DATE & TIME RECEIVED

DATE & TIME COMPLETED

TEST GROUPS	INDIVIDUAL TESTS	COMPONENT REQUESTED
☐ Type & Screen ABO, RhD, Antibody Screen	☐ ABO	☐ Red Blood cells ☐ Irradiated
☐ Type & Crossmatch ABO, RhD, Ab. Sc., Crossmatch	☐ RhD	☐ Fresh Frozen Plasma/Frozen Plasma 200 mL / 400 mL / 500 mL / 600 mL
☐ Cord Blood Study ABO, RhD, Direct Coombs	☐ Antibody Screen	☐ Platelet Pheresis ☐ Irradiated
☐ Rhogam Screen ABO, RhD, Antibody Screen	☐ Antibody I.D.	☐ Neonate Octoped
☐ Prenatal Screen ABO, RhD, AB.: Sc, ID	☐ Antibody Titer:	☐ Cryoprecipitate - small unit, 20 mL
☐ Suspected Transfusion Reaction Workup	☐ Antibody Score:	☐ Cryoprecipitate - Pooled 5 units, 100 mL
Rhogam Lot Number & Expiration Date	☐ Direct Coombs (DAT)	☐ PREVIOUS RECORD AVAILABLE: Yes ☐ No ☐
State Law requires that the woman being tested be informed as to the Rhesus (RhoD) Blood Typing results.	☐ Fetal - Maternal Bleed	☐ PAUL GANN CONSENT ON FILE: Yes ☐ No ☐

Patient Identification and Sample Collection:
We/I have collected a blood sample on the below named patient, verified the name, DOB, verified the MR number, and have verified the Crossmatch number placed on the tubes to be correct.

Date verified: _____ Time verified: _____ Nursing Unit _____ Crossmatch # _____

Signature of individual(s) collecting blood samples: _____ ☐ **Specimens in Lab**

CLINICAL DIAGNOSIS:

ORDERING AND ATTENDING DOCTORS ☐ **STAT** ☐ **ROUTINE**

BLOOD/COMPONENTS MUST BE RETURNED TO BLOOD BANK WITHIN 30 MIN. IF NOT TRANSFUSED

TRANSFUSION RECORD

	ABO GROUP	Rh TYPE	ANTIBODY SCREEN/ I.D.
PATIENT			
DONOR NO. _____ Expires:			

CROSSMATCH RESULTS: ___ COMPATIBLE ___ COMPATIBLE, PREWARMED
___ LEAST INCOMPATIBLE

CLS Signature _____

TRANSFUSION REACTION REPORT

SIGNS/SYMPTOMS NOTED Name of Physician notified	☐ Yes Date:	☐ No Time
If YES, ID CHECK: Does armband name, DOB & M.R. No. = Name, DOB & M.R. No. on unit tag? Does armband name, DOB & M.R. No. = Name, DOB & M.R. No. on Crossmatch Form?	☐ Yes ☐ Yes	☐ No ☐ No

If a transfusion reaction is suspended, stop the transfusion, drip saline, and consult a physician IMMEDIATELY. Call the Blood Bank at Ext. 65266. Return the unused portion of unit with tubing as well as a post transfusion blood sample (pink top tube) to the Blood Bank along with the yellow copy.

Symptoms (✓)

- ☐ Flushing of the Skin
- ☐ Hypotension
- ☐ Excessive Pain in Vein
- ☐ Nausea, Vomiting
- ☐ Hemoglobinuria
- ☐ Bleeding at Surgical Site
- ☐ Increased Temperature
- ☐ Itching
- ☐ Chills
- ☐ Shortness of Breath
- ☐ Sweating
- ☐ Chest/Back Pain
- ☐ Confusion
- ☐ Diffuse Bleeding
- ☐ Other _____

Department of Clinical Laboratory & Anatomic Pathology
John W. Koett, M.D., PhD, Pathology Co-Director
Moogil Choe, M.D., Pathology Co-Director
Gary Strickland, M.D., Pathology Co-Director
Riverside County Regional Medical Center
26520 Cactus Ave., Moreno Valley, CA 92555

VERIFICATION OF:

- ☐ Patient's Name, DOB and M.R. No. against Patient's Armband
- ☐ Patient and Donor ABO, RH
- ☐ Donor No. and Expiration Date on all Forms and Labels
- ☐ Crossmatch Number: _____

Signature of person starting transfusion

Signature of person verifying identification

PT. UNIT

Signature of person completing/stopping transfusion

Date/Time Started:	Date/Time Stopped:
AMT. Given: ALL ¾ ½ ¼	

VITAL SIGNS	Temp.	Pulse	B/P
Pre-Txn			
15 min. vitals			
Post-Txn within 1 hour			

FORM 630 (9/14) CROSSMATCH ADMINISTRATION REQUEST
LB0075

DATE & TIME DISPENSED

LB0075 White - Chart Yellow - Lab Pink - Component (attached to blood product)

FOR SUSPECTED TRANSFUSION REACTIONS
SUGGESTED CLINICAL MANAGEMENT
(This is not an order)

FINDINGS	PROCEDURE
I. Circulatory Overload	1. Notify Licensed Provider
II. Urticaria only	1. Notify Licensed Provider 2. Slow transfusion, give IM antihistaminics, resume transfusion at a normal rate in 15 minutes if therapy is effective.
III. Fever, chills, lumbar pain dyspnea, chest pain or oozing	1. **STOP** transfusion, but keep IV open 2. Notify Licensed Provider 3. **CALL** the Blood Bank - Phone Number 951-486-5267 4. Send pink top tube (drawn carefully to prevent hemolysis) and blood container(s) (without removing recipient set) to Blood Bank. 5. Obtain urine sample for free hemoglobin
IV. Shock, Hemoglobinuria, oliguria, bleeding	1. **STOP** transfusion, but keep IV open 2. Notify Licensed Provider 3. **CALL** the Blood Bank - Phone Number 951-486-5267 4. Send pink top tube (drawn carefully to prevent hemolysis) and blood container(s) (without removing recipient set) to Blood Bank. 5. **INSTITUTE PROPHYLACTIC TREATMENT IMMEDIATELY** a. Maintain blood pressure b. Maintain urine flow over 100 ml/hr for adult over 1-2 ml/kg/hr for child 1) Furosemide, 40-80 mg. I.V. for adult 0.5 - 1 mg/kg/dose (max dose 40 mg) for child (This dose may be repeated once) 2) Fluids - keep strict I & O c. Consider possible indications for: 1) Heparin 2) Platelet concentrates 3) Fresh frozen plasma or Factor VIII concentrates d. Therapy for sepsis 6. Obtain urine sample (catheterize if necessary) for free hemoglobin. 7. Get baseline studies: a. Platelet count b. Prothrombin Time c. PTT d. Bilirubin e. Hemoglobin and/or Hematocrit f. WBC g. BUN, Creatinine and Electrolytes
V. Anaphylaxis or anaphylactoid reaction	1. **STOP** transfusion, but keep IV open 2. Epinephrine 0.4 ml of 1:1000 solution I.M., for **adult** 3. Epinephrine 0.01 mg/kg/dose (max dose 0.3 mg per injection) of 1:1000 solution I.M. Q15 min for **child** 4. Notify Licensed Provider 5. **CALL** the Blood Bank - Phone Number 951-486-5267 6. Send pink top tube (drawn carefully to prevent hemolysis) and blood container(s) (without removing recipient set) to Blood Bank, 7. Consider bacterial contamination or antibodies to IgA in further evaluation and treatment 8. Obtain urine sample (catheterize if necessary) for free hemoglobin.

