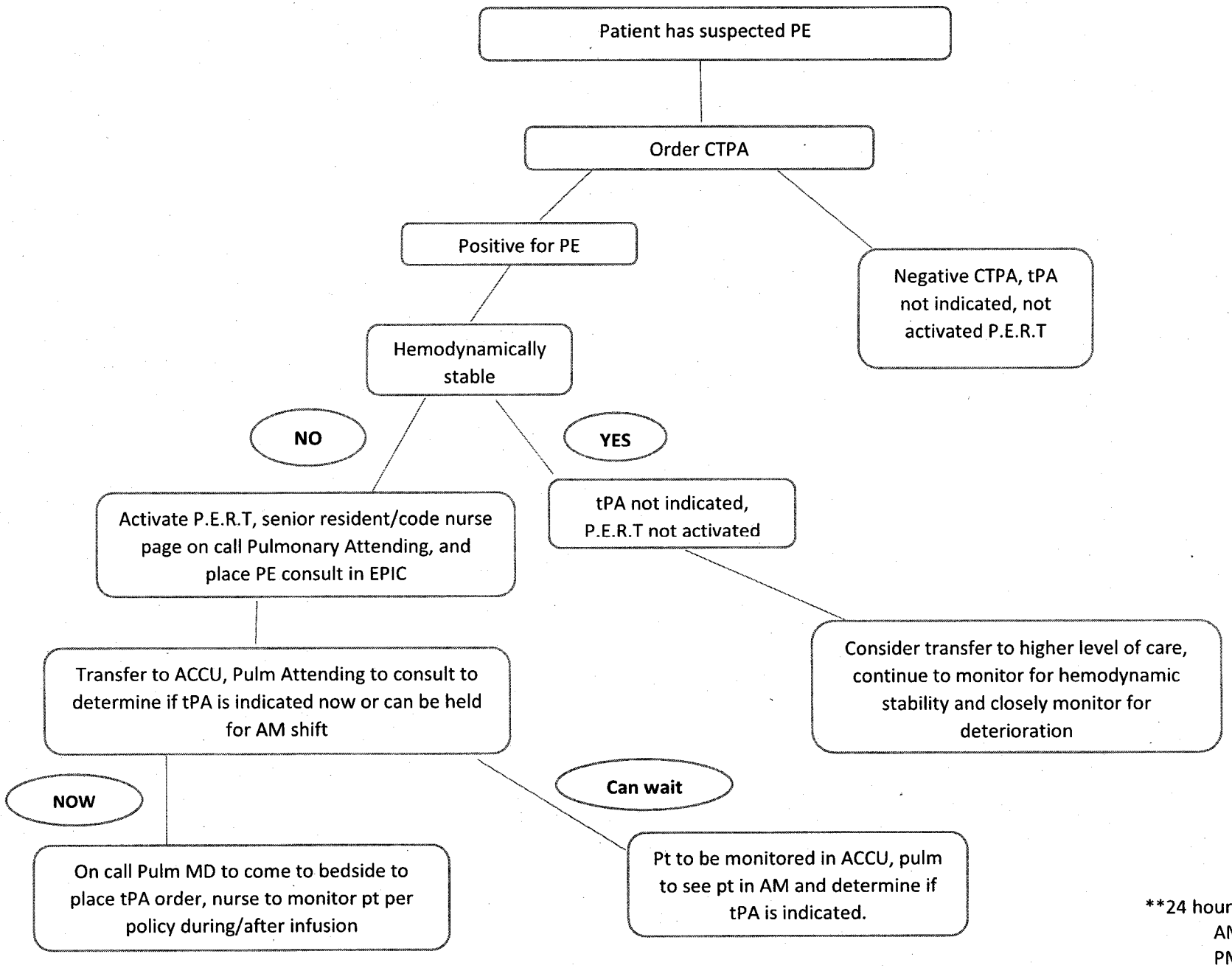
Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
2/15/2018	Code Blue Committee	Y	References, grammatical errors corrected
2/26/2018	Critical Care Committee	N	No Changes Requested
7/18/2018	Nursing P&P		
11/5/2018	P&T	Y	Clarified scope 1.1 – adults in ED and Inpatient. Add section 6.6 – may repeat x1, total dose not to exceed 100mg. Updated references 10.2/10.3.
11/6/2018	PAC	Y	Revise 6.6 from 'do not exceed' to 'typically does not exceed' Modified 6.6 with 'in the acute period.
11/8/18	MEC	N	

PE Response Team Activation for Emergency Department



**If Ed Physician is unable to page Attending, Code Nurse may page and speak with the Pulmonary Attending*

PE Response Team Activation for General Nursing Units



**24 hour pulmonary coverage
AM 0600 -1600
PM 1600-0600

Alteplase for Submassive Pulmonary Embolism Vital Sign and Neurological Assessment Handoff Sheet

All documentation must be completed in EPIC unless down-time procedures are in place. During down time, please utilize the ACCU flow Sheet (24 hour critical care record)

Please use this cheat sheet during nursing handoff to ensure critical vital signs and neuro checks are documented in the EMR. This form is only a guide.

Blood Pressure is never to exceed 180/105. Alert the physician immediately and provide interventions as ordered. If abnormal bleeding is suspected, stop the infusion and notify the physician immediately and follow orders as prescribed

Initials		Time	Vital Signs					Neurological			Bleeding Assessment (Y/N)		Pain	
	Date								Pupils					
	Interval	Time	B/P	H/R	RR	O2 Sat	Temperature	(1) GCS	L Size/React	R Size/React	Overt Signs of bleeding	Comment	Headache Yes/No	Intensity (0-10)
	Start Time													
	15 min													
	15 min													
	15 min													
	15 min													
	15 min													
	15 min													
	15 min													
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Alteplase for Submassive Pulmonary Embolism Vital Sign and Neurological Assessment Handoff Sheet

Initials		Time	Vital Signs					Neurological			Bleeding Assessment (Y/N)		Pain	
	Date								Pupils					
	Interval	Time	B/P	H/R	RR	O2 Sat	Temperature	(1) GCS	L Size/React	R Size/React	Overt Signs of bleeding	Comment	Headache Yes/No	Intensity (0-10)
	1 hour													
	1 hour													
	1 hour													
	1 hour													
	1 hour													
	1 hour													
	1 hour													
	1 hour													
	1 hour													
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	1 hour													
	1 hour													

This form is to be provided during hand-off to validate completion of the required assessment elements.

Department where Alteplase infusion occurred: _____ Date: _____ Start Time t-PA infusion: _____ Stop Time: _____
Initial RN Name: _____ Dept: _____ Documentation Start Time: _____ Stop Time: _____

Hand-off RN Name (Print Full Name)	Dept	Time: start of shift with patient	Time: end of shift with patient	Validate during hand-off all documentation from prior shift is completed *(both RNs to sign)*
				/
				/
				/
				/

Once fully completed, call the Code Team At 18010/18011

Not Part of the Medical Record

Riverside University Health System IV tPA for PE inclusion/exclusion criteria

Written and approved by RUHS pulmonology department whom provide treatment for submassive pulmonary embolis

Indications:
Age ≥ 18 years
Diagnosis of Submassive Pulmonary Embolis with hemodynamic instability
Contraindications
SBP >185 or DBP > 110 mmHg (despite medical intervention to lower it)
Intracranial or spinal surgery in the previous 3 months
Significant head trauma or prior stroke in past 3 months
History of previous intracranial hemorrhage
Active Internal Bleeding
Arterial Puncture at noncompressible site in the past 7 days
Symptoms that suggest subarachnoid hemorrhage
CT findings (ICH, SAH, or major infarct signs: hypodensity > 1/3 of cerebral hemisphere
Platelets <100,000
Heparin received within 48 hours with aPTT > upper normal limit
Use of anticoagulant with INR > 1.7 or PT >15
Current use of direct factor Xa inhibitors or direct thrombin inhibitor (May consider IV-tPA in patients with clearly confirmed last dose >48 hours, creatinine clearance > 50ml/min and normal coagulation panel)
Intra-axial brain tumors or vascular malformation
Unruptured intra-cranial aneurysm ≥ 10mm in size
Post- partum period (within 14 days after delivery)
Infective endocarditis
Known or suspected aortic arch dissection or intracranial arterial dissection
Current systemic malignancy
Relative Contraindications:
With careful consideration and weighting of risk and benefits, patients may receive IV-tPA despite 1 or more relative contraindications:
Acute pericarditis
Subacute bacterial endocarditis (SBE)
Pregnancy
Diabetic hemorrhage retinopathy or hemorrhagic ophthalmic conditions
Lumbar puncture in the previous 7 days
Major surgery or serious trauma with in the previous 14 days
Recent gastrointestinal or urinary track hemorrhage with in previous 21 days
Recent acute myocardial infarction (within previous 3 months)
Life expectancy less than 6 months
Additional Contraindications:
Concurrent use of direct thrombin inhibitor (Dabigatran) or factor Xa inhibitors (Rivaroxiban, Apixaban and Edoxaban) regardless of time of last dose

Code Team PE Report Sheet

Date/Time_____

Patient _____ **Room**_____

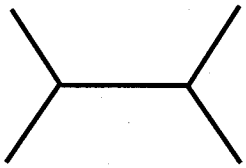
Age/Sex _____ **MRN**_____

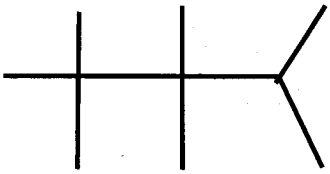
History: _____

Treating Physician_____

PE Order Set ☐

Current Labs





Lactate:
BNP:
ABG:
INR/PT/PTT:
Troponin:
***PESI Score:**
****Shock Index:**

***Shock Index: (HR/SBP)*
normal range = 0.5 to 0.7

Bedside Echo

IVC	
RV Strain	
D sign	
Septal movement	
LV	

---TPA Dosage: 10 mg over 2 min; 40 mg over 2 hours

Code Team PE Report Sheet Date/Time_____

PESI Score

variable	Points awarded	Description
1. Age of the patient	1 per year	The higher the age, the greater the mortality risk.
2. Gender	Male (20) Female (0)	Men pose a higher risk of PE mortality and morbidity.
3. Temperature <36°C / 96.8°F	20	Low body temperature is associated with impaired body heat regulation.
4. Systolic blood pressure <100 mmHg	30	Decreased blood pressure as risk factor.
5. Heart rate >110 bpm	20	Pulse higher than 110 beats per minute even at rest.
6. Respiratory rate >30 breaths per minute	20	Increased respiratory rate even at rest.
7. Arterial oxygen saturation below 90%	20	With or without supplemented oxygen.
8. History of chronic lung disease	10	Previous diagnosed pulmonary condition.
9. History of heart failure	10	Previous diagnosed heart condition.
10. Alteration of mental status	60	Refers to loss of consciousness.
11. Malignancy	30	History of malignancy, in treatment or palliative

Result Interpretation

PESI Score	Class	Mortality Risk	Probability
0 - 65	I	Very low	up to 1.6%
66 - 85	II	Low	1.7 - 3.5%
86 - 105	III	Moderate	3.2 - 7.1%
106 - 125	IV	High	4 - 11.4%
>126	V	Very high	10 - 24.5%

**PESI score is a 30 day mortality predictor following PE

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 702	Page 1 of 3
Title: Disclosures of Patient Directory Information	**Effective Date:** 2/11/2019	☐ 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 Hospital Patient Directory (Directory): A list of patients currently admitted at Riverside University Health System (RUHS) – Medical Center. Patients admitted to the Arlington Campus and those that are currently incarcerated do not appear in the Hospital Patient Directory.

1.2 Private Encounter Flag: The confidentiality designation assigned to a patient based on the level of restriction required for and/or preferred by the patient.

2. PROCEDURE

2.1 If a patient's name appears in the Directory, except when an objection is expressed by the patient, limited information about the patient's condition and location within the hospital may be disclosed to anyone asking for the patient by name, specifically the following:

a. Location in the facility (e.g. room number, unit).

b. A one-word description of condition:

1. Undetermined - e.g. patient is awaiting the physician and assessment.
2. Good - e.g. vital signs are within normal limits, patient is conscious and comfortable, and indicators are excellent.
3. Fair - e.g. vital signs are stable, patient conscious, but uncomfortable, indicators are favorable.
4. Serious - e.g. vital signs unstable, patient is acutely ill, prognosis is questionable.
5. Critical - e.g. vital signs unstable, may not be conscious, prognosis is unfavorable.

c. Religious affiliation, if any (only available to clergy).

2.2 Permitted Disclosures

When the patient has agreed to be included in the Directory, the information may be released to:

a. People who ask for a patient by name.

b. Members of the clergy who request the patient's religious affiliation even if they do not ask for the patient by name.

2.3 Upon admission, individuals will be informed of their option to:

a. Object to being included in the Directory (opt-out);

b. Limit the disclosure of certain information during their hospitalization and/or in the event of death, i.e. the exceptions to "routine" or "strict" defined below.

2.4 If the patient is incapacitated, or an emergency circumstance presents, and there is no patient representative available, nursing staff may determine whether to include the patient's information in the Directory based on the patient's best interest. Nursing staff will provide the patient or the patient's representative an opportunity to agree or object to inclusion in the Directory as soon as it becomes practical to do so.

2.5 Patients have the right to change their confidentiality preferences at any time. Changes shall be immediately communicated to the Admitting/Registration Department by the person who hears the patient's request.

2.6 Private Encounter Flags will be assigned as follows:

a. Routine. Patient has no restrictions on the use or disclosure of information from the hospital directory. The patient's location in the facility and a one-word description of their condition may be disclosed to persons asking for the patient by first and last name. If provided by the patient, religious affiliation may be disclosed to clergy.

b. Exceptions to strict confidentiality. Patient has requested restrictions to either their location in the facility or their general condition. The Hospital Patient Directory Form must be referenced. Refer the individual to Admitting.

c. Strict confidentiality. No comment or acknowledgement of a patient's admission or condition can be made to anyone including family. Refer the individual to Admitting.

d. Medical/ legal strict confidentiality. Code listed as an option in EPIC but is not to be used for RUHS patients. Select "Strict confidentiality."

e. Victim. Code listed as an option in EPIC but is not to be used for RUHS patients. Select "Strict confidentiality."

2.7 Admitting/Registration staff is responsible for:

a. Explaining to patients how their health information will be shared based on the private encounter flag selected;

b. Asking patients for their confidentiality preference;

c. Documenting patient preference using the Hospital Patient Directory Form ("Form"), if the patient prefers that certain information not be disclosed.

d. Ensuring the Form is uploaded to the Media Tab of the patient electronic health record (EHR);

e. Selecting the private encounter flag within the patient EHR that matches the patient's expressed preference.

2.8 Nursing staff is responsible for:

a. Verifying the patient confidentiality preference within the patient's EHR, generally found under the "Private Encounter Flag":

1. Once the patient arrives on the unit; and

2. Upon request from individuals for information regarding the patient.

b. Verifying patient preferences, by referencing the Form on the media tab within the EHR.