AT THE FIRST SIGN OF AN ADVERSE REACTION:

1. **STOP TRANSFUSION IMMEDIATELY!**
2. Keep IV open with slow saline drip, but use a new administration set to avoid infusing the blood remaining in the original set.
3. Check for agreement of all identifying names and numbers on donor unit, transfusion record and patient wristband.
4. Notify the attending physician and the Blood Bank at once and describe symptoms.
5. Send the following to the Blood Bank STAT:
   - Pink top tube drawn atraumatically to avoid hemolysis
   - An order for a Transfusion Reaction Workup.
   - Remainder of the unit with attached IV set tied off and needles removed. (Avoid contaminating the unit as it may need to be cultured).
   - "Blood Bank" copy of the completed Transfusion Record.
   - At Blood Bank's request, first voided urine marked "Post Transfusion".

NOTE: "Signs and symptoms suggestive of mild allergic reactions (eg. urticaria) need NOT be reported to the blood bank or transfusion service." (Section 7.4.1.2 25th ed. AABB Standards, 2008)

BLDK

TRANSFUSION RECORD

State Law requires that the woman tested be informed as to the rhesus (Rh) typing test results.

BLOOD/COMPONENTS MUST BE RETURNED TO BLOOD BANK WITHIN 30 MINUTES IF NOT TRANSFUSED OR STORED IN A COOLER.

VERIFICATION OF:

- ☐ Patient's Name, DOB, and M.R. No. against Patient's wristband
- ☐ Patient and Donor ABO/Rh
- ☐ Donor No. and Expiration Date on all Forms and Labels
- ☐ Paul Gann consent on file (Form 163)
- ☐ Crossmatch Number: _____ PT. UNIT_____

_____
Signature of person starting transfusion (Print name, date, and time)

_____
Signature of person verifying transfusion (Print name, date, and time)

_____
Signature of person completing/stopping transfusion (Print name, date, and time)

Date/Time Started:			Date/Time Stopped:	
AMT Given:	ALL	3/4	1/2	1/4

VITAL SIGNS	Temp.	Pulse	B/P
Pre-Txn			
15 min. vitals			
Post-Txn within 1 hour			

Transfusion Reaction: ☐ Yes ☐ No (If YES, check all symptoms that are present)

☐ Chills	☐ Hypotension/Shock	☐ Hemoglobinuria
☐ Nausea/Vomiting	☐ Hypertension	☐ Abnormal Bleeding
☐ Pain (chest/back/arm)	☐ Hematuria	☐ Oliguria/Anuria
☐ Dyspnea	☐ Jaundice	☐ Heat at Infusion Site
☐ Elevated Temperature	☐ Facial Flushing	☐ Edema-Pulmonary/Peripheral
☐ Other: _____		

Department of Clinical Laboratory & Anatomic Pathology • John W. Koett, M.D., PhD, Pathology Chair
Riverside County Regional Medical Center • 26520 Cactus Ave., Moreno Valley, Ca 92555

SEE REVERSE FOR INSTRUCTIONS IF PATIENT REACTS ADVERSELY TO TRANSFUSION

Form # 625 Rev. 10/16 Original – Medical Record • 2nd – Blood Bank

GENCN

The patient/parent/legal guardian states understanding of the proposed transfusion, the risks, benefits and alternatives.

Physician Signature: _____ Printed Name: _____ Date:_____ Time:_____

CONSENT: Your signature below indicates that you have received information from your doctor concerning the risks and benefits of blood transfusion and of any alternative therapies and their risks and benefits. You have had the opportunity to discuss this matter with your doctor, including predonation. You consent to such blood transfusion as your doctor may order.

Signature:_____ Date:_____ Time:_____

☐Patient ☐Parent ☐Legal Guardian

Witness:_____ Printed Name: _____ Date:_____ Time:_____

REFUSAL: I request that no blood or blood derivatives such as albumin, clotting factors, IVIG be administered to (*patient name*)_____ during this hospitalization. I hereby release the hospital, its personnel, the attending physician, and another person participating in my care from any responsibility whatsoever for any injury or unfavorable consequences due to my refusing the use of blood or its derivatives. The possible risks and consequences of my refusal have been fully explained to me by my attending physician. I fully understand that such risks and consequences may occur as a result of my refusal. I understand that my attending physician and other doctors who provide services to me are not employees or agents of the hospital. They are independent medical practitioners.

Signature:_____ Date:_____ Time:_____

☐Patient ☐Parent ☐Legal Guardian

Witness:_____ Printed Name: _____ Date:_____ Time:_____

I have provided _____/English interpreting to the best of my ability, and all parties state understanding.

Signature: _____ Printed Name: _____ Date:_____ Time:_____

☐ Language Access Line Language: _____ Confirmation # _____

EMERGENCY: Because of a life-threatening/emergent medical condition, I have not provided the patient with information sufficient to be considered Informed Consent and I have proceeded with ordering, or agree with ordering, blood products to improve or reverse a life-threatening/emergent medical condition.

Physician Signature: _____ Printed Name: _____ Date_____ Time_____

Physician Signature: _____ Printed Name: _____ Date_____ Time_____

Riverside University Health System - Medical Center
Moreno Valley, California

TRANSFUSION INFORMATION, CONSENT & DECLINATION

#163 White-Chart, Yellow-Patient Rev. 5/17

GENCN

INFORMACIÓN ADICIONAL

De acuerdo con lo establecido en el Paul Gann Blood Safety Act, Health & Safety Code 1645 [artículo 1645 del Código de Salubridad de California, de la Ley de Seguridad Sanguínea de Paul Gann], a usted se le ha proporcionado información concerniente a las ventajas, desventajas, riesgos y beneficios de la sangre autóloga y de la sangre homóloga dirigida y no dirigida de voluntarios, lo cual incluye una copia del panfleto que describe las transfusiones autólogas publicado por el Departamento de Servicios Sanitarios de California (no aplica en el caso de los neonatos.) Además, a usted se le ha otorgado un período de tiempo adecuado antes de la cirugía para permitir que tenga lugar la donación previa, excepto en aquellos casos en los cuales exista una emergencia que implique riesgo de muerte o que existan contraindicaciones médicas o que usted haya renunciado a este derecho porque no desea esperar el tratamiento.

El paciente/padre/madre/tutor declara que entiende la transfusión que se propone, sus riesgos, beneficios y alternativas.

Firma del Médico: _____ Nombre: _____ Fecha:_____ Hora:_____

CONSENTIMIENTO: Mediante su firma que figura a continuación, usted indica que su médico le ha proporcionado la información concerniente a los riesgos y beneficios de la transfusión de sangre, así como de toda terapia alternativa y los riesgos y beneficios de las mismas. Usted ha tenido la oportunidad de conversar con su médico sobre este asunto, así como sobre la donación previa y otorga su consentimiento para que se realicen aquellas transfusiones que éste ordene.

Firma:_____ Fecha:_____ Hora:_____

☐Paciente ☐ Padre/Madre ☐ Tutor

Testigo:_____ Nombre: _____Fecha:_____ Hora:_____

NEGATIVA A LA TRANSFUSIÓN: Solicito que no se administre sangre alguna ni derivados sanguíneos tales como albúmina, factores coagulantes o inmunoglobulina intravenosa (IVIG, por sus siglas en inglés) a_____ _____(*nombre del paciente*) en el curso de su hospitalización. Por medio de la presente libero al hospital, a su personal, al médico tratante, así como a cualquier otra persona que participe en mis cuidados, de toda responsabilidad por cualquier lesión o consecuencia desfavorable que se pueda presentar como consecuencia de mi negativa a la administración de sangre o sus derivados. Mi médico tratante me ha explicado exhaustivamente los posibles riesgos y consecuencias de mi negativa y entiendo plenamente que es posible que se presenten tales riesgos y consecuencias debido a mi negativa. Entiendo que mi médico tratante y los demás doctores que me proveen sus servicios no son empleados ni representantes del hospital, sino son profesionales independientes de la medicina.

Firma:_____ Fecha:_____ Hora:_____

☐Paciente ☐ Padre/Madre ☐ Tutor

Testigo:_____ Nombre: _____Fecha:_____ Hora:_____

He prestado servicios de interpretación en los idiomas _____e inglés en la medida de mis capacidades durante este encuentro y todas las partes aparentaron entender mi interpretación.

Fecha: _____ Hora: _____ Unidad: _____

Firma del intérprete: _____ Nombre en letra de molde: _____

☐ Servicio de interpretación por teléfono/video Nombre y N.º de identificación del intérprete: _____

PARA CASOS DE EMERGENCIA: Debido a una afección posiblemente fatal o de emergencia, no le he proporcionado al paciente información suficiente para que se le considere como Consentimiento Fundamentado y he procedido a ordenar, o estoy de acuerdo con que se ordenen, productos sanguíneos con el fin de mejorar o revertir alguna afección presente o que implique riesgo de muerte.

Firma del médico: _____ Nombre: _____ Fecha:_____ Hora:_____
Firma del médico: _____ Nombre: _____ Fecha:_____ Hora:_____

References:

- Circular of Information for the Use of Human Blood and Blood Components. AABB. Nov 2013 (revised April 2014)
- AABB Technical Manual. 18th Edition.

CDPH
California Department of
PublicHealth

This brochure was developed by the California Department of Public Health, Laboratory Field Services (850 Marina Bay Parkway, Richmond, CA 94804)

In partnership with the Medical Technical Advisory Committee of the Blood Centers of California.

For information about brochure contents, please call Laboratory Field Services: (213) 620-6574

This brochure is provided as a source of information and is not considered a replacement for the Informed Consent process prior to the transfusion of blood.

Distributed by the Medical Board of California

To place an order for this brochure, please FAX your request to: (916) 263-2497

This information may be obtained electronically at:

http://www.mbc.ca.gov/Publications/Brochures/Blood_Transfusions.aspx

Revised 06/2018

A Patient's Guide to Blood Transfusion

California Department of Public Health

June 2018

This document provides written information regarding the benefits, risks, and alternatives of transfusion of blood products (including red blood cells, plasma, platelets, or others) collected from the patient (autologous) or another person. This material serves as a supplement to the discussion you have with your physician. It is important that you fully understand this information, so please read this document thoroughly. If you have any questions regarding the procedure, ask your physician prior to consenting to receive a transfusion.

■ *Information about the treatment*

Transfusions of blood products are provided to increase the amount of blood components in your body when they are below a reasonable level for your health. The transfusion may be made up of red blood cells, plasma, platelets or other specialized products made from blood. Your physician will decide on the right amount and type of blood product based on your medical condition or diagnosis.

■ *Potential benefits of the treatment*

Transfusion of blood products may be necessary to correct low levels of blood components in your body, and may also make you feel better. In some cases, failure to receive transfusion(s) may result in death.

■ *Risks of the treatment*

Known risks of this treatment include, but are not limited to:

- Irritation, pain, or infection at the needle site
- Temporary reaction such as a fever, chills, or skin rashes.

Other rare but more serious complications include severe allergic reactions, heart failure due to fluid overload, acute pulmonary edema (fluid leaking into the lungs), hemolysis (destruction of red blood cells), shock, or death.

Transfusion of blood products carries a very small risk of transmission of infectious diseases such as HIV (about 1 in 1.5 million), Hepatitis C (about 1 in 1.2 million), and Hepatitis B (about 1 in 1 million). Other significant infections may also be transmitted by transfusion, but overall this risk is low.

■ *Treatment Options/Alternatives*

If you need blood you have several options. Most patients requiring transfusion receive blood products donated by volunteer community donors. These donors are extensively screened about their health history and undergo numerous blood tests as mandated by state and federal regulations in order to ensure the safest possible blood supply. Alternatives to transfusion with blood products from volunteer community donors include:

- Pre-operative autologous donation (using your own previously donated blood), see below for more information
- Directed donation (blood donated by people who you have asked to donate for you), see below for more information
- Intra-operative autologous transfusion/ Hemodilution (collecting your own blood during surgery to be given back to you)
- Medications (certain medications may increase blood volume prior to surgery or reduce active bleeding to lessen the need for transfusion)

These options may be available only if your health, time, and procedure permit. They may not be available at all locations or for all patients. You may also choose not to receive blood transfusion; however this decision may hold life-threatening consequences.

Pre-operative autologous donation is not appropriate for all patients. Autologous donation involves collecting your own blood prior to a planned surgery for storage in the hospital blood bank. It is important to discuss with your physician if it is safe for you to donate and the likelihood of needing a transfusion based on your surgery and current transfusion guidelines. Receiving your own blood may reduce, but will not eliminate, the risk of transfusion-related complications. Insurance company policies may vary regarding reimbursement for this service. Overall, although autologous donation is an option to consider for those who qualify, the number of autologous donations in the United States has significantly decreased in the last few decades mainly due to major advances in blood safety and efforts to decrease unnecessary blood transfusions.

Directed donation refers to blood collected from "directed donors" who are donating blood for a specific patient by request. Directed donors are often family and friends of the patient. Directed donors go through the same qualification process as volunteer donors. Directed donations are not considered to be safer than the general blood supply.

Referencias:

- Circular de información para el uso de sangre humana y componentes sanguíneos. AABB. Noviembre de 2013 (revisada en abril de 2014).
- Manual técnico de AABB. 18ª edición

CDPH
California Department of
PublicHealth

Este folleto fue desarrollado por el Departamento de Salud Pública de California, Servicios de Laboratorios (850 Marina Bay Parkway, Richmond, CA 94804).

En asociación con el Comité de Asesoría Técnica Médica (en inglés, Medical Technical Advisory Committee) de los Bancos de Sangre de California.

Para más información sobre el contenido del folleto, llame a Servicios de Laboratorio al (213) 620-6574

Este folleto se proporciona como fuente de información y no se considera un reemplazo del proceso de Consentimiento Informado previo a la transfusión de sangre.

MEDICAL BOARD OF CALIFORNIA
EST. 1876

Distribuido por la
Junta Médica de California

Para solicitar este folleto, envíe por Fax su pedido al:
(916) 263-2497

Esta información se puede obtener de forma electrónica en la página:

http://www.mbc.ca.gov/Publications/Brochures/Blood_Transfusions.aspx

Revisado el 06/2018.

Una guía para el paciente sobre la transfusión de sangre

Departamento de Salud Pública de California
Junio de 2018

Este documento proporciona información escrita sobre los beneficios, riesgos y alternativas de la transfusión de productos sanguíneos (incluyendo glóbulos rojos, plasma, plaquetas u otros) que hayan sido extraídos del paciente (transfusión autóloga) u otra persona. Este material es complementario a la conversación que usted tiene con su médico. Es importante que comprenda totalmente esta información, por lo que debe leer este documento a fondo. Si tiene alguna pregunta con respecto al procedimiento, consulte con su médico antes de firmar el consentimiento para recibir la transfusión.

■ *Información sobre el tratamiento*

Las transfusiones de productos sanguíneos se proporcionan para aumentar la cantidad de componentes sanguíneos en su cuerpo, cuando estos se encuentran por debajo del nivel razonable para su salud. La transfusión puede estar compuesta de glóbulos rojos, plasma, plaquetas u otros productos especiales de la sangre. Su médico decidirá la cantidad y el tipo de productos sanguíneos correctos basándose en su diagnóstico o estado de salud.

■ *Beneficios potenciales del tratamiento*

La transfusión de productos sanguíneos puede ser necesaria para corregir niveles bajos de componentes sanguíneos en su cuerpo y también puede hacerlo sentir mejor. En algunos casos, no recibir una transfusión puede causar la muerte.

■ *Riesgos del tratamiento*

Los riesgos conocidos de este tratamiento incluyen, entre otros:

- Irritación, dolor o infección en el sitio de inserción de la aguja; y
- Reacciones temporales como fiebre, escalofríos o erupciones en la piel.

Otras complicaciones raras pero más serias incluyen reacciones alérgicas graves, insuficiencia cardíaca debido a la sobrecarga de fluidos, edema pulmonar agudo (fluido en los pulmones), hemólisis (destrucción de los glóbulos rojos), estado de shock o la muerte.