2.9 All clinical staff are responsible for:

a. Verifying the patient confidentiality preference within the patient's EHR; generally found under the "Private Encounter Flag" upon request from individuals asking for the patient by name.

b. Verifying patient preferences, by referencing the Form located on the media tab within the EHR.

2.4 When disclosing information concerning a patient death, care should be taken to first notify the patient's next of kin. If uncertain whether such notification has been made, refer those with questions to the patient's family spokesperson, next of kin or the appropriate Social Worker on the unit where the patient died. No additional information about a patient's death, including the cause, date, or time of death, may be made without the written authorization from a legal representative of the deceased patient.

2.3 Requests for patient information from members of the media must be directed to Administration during business hours and the Nursing House Supervisor after regular business hours.

3. REFERENCES

3.1 45 CFR 164.510

Document History

Prior Release Dates: RCHS Policy No. 601.9 as revised 12/30/04 and RCHS Policy No. 600.2 as revised 12/30/04.Then policy 702 as revised 9/27/2013	**Retire Date:** N/A
Document Owner: Admitting	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
9/19/2018	Compliance and Ethics Committee		
12/17/18	Nursing Policy & Procedure Committee		
1/22/2019	Policy Approval Committee	N	

Riverside University HEALTH SYSTEM

HOSPITAL PATIENT DIRECTORY FORM

How Should We Answer?

We want to protect your privacy and help you heal in the way that is best for you. Please read below and tell us how you would like us to answer when someone calls the hospital and asks for information about you.

This form tells you what information we will share UNLESS you tell us not to.

When Someone Asks for You by Name

Unless you tell us not to, if someone asks for you by name we will tell them:

- Where you are in the hospital - your room number
- Your general condition in one-word such as – "good", "fair" or "serious."
- Your religious affiliation (clergy only)

If you do not want us to share some or all of this information, please check one of the statements below and sign at the bottom.

☐	***Do not share my location*** *with someone that calls or visits and asks for me by name.*
☐	***Do not share information about my general condition*** *with someone that calls or visits and asks for me by name.*
☐	***Do not provide general information or my religious affiliation to members of the clergy.***
☐	***Do not share any information about me.*** *I understand the facility will not tell anyone calling or visiting and asking for me by name (including family, friends, and clergy) that I am here. I understand that I may not receive mail, gifts or flowers that may be left at the hospital for me.*

Patient/Legal Representative Signature _____ **Print Full Name** _____

Date/Time: _____

Ref: Hospital Patient Directory, Policy 702

Riverside University Health System – Medical Center
Moreno Valley, California 92555

HOSPITAL PATIENT DIRECTORY FORM

 # 3 **9/18**

White – Chart Pink - Patient

Riverside University HEALTH SYSTEM

FORMULARIO PARA EL DIRECTORIO DE PACIENTES HOSPITALIZADOS

¿Cómo debemos responder?

Queremos proteger su privacidad y ayudarle a sanar de la mejor manera posible para usted. Por favor, lea el contenido del presente y avísenos cómo le gustaría que respondamos cuando alguien llame al hospital pidiendo información sobre usted.

Este formulario le indica la información que compartiremos A MENOS que nos indique lo contrario.

Cuando alguien pregunte por usted por su nombre
Salvo que nos indique lo contrario, cuando alguien pregunte por usted por su nombre, le diremos lo siguiente:

- Su ubicación en el hospital, es decir, el número de su habitación;
- Su estado general descrito en pocas palabras (por ejemplo, está *bien*, *en condición estable* o *grave)*;
- Su afiliación religiosa pero solamente al clérigo

Si usted no quiere que revelemos toda o parte de esta información, marque la casilla correspondiente a una de las declaraciones que aparecen a continuación y firme al pie del formulario.

☐	***No revelen mi ubicación*** *a personas que llamen o se presenten preguntando por mí.*
☐	***No revelen información acerca de mi estado general*** *a personas que llamen o se presenten preguntando por mí.*
☐	***No revelen información general o mi afiliación religiosas al clérigo.***
☐	***No revelen ninguna información sobre mi persona.*** *Entiendo que este establecimiento no le hará saber a nadie quien llame o se presente preguntando por mí (incluso mi familia, amigos y el clérigo) de mi presencia en este centro. Entiendo que existe la posibilidad de que no reciba correspondencia, regalos ni flores que me sean enviados al hospital.*

Firma del paciente o su apoderado _____ **Nombre y apellido en letra de molde** _____

Fecha y hora: _____

Ref: Hospital Patient Directory, Policy 702

Riverside University Health System – Medical Center
Moreno Valley, California 92555

HOSPITAL PATIENT DIRECTORY FORM

Formulario para el directorio de pacientes hospitalizados

 # 3s **9/18**

White – Chart Pink - Patient

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 707	Page 1 of 5
Title: Patient and Workforce Photography	**Effective Date:** 5/6/2019	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☒ Policy ☐ Procedure ☐ Guideline

1. **PURPOSE.** This policy establishes standards for photographing or recording patients and workforce members in the RUHS –Medical Center.

2. **SCOPE.** This policy applies to all patients and all workforce members of the RUHS – Medical Center. It does not apply to images recorded through security surveillance equipment.

3. **POLICY.**

3.1 Protect the confidentiality and privacy of patients and workforce members while allowing photography and recording under appropriate circumstances.

3.2 Prohibit photography if it interferes with patient care or RUHS – MC functions.

3.3 Obtain written authorization from a patient prior to releasing, using, or disclosing his/her identifiable images and recordings to individuals or organizations outside of the RUHS – Medical Center.

3.4 Ensure that uses and disclosures of photographs of patients are in compliance with all State and federal regulations.

4. **DEFINITIONS**

4.1 Photography is defined as a photograph or photographic reproduction, audio, or video recording, in any media, still or moving, including digital, print, online, or other electronic means of reproducing images.

4.2 Types of Photography:

a. Medical Photography is defined as photography that is used only for purposes related to registration identification, diagnosis or treatment or for education or training programs conducted by RUHS - Medical Center.

b. Educational Photography is defined as photography (a) in which the patient is deidentified and (b) that is taken or used by RUHS - Medical Center workforce members, for teaching activities, for publication in a scholarly journal, or for some other legitimate educational purpose.

c. Media Photography is defined as photography by news media organizations or for documentary filming and is subject to approval and supervision by RUHS - Medical Center Administration.

d. Patient Photography is defined as photography or recording that is undertaken by or at the request of the patient or patient representative.

e. Haiku is an Epic application for iOS and Android devices. It gives providers mobile access to patient health information within a secure system. Images can be captured and uploaded automatically to the patient's medical record without local storage on the device.

4.3 Canto is an Epic application for the iPad device. It gives providers mobile access to patient health information within a secure system. Images can be captured and uploaded automatically to the patient's medical record without local storage on the device.

4.4 Workforce Member for the purpose of this policy is defined as employees, physicians, volunteers, students, residents, and other persons whose performance of work is conducted at an RUHS - Medical Center facility, whether or not they are paid by RUHS - Medical Center.

5. PROCEDURES

5.1 **Patient Rights relating to Photography** include:

a. Patients are notified of the hospital's practices relating to medical photography by language included in the *Conditions of Treatment* which they are asked to sign upon admission or registration and which is stored with their medical record.

b. The patient or patient's representative has the right to:

1. Be informed, if possible, prior to the photography of the use and purpose for which it is being created;
2. Refuse medical photography, which refusal shall be documented in the patient's medical record;
3. Withdraw permission to be photographed at any time by notifying their clinician;
4. Give permission for use or release of photography by execution of the "RUHS Authorization for Release of Information" form.

5.2 **Medical Photography**. Medical photography may be appropriate for, but not limited to:

a. Documentation of a medical condition or treatment.
b. When non-accidental injury or abuse is suspected.
c. Monitoring wounds and pressure ulcers.
d. Obtaining a picture of patients to be used for patient identification.
e. Training/teaching conducted at RUHS - Medical Center.
f. Recording injuries sustained as the result of an accident or incident.
g. Internal peer review and quality assurance at RUHS - Medical Center.

5.3 **All medical photography images** shall be taken with cameras owned by and stored at RUHS - Medical Center or with a device equipped with either Haiku or Canto.

a. Medical photography will not be taken with personal cameras or devices except through the Haiku and Canto applications.

b. Medical photography cannot be stored on personal portable devices, including phones, laptops, "flash" or other external drives.

c. All medical photography should be uploaded to the patient's medical record as soon as practicable and then deleted from the memory of the camera used to create it.

d. Medical Photography images may also be printed and sent to Medical Records for imaging. Printed images shall be labeled as follows:

1. Patient name
2. Medical record number
3. Date the photograph was taken
4. Subject matter and body part photographed (e.g. decubitus ulcer of coccyx); and Physician's Name

e. Medical photographs received from outside sources (medical records from an external provider or from the patient) shall be forwarded to the Medical Records Department for imaging into the patient's record.

5.4 **Educational Photography.** Images of patients may be used for educational purposes or publication only if they are deidentified as follows:

a. To be deidentified images or recordings must not contain or be associated with information reflecting any of the following:

1. Names
2. All geographic subdivisions smaller than a state, including street address, city, county, precinct, ZIP code, and their equivalent geocodes
3. All elements of dates (except year) for dates that are directly related to an individual, including birth date, admission date, discharge date, death date, and all ages over 89 and all elements of dates (including year) indicative of such age, except that such ages and elements may be aggregated into a single category of age 90 or older
4. Telephone numbers
5. Vehicle identifiers and serial numbers, including license plate numbers
6. Fax numbers
7. Device identifiers and serial numbers
8. Email addresses
9. Web Universal Resource Locators (URLs)
10. Social security numbers
11. Internet Protocol (IP) addresses
12. Medical record or account numbers
13. Biometric identifiers, including finger and voice prints
14. Health plan beneficiary numbers

15. Full-face images or images of other features that can identified by comparing them to the patient's features or other unique characteristics

b. An image is not de-identified if the patient's identity can be deduced (re-identified) from associated information such as media coverage, care team affiliation, uniqueness of treatment, etc.

c. An image is not deidentified if the patient could recognize their own image. One must be cautious that the presence of a birthmark, tattoo, body piercing, or prominent mole included in a photograph, no matter how small, might unmask the patient's identity.

d. Those creating Educational Photography images may not create or retain versions of the images that are identifiable unless they also obtain a completed RUHS Authorization for Release of Information form from the patient or patient representative before creating the identifiable image.

5.5 **Patient and Visitor Photography**

a. Photographs and recordings may not be taken by patients and visitors of other patients and RUHS – Medical Center workforce members without their express consent.

b. Workforce members may instruct patients and visitors that photography or recording must be discontinued immediately if it interferes with patient care or violates the privacy of other patients.

c. Visitors of a patient may only photograph or record the patient. No other patients may be included in the photograph or recorded image.

d. Patient Photography is limited to patient rooms and/or discrete patient treatment areas such as an outpatient examination room.

e. Photographs and recordings may not be taken by visitors in the Emergency Department, Labor and Delivery, or operating rooms unless the attending physician or other health care provider pre-approves the photography.

f. Photographs and recordings taken by visitors are not entered into the medical record.

g. Photographs and recordings taken by family/visitors are the responsibility of the patient and/or visitor.

h. When a patient or visitor involved in a patient's care requests that a RUHS – Medical Center workforce member to take a photograph or recording solely for the patient's personal use, written consent is not required, and the photograph shall only be taken with a patient owned device. Workforce members should document the request and actions taken in the patient's record.

i. Newborn bereavement photography is a distinct patient service provided by RUHS-Medical Center and governed by departmental procedures and vendor contracts.

j. Patients requesting to photograph their medical record using their own personal mobile device shall be referred to the Medical Records Department to review and or obtain a copy of their medical record.

5.6 **Photography for Research**. Special requirements exist if photographs are taken for research purposes. Consult with the Institutional Review Board (IRB).

5.7 **Media Photography**. Any request to photograph, record, or shoot live coverage at RUHS Medical Center will be forwarded to Public Relations for approval prior to a media interview or photography/recording session.

6. REFERENCES:

6.1 The Joint Commission Comprehensive Accreditation Manual for Hospitals, September 2016, RI.01.03.03

6.2 45 CFR 164.514 (a) –(b) *Standard: de-identification of protected health information*

6.3 California Code of Regulations, Title 22, Section 70763 and 71561

6.4 Roberts EA, Troiano C, Spiegel JH. Standardization of Guidelines for Patient Photograph Deidentification. Annals of plastic surgery. 2016 Jun 1;76(6):611-4. https://hdl.handle.net/2144/22096

6.5 Patient Privacy, Photographs, and Publication Cody A. Koch, MD, PhD; Wayne F. Larrabee Jr, MD, JAMA Facial Plast Surg. 2013;15(5):335-336. doi:10.1001/jamafacial.2013.1411 https://jamanetwork.com/journals/jamafacialplasticsurgery/fullarticle/1716534

6.6 De-Identification of Personal Information, Simson L. Garfinkel, NIST, 2015 https://nvlpubs.nist.gov/nistpubs/ir/2015/NIST.IR.8053.pdf

Document History:

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Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
9/19/2018	Compliance and Ethics Committee	N	
12/12/2018	Ethics Committee	Y	Refined description for not deidentified; removed references to Media Tab since images can be stored in multiple places within the medical record.
2/5/2019	Policy Approval Committee	Y	Added newborn bereavement type
4/11/2019	Medical Executive Committee (MEC)	N	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 721	Page 1 of 4
Title: Privacy and Security Violations - Sanctions	**Effective Date:** 5/6/2019	☐ 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 **Breach**: Generally is an impermissible acquisition, access, use or disclosure under the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rules at 45 CFR 164 Subpart E that compromises the security or privacy of protected health information (PHI) and/or Personal Information (PI). Information can be in the form of paper, faxes, an electronic device, including laptops and portable devices (including USB devices), and can even be disclosed through inappropriate conversations. A Breach is the unauthorized acquisition, access, use or disclosure of unsecured PHI [defined below] or PI [defined below] and personally identifying information.

1.2 **Personal Information (PI):** An individual's first name or first initial and last name in combination with any one or more of the following data elements, when either the name or the data elements are not encrypted: (a) Social Security Number; (b) driver's license number or California identification card number; (c) account number, credit or debit card number, in combination with any required security code, access code, or password that would permit access to an individual's financial account; (d) medical information; or (e) health insurance information.

1.3 **Protected Health Information (PHI):** Individually identifiable health information transmitted or maintained in any form or medium, including oral, written, and electronic. Individually identifiable health information relates to 1) the past, present, or future physical or mental health, or condition of an individual; 2) provision of health care to an individual; or 3) past, present, or future payment for the provision of health care to an individual. Information is considered PHI where there is a reasonable basis to believe the information can be used to identify an individual. Demographic information on patients is also considered PHI.

Protected health information does not include individually identifiable health information of persons who have been deceased for more than 50 years.

2. RESPONSIBILITIES

2.1 All workforce members are responsible to protect the patient's privacy and confidentiality.

3. POLICY

3.1 Riverside University Health System (RUHS) will apply sanctions for privacy and security violations in a manner consistent with the County of Riverside's disciplinary process.

4. GUIDELINES

4.1 Confidentiality of Patient Information

Federal and State privacy laws require that workforce members protect the confidentiality, privacy, and security of protected health information (PHI). For example, anyone who inappropriately accesses, obtains, uses, or discloses individually identifiable health information may be in violation of the Health Insurance Portability and Accountability Act ("HIPAA") Privacy or Security Rules and may face criminal and/or civil penalties of up to $250,000 and up to ten years imprisonment.

Workforce members must at all times comply with (1) HIPAA, the California Confidentiality of Medical Information Act, the Lanterman-Petris-Short Act, and other applicable state and federal laws that govern the privacy and security of health information, personal information, or other patient confidential information, and (2) RUHS privacy and security policies and procedures.

Any violation of applicable privacy or security laws or policies may result in disciplinary action as described below in Section 4.3.

4.2 Investigation of Known or Suspected Violations

The Compliance Officer will conduct prompt, appropriate fact finding investigations in response to all calls, letters and other forms of communication both direct and indirect, alleging a violation of federal or state privacy laws. If the reporting party requests confidentiality, best efforts will be undertaken to protect the confidentiality of the reporter throughout the investigation.

4.3 The Compliance Officer will determine the focus of the investigation and designate the investigative team, which will conduct a thorough fact finding investigation commensurate with the level of the alleged violation(s) and specific allegation(s) made. This fact finding may include interviewing employees or witnesses and reviewing pertinent documentation. If a violation is substantiated, it will be reported to the appropriate regulatory agency and referred to Human Resources for an administrative misconduct investigation.

Substantiated Privacy and/or Security Violations of the Privacy and Security Policy or RUHS's Compliance policies will be subject to the County's disciplinary procedures. Actions that may be taken depending on the circumstances and violation(s) include, but are not limited to: education and training, verbal counseling, written warnings (pre-discipline), written reprimands, suspensions or pay reductions, demotions, terminations, or probationary releases for those who have not passed their initial probation. A workforce member's performance evaluation may also be adversely impacted by the commission of one or more violations. The type of action taken will be based on the overall factors involved in each case.

a. Factors to be considered include but are not limited to: whether or not the violation was intentional, whether it involved personal gain, whether it was a first violation or repeated violation(s), the total number and frequency of violations, the level of harm caused, whether there was an intent to cause harm, the impact

on the Hospital and/or patients, etc. The workforce member's personal work history will also be considered.

b. Human Resources will recommend an appropriate action/sanction in consultation with the affected Department Manager and the Compliance Officer.

4.4 Examples of Privacy Policy and Regulatory Violations (not exhaustive)

a. Failing to log off of systems that contain PHI
b. Using incorrect fax numbers, email or postal addresses
c. Discussing PHI in public areas without exercising due caution
d. Not reporting policy violations to the Compliance Department
e. Emailing PHI without the appropriate encryption
f. Improper disposal of PHI
g. Accessing medical records without a business need to do so
h. Sharing passwords and user access
i. Disclosing PHI without proper authorization
j. Loss or theft of unencrypted devices containing PHI
k. Saving PHI on an unauthorized device
l. Transportation of PHI without appropriate safeguards

4.5 No Threats, Intimidation, or Retaliation. Individuals and RUHS's Workforce members will not be intimidated or discouraged from exercising their privacy rights. Furthermore, RUHS will not retaliate against any individual or RUHS Workforce member who:

a. Files a complaint with the Secretary of DHHS,

b. Testifies, assists, or participates in an investigation or compliance review of RUHS's Privacy Policies and Procedures, or

c. Opposes any act or practice that the person believes in good faith violates the HIPAA Regulations provided that the opposition does not involve a disclosure of Protected Health Information (PHI) in violation of HIPAA Regulations.

4.6 No Waiver of Rights. Under no circumstances will RUHS require an individual, including any RUHS Workforce member, to waive his or her privacy rights as a condition for receiving Treatment, Payment, enrollment in a Health Plan, or eligibility for benefits offered by a Covered Entity.

4.7 Reporting of Violations. Any RUHS Workforce member who witnesses or is the subject of intimidation, discouragement, threats or retaliation for exercising privacy rights, or who is asked to waive privacy rights as a condition for receiving Treatment, Payment, enrollment in a Health Plan, or eligibility for benefits, will immediately notify RUHS's Privacy Office which is responsible for investigating violations of this Policy. Payment, enrollment in a Health Plan, or eligibility for benefits offered by a Customer or a Customer's client.

5. References

5.1 45 CFR § 164.530
45 CFR § 164.308(a)(1)(ii)(c)

Subject: Sanctions for Privacy and Security Violations	Document No. 721

Document History:

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Document Owner: Corporate Compliance	Replaces Policy: N/A

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
11/2015	Human Resources - Director		
11/2015	Compliance Committee		
01/2016	Privacy & Security Oversight Committee	N/A	N/A
4/5/16	Policy Approval Committee	Yes	Minor formatting
5/2016	Hospital Executive Committee	No	
3/15/2019	Compliance	Yes	Added no retaliation, no waiver and reporting language sections.
4/2/2019	Policy Approval Committee	Yes	Removed specific references to MOUs and Management Agreements leaving reference to County disciplinary process.

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 801	Page 1 of 3
Title: Medication Reconciliation	**Effective Date:** 2/11/2019	☐ 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 This procedure applies to inpatients, and outpatients of the Medical Center, including the Arlington campus.

2. DEFINITIONS

2.1 Discrepancy. Omissions, duplications, contraindications, unclear information, adjustments, deletions, and/or additions when comparing medication listings.

2.2 Disposition. Decision made by the prescriber to continue or discontinue medications that the patient is taking.

2.3 Medication Reconciliation. Process of comparing the medications a patient is taking with newly ordered medications. The documentation of reconciliation may be in a form, or referred to as a list.

3. GENERAL PROCEDURES

3.1 Accurately and completely reconcile medications across the continuum of care.

3.2 Involve the patient and/or patient representative in the process of medication reconciliation.

3.3 Reduce negative patient outcomes associated with medication discrepancies or related errors.

3.4 In situations where communication barriers, capacity, literacy, or cultural barriers may be an obstacle, reasonable efforts shall be made to use multiple resources to obtain necessary information.

3.5 No abbreviations shall be used for documentation.

4. PROCEDURES - INPATIENT

4.1 Inpatient Medication Reconciliation Process

a. Takes place upon Admission and Discharge

b. Effort must be made to obtain a list of current medication information from:
   - Patient and/or patient's representative,
   - Medication bottles on hand,
   - Medication Administration Record from the patient chart,
   - Pharmacy,
   - And/or primary physician.

4.2 Elements to be collected will include:

a. Patient allergies

b. Routine medications and those taken on an as-needed basis including but not limited to:
   - Prescription medications,
   - Over-the-counter medications,
   - Vitamins, herbals, dietary supplements.

c. Medication name, dose, frequency, route

d. Documentation of the medication disposition:
   - New Medication
   - Continue per Prescribing Provider
   - Stop Taking

e. Upon admission, the reason for any orders to change or discontinue must be documented using the appropriate method: electronic or other form.

f. Discrepancies will be resolved within the listing of medications.

g. Purpose or indication for the medication shall be included when needed to clarify/validate a medication name.

5. PROCEDURES - AMBULATORY – OUTPATIENT

5.1 Ambulatory – Outpatient – Clinics, Emergency Department

a. Effort must be made to obtain a list of current medications

b. Update medication list based on new orders

c. Include changes to disposition for existing medication orders
   - New Medication
   - Continue
   - Stop Taking

d. Include medication name, dose, frequency, route

e. Discrepancies will be resolved within the listing of medications.

f. Purpose or indication for the medication shall be included when needed to clarify/validate a medication name.

5.2 Ambulatory – Radiology, Diagnostics

a. Effort must be made to obtain a list of current medications

b. Update medication list based on new orders

c. Screen for pertinent medications as described in department procedures as needed prior to a pharmacological diagnostic test

6. INPATIENT – discharge, OUTPATIENT – discharge

6.1 Staff shall ensure the patient has been:

a. Provided with educational material about the medications he or she should be taking, if not already provided

b. Given a copy of the medication reconciliation form, or the medication list or sheet that identifies the disposition of the orders

c. Advised on the importance of keeping their medication list or record current

d. Advised to give a copy of the updated medication reconciliation form to his/her primary physician and/or other providers.

e. Advised to carry the list of current medications for emergency situations.

7. REFERENCES

7.1 The Joint Commission, National Patient Safety Goals, Reconciling Medication Information NPSG.03.06.01, effective January 1, 2019

7.2 Joint Commission, Sentinel Event Alert, Issue 35, 1/25/06, updated 2/9/06

Document History:

Release Dates: 3/21/06, 9/26/06, 7/19/11, 10/25/12, 12/10/15,	**Retire Date:** N/A
Sponsored by: Pharmacy	**Replaces Policy:** 800.1

Date Reviewed	Reviewed By:	Revisions Made	Revision Description
12/10/15	MEC	No	
1/30/19	Minor changes no need to go to Committee's		Added scope: 1.1, Updated TJC standard reference – 6.1.

RIVERSIDE COUNTY REGIONAL MEDICAL CENTER

Housewide

	Document No: 815	Page 1 of 3
Title: **Patient Controlled Analgesia (PCA) & End Tidal CO_2 (EtCO2) Use/Monitoring**	**Effective Date:** 2/5/2019	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By and Date Approved: Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☐ Procedure ☒ Guideline

1. DEFINITIONS

1.1 Patient Controlled Analgesia (PCA): Self-administration of an analgesic intravenously by a patient instructed in doing so via a programmable pump.

1.2 PCA Module: The module that is attached to the programming module for the delivery of patient controlled analgesic medications. This module is placed to the immediate right of the programming module to ensure security of the drug and device.

1.3 EtCO2 Module: Capnography or end-tidal (exhaled) carbon dioxide (CO2) monitoring. Provides non-invasive, continuous measurement of respiratory rate and exhaled CO2 concentration over time, measured at peak of expiration. It utilizes Microstream® capnography technology. Vital Signs: In the context of monitoring elements, vital signs consist of temperature, heart rate, respiratory rate, pain score, O2 saturation and blood pressure.

1.4 PCA By Proxy: PCA by proxy is a term used to describe conditions under which someone other than the patient administers one or more doses of an opioid to the patient using the PCA device. This is an unsafe practice which exposes the patient to risk of being overmedicated.

1.5 Independent double check (IDC): The Institute for Safe Medication Practices defines an Independent Double Check as a procedure in which two clinicians separately check (along and apart from each other, then compare results) each component of prescribing, dispensing, and verifying the high-alert medication before administering it to the patient.

2. GUIDELINES

2.1 Parameters are established and designated by the physician via a medication order, which guides the individualized delivery amounts.

2.2 The registered nurse programs these parameters into the ALARIS® PCA.

2.3 The system is designed to deliver no more than a precise number of doses over a specific time frame to avoid overdoses.

EtCO2 Module

2.4 Utilize EtCO2 Module to monitor with PCA infusion

a. Exclusion: DNR with Comfort Measures only

Assessment and reassessment

2.5 Assess and document vital signs and PCA assessment including EtCO2 readings at time of starting infusion.

a. Assess and document patient's ability to self-administer

b. Educate patient on the use of PCA. Educate family members that the PCA infuser is for use by the patient only and PCA by proxy is an unsafe practice that is not allowed.

c. DO NOT activate infuser for patients. If patient is unable to activate infuser, consider using basal rate.

d. Run PCA into a primary IV fluid running at minimum rate of 10 mL/hour unless patient is already placed on maintenance fluid.

e. Assess and document monitoring parameters **as ordered**.

f. With each infusion rate increase or medication change (i.e. Morphine Sulfate to HYDROmorphone), repeat the initial assessments. If reducing the infusion rate in anticipation of weaning from PCA therapy, the patient should be reassessed for adequate pain relief.

g. Assess PCA history every 4 hours and document on PCA flowsheet, then clear PCA data.

h. Reassessment may be performed and documented more frequently as indicated by patient condition.

i. 2nd RN to perform IDC to verify pump programming upon initiation, change of PCA setting, and during any handoff.

Documentation

2.6 Documentation:
a. Flowsheet
b. Medication Administration Record
c. Education (assessment and material provided)

2.7 Document each new PCA syringe on the Medication Administration Record (MAR).

2.8 Document PCA infusion pump settings at time of initiation, handoff, and order change

Notify the physician for any of the following:

2.9 Stop infusion if evidence of airway obstruction, for respiratory rate of less than or equal to 10 breaths/minute (compare to patient's usual respiratory rate and pattern), or as ordered by provider.

2.10 EtCO2 less than 25 mmHg or greater than 50 mmHg

2.11 Unrelieved pain: above patient's tolerable level.

2.12 Unrelieved side effects.

2.13 Excessive or increasing level of sedation not controlled by rate adjustment. Stop infusion.

2.14 Unresponsiveness or shallow ineffective respirations

2.15 Change in mental status.

2.16 Notify physician for alternate orders if PCA is interrupted for the following reasons:

a. Inadequate pain relief

b. Level of Sedation score of 3 or as ordered

c. RASS of -4 or -5 or as ordered

d. RR less than 10 breaths per minute or as ordered

e. BP less than 85/50 mmHG or as ordered

Discontinuing PCA Infusion Therapy

2.17 Stop infusion immediately for signs of respiratory depression. Administer naxolone as ordered.

2.18 When a drug is discontinued, discard any remaining drug and note the amount wasted in PYXIS®. The wasting and documentation must be witnessed and co-signed by two registered nurses.

3. REFERENCES

3.1 ALARIS® Infusion System, version 9.19, December 2016

3.2 Centers for Medicare & Medicaid Services Conditions of Participation §482.23(c) Standard: Preparation and Administration of Drugs.

3.3 The Joint Commission standards MM.01.01.03 and MM.06.01.03 and - Effective January 1, 2019

3.4 Institute for Safe Medication Practices (ISMP) "Medication Safety Alert" published 7/10/2003, 7/24/2003, and 9/22/2016.

Document History:

Release Dates: 12/28/15, 6/13/18		**Retire Date:** N/A	
Sponsored by: Pharmacy Department		**Replaces Policy:** previously 390/C316, HW829/C317	
Date Reviewed	**Reviewed By:**	**Revisions Made?**	**Revision Description**
9/6/2018	PCA Workgroup	Yes	Content update to match hold parameters to EPIC Included information on IDC and PCA By Proxy
9/19/2018	Nursing Policy & Procedure Committee	Yes	Removed language that specifies notifying the provider if pulse oximetry demonstrates desaturation as this already is covered in other policies.
10/9/2018	Pharmacy Review Committee	Yes	Minor formatting change.
11/5/2018	P&T Committee	No	
11/30/18	PAC E-Vote	Yes	Updated references. Added education to Documentation section.
1/10/19	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 819	Page 1 of 4
Title: Pediatric Standard IV Medication Concentration	**Effective Date:** 2/11/2019	☐ 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 This policy applies to pediatric and neonatal patients at Riverside University Health System – Medical Center.