La transfusión de productos sanguíneos conlleva un riesgo muy bajo de transmisión de enfermedades infecciosas, como VIH (alrededor de 1 en 1.500.000), Hepatitis C (alrededor de 1 en 1.200.000) y Hepatitis B (1 en 1.000.000). Otras infecciones importantes también se pueden transmitir a través de la transfusión sanguínea, pero el riesgo general es bajo.

■ *Opciones de tratamiento/ Alternativas*

Si necesita sangre, tiene varias opciones. La mayoría de los pacientes que requieren una transfusión reciben productos sanguíneos de donantes voluntarios de la comunidad. Estos donantes son evaluados en profundidad acerca de su historia clínica y pasan muchos exámenes de sangre, de conformidad con las normas estatales y federales, para así garantizar un suministro sanguíneo lo más seguro posible. Las alternativas a la transfusión de productos sanguíneos donados por voluntarios de la comunidad incluyen:

- Donación de sangre autóloga preoperatoria (utilizar su propia sangre previamente donada), vea abajo para más información.
- Donación dirigida (sangre donada por personas a quienes usted le pidió que le donen sangre), ver abajo para más información.
- Transfusión autóloga intraoperatoria/ Hemodilución (extraer su propia sangre durante la cirugía para que le sea suministrada nuevamente).
- Medicación (ciertos medicamentos pueden aumentar el volumen sanguíneo antes de una cirugía o reducir el sangrado activo para disminuir la necesidad de transfusiones).

Estas opciones pueden estar disponibles para usted solo si su salud, el tiempo y el procedimiento así lo permiten. Puede que no estén disponibles en todas las ubicaciones o para todos los pacientes. También podrá elegir no recibir una transfusión sanguínea. Sin embargo, esta decisión puede tener consecuencias que pongan en peligro su vida.

La donación autóloga preoperatoria no es apropiada para todos los pacientes. Este método requiere extraer su propia sangre antes de una cirugía planeada para que sea almacenada en el banco de sangre del hospital. Es importante que discuta con su médico si es seguro para usted donar y las probabilidades de que necesite una transfusión según la cirugía y los manuales de transfusión actuales. Recibir su propia sangre puede reducir, pero no eliminará, el riesgo de complicaciones relacionadas con las transfusiones. Las pólizas de las compañías de seguros pueden variar con respecto a los reembolsos por este servicio. En general, aunque la donación autóloga es una opción a considerar para quienes califican, el número de donaciones autólogas en los Estados Unidos ha aumentado significativamente en las últimas décadas principalmente debido a los grandes avances en la seguridad sanguínea y los esfuerzos para disminuir las transfusiones de sangre innecesarias.

La donación dirigida refiere a sangre extraída de "donante directos" que donan sangre para un paciente específico por solicitud. Los donantes directos por lo general son familiares y amigos del paciente. Estos donantes directos pasan por el mismo proceso de cualificación que los donantes voluntarios. Las donaciones dirigidas no se consideran más seguras que el suministro general de sangre.

You have received _____ unit(s) of_____on _____

Every effort has been made to assure that you have received the safest blood product available. However side effects or complications can occur. These reactions are rare. It is important that you are able to recognize a reaction should one occur.

If any of the following symptoms occur over the next **12 hours** promptly go to the emergency department

1. Shaking / chills
2. Fever
3. Back or flank pain (new or worsening)
4. Chest pain
5. Shortness of breath (new or worsening)
6. Dizziness (new or worsening)
7. Fainting
8. Color of urine changes to pink, red, brown
9. Itching or Hives
10. Nausea and vomiting

If any of the following symptoms occur over the next **10 days** notify your doctor.

1. Fever
2. Yellowish skin or eyes
3. Color of urine changes to pink, red, or brown
4. Shortness of breath (new or worsening)
5. Weakness after normal exercise
6. Decrease in amount of urine or frequency of urinating
7. Nausea and vomiting

If you should develop any of the following symptoms within the next **3-6 months** notify your doctor.

1. Fatigue (feeling unusually tired)
2. Yellowish skin or eyes
3. Nausea and vomiting lasting more than 3 days
4. Dark brown urine

_____ _____

Patient/Parent/Guardian Signature Date/Time Nurse Signature Date/Time

Riverside County Regional Medical Center
Moreno Valley, California 92555

PATIENT INSTRUCTIONS AFTER BLOOD TRANSFUSIONS

358 12/10
White-Chart Yellow-Patient

AUTHORIZATION TO RELEASE BLOOD PRODUCTS

Release Date/Time:

Patient ABO/RhD _____ Cooler # _____

IMMEDIATELY release for use the blood or blood products specified for this patient.

Product	Quantity
Packed RBC units:	
Octoped (mL):	
Fresh Frozen Plasma units:	
Platelets, Apheresis units:	
Cryoprecipitate (5) Pooled units:	
Cryoprecipitate single units :	
Rh Immune Globulin vial(s):	

Lot #:

Exp. Date:

CLS: #8 REV. 11/2015

The following information must be FILLED IN COMPLETELY BEFORE obtaining blood products

CROSSMATCH #

Unit and Room no. (e.g. 3578) :

	Yes
Physician's Order verified?	☐
IV Line Patency checked?	☐
Paul Gann consent in chart, completed and signed?	☐
Pre transfusion vital signs documented?	☐

I have verified that this request is valid and corresponds to the physician's order.

M.D., D.O., R.N., LVN. Signature:_____

Print name:_____ Date/Time:_____

Blood/Blood product released to:

Signature:_____ Date/Time:_____

Print name:_____

Blood Bank Use Only

Circle applicable: CMV Neg Irrad. Vol. reduced Ag screened

Component Unit #	ABO/RhD	Expiration Date	CLS

Riverside County Regional Medical Center
Department of Clinical Laboratory & Anatomic Pathology
John W. Koett M.D., PhD., Pathology Chair Gary Strickland M.D., Pathology Vice Chair
Moogil Choe M.D., Pathology Ronaldo O. Gnass M.D., Pathology
26520 Cactus Ave., Moreno Valley, CA 92555 Blood Bank: (951) 486-5267

:Returned Date and Time

SECTION A

SUSPECTED TRANSFUSION REACTION WORK-UP FORM

MR #	PATIENT NAME	XM #
DONOR #	TYPE OF PRODUCT	RETURNED TO BLOOD BANK (Date/Time)

❶ CLERICAL CHECK

	Request		Specimens		Donor Unit		Pt. Record		Release Slip
	CLERICAL CHECK COMPLETED						**NO CLERICAL ERROR**		
Clinical Lab Scientist:							Date/Time:		

❷ PRE AND POST SAMPLE CHECKS

	ABO/RhD		Ab SCREEN		HEMOLYSIS		ICTERUS		DAT	
	ABO	RhD	Pos	Neg	Yes	No	Yes	No	Pos	Neg
PRE										
POST										

No further testing is required if there is no hemolysis or icterus and if the DAT is negative. Complete section (B) below only if any findings are positive or questionable.