2. DEFINITIONS

2.1 Parenteral medications: drugs administered by a route other than the digestive tract such as intravenous (IV), subcutaneous, and intraosseous.

2.2 Rule of Six. The error-prone practice of using a mathematical calculation to conveniently prepare a non-standard concentration medication drip based on weight.

3. GUIDELINES

3.1 All parenteral medications will be administered according to evidence-based practices and established guidelines.

3.2 The "Rule of Six" is error prone and prohibited.

3.3 Transport patients (pre-hospital or intra-hospital care)

a. May require a unique drug library due to concentration differences.

b. Infusion devices used during transport may differ from those used in the hospital patient care area.

c. Special care must be taken when changing over to other concentrations, libraries or pump devices.

3.4 Standard infusion concentrations combined with smart-pump technology are utilized to reduce continuous infusion medication errors in pediatric and neonatal patients.

a. Concentrations shall be limited to those necessary to provide optimal administration of medication in a fluid volume appropriate for the prescribed patient.

- Drug concentrations may differ from adult care areas.

- Weight and age ranges
  for pediatric patients are wide, often requiring more than one standard drug concentration and measures to avoid exceeding maximum adult doses.

- Doses administered in small volumes often require concentration dilutions due to syringe device capabilities.

3.5 Ordering Process

a. Computerized prescriber Order Entry (CPOE) will be utilized to initiate pediatric continuous infusions. Exception includes down time or emergent situations.

b. If the order does not specify administration instructions, established guidelines will be followed (see appendices).

3.6 Transcribing

a. Nursing will validate the accuracy and acknowledge each order.

b. The pharmacist will review the order prior to verification.

3.7 Compounding and dispensing

a. Commercially available products are preferred and will be utilized when appropriate.

b. Compounded preparations will be prepared by pharmacy according to standardized process.

3.8 Administration and monitoring

a. The pharmacy will maintain intravenous administration guidelines per established policy.

b. Infusion guideline appendices will be accessible in an electronic format with a hard copy available in the pharmacy.

c. Guardrail limits shall be utilized to alert staff to actual or potential administration errors.

- The guardrails will be maintained to avoid catastrophic events yet minimize excessive alerts.

d. Intravenous access patency will be assessed prior to starting and periodically during medication administration.

- Central line infusion is preferred for concentrated continuous drips.

e. Titration or weaning is only permitted according to complete orders or per approved guidelines (protocols).

- Complete orders include
  initial dose/rate, maximum dose/rate, titration dose/rate, titration frequency and patient-specific goals or parameters.

  i. Deviation from the order or protocol may be required when a patient is unstable, rapidly deteriorating or during life-threatening situations that require emergent deviation from the order to stabilize the patient and prevent harm.

  ii. The licensed independent prescriber shall be notified immediately.

- Complete documentation of titration parameters is required for rate adjustment (e.g. blood pressure, MAP, PTT, pain score).

- Restarting medications previously weaned or stopped requires a new order.

f. Monitoring, will be appropriate for the drug administered, specific orders or established guidelines.

g. The medication may be discontinued with significant signs and symptoms of adverse drug reactions, infiltration or extravasations. Notify independent licensed prescriber immediately.

4. REFERENCES

4.1 Benjamin, L., Frush, k., Shaw, k., Shook, J. E., Snow, S. K., AMERICAN ACADEMY OF PEDIATRICS , C., . . . EMERGENCY NURSES ASSOCIATION, P. (2018, March). Pediatric Medication Safety in the Emergency Department. *Pediatrics*, 141(3). doi:10.1542/peds.2017-4066.

4.2 Institute for Safe medication Practices, & Vermont Oxford Network. (2011). Standard Concentrations of Neonatal Drug Infusions. A collaborative effort between the Institute for Safe medication Practices (ISMP) and Vermont Oxford Network (VON). Retrieved August 21, 2018, from https://www.vtoxford.org/quality/nicq/ISMPStandardConcentrations.pdf

4.3 ISMP Institute for Safe Medication Practices. (2009). Proceedings from the ISMP Summit on the Use of Smart Infusion Pumps: Guidelines for the Safe Implementation and Use. Retrieved August 21, 2018, from https://www.ismp.org/sites/default/files/attachments/2018-06/ISMP%20Smart%20Pump%20Guidelines%202009.pdf

4.4 Eiland, L. S., Benner, K., Gumpper, K. F., Heigham, M. K., Meyers, R., Pham, K., & Potts, A. L. (2018). ASHP-PPAG Guidelines for Providing Pediatric Pharmacy Services in Hospitals and Health Systems. The journal of pediatric pharmacology and therapeutics : JPPT : the official journal of PPAG, 23(3), 177-191.

4.5 McLeroy, P. (1994). The rule of six: calculating intravenous infusions in a pediatric crisis situation. Hospital Pharmacy, 29, 939-940, 943.

5. ATTACHMENTS

5.1 Appendix 1: Pediatric IV Guide (Pediatric and Neonatal Intravenous Administration Guidelines)

5.2 Appendix 2: Titration Guide PICU (Standard Drips and Titration)

5.3 Appendix 3: Drip Flow Rates PICU

5.4 Appendix 4: Heparin PICU (Heparin Titration Protocol)

5.5 Appendix 5: Titration Guide NICU (Standard Drips and Titration)

5.6 Appendix 6: Drip Flow Rates NICU

Document History:

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Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
10//2018	Pharmacy Review Committee	Yes	Updated format; title change; included current safety recommendations; include Pediatric and neonatal appendices from HW830
11/5/2018	Pharmacy and Therapeutics Committee	No	
11/30/18	PAC Evote	Yes	12/13/18 Updated References as requested by PAC.
1/10/19	MEC	No	

DEFINITIONS:
Push: Direct IV administration either manually or via Smart Pump, usually under 15 minutes
IVPB: Intermittent IV infusion utilizing a Smart Pump, usually 15 minutes or greater
Drip: Continuous IV infusion utilizing a Smart Pump, usually over 24 hours

NOTE:
This reference serves as an abridged guideline for the administration of parenteral medications for pediatric and neonatal patients. Consult references for detailed information, including specific BOXED WARNING, dosing, compatibility, stability and other information.

Administer Using Guardrails

				IV BOLUS (Push)		INTERMITTENT INFUSION (IVPB)					
Drug	NICU	PICU	PEDS	concentration	RATE	concentration	RATE	concentration	RATE	Usual Dose [adult max]	Nursing Considerations
acetaminophen	IVPB	IVPB	IVPB	n/a	n/a	10 mg/mL	15 minutes	n/a	n/a	12.5-15 mg/kg/dose [< 50 kg 750 mg; ≥ 50 kg 1000 mg]	BOXED WARNING Formulary Restrictions TPN: Yes
acetaZOLAMIDE	Push	Push	Push	100 mg/mL	1-2 minutes	100 mg/mL	15 minutes	n/a	n/a	1-5 mg/kg/dose [1000 mg]	Max 500 mg/min TPN: No
acetylcysteine		IVPB Drip	Drip	n/a	n/a	50 mg/mL	60 minutes	7 mg/mL	2nd dose: 4 hours 3rd dose: 16 hours	150 mg/kg over 60 min, then 50 mg/kg over 4 hours, then 100 mg/kg over 16 hours [300 mg/kg]	Standard acetaminophen overdose regimen
acyclovir	IVPB	IVPB	IVPB	n/a	n/a	5 mg/mL	60 minutes	n/a	n/a	5-20 mg/kg/dose (Obese: use IBW)	Central Line Preferred [7 mg/mL fluid restricted] TPN: No
adenosine	Push	Push	PALS	undiluted*	rapid 1-2 seconds	n/a	n/a	n/a	n/a	0.1 mg/kg/dose [6 mg] 0.2 mg/kg/dose [12 mg]	*PREPARATION: for doses less than 0.2 mL dilute 1 mL with 9 mL NS = 0.3 mg/mL (300 mcg/mL)
albumin	IVPB	IVPB	IVPB	n/a	n/a	50-250 mg/mL (5% - 25%)	30-60 minutes [5%: 4 mL/minute] [25%: 1 mL/minute]	n/a	n/a	0.25-1 g/kg/dose [25 g]	Suitable diluents D5W, D10W, NS TPN: Yes
alprostadil	Drip	Drip		n/a	n/a	n/a	n/a	5 mcg/mL 10 mcg/mL	DO NOT TITRATE	Usual: 0.01-0.1 mcg/kg/min Max: 0.4 mcg/kg/min	BOXED WARNING Central Line Preferred; TPN: No
alteplase	Drip Cath	Drip Cath	Cath	1 mg/mL	Locked off	n/a	n/a	1 mg/mL	maximum 0.06 mg/kg/hour	DVT: 0.03 mg/kg/hr	See protocol for occluded catheter
amikacin	IVPB	IVPB	IVPB	n/a	n/a	5 mg/mL	60 minutes	n/a	n/a	7.5-15 mg/kg/dose [25 mg/kg]	BOXED WARNING TPN: *2-in-1* Yes; verify with pharmacy
amiodarone	Push Drip	Push Drip		1.8 mg/mL	10-15 minutes	1.5 mg/mL 1.8 mg/mL	20-60 minutes	1,000 mcg/mL 1,800 mcg/mL 5,000 mcg/mL*	DO NOT TITRATE	Bolus: 5 mg/kg [300 mg] Usual: 5-15 mcg/kg/min Max: [2200 mg/day]	*CENTRAL line preferred 0.2 micron inline filter hypotension, bradycardis, phlebitis; TPN: No
amphotericin B liposomal	IVPB	IVPB	IVPB	n/a	n/a	1 mg/mL	120 minutes	n/a	n/a	3-5 mg/kg/dose [10 mg/kg/dose]	NOT compatible with NS, flush with D5W; do not use inline filter less than 1 micron
ampicillin	IVPB Push	IVPB Push	IVPB Push	100 mg/mL [dose ≤ 500 mg]	3-5 minutes	20 mg/mL	15-30 minutes	n/a	n/a	25-100 mg/kg/dose [12 g/day]	For immediate use, may reconstitute 500 mg vial with 5 mL SWFI; TPN: Yes
ampicillin/sulbactam (Unasyn)	IVPB	IVPB	IVPB	n/a	n/a	20 mg/mL	15-30 minutes	n/a	n/a	25-100 mg ampicillin/kg/dose ≥ 40 kg usual adult dose	< 40 kg: dose based on ampicillin; ≥40 kg: expressed as total grams of the ampicillin/sulbactam combination
atropine	Push	Push	PALS	undiluted	rapid 1-2 seconds	n/a	n/a	n/a	n/a	0.02 mg/kg/dose [0.5 mg child; 1 mg adolescent]	< 5 kg: no minimum dose
azithromycin	IVPB	IVPB	IVPB	n/a	n/a	2 mg/mL	60 minutes	n/a	n/a	5-10 mg/kg/dose [500mg]	TPN: 2-in-1 only

Please refer to NICU, PICU or PEDS, according to the patient type and monitoring provided, regardless of the physical location of the patient (emergency department, radiology etc.)

				IV BOLUS (Push)		INTERMITTENT INFUSION (IVPB)				***Administer Using Guardrails***	
Drug	NICU	PICU	PEDS	concentration	RATE	concentration	RATE	concentration	RATE	Usual Dose [adult max]	Nursing Considerations
aztreonam	IVPB	IVPB	IVPB	n/a	n/a	50 mg/mL	30 minutes	n/a	n/a	30 mg/kg/dose [2000 mg]	phlebitis, discomfort at injections site TPN: YES
bumetanide	Push IVPB	Push IVPB	Push IVPB	0.25 mg/mL	1-2 minutes	D5W, LR, NS	5 minutes	n/a	n/a	0.01-0.1 mg/kg/dose [2 mg]	potent diuretic--monitor electrolytes: bumetanide 1 mg = furosemide 40 mg
caffeine citrate	IVPB	IVPB		n/a	n/a	20 mg/mL	10-15 minutes 30 minutes (load)	n/a	n/a	Load: 10-40 mg/kg/dose Usual: 5-8 mg/kg/dose	TPN: 2-in-1 only Not interchangable with caffeine benzoate
calcium chloride	IVPB	Push IVPB	PALS	100 mg/mL (PALS)	3-5 minutes	≤ 20 mg/mL	10-30 minutes	n/a	n/a	Hypocalcemia: Dose based on Calcium Chloride 10-20 mg/kg [1000 mg; 2000 mg PALS]	High Risk; bradycardia, hypotension, arrhythmias; hyaluronidase may be used for extravasation
calcium gluconate	Push IVPB TPN	Push IVPB TPN	IVPB TPN	100 mg/mL (PALS)	2-5 minutes	≤ 50 mg/mL	1-2 hours	[3 mg/mL peripheral] [20 mEq/day TPN]	Per TPN rate	50-100 mg/kg/dose [3000 mg]	High Risk; bradycardia, hypotension, arrhythmias; hyaluronidase may be used for extravasation--use large vein or central line TPN: C/I (consult Pharmacist)
ceFAZolin	Push IVPB	Push IVPB	Push IVPB	100 mg/mL	3-5 minutes	100 mg/mL	15-30 minutes	n/a	n/a	25-50 mg/kg/dose [2000 mg up 3000 mg sx prophylaxis]	caution with penicillin allergy (5-15% cross allergy)
cefepime	IVPB	IVPB	IVPB	n/a	n/a	100 mg/mL	30 minutes	n/a	n/a	50 mg/kg/dose [2000 mg]	caution with penicillin allergy (5-15% cross allergy)
cefotaxime	IVPB	Push IVPB	Push IVPB	100 mg/mL	3-5 minutes	100 mg/mL	15-30 minutes	n/a	n/a	50 mg/kg/dose [2000 mg]	TPN: YES
cefOXitin	IVPB	Push IVPB	Push IVPB	100 mg/mL	3-5 minutes	100 mg/mL	15-30 minutes	n/a	n/a	30-40 mg/kg/dose [3000 mg]	caution with penicillin allergy (5-15% cross allergy)
ceftazidime	IVPB	Push IVPB	Push IVPB	100 mg/mL	3-5 minutes	100 mg/mL	15-30 minutes	n/a	n/a	50 mg/kg/dose [2000 mg]	TPN: YES
ceftriaxone	IVPB	IVPB	IVPB	n/a	n/a	40 mg/mL	30 minutes	n/a	n/a	25-100 mg/kg/dose [2000 mg]	Also available in 1% Lidocaine for IM use TPN: No Avoid use with calcium containing solutions
cefuroxime	IVPB	IVPB	IVPB	100 mg/mL	3-5 minutes	100 mg/mL	15-30 minutes	n/a	n/a	50 mg/kg/dose [1500 mg]	
chorothiazide	Push IVPB	Push IVPB		25 mg/mL	3-5 minutes	25 mg/mL	30 minutes	n/a	n/a	1-4 mg/kg/dose	Extravasation Risk; calcium sparing; monitor blood pressure; monitor electrolytes TPN: No
ciprofloxacin	IVPB	IVPB	IVPB	n/a	n/a	2 mg/mL	60 minutes	n/a	n/a	10-15 mg/kg/dose Q8-12Hr [400 mg]	BOXED WARNING May cause venous irritation TPN: YES
clindamycin	IVPB	IVPB	IVPB	n/a	n/a	12 mg/mL	60 minutes	n/a	n/a	5-10 mg/kg/dose [600mg]	BOXED WARNING TPN: YES
dantrolene		Push	Push	250 mg vial	1st dose: rapid Subsequent doses: 1 minute	prophylaxis	60 minutes	n/a	n/a	2.5 mg/kg/dose	Reconstitute by adding 5 mL SWFI to vial (do NOT use bacteriostatic water) Vesicant/extravasation risk
dexamethasone	Push	Push IVPB	Push IVPB	4 mg/mL	1-4 minutes	2 mg/mL	15-30 minutes	n/a	n/a	0.2-0.6 mg/kg/dose [10mg]	variable dosing, check reference

Please refer to NICU, PICU or PEDS, according to the patient type and monitoring provided, regardless of the physical location of the patient (emergency department, radiology etc.)

				IV BOLUS (Push)		INTERMITTENT INFUSION (IVPB)				***Administer Using Guardrails***	
Drug	NICU	PICU	PEDS	concentration	RATE	concentration	RATE	concentration	RATE	Usual Dose [adult max]	Nursing Considerations
dexmedetomidine		Push Drip		4 mcg/mL	10 minutes	n/a	n/a	4 mcg/mL 8 mcg/mL	DO NOT TITRATE	Bolus: 0.25-0.5 mcg/kg/dose Usual: 0.2-0.7 mcg/kg/hr Max: 1.4 mcg/kg/hr [1.5 mcg/kg/hr]	Monitor HR and BP; hypertension associated with higher doses
dextrose	Push IVPB	Push IVPB	Push IVPB	10% infant 25% children 50% adolescents	1 minute			variable	IVF/TPN	0.5-1 g/kg/dose [25 g] PALS	PALS; hypoglycemia protocol vesicant at conc. > 10% (12.5% maximum peripherally)
diazePAM		Push	Push	5 mg/mL	3-5 minutes (max 2 mg/min)	n/a	n/a	n/a	n/a	0.1-0.3 mg/kg/dose [10mg]	BOXED WARNING vesicant
diphenhydramine		Push	Push	undiluted	3-5 minutes (max 25 mg/min)	10 mg/mL in NS	10-15 minutes	n/a	n/a	1-2 mg/kg/dose [50 mg]	May also administer by deep IM
DOBUTamine	Drip	Drip		n/a	n/a	n/a	n/a	600 mcg/mL 800 mcg/mL 1,600 mcg/mL 8,000 mcg/mL	See Titration Protocol	Usual: 0-20 mcg/kg/min Max: 20 mcg/kg/min [40 mcg/kg/min]	Central Line Preferred; (specify range, MAP or SBP)* TPN: YES
DOPamine	Drip	Drip		n/a	n/a	n/a	n/a	600 mcg/mL 800 mcg/mL 1,600 mcg/mL 3,200 mcg/mL	See Titration Protocol	Usual: 3-5 mcg/kg/min Max: 20 mcg/kg/min [20 mcg/kg/min]	BOXED WARNING Antidote = phentolamine Central Line Preferred; (specify range, MAP or SBP)* TPN: YES
doxycycline		IVPB	IVPB	n/a	n/a	1 mg/mL	2-4 hour	n/a	n/a	2.2-4.4 mg/kg/dose [100 mg]	Avoid rapid infusion; avoid use < 8 yr age; TPN: *2 in 1* only
enalaprilat	Push IVPB	Push IVPB		undiluted	5 minutes	QS	5-60 minutes			5-10 **mcg**/kg/dose [1.25 mg]	BOXED WARNING May be further diluted in NS or DSW; TPN: YES
EPINEPHrine	Push Drip	Push Drip	PALS	0.1 mg/mL	rapid 1-2 seconds	n/a	n/a	10 mcg/mL 25 mcg/mL 50 mcg/mL 200 mcg/mL 400 mcg/mL	See Titration Protocol	Dose: 0.01 mg/kg [1 mg] Usual: 0.02-0.1 mcg/kg/min Max: 1 mcg/kg/min [10 mcg/min]	Central Line Preferred; (specify range, MAP or SBP)* Vesicant/Extravasation Risk TPN: *2 in 1* only
esmolol	Push Drip	Push Drip		10 mg/mL	1-2 minutes	n/a	n/a	10 mg/mL 20 mg/mL	See Titration Protocol	Load: 500 mcg/kg Usual: HTN: 25-250 mcg/kg/min SVT: 200 mcg/kg/min Max: [300 mcg/kg/min] HTN: 500 mcg/kg/min SVT: 1,000 mcg/kg/min	Central Line Preferred; (specify range HR, MAP or SBP)* TPN: YES
famotidine	Push IVPB	Push IVPB	Push IVPB	4 mg/mL	2-5 minutes max: 10 mg/min	2 mg/mL	15 minutes	n/a	n/a	0.25-1 mg/kg/dose [20 mg]	Max 10 mg/min TPN: YES
fat emulsion	IVPB TPN	TPN	TPN	20%	*ANTIDOTE Bolus	20%	over 24 hours	20%	over 24 hours	Antidote: 0.8-3 mL/kg bolus*	BOXED WARNING ANTIDOTE (http://www.lipidrescue.org)

				IV BOLUS (Push)		INTERMITTENT INFUSION (IVPB)				***Administer Using Guardrails***	
Drug	NICU	PICU	PEDS	concentration	RATE	concentration	RATE	concentration	RATE	Usual Dose [adult max]	Nursing Considerations
fentaNYL	Push IVPB Drip	Push IVPB Drip PCA	Push IVPB PCA	10-50 mcg/mL	3-5 minutes NICU: 10 minutes	10-50 mcg/mL	10-15 minutes	2 mcg/mL 5 mcg/mL 10 mcg/mL 25 mcg/mL 40 mcg/mL	DO NOT TITRATE	Dose: 1-5 mcg/kg [50 mcg] Bolus: 1-2 mcg/kg [50 mcg] Usual: 2-5 mcg/kg/hr Max: 7 mcg/kg/hr [450 mcg/hr]	BOXED WARNING MAY REQUIRE MECHANICAL VENTILATION Caution: chest wall rigidity; reverse with naloxone TPN: YES
fluconazole	IVPB	IVPB	IVPB			2 mg/mL	60-120 minutes Max: 200 mg/hr				TPN: YES
flumazenil	Push	Push	Push	undiluted	15-30 seconds					Usual: 0.01 mg/kg/dose [0.2 mg]	BOXED WARNING ANTIDOTE (benzodiazepines)
fosphenytoin	IVPB	IVPB	IVPB	n/a	n/a	20 mg PE/mL	30 minutes 2 mg PE/kg/min 150 mg PE/min use slowest rate	n/a	n/a	Dosing expressed as PE (phenytoin equivalents) Load: 15-20 mg PE/kg [1500 mg PE] Usual: 5 mg PE/kg/day Q12hr [300 mg PE/day]	BOXED WARNING Hazardous Precautions (NIOSH [group 2]) Continuous ECG with Q15min BP & RR until 20 minutes post infusion
furosemide	Push IVPB Drip	Push IVPB Drip	Push IVPB	10 mg/mL	1-2 minutes 0.5 mg/kg/min 4 mg/min (>120 mg)	1-2 mg/mL	10-15 minutes	0.5 mg/mL 1 mg/mL 2 mg/mL 5 mg/mL 10 mg/mL	See Titration Protocol	Dose: 1-2 mg/kg [40 mg] Usual: 0.05-0.4 mg/kg/hr Max: 160 mg/hr [40 mg/hr]	BOXED WARNING Rapid administration may cause transient or permanent ototoxicity TPN: Yes
ganciclovir	IVPB	IVPB	IVPB			10 mg/mL	60 minutes			3-7.5 mg/kg/dose Q12hr [15 mg/kg/day]	BOXED WARNING Hazardous Precautions (NIOSH [group 2]) TPN: No
gentamicin	IVPB	IVPB	IVPB			4 mg/mL 10 mg/mL	30-120 minutes			2.5-9.5 mg/kg/dose	BOXED WARNING TPN: YES
glucagon	Push Drip	Push Drip	Push	1 mg/mL	3-5 minutes			0.1 mg/mL	DO NOT TITRATE	NICU: 0.01-0.1 mg/kg/hour PICU: (β- or Ca- Channel blocker toxicity)* LD: 0.03-0.15 mg/kg [10 mg] CI: 0.07 mg/kg/hr [5 mg/hr]	*β-blocker or Ca-channel blocker toxicity, ensure adequate supply on hand
glycopyrrolate		Push	Push	undiluted	1-2 minutes	2 mcg/mL	for doses > 0.2 mg	n/a	n/a	4 mcg/kg/dose [100 mcg]	REVERSAL AGENT (neostigmine/pyridostigmine)
haloperidol		*Push	IM only	undiluted	slowly (max 5 mg/min)	D5W	30-45 minutes			0.05-0.15 mg/kg/dose [5 mg]	*IV Administration is OFF-Label use ECG monitoring for QT prolongation and arrhythmias
heparin	Flush IVF/TPN	Flush DRIP	Flush	1 unit/mL 10 unit/mL 100 unit/mL	line flush	n/a	n/a	100 unit/mL	See Titration Protocol	Usual: 20-35 unit/kg/hr Max: [1800 unit/hr]	standard concentration for UAC line 0.5 unit/mL in 0.45% NS 100 mL TPN: YES (< 100 unit/mL with lipids)
hydrALAZINE	Push	Push		undiluted	1-2 minutes					0.1-0.2 mg/kg/dose [20 mg]	Monitor HR and BP NOT compatible with dextrose
hydrocortisone sodium succinate	Push IVPB	Push IVPB	Push IVPB	0.5 mg/mL 5 mg/mL [50 mg/mL]	≥ 30 seconds	0.1-1 mg/mL	10-30 minutes	n/a	n/a	1-2 mg/kg/dose [100 mg]	TPN: YES

Please refer to NICU, PICU or PEDS, according to the patient type and monitoring provided, regardless of the physical location of the patient (emergency department, radiology etc.)

				IV BOLUS (Push)		INTERMITTENT INFUSION (IVPB)				***Administer Using Guardrails***	
Drug	NICU	PICU	PEDS	concentration	RATE	concentration	RATE	concentration	RATE	Usual Dose [adult max]	Nursing Considerations
HYDROmorphone		Push Drip PCA	Push PCA	undiluted	2-5 minutes	1:1 with NS	doses > 4 mg over 2-5 minuts	0.5 mg/mL 1 mg/mL	DO NOT TITRATE	Dose: 0.01 mg/kg consult reference for PCA and CI	Do Not Titrate
hydroxyzine		IM only	IM only	n/a	n/a	n/a	n/a	n/a	n/a	0.5-1 mg/kg/dose [50 mg]	vesicant
ibuprofen **lysine**	IVPB			n/a	n/a	5 mg/mL	15 minutes			10 mg/kg/dose followed by 5 mg/kg/dose x2 doses at 24 hr and 48 hr	Extravasation Risk Monitor urine output TPN: No
indomethacin	IVPB			n/a	n/a	0.5 mg/mL	30 minutes	n/a	n/a	0.1-0.25 mg/kg/dose	BOXED WARNING rapid administration (Push) decreases mesenteric artery and cerebral blood flow
imipenem/cilastatin	IVPB	IVPB	IVPB	n/a	n/a	5 mg/mL	30-60 minutes	n/a	n/a	DOSING BASED ON IMIPENEM 60-100 mg/kg/day divided Q6hr [4 g/day] 20-25 mg/kg/dose Q8-12hr (neonate)	TPN: YES
immune globulin (IVIG)	IVPB	IVPB	IVPB	n/a	n/a	5% 10%	2-24 hr*	n/a	n/a	See IVIG dosing recommendations	BOXED WARNING *Refer to individual product package insert
insulin, REGULAR	IVPB Drip	IVPB Drip		n/a	n/a	0.1 unit/kg with 400 mg/kg dextrose (hyperkalemia)	15-20 minutes	0.05 unit/mL 1 unit/mL	DO NOT TITRATE	Usual: 0.05-0.1 unit/kg/hr Max: caution > 5 unit/hr NICU: stop if BS ≤ 180 mg/dL	PRIME tubing 20 minutes before infusion TPN: YES
ketamine	Drip	*Push Drip		10-50 mg/mL	5-10 minutes 0.5 mg/kg/min or 2 mg/min *PHYSICIAN ONLY			2.5 mg/mL 10 mg/mL 20 mg/mL	DO NOT TITRATE	Dose: 1-2 mg/kg Usual: 0.5-2 mg/kg/hr Max: 3 mg/kg/hr (soft)	MAY REQUIRE MECHANICAL VENTILATION
ketorolac		Push	Push	undiluted	doses ≤ 30 mg 1-5 minutes					1 mg/kg/dose single dose or 0.5 mg/kg/dose Q6hr [30 mg]	BOXED WARNING Limit duration 48-72 hours (maximum 5 days) Monitor renal function and signs of bleeding
labetolol		Push Drip		undiluted	2-3 minutes 2 mg/min (max)			1 mg/mL 2 mg/mL 5 mg/mL	See Titration Protocol	Load: 0.2-1 mg/kg [20 mg] over 10 min Usual: 0.25-1 mg/kg/hour Max: 3 mg/kg/hr	
levetiracetam	IVPB	IVPB	IVPB	15 mg/mL	5-10 minutes emergently only	15 mg/mL	15 minutes			Load: 20-50 mg/kg [2,500 mg] Usual: 10 mg/kg [1000 mg]	IV to PO when able
levOCARNitine	TPN	Push IVPB Drip TPN	Push IVPB	undiluted	2-3 minutes	further diluted	10-20 minutes			Dose: 50 mg/kg NICU: 10-30 mg/kg/day (TPN)	TPN: YES
levoFLOXacin		IVPB	IVPB			5 mg/mL	60-90 minutes			8-10 mg/kg/dose Q12-24 hr	BOXED WARNING FR: Requires ID approval TPN: No
levothyroxine	Push	Push Drip	Push	20 mcg/mL	2-3 minutes	n/a	n/a	organ donor	mcg/kg/hour	50-80% of oral dose	BOXED WARNING Compatible: NS only
linezolid	IVPB	IVPB	IVPB			2 mg/mL	30-120 minutes			10 mg/kg/dose Q8-12 hr [600 mg/dose or 1200 mg/day > 12 yrs.]	TPN: *2-in-1* only