CLINICAL LAB SCIENTIST, DATE/TIME:

SECTION B

LABORATORY REPORT

Hemoglobin: Urine Neg ☐ Pos ☐ rbc/hpf _____ Plasma (Visual Inspection) _____

Direct Antiglobulin Test:

	Broadspectrum	Anti-IgG	Anti-Complement	Elution Results
Pre-Specimen				
Post-Specimen				

Miscellaneous Test:

	Plasma Hgb	Hgb/Hct	Bilirubin	Haptoglobin	Specify
Pre-Specimen					
Post-Specimen					

	ABO Group		RhD Typing			Antibody	Antibody	Crossmatch		Antigen
	Cells	Serum	D	Weak D	Con	Screen	Identification	Pre	Post	Typing
Pre-Specimen										
Post-Specimen										
Donor #_____										
Donor #_____										

INTERPRETATION OF REACTION: Allergic ☐ Hemolytic ☐ Overload ☐

Symptoms Probably Not Related to Transfusion ☐ Febrile ☐ Cause Undetermined ☐

Other: _____

COMMENTS AND RECOMMENDATIONS

Tech _____ Date _____ Pathologist _____ Date _____

Riverside County Regional Medical Center
Department of Clinical Laboratory & Anatomic Pathology
John W. Koett, MD, PhD, Chief Pathologist
Moogil Choe, MD, Staff Pathologist
Gary Strickland, MD, Staff Pathologist

Riverside County Regional Medical Center
26520 Cactus Ave., Moreno Valley, CA 92555

Patient's Identification

UNIT:_____

#675 (9/14)
LB0045

White - Chart Yellow - Lab

File in Pt Chart _____ / _____
Initial Date

FOR SUSPECTED TRANSFUSION REACTIONS
SUGGESTED CLINICAL MANAGEMENT
(This is not an order)

FINDINGS	PROCEDURE
I. Circulatory Overload	1. Notify Licensed Provider
II. Urticaria only	1. Notify Licensed Provider 2. Slow transfusion, give IM antihistaminics, resume transfusion at a normal rate in 15 minutes if therapy is effective.
III. Fever, chills, lumbar pain dyspnea, chest pain or oozing	1. **STOP** transfusion, but keep IV open 2. Notify Licensed Provider 3. **CALL** the Blood Bank - Phone Number 951-486-5267 4. Send pink top tube (drawn carefully to prevent hemolysis) and blood container(s) (without removing recipient set) to Blood Bank. 5. Obtain urine sample for free hemoglobin
IV. Shock, Hemoglobinuria, oliguria, bleeding	1. **STOP** transfusion, but keep IV open 2. Notify Licensed Provider 3. **CALL** the Blood Bank - Phone Number 951-486-5267 4. Send pink top tube (drawn carefully to prevent hemolysis) and blood container(s) (without removing recipient set) to Blood Bank. 5. **INSTITUTE PROPHYLACTIC TREATMENT IMMEDIATELY** a. Maintain blood pressure b. Maintain urine flow over 100 ml/hr for adult over 1-2 ml/kg/hr for child 1) Furosemide, 40-80 mg. I.V. for adult 0.5 - 1 mg/kg/dose (max dose 40 mg) for child (This dose may be repeated once) 2) Fluids - keep strict I & O c. Consider possible indications for: 1) Heparin 2) Platelet concentrates 3) Fresh frozen plasma or Factor VIII concentrates d. Therapy for sepsis 6. Obtain urine sample (catheterize if necessary) for free hemoglobin. 7. Get baseline studies: a. Platelet count b. Prothrombin Time c. PTT d. Bilirubin e. Hemoglobin and/or Hematocrit f. WBC g. BUN, Creatinine and Electrolytes
V. Anaphylaxis or anaphylactoid reaction	1. **STOP** transfusion, but keep IV open 2. Epinephrine 0.4 ml of 1:1000 solution I.M., for **adult** 3. Epinephrine 0.01 mg/kg/dose (max dose 0.3 mg per injection) of 1:1000 solution I.M. Q15 min for **child** 4. Notify Licensed Provider 5. **CALL** the Blood Bank - Phone Number 951-486-5267 6. Send pink top tube (drawn carefully to prevent hemolysis) and blood container(s) (without removing recipient set) to Blood Bank, 7. Consider bacterial contamination or antibodies to IgA in further evaluation and treatment 8. Obtain urine sample (catheterize if necessary) for free hemoglobin.

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

HOUSEWIDE

	Document No: 689	Page 1 of 12
Title: Code Stroke	**Effective Date:** 7/9/2018	☐ 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 applies to the Moreno Valley campus of the RUHS – Medical Center. Arlington campus staff shall call 9-1-1 in case of stroke related emergency.

1.2 To provide multidisciplinary guidelines for the recognition and activation of a Code Stroke.

1.3 To identify the roles and responsibilities of the Code Stroke Team.

1.4 To define the educational requirements for the Code Stroke Team.

2. DEFINITIONS

2.1 **Code Stroke:** defined as an emergent process for the recognition and treatment of acute stroke within less than 16 hours of 'last known well time'.

2.2 **Distant site:** defined as a site where the physician specialist (Neurologist) who provides health care services is located while providing these services via a telecommunications system.

2.3 **Last Known Well Time:** defined as the time in which a patient was last known to be without the signs of symptoms of the current stroke or at his or her prior baseline. Note: Time of *discovery* does not equal last known well time. For example, if a patient was last seen normal at 10 pm, goes to bed, and is found to have new deficits at 6 am the following morning, the last known well time is 10 pm the night before.

2.4 **National Institute of Health Stroke Scale (NIHSS):** defined as a standardized method used by healthcare professionals to measure the level of impairment caused by stroke.

2.5 **NPO:** Abbreviation for Latin *non per os* or *nil per os*, nothing by mouth.

2.6 **Originating site:** defined as the site where a patient is located at the time health care services are provided via a telecommunications system.

2.7 **Primary Medical Team:** defined as the primary admitting team that oversees the provision of care during a patient's hospitalization.

2.8 **Synchronous interaction:** defined as a real-time interaction between a patient and a healthcare provider located at a distant site.

2.9 **Telehealth:** defined as a mode of delivering health care services via information and communication technologies to enable the diagnosis, consultation, treatment, education, care management, and self-management of patient at the originating site from a health care provider at a distant site.

2.10 **Tele-Neurologist:** defined as those specialists identified by the originating site that provide specialty services (Neurology for the purposes of this policy and procedure) via Telehealth. Physicians providing care via telehealth to patients at RUHS Medical Center must have appropriate staff privileges to do so.

3. GUIDELINES

3.1 **Code Stroke Activations:** A Code Stroke shall be activated on any patient presenting to RUHS – Medical Center exhibiting any acute neurological changes indicative of stroke with a last known well time of less than 16 hours

3.2 **Telehealth consultation:** A Telehealth consultation shall be activated on any patient exhibiting acute neurological changes indicative of stroke with a last known well time of less than 4.5 hours and NO intracranial hemorrhage/mass/lesion is determined via computerized I tomography (CT) Scan or magnetic resonance imaging (MRI) when an in-house neurologist is unavailable. A telehealth consult need not be requested if obvious contraindications for IV Alteplase (Activase®) are identified by the treating provider.

3.3 **Alteplase (Activase®):** Alteplase (Activase®) is to be considered for any eligible patient that presents with signs and symptoms of stroke within 4.5 hour of last known well time. If patient meets inclusion criteria for Alteplase (Activase®) follow the RUHS-Medical Center policy 602 Patient Informed Consent.

3.4 **For suspected stroke patients that arrive to the emergency department (ED) via ambulance, the following will occur:**

a. A pre-hospital Stroke Scale will be completed in the field prior to paramedic base station contact and Emergency Department (ED) arrival whenever possible.

b. Riverside Emergency Medical Services Agency (REMSA) paramedics will make contact with RUHS – Medical Center base station Mobile Intensive Care Nurse (MICN).

c. The MICN will gather the following information from the REMSA paramedic.

- Signs or symptoms of stroke, which may include but are not limited to:
    i. Sudden numbness or weakness of face, arm, or leg, especially on one side of the body.
    ii. Sudden confusion or trouble speaking or understanding.
    iii. Sudden dimness or loss of vision from one or both eyes.
    iv. Sudden loss of balance, coordination and/or difficulty with ambulation.
    v. Sudden severe headache with no known cause.
- Last known well time.

d. Blood glucose result or request one if not previously done.

e. If the patient exhibits any acute neurological change indicative of a stroke and the last known well time is less than 16 hours, activate a Code Stroke.

f. Dial 9-1-1 from a hospital phone or handset, inform the operator you want to activate a Code Stroke and provide the operator with the following:

- Patient location within the ED.
- Provide estimated time of arrival (ETA).

g. The operator will notify the following Code Stroke ED team by pager:

- Neurologist
- Registered Nurse (RN) Code Team Leader
- Clinical Pharmacist
- Computerized tomography (CT) scan technologist
- Laboratory supervisor (via e-mail)
- Designated certified nursing assistant
- Designated licensed vocational nurse (LVN) or Phlebotomist
- House Supervisor
- Stroke Coordinator

h. The MICN will:

- Notify the ED attending physician.
- Notify the ED charge nurse.
- Notify the ED bedding RN.