				IV BOLUS (Push)		INTERMITTENT INFUSION (IVPB)				***Administer Using Guardrails***	
Drug	NICU	PICU	PEDS	concentration	RATE	concentration	RATE	concentration	RATE	Usual Dose [adult max]	Nursing Considerations
LORazepam	Push	Push Drip	Push	1:1 with NS	2-5 minutes 0.025 mg/kg/minute 2 mg/min (max)	n/a	n/a	1 mg/mL	DO NOT TITRATE	0.05-0.1 mg/kg/dose [4 mg] [10 mg/hr]	BOXED WARNING MAY REQUIRE MECHANICAL VENTILATION Central Line Preferred Dilute 1:1 with D5W, NS or SWFI 0.22 micron filter for continuous infusion extravasation risk
magnesium sulfate	IVPB	IVPB	IVPB	200 mg/mL (maximum)	PALS	20 mg/mL	1-4 hours 30 minutes (status asthmaticus)			25-75 mg/kg/dose [2 g]	TPN: YES
mannitol		IVPB				200 mg/mL	20-30 minutes (ICP) 2-6 hours (renal)			0.5-1 g/kg/dose [50 g]	Central Line Preferred; use in-line filter TPN:YES
meropenem	IVPB	IVPB	IVPB	50 mg/mL	3-5 minutes	20 mg/mL	15-30 minutes 4 hours			10-40 mg/kg/dose [2 g] Q8-12hr	TPN: YES
methylprednisolone **SUCCINATE**	Push	Push IVPB	Push IVPB	4 mg/mL 40 mg/mL 125 mg/mL	< 2 mg/kg 3-15 minutes		≥ 2 mg/kg 30 minutes	n/a	n/a	Low: < 2 mg/kg [125 mg] Mod: ≥ 2 mg/kg [250 mg] High: ≥ 15 mg/kg [500 mg]	TPN: YES
metoclopramide	Push	Push	Push	undiluted	1-2 minutes					0.1 mg/kg/dose [10 mg]	BOXED WARNING TPN: YES
metroNIDAZOLE	IVPB	IVPB	IVPB			5 mg/mL	60 minutes			7.5-15 mg/kg/dose [4 g/day]	BOXED WARNING TPN: YES
midazolam	Push Drip	Push Drip	Push	undiluted	2 minutes 1 mg/min (max)	n/a	n/a	0.05 mg/mL 0.1 mg/mL 0.2 mg/mL 1 mg/mL 5 mg/mL	DO NOT TITRATE	Dose: 0.05 mg/kg [5 mg] CI Usual: 0.03-0.4 mg/kg/hr Max: 3 mg/kg/hr [10 mg/hr]	BOXED WARNING MAY REQUIRE MECHANICAL VENTILATION TPN: I/C (consult pharmacist)
milrinone	IVPB Drip	IVPB Drip				≤ undiluted	15-60 minutes	0.05 mg/mL 0.1 mg/mL 0.2 mg/mL 0.5 mg/mL 1 mg/mL	See Titration Protocol	Load: 50-75 mcg/kg Usual: 0.25-0.75 mcg/kg/minute Max: 1.2 mcg/kg/minute	TPN: *2-in-1* only
morphine	Push Drip	Push Drip PCA	Push PCA	2 mg/mL 5 mg/mL	5-10 minutes	0.5-5 mg/mL	15-30 minutes	0.05 mg/mL 0.1 mg/mL 0.25 mg/mL 0.5 mg/mL 1 mg/mL 2 mg/mL 5 mg/mL	DO NOT TITRATE	0.05-0.1 mg/kg/dose [10 mg] PICU CI Usual: 0.01-0.06 mg/kg/hr Max: 0.2 mg/kg/hr [10 mg/hr] NICU CI Usual: 5-20 mcg/kg/hr Max: 30 mcg/kg/hr	BOXED WARNING MAY REQUIRE MECHANICAL VENTILATION Check Reference for PCA Dose TPN: YES
nafcillin	IVPB	Push IVPB	Push IVPB	50 mg/mL	5-10 minutes	50 mg/mL	30 minutes	n/a	n/a	50-100 mg/kg/day [2 g]	Avoid aminoglycosides by 1 hour; TPN: YES
nalaxone	Push	Push Drip	Push	undiluted	30 seconds			4 mcg/mL 8 mcg/mL	DO NOT TITRATE	Full reversal 0.1 mg/kg [2 mg] Usual: 0.001-0.005 mg/kg Max: [2 mg]	May further dilute in NS

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				IV BOLUS (Push)		INTERMITTENT INFUSION (IVPB)				***Administer Using Guardrails***	
Drug	NICU	PICU	PEDS	concentration	RATE	concentration	RATE	concentration	RATE	Usual Dose [adult max]	Nursing Considerations
niCARdipine	Drip	Drip						0.1 mg/mL 0.25 mg/mL 0.5 mg/mL 1 mg/mL	See Titration Protocol	Usual: 0.5-3 mcg/kg/min Max: 5 mcg/kg/min [15 mg/hr]	High Risk
nitroglycerin		Drip						0.1 mg/mL 0.2 mg/mL 0.4 mg/mL 1 mg/mL	See Titration Protocol	Usual: 0.5-3 mcg/kg/min Max: 5 mcg/kg/min [200 mcg/min]	TPN: YES
nitroprusside		Drip						0.1 mg/mL 0.2 mg/mL 0.4 mg/mL 1 mg/mL	See Titration Protocol	Usual: 0.5-3 mcg/kg/min Max: 4 mcg/kg/min [10 mcg/kg/min x10 mins]	BOXED WARNING Monitor CYANIDE Levels TPN: YES
norepinephrine	Drip	Drip						32 mcg/mL 200 mcg/mL 600 mcg/mL	See Titration Protocol	Usual: 0.05-0.1 mcg/kg/min Max: 2 mcg/kg/min [50 mcg/min]	BOXED WARNING Antidote = phentolamine Extravasation: Central Line Prefered TPN: YES
ondansetron		Push	Push	undiluted	2-5 minutes					0.1-0.15 mg/kg/dose [4 mg]	TPN: *2-in-1* only
pantoprazole		Push IVPB	Push IVPB	4 mg/mL	2 minutes	0.4-0.8 mg/mL	15 minutes			0.5-1.8 mg/kg/dose [80 mg/dose]	Compatible: D5W, LR, NS TPN: No
penicillin G (parenteral)	IVPB	IVPB	IVPB			60,000 unit/mL	15-30 minutes			Usual 100,000-300,000 unit/kg/day	TPN: YES
PENTobarbital	Drip	IVPB DRIP				50 mg/mL	10-30 minutes	8 mg/mL 50 mg/mL	DO NOT TITRATE	Load: 10-20 mg/kg/dose over 10-30 min Usual: 1-2 mg/kg/hour	MAY REQUIRE MECHANICAL VENTILATION Monitor BP, HR and RR closely
PHENobarbital	Push IVPB	Push IVPB	Push IVPB	undiluted	3-5 minutes (max 1 mg/kg/min or 30 mg/min)	≤ 130 mg/mL	LD: 30-60 min			Load: 10-40 mg/kg over 30-60 min Usual: 5 mg/kg/day Q12-24 hr Max: 1000 mg/dose	Serum Level: 15-40 mcg/mL TPN: *2-in-1* only
phenytoin	IVPB	IVPB	IVPB	n/a		50 mg/mL or ≥ 5 mg/mL in NS	1-3 mg/kg/min 50 mg/min whichever slower	n/a		Load: 10-20 mg/kg/dose [1000 mg] Usual: 4-8 mg/kg/day Q8-12hr [100 mg]	BOXED WARNING Hazardous (NIOSH 2016 [group 2]) Large vein via infusion pump; continuous cardiac monitoring; If further diluted, must use 0.22-0.55 micron filter
phosphate	IVPB TPN	IVPB TPN	IVPB TPN			0.04 mM/mL (P) 0.27 mM/mL (C)	4-6 hours (mild) 8-12 hours (severe)			See Electrolyte Infusion Guideline	TPN: I/C call pharmacy Avoid Calcium containing solutions (LR)
phytonadione		IVPB					15-30 minutes			0.03 mg/kg [5 mg] fixed dosing: 2.5-5 mg	Oral route prefered
piperacillin/tazobactam	IVPB	IVPB	IVPB	n/a	n/a	60 mg/mL	30 minutes	n/a		80-100 mg piperacillin/kg/dose [4 g]	dosing based on piperacillin component; TPN: YES
potassium	IVPB TPN	IVPB TPN	IVPB TPN	n/a	n/a	0.1 mEq/mL (P) 0.4 mEq/mL (C)	0.25 mEq/kg/hr 10 mEq/hr (P)	80 mEq/L (P)	continuous	See Electrolyte Infusion Guideline	Consider POTASSIUM from all sources TPN: YES
propofol		Push* Drip		10 mg/mL	20-30 seconds ***Qualified personnel only**	n/a	n/a	10 mg/mL	See Titration Protocol	Mechanical Ventilation Required Initial: 5 mcg/kg/min Max: 50 mcg/kg/min	MAY REQUIRE MECHANICAL VENTILATION Caution: requires renewal Q24 hr (PRIS); ALERT: egg or soy allergy TPN: *2-in-1* only

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				IV BOLUS (Push)		INTERMITTENT INFUSION (IVPB)				***Administer Using Guardrails***	
Drug	NICU	PICU	PEDS	concentration	RATE	concentration	RATE	concentration	RATE	Usual Dose [adult max]	Nursing Considerations
RIFAMPin	IVPB	IVPB	IVPB			6 mg/mL	30-60 minutes			10-20 mg/kg/day Q12-24hr [600 mg/dose or 900 mg/day]	TPN: No
sodium bicarbonate	Push IVPB	Push IVPB Drip	PALS	0.5 mEq/mL 1 mEq/mL	5 min (max 0.3 mEq/kg/hr in infants)		4-8 hours			1-2 mEq/kg [50 mEq]	TPN: I/C (Avoid)
terbutaline		Push IVPB Drip		undiluted	5-10 minutes	0.5 mg/mL	15-30 minutes	0.1 mg/mL 0.25 mg/mL 0.5 mg/mL 1 mg/mL	DO NOT TITRATE	Load: 5-10 mcg/kg [20 mcg/kg] Usual: 0.1-5 mcg/kg/min Max: 10 mcg/kg/min	
valproic acid		Push IVPB	IVPB		5 minutes (IVPB Preferred)	10 mg/mL	60 minutes			Convert PO dose/day 1:1 divided Q6hr (strict NPO use only)	Risk for hepatotoxicity
vancomycin	IVPB	IVPB	IVPB	n/a	n/a	5 mg/mL	60-90 minutes	5 mg/mL	over 24 hours	10-20 mg/kg [4 g/day initial]	phlebitis/extravasation; monitor renal function; timing critical for levels TPN:YES
vasopressin	Drip	Drip	PALS	20 unit/mL	rapid 1-2 seconds			0.01 unit/mL 0.2 unit/mL 0.4 unit/mL 1 unit/mL	See Titration Protocol	Check reference for specific dosing Units vary by indication and age (milliunit/kg/hr, unit/hr, millimunits/kg/min; unit/min)	Extravasation: Central Line Prefered TPN: NO
vecuronium	Push Drip	Push Drip		1 mg/mL	rapid 1-2 seconds			0.5 mg/mL 1 mg/mL	DO NOT TITRATE	Bolus: 0.1 mg/kg Usual: 0.01-0.1 mg/kg/hr Max: 0.2 mg/kg/hour [1.7 mcg/kg/min]	High Risk-PARALYZING AGENT PRECAUTION! DDI: aminoglycosides may prolong effect TPN: *2-in-1* only
zidovudine	IVPB	IVPB	IVPB			2 mg/mL	30 minutes			1.5-3 mg/kg/dose [600 mg/day]	HAZARDOUS PRECAUTIONS (NIOSH 2014 [GROUP 2])

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Abbreviations:

DDI: Drug-Drug Interaction

I/C: Incompatible/compatible (variable results favors incompatible)

Max: Maximum

NIOSH: National Institute for Occupational Safety and Health

TPN 2-in-1: Total Parenteral Nutrition containing dextrose and protein *without* fat

TPN 3-in-1: Total Parenteral Nutrition containing dextrose, protein and fat

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Pediatric ICU STANDARD DRIPS and Titration Protocol

MEDICATION	CONCENTRATION	AMOUNT	FLUID	RATE	SUGGESTED DOSING [Adult Maximum]	Titration and Weaning*
amiodarone	1,800 mcg/mL	90 mg/50 mL	D5W	ⓘ	Load: 5 mg/kg (300 mg) over 5-60 min Usual: 5-10 mcgkg/min Maximum: 15 mcg/kg/min	DO NOT TITRATE
		360 mg/200 mL	PREMIX			
dexmedetomidine	4 mcg/mL	200 mcg/50 mL	NS	ⓘ	Load: 0.5-1 mcg/kg/dose Usual: 0.2-0.7 mcg/kg/hour Maximum: 1 mcg/kg/hour	DO NOT TITRATE
	8 mcg/mL	400 mcg/50 mL		ⓘ		
DOBUTamine	0.5 mg/mL	25 mg/50 mL	D5W or NS	ⓘ	Initial: 5 mcg/kg/min Usual: 5-20 mcg/kg/min Max: 20 mcg/kg/min [30]	Titrate: 2 mcg/kg/min Q5 min (specify range MAP or SBP)* Wean: 2 mcg/kg/min Q30 min
	1 mg/mL	50 mg/50 mL		ⓘ		
	2 mg/mL	100 mg/50 mL		ⓘ		
	8 mg/mL	400 mg/50 mL		ⓘ		
DOPamine	0.8 mg/mL	40 mg/50 mL	D5W or NS	ⓘ	Low: 1-5 mcg/kg/min (renal) Moderate: 5-15 mcg/kg/min High: > 15 mcg/kg/min (alpha) Maximum: 20 mcg/kg/min	Titrate: 2 mcg/kg/min Q5 min (specify range MAP or SBP)* Wean: 2 mcg/kg/min Q30 min
	1.6 mg/mL	80 mg/50 mL		ⓘ		
	3.2 mg/mL	160 mg/50 mL		ⓘ		
	6.4 mg/mL	320 mg/50 mL		ⓘ		
EPINEPHrine	10 mcg/mL	0.5 mg/50 mL	D5W or NS	ⓘ	Usual dose: 0.02-1 mcg/kg/min Maximum: 1 mcg/kg/min [10 mcg/min]	Titrate: 0.05 mcg/kg/min Q5 min (specify range MAP or SBP)* Wean: 0.05 mcg/kg/min Q30 min
	25 mcg/mL	1.25 mg/50 mL		ⓘ		
	50 mcg/mL	2.5 mg/50 mL		ⓘ		
	200 mcg/mL	10 mg/50 mL		ⓘ		
	400 mcg/mL	20 mg/50 mL		ⓘ		
esmolol	10 mg/mL	500 mg/50 mL	PREMIX	ⓘ	Initial: HTN: 25 mcg/kg/min SVT: 200 mcg/kg/min usual: 50-250 mcg/kg/min Max: 500 mcg/kg/min	Titrate: 25 mcg/kg/min Q5 min (specify range HR or SBP)* Notify Prescriber ≥ 250 mcg/kg/min Wean: 50 mcg/kg/min Q30 min
	10 mg/mL	200 mL	PREMIX			
	20 mg/mL	1000 mg/50 mL	NS	ⓘ		
fentaNYL	5 mcg/mL	250 mcg/50 mL	D5W or NS	ⓘ	Usual: 2-7 mcg/kg/hour Maximum: 7 mcg/kg/hour	DO NOT TITRATE
	10 mcg/mL	500 mcg/50 mL		ⓘ		
		1000 mcg/100 mL	PREMIX			
	25 mcg/mL	1250 mcg/50 mL	D5W or NS	ⓘ		
	40 mcg/mL	2000 mcg/50 mL		ⓘ		
furosemide	0.5 mg/mL	25 mg/50 mL	NS or D5W	ⓘ	Usual: 0.05-0.4 mg/kg/hour Max: 1 mg/kg/hour [40 mg/hr]	DO NOT TITRATE
	1 mg/mL	50 mg/50 mL		ⓘ		
	2 mg/mL	100 mg/50 mL		ⓘ		
	5 mg/mL	250 mg/50 mL		ⓘ		
	10 mg/mL	500 mg/50 mL	Straight	ⓘ		
Heparin	100 unit/mL	5000 unit/50 mL	D5W	ⓘ	Usual: 10-25 unit/kg/hour Maximum: [initial 1800 unit/hour]	TITRATE PER PROTOCOL
	100 unit/mL	25000 unit/250 mL	PREMIX			
HYDROmorphone	0.5 mg/mL	25 mg/50 mL	D5W	ⓘ	Usual: 5-25 mcg/kg/hour	CAUTION OPIATE NAÏVE
	1 mg/mL	50 mg/50 mL	D5W or NS	ⓘ	Max: 25 mcg/kg/hour	DO NOT TITRATE
insulin	1 unit/mL	50 unit/50 mL	NS	ⓘ	Usual: 0.05-0.1 unit/kg/hr Caution: rate > 5 unit/hr or BG < 150	DO NOT TITRATE (for Pediatric DKA)
	1 unit/mL	100 unit/100 mL				
Ketamine	2.5 mg/mL	125 mg/50 mL	NS or D5W	ⓘ	Load: 1-2 mg/kg/dose over 5 mins Usual: 1-2 mg/kg/hour Max: 3 mg/kg/hour (soft)	DO NOT TITRATE
	10 mg/mL	500 mg/50 mL		ⓘ		
	20 mg/mL	1000 mg/50 mL		ⓘ		
labetolol	1 mg/mL	50 mg/50 mL	D5W	ⓘ	Load: 0.2-1 mg/kg [20 mg] 10 min Usual: 0.25-1 mg/kg/hour Max: 3 mg/kg/hour [4 mg/min]	Titrate: 0.25 mg/kg/hr Q15 min (specify range MAP or SBP)* Wean: 0.25 mg/kg/hr Q30 min
	2 mg/mL	100 mg/50 mL		ⓘ		
	5 mg/mL	250 mg/50 mL		ⓘ		
midazolam	0.1 mg/mL	5 mg/50 mL	NS or D5W	ⓘ	Usual: 0.05-0.1 mg/kg/hour Max: 0.4 mg/kg/hour [10 mg/hr]	DO NOT TITRATE
	0.2 mg/mL	10 mg/50 mL		ⓘ		
	1 mg/mL	50 mg/50 mL		ⓘ		
		100 mg/100 mL	PREMIX NS			
	2 mg/mL	100 mg/50 mL	NS or D5W	ⓘ		
	5 mg/mL	250 mg/50 mL		ⓘ		
milrinone	0.1 mg/mL	10 mg/50 mL	NS	ⓘ	Load: 50 mcg/kg over 15 min Usual: 0.25-0.75 mcg/kg/min Max: 1.2 mcg/kg/min [0.78 mcg/kg/min]	DO NOT TITRATE
	0.2 mg/mL	10 mg/50 mL		ⓘ		
	0.5 mg/mL	25 mg/50 mL		ⓘ		
	1 mg/mL	50 mg/50 mL	Straight	ⓘ		
morphine	0.5 mg/mL	25 mg/50 mL	NS or D5W	ⓘ	Usual: 0.05-0.1 mg/kg/hour Max: 0.4 mg/kg/hour [10 mg/hr]	DO NOT TITRATE
	1 mg/mL	50 mg/50 mL		ⓘ		
		100 mg/100 mL	PREMIX D5W			
	2 mg/mL	100 mg/50 mL	NS or D5W	ⓘ		
	5 mg/mL	250 mg/50 mL		ⓘ		

MEDICATION	CONCENTRATION	AMOUNT	FLUID	RATE	SUGGESTED DOSING [Adult Maximum]	Titration and Weaning*
niCARdipine	0.1 mg/mL	5 mg/50 mL	D5W or NS	ⓘ	Usual: 0.5-3 mcg/kg/min Max: 5 mcg/kg/min [15 mg/hr]	Titrate: 0.5 mcg/kg/min Q5 min (specify range MAP or SBP)* Wean off: 0.5 mcg/kg/min Q30 min
	0.25 mg/mL	12.5 mg/50 mL		ⓘ		
	0.5 mg/mL	25 mg/50 mL		ⓘ		
	1 mg/mL	50 mg/50 mL		ⓘ		
nitroglycerin	0.1 mg/mL	5 mg/50 mL	D5W or NS	ⓘ	Usual: 0.5-3 mcg/kg/min Max: 5 mcg/kg/min[200 mcg/min]	Titrate: 0.5 mcg/kg/min Q5 min (specify range MAP or SBP)* Wean off: 0.5 mcg/kg/min Q30 min
	0.2 mg/mL	10 mg/50 mL		ⓘ		
	0.4 mg/mL	20 mg/50 mL		ⓘ		
	1 mg/mL	50 mg/50 mL		ⓘ		
nitroprusside	0.1 mg/mL	5 mg/50 mL	D5W or NS	ⓘ	Usual: 0.5-3 mcg/kg/min Max: rarely need >4 mcg/kg/min [10 mcg/kg/min x10 min]	Monitor Cyanide Levels Titrate: 0.5 mcg/kg/min Q5 min (specify range MAP or SBP)* Wean off: 0.5 mcg/kg/min Q30 min
	0.2 mg/mL	10 mg/50 mL		ⓘ		
	0.4 mg/mL	20 mg/50 mL		ⓘ		
	1 mg/mL	50 mg/50 mL		ⓘ		
norepinephrine	32 mcg/mL	1.6 mg/50 mL	D5W or NS	ⓘ	Usual dose: 0.02-1 mcg/kg/min Max: 1 mcg/kg/min [50 mcg/min]	Titrate: 0.05 mcg/kg/min Q5 min (specify range MAP or SBP)* Wean: 0.05 mcg/kg/min Q30 min
	200 mcg/mL	10 mg/50 mL		ⓘ		
	600 mcg/mL	30 mg/50 mL		ⓘ		
PENTobarbital	2 mg/mL	100 mg/50 mL	NS	ⓘ	Usual: 0.5-2 mg/kg/hour Max: 5 mg/kg/hour	DO NOT TITRATE
	4 mg/mL	200 mg/50 mL				
	5 mg/mL	250 mg/50 mL				
	8 mg/mL	400 mg/50 mL				
phenylephrine	40 mcg/mL	2 mg/50 mL	D5W or NS	ⓘ	Usual: 0.02-0.1 mcg/kg/min Max: 1 mcg/kg/min	Titrate: 0.05 mcg/kg/min Q5 min (indicate parameter) Wean: 0.05 mcg/kg/min Q30 min
	160 mcg/mL	8 mg/50 mL		ⓘ		
	400 mcg/mL	20 mg/50 mL		ⓘ		
propofol	10 mg/mL	500 mg/50 mL	PREMIX	ⓘ	Usual: 0-50 mcg/kg/min Max: 50 mcg/kg/min; PRIS ≤ 48 hr	Titrate: 5 mcg/kg/min Q5 min to RASS
terbutaline	0.1 mg/mL	5 mg/50 mL	NS	ⓘ	Load: 5-10 mcg/kg Usual: 0.4-6 mcg/kg/min Max: 10 mcg/kg/min	DO NOT TITRATE
	0.25 mg/mL	12.5 mg/50 mL		ⓘ		
	0.5 mg/mL	25 mg/50 mL		ⓘ		
	1 mg/mL	50 mg/50 mL	Straight	ⓘ		
vasopressin DI diabetes insipidus weight-based	0.2 unit/mL	10 unit/50 mL	NS or D5W	ⓘ	Initial: 1 milliunit/kg/hr Usual: 0.5-1 milliunit/kg/hr Max: 10 milliunit/kg/hr	Double or half dose Q60 min to goal
	0.4 unit/mL	20 unit/50 mL		ⓘ		
	1 unit/mL	50 unit/50 mL		ⓘ		
vasopressin DI diabetes insipidus non weight-based	1 unit/mL	50 unit/50 mL	NS or D5W	ⓘ	Usual: 2.5-4 unit/hour Max: convert usual daily requirement to hourly rate	Double or half dose Q60 min to goal
vasopressin shock < 25 kg	0.2 unit/mL	10 unit/50 mL	NS or D5W	ⓘ	Initial: 0.2 milliunit/kg/min Usual: 0.5-2 milliunit/kg/min Max: > 2 milliunit/kg/min (shows no	DO NOT TITRATE
	0.4 unit/mL	20 unit/50 mL		ⓘ		
	1 unit/mL	50 unit/50 mL		ⓘ		
vasopress shock ≥ 25 kg	0.2 unit/mL	10 unit/50 mL	NS or D5W	ⓘ	Usual: 0.01-0.04 unit/min Max: 0.04 unit/min	DO NOT TITRATE
	0.4 unit/mL	20 unit/50 mL		ⓘ		
	1 unit/mL	50 unit/50 mL		ⓘ		
vecuronium	0.5 mg/mL	25 mg/50 mL	D5W (SWFI)	ⓘ	Bolus: 0.1 mg/kg over seconds Usual: 0.05-0.1 mg/kg/hour Max: 0.2 mg/kg/hour	DO NOT TITRATE
	1 mg/mL	50 mg/50 mL		ⓘ		
	2 mg/mL	100 mg/50 mL		ⓘ		

Unless otherwise specified, all drips are prepared final volume 50 mL in 60 mL syringe

PEDIATRIC DRIP CONCENTRATION FLOW RATES

The purpose of the following tables is to provide the clinician with practical information to aid in the selection of the optimal standard concentration for continuous IV administration. Information includes:

1. IV flow rates for specific concentrations, weight and dose
2. Loading or bolus dose when applicable
3. Initial dose
4. Continuous dose
5. Usual maximum dose

KEY:

The colored tables are provided as a visual tool to aid in the selection of the most suitable concentration, over the usual dosage range, for an effective flow rate without exceeding the maxium adult dose [adult].

Yellow	Less than 0.2 mL/hr but greater than the minimum pump rate
Red	Indicates flow rate less than 0.1 mL/hr or > 10 mL/hr
Green	Indicates flow rate 0.3-10 mL/hr
	Indicates that the rate is equal to the maximum adult dose
	Indicates that the rate has exceeded the maximum adult dose

CARDIAC HEMODYNAMIC SUPPORT--antiarrhythmic

AMIODARONE			*DO NOT TITRATE*
Concentration			**Starting Dose**
90 mg	50 mL D5W	1800 mg/mL	Load: 5 mg/kg/dose (max 300 mg) over 20-60 mins
360 mg	200 mL premix	1800 mg/mL	Continuous Infusion: 5 mcg/kg/min
			Usual/Maximum [adult]
			Usual: 5-15 mcg/kg/min Maximum: 15 mcg/kg/min (2,200 mg/day cumulative)

AMIODARONE 1,800 MCG/ML

90 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**4.00**	**5.00**	**7.00**	**10.00**	**12.50**	**15.00**
0.50	0.1	0.1	0.1	0.2	0.2	0.3
1.50	0.2	0.3	0.4	0.5	0.6	0.8
3.00	0.4	0.5	0.7	1.0	1.3	1.5
6.00	0.8	1.0	1.4	2.0	2.5	3.0
20.00	2.7	3.3	4.7	6.7	8.3	10.0
40.00	5.3	6.7	9.3	13.3	16.7	20.0

Pump flow rate (mL/hr)

SEDATION

DEXMEDETOMIDINE (Precedex)			*DO NOT TITRATE*
Concentration			**Starting Dose**
200 mcg	50 mL NS	4 mcg/mL	Load: 0.5-1 mcg/kg/dose over 10 mins Continuous Infusion: 0.2 mcg/kg/hour
			Usual/Maximum [adult]
Double Concentrated:			Usual: 0.2-0.7 mcg/kg/hour
400 mcg	50 mL NS	8 mcg/mL	Maximum: 1 mcg/kg/hour

DEXMEDETOMIDINE 4 MCG/ML

200 mcg/50 mL	Dose rate in mcg/kg/hour					
	Soft Min					Soft Max
Weight (kg)	**0.20**	**0.30**	**0.40**	**0.50**	**0.75**	**1.00**
0.50	0.0	0.0	0.1	0.1	0.1	0.1
1.50	0.1	0.1	0.2	0.2	0.3	0.4
3.00	0.2	0.2	0.3	0.4	0.6	0.8
6.00	0.3	0.5	0.6	0.8	1.1	1.5
20.00	1.0	1.5	2.0	2.5	3.8	5.0
40.00	2.0	3.0	4.0	5.0	7.5	10.0

Pump flow rate (mL/hr)

DEXMEDETOMIDINE 8 MCG/ML

400 mcg/50 mL	Dose rate in mcg/kg/hour					
	Soft Min					Soft Max
Weight (kg)	**0.20**	**0.30**	**0.40**	**0.50**	**0.75**	**1.00**
0.50	0.0	0.0	0.0	0.0	0.0	0.1
1.50	0.0	0.1	0.1	0.1	0.1	0.2
3.00	0.1	0.1	0.2	0.2	0.3	0.4
6.00	0.2	0.2	0.3	0.4	0.6	0.8
20.00	0.5	0.8	1.0	1.3	1.9	2.5
40.00	1.0	1.5	2.0	2.5	3.8	5.0

Pump flow rate (mL/hr)

CARDIAC HEMODYNAMIC SUPPORT--Pressor

DOBUTAMINE — MUST SPECIFY TITRATION PARAMETERS*

Concentration			Starting Dose
25 mg	50 mL D5W	500 mcg/mL	Continuous Infusion: 5 mcg/kg/min
50 mg	50 mL D5W	1000 mcg/mL	**Usual/Maximum [adult]**
100 mg	50 mL D5W	2000 mcg/mL	Usual: 2-20 mcg/kg/min
400 mg	50 mL D5W	8000 mcg/mL	Titrate: 2 mcg/kg/min Q5 min (range MAP or SBP)*
			Maximum: 20 mcg/kg/min
			Wean: 2 mcg/kg/min Q30min as tolerated until off