3.5 **For suspected stroke patients who arrive to ED via walk-in triage, ED staff will:**

a. Ensure the patient is triaged by the ED RN and assessed for signs or symptoms of stroke.

b. Confirm last known well time.

c. Perform a point of care blood glucose on the patient to rule out hypoglycemia.

d. If patient is displaying acute signs or symptoms of stroke and the last known well time is **less than 16 hours** activate a Code Stroke.

3.6 The RN shall:

a. Notify the ED attending physician.

b. Notify the ED charge nurse.

c. Notify the ED bedding RN.

3.7 **In-patient suspected stroke patients:** For suspected stroke patients who are inpatient, the following will occur:

a. The primary nurse will assess the patient for acute signs and symptoms of stroke. Signs and symptoms of stroke may include but are not limited to:

- Sudden numbness or weakness of face, arm, or leg, especially on one side of the body.
- Sudden confusion or trouble speaking or understanding.
- Sudden dimness or loss of vision from one or both eyes.
- Sudden loss of balance, coordination and/or difficulty with ambulation.
- Sudden severe headache with no known cause.

b. Confirm last known well time.

c. Ensure patient blood glucose > 60 mg/dl.

3.8 **If there is any question as to whether the patient is displaying signs or symptoms of an acute stroke within the In-patient setting, the nurse shall immediately activate the Rapid Response Team and the responding team will further evaluate the patient.**

3.9 When last known well time **less than 16 hours:** If an in-patient exhibits acute neurological symptoms indicative of stroke, the last known well time is less than 16 hours and a current blood glucose level is greater than 60 mg/dl, any nurse or a member of the Rapid Response Team shall activate a Code Stroke and immediately notify the primary physician.

3.10 When last known well time **greater than 16 hours:** For any patient exhibiting acute neurological changes indicative of stroke and the last known well time is greater than 16 hours, notify the appropriate physician immediately

3.11 For patients in the ED, notify the ED provider.

3.12 Patients In-House:

a. Activate the Rapid Response Team.

b. Notify Primary team

3.13 **To activate a Code Stroke:**

a. Call the emergency hospital operator by dialing **9-1-1 from a hospital phone or handset.**

b. Request a Code Stroke notification.

c. Provide patient location.

d. The operator will page the Code Stroke Team to the specified unit.

3.14 **Members of the Code Stroke ED Response Team:**

a. RN Code Team Leader

b. ED physician

c. Clinical Pharmacist (To remain on standby)

d. Designated licensed vocational nurse (LVN) or Phlebotomist

e. Designated certified nursing assistant

f. Stroke Coordinator (As available)

g. Neurologist

- Between the hours of 1700-0800 and weekends Neurology is accessed via Telehealth. Note: Neurologist/Telehealth response is initiated status post CT scan confirming the absence of hemorrhage/mass/lesion

3.15 **Contributing members of the Code Stroke ED response Team not reporting to bedside:**

a. Radiology

b. Neurosurgeon

c. Clinical Laboratory Scientist (CLS)

d. House supervisor

3.16 **Members of the Code Stroke In-Patient Response Team:**

a. RN Code Team Leader

b. Primary care RN

c. Primary Medical Team

d. Clinical pharmacist (To remain on standby)

e. Designated certified nursing assistant

f. Stroke Program Coordinator (As available)

g. Neurologist

- Between the hours of 1700-0800 and weekends Neurology is accessed via Telehealth. Note: Neurologist/Telehealth response is initiated status post CT scan confirming the absence of hemorrhage/mass/lesion.

3.17 **Contributing members of the Code Stroke In-patient Response Team not reporting to the bedside:**

a. Radiology

b. Neurosurgeon

c. CLS

d. House supervisor

3.18 **Responsibilities of the RN Code Team Leader:**

a. Confirm last known well time.

b. Perform a comprehensive assessment, including NIHSS.

c. Implement ED Stroke Orders. Note: The physician will evaluate the patient within 10 minutes of Code Stroke activation or within 10 minutes of patient arrival via EMS. If upon exam, the physician determines that a Code Stroke is not appropriate, the physician may request a Code Stroke cancellation.

d. Ensure strict NPO status until Stroke Dysphagia Screen is completed and documented in the nursing electronic medical record (EMR).

e. Goal for order implementation ≤ 15 minutes from Code Stroke Activation.

f. Goal for scan of the head without contrast/laboratory tests conducted ≤ 25 minutes from patient presentation.

g. Notify provider immediately after completion of CT scan and patient return to the appropriate unit.

- ED physician (Code Stroke ED)
- Primary Medical Team (Code Stroke In-Patient)

h. If Telehealth is to be utilized, the following will occur:

i. Set-up conference equipment at the patient's bedside.

j. Ensure completed labs and radiology reports are available for physician review.

k. Assist with synchronous interaction between the patient and the Tele-Neurologist as needed.

l. If the patient is a candidate for Alteplase (Activase®) administration, the following will occur:

m. Ensure a physician has reviewed any potential risks, consequences, benefits, and alternatives with patient and/or legal representative regarding the use of Alteplase (Activase®) prior to administration.

n. Administer Alteplase (Activase®) as ordered.

o. Refer to Nursing Policy Medication: Alteplase (Activase) For Use in Acute Ischemic Stroke.

p. Goal is ≤ 60 minutes from patient arrival.

q. Anticipate admission to ICU for at least 24 hours for patients treated with Alteplase (Activase®).

r. Document appropriately in the nursing EMR.

s. Provide patient and family education.

3.19 **Responsibilities of the Responding Physician:**

a. Respond for medical screening exam within 10 minutes or less from Code Stroke activation.

b. For Code Stroke activation that is initiated prior to patient arrival by the MICN, respond for medically screening exam within 10 minutes or less from ED arrival. Note: Upon evaluation, if a Code Stroke is determined not appropriate, notify the primary RN and request a Code Stroke cancellation. Provide the appropriate orders for the continuation of care.

c. Ensure initiation of Stroke Orders.

d. The NIHSS is completed by the RN and the results are to be reviewed and incorporated into the initial assessment.

e. Communicate with neurologist. Ensure Telehealth consultation is initiated if appropriate.

f. If a neurologist is unavailable, initiate Telehealth status post CT scan confirming the absence of hemorrhage/mass/lesion.

g. When Telehealth is utilized, the following will occur:

h. Confer with the Tele-Neurologist regarding patient's eligibility for a Telehealth consultation. Note: If it is determined not to be a suitable case the interaction will be complete.

i. Upon completion of neurology consultation, the treating provider and neurologists shall review Inclusion & Exclusion Criteria and discuss patient eligibility for Alteplase (Activase®).

j. If patient meets inclusion criteria for Alteplase (Activase®) follow the RUHS-Medical Center policy for Informed Consent. Written informed consent is not a prerequisite for Alteplase (Activase®).

k. Implement Alteplase (Activase®)-Adult Use Acute Ischemic Stroke Physician Orders as appropriate.

- Orders may be written by an attending physician, or a resident working under the direction of an attending physician.

l. Document reason if Alteplase (Activase®) is **not** ordered in the medical record.

m. Document reason if Alteplase (Activase®) is ordered but not initiated within 60 minutes of patient presentation in the medical record.

3.20 **Responsibilities of the Neurologist/Tele-Neurologist for ischemic stroke patients:**

a. Respond to consult request within 15 minutes or less and speak directly to the treating provider.

b. If Telehealth is to be utilized, the following will occur:

c. Obtain pertinent patient information from the treating provider to determine eligibility for a Telehealth consultation.

d. If it is determined ***not*** to be a suitable case, verbalize exclusion criteria and the interaction will be complete.

e. Review diagnostic studies.

f. Conduct synchronous interaction with the assistance of a NIHSS certified RN.

g. Review any potential risks, consequences, benefits, and alternatives with patient and/or legal representative regarding the use of Alteplase (Activase®) prior to administration. Document this discussion in the medical record.

h. Speak with the treating provider post patient evaluation and discuss case including review of Inclusion & Exclusion Criteria and patient eligibility for Alteplase (Activase®).

i. Communicate recommendations to the treating provider including but not limited to:

- Recommendation to treat with Alteplase (Activase®) if appropriate.
- Acute care recommendations in the event Alteplase (Activase®) is utilized.
- Recommendation for inter-facility transfer.

j. Provide a completed consultation note to become a part of the patient's permanent medical record.

k. In the event of remote access/equipment failure, contact the originating site and obtain verbal confirmation of patient presentation and diagnostic studies from treating provider and provide verbal consultation recommendations.

3.21 **Responsibilities of the clinical pharmacist:**

a. To remain on alert until confirmation of diagnostic studies.

b. Ensure Alteplase (Activase®) availability.

c. Reconstitute Alteplase (Activase®) as needed.

d. Expedite arrival of medications as required to manage patient.

3.22 **Responsibilities of the designated nursing assistant:**

a. Respond immediately to Code Stroke activation.

b. Assist with monitor implementation and transportation.

c. Assist with Telehealth when indicated.

3.23 **Responsibilities of the designated licensed vocation nurse (LVN) or phlebotomist:**

a. Respond immediately to the Code Stroke.

b. Obtain blood specimens.

c. Transport blood products directly to the Clinical Laboratory Scientist (CLS).

d. Confirm with CLS to expedite stroke labs.

3.24 **Responsibilities of the Stroke Program Coordinator:**

a. Coordinate and facilitate members of the Stroke Team and other involved departments.

b. Function as a strong resource nurse (as available).

c. Provide patient and family stroke education.

d. Notified via e-mail/page of Code Stroke activations for tracking and quality assurance.

3.25 **Responsibilities of radiology department:**

a. Radiology Technician prepares for emergent non-contrast CT scan of the head. (Clears the table of non-emergent patients)

b. Radiologist to read CT scan or other radiological study deemed necessary and report the findings to the ordering physician immediately after the reading is completed.

c. Goal is ≤ 25 minutes from patient presentation for non-contrast CT scan of the head to be completed.

d. Goal is ≤ 45 minutes from patient arrival to non-contrast CT scan report to be provided to the treating physician and documented.

3.26 **Responsibilities of Neurosurgeon for hemorrhagic stroke patients:**

a. Consult if requested for intracranial hemorrhage, suspected aneurysm, AVM, tumor bleed, or posterior fossa bleed.

b. Goal for response ≤ 120 min from time of request.

3.27 **Responsibilities of the house supervisor:**

a. Acts as a facilitator and resource person.

3.28 **Performance/Quality Improvement:**

a. The goal is to streamline and improve stroke procedures, coordinate stroke care, meet and exceed stroke performance standards and continuously monitor and measure standards for improvement.

b. The Quality Management department collects data on patients with a primary diagnosis of stroke and their outcomes on an on-going basis. Data sources may include but not limited to:

- Information obtained from the 'Code Stroke Activation Log'.
- Queries of the UHC database identifying stroke cases that have been coded by the medical records department.
- Patient Medical records.

c. The Quality management staff collects, aggregates, and analyzes data quarterly against appropriate benchmarks and reports the results to the Stroke Committee and related sub-group(s). The analysis includes reviewing cases against established criteria and assesses for opportunities for improvement. Details of cases that fall outside of established benchmarks are provided to the multidisciplinary committee for review. As appropriate, Stroke Committee identifies issues / system problems, develops quality improvement plans, implements plans, and monitors the resulting improvements made in care processes and outcomes.

d. The Stroke Committee meets a minimum of twice per year and reports quarterly to the Performance Improvement Committee and the Medical Executive Committee. The Stroke Committee includes the following members:

- Neurology Chair (Stroke Committee Chair) or representative.
- Medical Director or representative.
- Nursing Administration representative.
- Department of Emergency Medicine representative.

- Department of Neurosurgery Chair or representative.
- Department of Internal Medicine representative.
- Department of Radiology Chair or representative.
- Stroke Program Coordinator (Stroke Committee Co-Chair).
- Department of Rehabilitation Services Manager or representative.
- Pharmacist / Director of Pharmacy or representative.
- Department of Patient and Family Services Manager or representative.
- Laboratory Manager or representative.
- Quality Management representative.
- Patient Safety Officer or representative.
- Pre-hospital Liaison Nurse or representative.
- Food & Nutrition Services Manager or representative.

3.29 **Code Stroke Team Certification Requirements:**

a. The following health care providers are required to maintain Basic Life Support (BLS) certification:

- RN Code Team Leader
- Primary care RN
- Clinical Pharmacist
- Dedicated Nursing Assistant

b. All patient care providers are required to maintain a current California license.

c. The following health care providers are required to maintain ACLS certification:

- Adult critical care RNs
- Progressive care RNs
- Emergency Department RNs
- Clinical Pharmacist

d. The following health care providers are required to maintain NIHSS certification:

- RN Code Team Leaders
- Adult critical care RNs
- Progressive care RNs
- Emergency Department RNs
- Medical Surgical RNs on 4100 & 4200 shall obtain/maintain NIHSS certification within six months of hire.

3.30 **Code Stroke Team Education**

a. Nursing education includes: Annual training in early stroke recognition, Code Stroke criteria, stroke care interventions, and stroke core measures.

b. Nurses working in the Emergency Department are trained twice per year in early stroke recognition, Code Stroke criteria, stroke care interventions and stroke core measures.

c. Physician education includes:

- Review of RUHS – Medical Center acute stroke protocol. Familiarity with pathophysiology, presentation, assessment, diagnostics, and treatment of patients with acute stroke.

3.31 Physician specialists providing Telehealth services shall:

a. Be fully licensed and credentialed within their specialty.

b. Have approved Telehealth privileges at RUHS Medical Center.

3.32 **Core Stroke Team Education;**

a. Neurology Chair and Stroke Coordinator will maintain a minimum of 8 hours of stroke education annually.

4. REFERENCES

4.1 Del Zoppo, G., Saver, J., Jauch, E., Adams, H. (2009). Expansion of the Time Window to Treatment of Acute Ischemic Stroke with Intravenous Tissue Plasminogen Activator. A Science Advisory from the American Heart Association/American Stroke Association (2009). *Stroke 2009; 40:2945-2948*

4.2 Demaerschalk, B., Kleindorfer, D., Adeoye, O., Demchuk, A., Fugate, J., Grotta, J., et al (2015). Scientific Rationale for the Inclusion and Exclusion Criterial for Intravenous Alteplase in Acute Ischemic Stroke: A Statement for Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke 2016; 47:581-641*

4.3 Hacke, W., Kaste, M., Bluhmki, R., Brozman, M., Davalos, A., Guidetti, D., et al (2008). Thrombolysis with Alteplase 3 to 4.5 Hours after Acute Ischemic Stroke. *N Engl J Med 2008; 359;13:1317-1329*

4.4 Hemphill, J., Greenberg, S. Anderson, C., Becker, K., Bendok, B., Cushman, M., et al (2015). Guidelines for the Management of Spontaneous Intracerebral Hemorrhage: A Guideline of Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke 2015; 46:2031-2060*

4.5 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*

4.6 Powers, W., Rabinstein, A., Ackerson, T., Adeoye, O., Bambakidis, N., Becker, K., Biller, J., Brown, M., Damaerschalk, B., Hoh, B., Jauch, E., Kidwell, C., Leslie-Mazwi, T., Ovbiagele, B., Scott, P., Sheth, K., Southerland, A., Summers, D., and Tirschwell, D. (2018). 2018 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 2018.*