DOBUTAMINE 500 MCG/ML

25 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**2**	**5**	**10**	**15**	**20**	**30**
0.50	0.1	0.3	0.6	0.9	1.2	1.8
1.50	0.4	0.9	1.8	2.7	3.6	5.4
3.00	0.7	1.8	3.6	5.4	7.2	10.8
6.00	1.4	3.6	7.2	10.8	14.4	21.6
20.00	4.8	12.0	24.0	36.0	48.0	72.0
40.00	9.6	24.0	48.0	72.0	96.0	144.0

Pump flow rate (mL/hr)

DOBUTAMINE 1000 MCG/ML

50 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**2**	**5**	**10**	**15**	**20**	**30**
0.50	0.1	0.2	0.3	0.5	0.6	0.9
1.50	0.2	0.5	0.9	1.4	1.8	2.7
3.00	0.4	0.9	1.8	2.7	3.6	5.4
6.00	0.7	1.8	3.6	5.4	7.2	10.8
20.00	2.4	6.0	12.0	18.0	24.0	36.0
40.00	4.8	12.0	24.0	36.0	48.0	72.0

Pump flow rate (mL/hr)

DOBUTAMINE 2000 MCG/ML

100 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**2**	**5**	**10**	**15**	**20**	**30**
0.50	0.0	0.1	0.2	0.2	0.3	0.5
1.50	0.1	0.2	0.5	0.7	0.9	1.4
3.00	0.2	0.5	0.9	1.4	1.8	2.7
6.00	0.4	0.9	1.8	2.7	3.6	5.4
20.00	1.2	3.0	6.0	9.0	12.0	18.0
40.00	2.4	6.0	12.0	18.0	24.0	36.0

Pump flow rate (mL/hr)

DOBUTAMINE 8000 MCG/ML

400 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**2**	**5**	**10**	**15**	**20**	**30**
0.50	0.0	0.0	0.0	0.1	0.1	0.1
1.50	0.0	0.1	0.1	0.2	0.2	0.3
3.00	0.0	0.1	0.2	0.3	0.5	0.7
6.00	0.1	0.2	0.5	0.7	0.9	1.4
20.00	0.3	0.8	1.5	2.3	3.0	4.5
40.00	0.6	1.5	3.0	4.5	6.0	9.0

Pump flow rate (mL/hr)

CARDIAC HEMODYNAMIC SUPPORT--Pressor

DOPAMINE — MUST SPECIFY TITRATION PARAMETERS*

Concentration

40 mg	50 mL D5W	800 mcg/mL
80 mg	50 mL D5W	1600 mcg/mL
160 mg	50 mL D5W	3200 mcg/mL
320 mg	50 mL D5W	6400 mcg/mL

Starting Dose

Continuous Infusion:
Low: 1-5 mcg/kg/min (renal)
Moderate: 5-15 mcg/kg/min
High: > 15 mcg/kg/min (alpha effects predominate)

Usual/Maximum [adult]

Usual: 1-20 mcg/kg/min
Titrate: 2 mcg/kg/min Q5 min (range MAP or SBP)*
Maximum: 20 mcg/kg/min
Wean: 2 mcg/kg/min Q30 min as tolerated until off

DOPAMINE 800 MCG/ML

40 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**2.00**	**5.00**	**7.50**	**10.00**	**15.00**	**20.00**
0.50	0.1	0.2	0.3	0.4	0.6	0.8
1.50	0.2	0.6	0.8	1.1	1.7	2.3
3.00	0.5	1.1	1.7	2.3	3.4	4.5
6.00	0.9	2.3	3.4	4.5	6.8	9.0
20.00	3.0	7.5	11.3	15.0	22.5	30.0
40.00	6.0	15.0	22.5	30.0	45.0	60.0

Pump flow rate (mL/hr)

DOPAMINE 1600 MCG/ML

80 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**2.00**	**5.00**	**7.50**	**10.00**	**15.00**	**20.00**
0.50	0.0	0.1	0.1	0.2	0.3	0.4
1.50	0.1	0.3	0.4	0.6	0.8	1.1
3.00	0.2	0.6	0.8	1.1	1.7	2.3
6.00	0.5	1.1	1.7	2.3	3.4	4.5
20.00	1.5	3.8	5.6	7.5	11.3	15.0
40.00	3.0	7.5	11.3	15.0	22.5	30.0

Pump flow rate (mL/hr)

DOPAMINE 3200 MCG/ML

160 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**2.00**	**5.00**	**7.50**	**10.00**	**15.00**	**20.00**
0.50	0.0	0.0	0.1	0.1	0.1	0.2
1.50	0.1	0.1	0.2	0.3	0.4	0.6
3.00	0.1	0.3	0.4	0.6	0.8	1.1
6.00	0.2	0.6	0.8	1.1	1.7	2.3
20.00	0.8	1.9	2.8	3.8	5.6	7.5
40.00	1.5	3.8	5.6	7.5	11.3	15.0

Pump flow rate (mL/hr)

DOPAMINE 6400 MCG/ML

160 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**2.00**	**5.00**	**7.50**	**10.00**	**15.00**	**20.00**
0.50	0.0	0.0	0.0	0.0	0.1	0.1
1.50	0.0	0.1	0.1	0.1	0.2	0.3
3.00	0.1	0.1	0.2	0.3	0.4	0.6
6.00	0.1	0.3	0.4	0.6	0.8	1.1
20.00	0.4	0.9	1.4	1.9	2.8	3.8
40.00	0.8	1.9	2.8	3.8	5.6	7.5

Pump flow rate (mL/hr)

CARDIAC HEMODYNAMIC SUPPORT--Pressor

EPINEPHRINE — MUST SPECIFY TITRATION PARAMETERS*

Concentration		
0.5 mg	50 mL D5W	10 mcg/mL
1.25 mg	50 mL D5W	25 mcg/mL
2.5 mg	50 mL D5W	50 mcg/mL
10 mg	50 mL D5W	200 mcg/mL
20 mg	50 mL D5W	400 mcg/mL

Starting Dose

Continuous Infusion: 0.02 mcg/kg/min central line preferred

Usual/Maximum [adult]

Usual: 0.02-1 mcg/kg/min
Titrate: 0.05 mcg/kg/min Q5 min (range MAP or SBP)*
Maximum: 1 mcg/kg/min [10 mcg/min]
Wean: 0.05 mcg/kg/min Q30 min as tolerated until off

EPINEPHRINE 10 MCG/ML

0.5 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	0.01	0.02	0.05	0.10	0.50	1.00
0.50	0.0	0.1	0.2	0.3	1.5	3.0
1.50	0.1	0.2	0.5	0.9	4.5	9.0
3.00	0.2	0.4	0.9	1.8	9.0	18.0
6.00	0.4	0.7	1.8	3.6	18.0	36.0
20.00	1.2	2.4	6.0	12.0	60.0	120.0
40.00	2.4	4.8	12.0	24.0	120.0	240.0

Pump flow rate (mL/hr)

EPINEPHRINE 25 MCG/ML

1.25 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	0.01	0.02	0.05	0.10	0.50	1.00
0.50	0.0	0.0	0.1	0.1	0.6	1.2
1.50	0.0	0.1	0.2	0.4	1.8	3.6
3.00	0.1	0.1	0.4	0.7	3.6	7.2
6.00	0.1	0.3	0.7	1.4	7.2	14.4
20.00	0.5	1.0	2.4	4.8	24.0	48.0
40.00	1.0	1.9	4.8	9.6	48.0	96.0

Pump flow rate (mL/hr)

EPINEPHRINE 50 MCG/ML

2.5 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**0.01**	**0.02**	**0.05**	**0.10**	**0.50**	**1.00**
0.50	0.01	0.01	0.03	0.06	0.30	0.60
1.50	0.02	0.04	0.09	0.18	0.90	1.80
3.00	0.04	0.07	0.18	0.36	1.80	3.60
6.00	0.07	0.14	0.36	0.72	3.60	7.20
20.00	0.24	0.48	1.20	2.40	12.00	24.00
40.00	0.48	0.96	2.40	4.80	24.00	48.00

Pump flow rate (mL/hr)

EPINEPHRINE 200 MCG/ML

10 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**0.01**	**0.02**	**0.05**	**0.10**	**0.50**	**1.00**
0.50	0.0	0.0	0.0	0.0	0.1	0.2
1.50	0.0	0.0	0.0	0.0	0.2	0.5
3.00	0.0	0.0	0.0	0.1	0.5	0.9
6.00	0.0	0.0	0.1	0.2	0.9	1.8
20.00	0.1	0.1	0.3	0.6	3.0	6.0
40.00	0.1	0.2	0.6	1.2	6.0	12.0

Pump flow rate (mL/hr)

EPINEPHRINE 400 MCG/ML

20 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**0.01**	**0.02**	**0.05**	**0.10**	**0.50**	**1.00**
0.50	0.0	0.0	0.0	0.0	0.0	0.1
1.50	0.0	0.0	0.0	0.0	0.1	0.2
3.00	0.0	0.0	0.0	0.0	0.2	0.5
6.00	0.0	0.0	0.0	0.1	0.5	0.9
20.00	0.0	0.1	0.2	0.3	1.5	3.0
40.00	0.1	0.1	0.3	0.6	3.0	6.0

Pump flow rate (mL/hr)

CARDIAC HEMODYNAMIC SUPPORT--antiarrhythmic/antihypertensive

ESMOLOL — *MUST SPECIFY TITRATION PARAMETERS**

Concentration

500 mg	50 mL PREMIX	10000 mcg/mL
1000 mg	50 mL NS	20000 mcg/mL

Starting Dose

Load: 100-500 mcg/kg/dose over 1 mins
Continuous Infusion:
HTN: 25 mcg/kg/min
SVT: 200 mcg/kg/min

Usual/Maximum [adult]

Usual: 50-250 mcg/kg/min
Titrate: 25 mcg/kg/min Q5 min PRN (range HR or SBP)
Maximum: 500 mcg/kg/min; Notify MD ≥ 250 mcg/kg/min

ESMOLOL 10000 MCG/ML

500 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**100.00**	**150.00**	**200.00**	**300.00**	**400.00**	**500.00**
0.50	0.3	0.5	0.6	0.9	1.2	1.5
1.50	0.9	1.4	1.8	2.7	3.6	4.5
3.00	1.8	2.7	3.6	5.4	7.2	9.0
6.00	3.6	5.4	7.2	10.8	14.4	18.0
20.00	12.0	18.0	24.0	36.0	48.0	60.0
40.00	24.0	36.0	48.0	72.0	96.0	120.0

Pump flow rate (mL/hr)

ESMOLOL 20000 MCG/ML

1000 mg/50 mL	Dose rate in mcg/kg/minute					
	Soft Min					Soft Max
Weight (kg)	**100.00**	**150.00**	**200.00**	**300.00**	**400.00**	**500.00**
0.50	0.2	0.2	0.3	0.5	0.6	0.8
1.50	0.5	0.7	0.9	1.4	1.8	2.3
3.00	0.9	1.4	1.8	2.7	3.6	4.5
6.00	1.8	2.7	3.6	5.4	7.2	9.0
20.00	6.0	9.0	12.0	18.0	24.0	30.0
40.00	12.0	18.0	24.0	36.0	48.0	60.0

Pump flow rate (mL/hr)

SEDATION

FENTANYL			DO NOT TITRATE
Concentration			**Starting Dose**
250 mcg	50 mL D5W	5 mcg/mL	Load: 1-2 mcg/kg/dose over 5 mins
500 mcg	50 mL D5W	10 mcg/mL	Continuous Infusion: 1 mcg/kg/hour
1000 mcg	100 mL Premix	10 mcg/mL	**Usual/Maximum [adult]**
1250 mcg	50 mL D5W	25 mcg/mL	Usual: 1-3 mcg/kg/hour
2000 mcg	50 mL D5W	40 mcg/mL	Maximum: 7 mcg/kg/hour [450 mcg/hour]

FENTANYL 5 MCG/ML

250 mcg/50 mL	Dose rate in mcg/kg/hour					
	Soft Min					Soft Max
Weight (kg)	**0.50**	**1.00**	**2.00**	**5.00**	**7.00**	**10.00**
0.50	0.1	0.1	0.2	0.5	0.7	1.0
1.50	0.2	0.3	0.6	1.5	2.1	3.0
3.00	0.3	0.6	1.2	3.0	4.2	6.0
6.00	0.6	1.2	2.4	6.0	8.4	12.0
20.00	2.0	4.0	8.0	20.0	28.0	40.0
40.00	4.0	8.0	16.0	40.0	56.0	80.0

Pump flow rate (mL/hr)

FENTANYL 10 MCG/ML

500 mcg/50 mL	Dose rate in mcg/kg/hour					
	Soft Min					Soft Max
Weight (kg)	**0.50**	**1.00**	**2.00**	**5.00**	**7.00**	**10.00**
0.50	0.0	0.1	0.1	0.3	0.4	0.5
1.50	0.1	0.2	0.3	0.8	1.1	1.5
3.00	0.2	0.3	0.6	1.5	2.1	3.0
6.00	0.3	0.6	1.2	3.0	4.2	6.0
20.00	1.0	2.0	4.0	10.0	14.0	20.0
40.00	2.0	4.0	8.0	20.0	28.0	40.0

Pump flow rate (mL/hr)

FENTANYL 25 MCG/ML

1250 mcg/50mL	Dose rate in mcg/kg/hour					
	Soft Min					Soft Max
Weight (kg)	**0.50**	**1.00**	**2.00**	**5.00**	**7.00**	**10.00**
0.50	0.0	0.0	0.0	0.1	0.1	0.2
1.50	0.0	0.1	0.1	0.3	0.4	0.6
3.00	0.1	0.1	0.2	0.6	0.8	1.2
6.00	0.1	0.2	0.5	1.2	1.7	2.4
20.00	0.4	0.8	1.6	4.0	5.6	8.0
40.00	0.8	1.6	3.2	8.0	11.2	16.0

Pump flow rate (mL/hr)

FENTANYL 40 MCG/ML

2000 mcg/50mL	Dose rate in mcg/kg/hour					
	Soft Min					Soft Max
Weight (kg)	**0.5**	**1**	**2**	**5**	**7**	**10**
0.50	0.0	0.0	0.0	0.1	0.1	0.1
1.50	0.0	0.0	0.1	0.2	0.3	0.4
3.00	0.0	0.1	0.2	0.4	0.5	0.8
6.00	0.1	0.2	0.3	0.8	1.1	1.5
20.00	0.3	0.5	1.0	2.5	3.5	5.0
40.00	0.5	1.0	2.0	5.0	7.0	10.0

Pump flow rate (mL/hr)