Document History:

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Document Owner: Stroke Committee	**Replaces Policy:** 203.06

Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
8/16-8/17	Stroke Committee	Yes	Activation window changed to < 6 hours from LKWT. Changes in requirements for written consent for IV Alteplase. To default to HW Informed Consent policy. Long discussed issue involving legal counsel.
12/4/17	Pharmacy and Therapeutics Committee	Yes	Addition of Internal Medicine representative to Stroke Committee
12/5/17	PAC	Yes	Add Arlington to scope, minor formatting
1/11/18	MEC	No	
2/5/2018	HEC	No	
6/2018	Stroke Committee		Window Expansion to 16 hours with associated reference (4.6) added

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 692	Page 1 of 2
Title: Interdisciplinary Plan of Care	**Effective Date:** 10/12/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☐ Procedure ☒ Guideline

1. DEFINITIONS:

1.1 Interdisciplinary: when task is carried out utilizing a group of health care professionals from diverse fields who work in a coordinated fashion toward a common goal for the patient. Healthcare professionals include Registered Nurses, Respiratory Care Practitioners, Registered Dietitians, Physical Therapists, Occupational Therapists, Pharmacists, Social Workers and Case Managers.

2. GUIDELINES:

2.1 Care planning will occur in the Electronic Plan of Care (POC), unless there is a prolonged downtime when a paper care plan may be utilized, utilizing form 148 Interdisciplinary Care Plan.

a. Each entry will record date, time, name, discipline of the individual participating.

2.2 A POC will be initiated for every patient upon each admission.

a. Care planning in the Emergency Department: The POC shall be initiated on all patients awaiting in-patient beds for greater than twenty-four (24).

2.3 The interdisciplinary team shall formulate the POC based on the problems identified during the assessment, in collaboration with the patient or representative.

a. Registered nurses will review the POC at a minimum of every 24 hours.

b. Updating the POC shall occur with a change in the patient's condition, treatment plan, Level of Care, and as necessary.

2.4 In general, learning needs should be addressed under "Knowledge Deficit". For example, if "Risk for Fall" was initiated, the nurse would apply a current intervention; however, the intervention of instructing the patient/family on fall prevention would be put under "Knowledge Deficit".

a. Detailed information related to patient/family education should be documented in the Education Record.

2.5 Expected end dates will be set for each problem. These dates shall be revised as necessary, in collaboration with the patient, family or significant others as well as applicable disciplines.

2.6 Upon discharge from the hospital or service:

a. Each problem shall be resolved with the appropriate outcome. This action is done within the goal of the POC. Once Completed is selected, this action shall remove the problem from the POC associated with this encounter. Note: if the problem is not resolved or completed, the POC remains active in the patients' medical record.

3. REFERENCES

3.1 Title 22, General Acute Care Hospitals (Division5) Chapter 1 70215
3.2 Nursing Policy 100.10 Assessing and Meeting Patient's Needs: Nursing Process
3.3 Inpatient Nurse Quick Start Guide Epic version 2015
3.4 Systematized Nomenclature of Medicine (SNOMED) Problem list

Document History:

Prior Release Dates: 12/18/2015	**Retire Date:** N/A
Document Owner: Nursing Administration	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
7/19/18	P. Farnham, T. Taylor, Y. Injety, E. Garcia, C. Moreno. Janis , Marybeth,	Yes	Change RT to RCP. Target date changed to expected end date. Removed SNOMED and placed in the references. . Added reference 3.3.
8/28/2018	Nursing P&P evote	No	
9/27/2018	PAC Evote	Yes	
10/11/2018	MEC	Yes	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – Medical Center

	Document No: 693	Page 1 of 13
Title: **ACQUISITON AND HANDLING OF PROCESSED HUMAN MILK PRODUCTS**	**Effective Date:** 6/26/2018	☐ 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. Acquisition, storage, processing, and utilization of processed human milk products (PHMP) used in the Newborn Nursery and Neonatal Intensive Care.

2. DEFINITIONS

1. **IBCLC**: International Board Certified Lactation Consultant
2. **RD**: Registered Dietitian
3. **Processed Human Milk**: Human milk acquired from a tissue bank licensed by the State of California that uses screened milk donors, safely collects, processes, handles, tests, and stores the milk. It may be frozen, thawed, refrigerated or shelf-stable. It must meet all legal and regulatory standards for storage and use in a hospital setting
4. **Processed Human Milk Fortifier**: Processed human milk that has been additionally engineered at a tissue bank licensed by the State of California to enhance or enrich specific nutrients. Processed human milk fortifier is used as an additive to a mother's own milk
5. **Processed Human Milk Product (PHMP)**: A general term that refers to any combination of processed human milk and processed human milk fortifier.
6. **Milk Bank**: A facility licensed by the State of California to receive, process, store and distribute processed human milk products.

3. POLICY

1. It is the policy of Riverside University Health System – Medical Center to
   a. Only store, use and administer processed human milk products procured from a licensed milk bank with FDA approval.
   b. Obtain written permission from an infant's parent/legal guardian prior to administration of any processed human milk product.
   c. Only administer PHMP with a provider order.
   d. Maintain a tracking system for all processed human milk products brought into, stored, administered and/or discarded in the hospital.

e. Store, prepare, administer and discard all processed human milk products according to the manufacturer's guidelines and the most recent guidelines from the Human Milk Banking Association of North America.

f. Promote the use of a mother's own milk at the earliest possible time.

4. PROCEDURE

1. Obtaining Permission to Administer PHMP

a. The physician/nurse practitioner will notify the parent/legal representative of the infant of the need for PHMP.

4.1.a.1 The indications for, risks, benefits and alternatives to PHMP will be discussed and the parent/legal representative will be given an opportunity to ask questions.

b. The parent/legal guardian has the right to decline the use of PHMP.

c. The physician/nurse practitioner will obtain written permission (Attachment 1) for the use of PHMP. A copy of the PHMP permission form will be provided to the parent/legal guardian and the original placed in the medical record.

2. Ordering and Receipt of PHMP

a. The assigned IBCLC, RD or Registered Nurse (RN) will estimate projected utilization for PHMP and order from the contracted milk bank as needed.

b. Shipping/Receiving will log the date/time of arrival, inspection of package if damaged, and date/time delivered to the patient care unit.

4.2.b.1 PHMP will be delivered by Shipping/Receiving, directly to the patient care unit, consistent with how other perishable shipments are processed.

c. For frozen PHMP, trained personnel in the receiving patient care unit will complete and log the following (Attachment 2):

4.2.c.1 Verify PHMP is transported with dry ice present

4.2.c.2 Inspect bottles to ensure they are undamaged and properly labeled

4.2.c.3 Ensure PHMP is frozen solid with crystals and not thawed

4.2.c.4 Verify expiration dates and lot numbers on bottles with the shipping receipt

4.2.c.5 Notify the Milk Bank if there are any discrepancies in the amount and/or lot numbers or the shipment does not pass inspection and return shipment. Communicate with Milk Bank to order replacement product.

4.2.c.6 After logging the product, the IBCLC, RD or RN will place all frozen product directly into the designated location in a -20° C (-4° F) or colder freezer:

d. For shelf-stable PHMP, trained personnel in the receiving patient care unit will complete and log the following (Attachment 3):

4.2.d.1 Inspect containers to ensure undamaged and properly labeled

4.2.d.2 Verify expiration dates and lot numbers on containers with the shipping receipt.

4.2.d.3 Notify the Milk Bank if there are any discrepancies in the amount and/or lot numbers or the shipment does not pass inspection and return shipment. Communicate with Milk Bank to order replacement product

4.2.d.4 Place all shelf-stable product directly in the designated, secure storage location.

3. **Preparation of PHMP for patient use**

   a. RN will verify the presence of the provider order for use of PHMP

   b. RN will verify the presence of written permission from the parent(s)/guardian to use PHMP in the medical record (Attachment 1).

   c. Personnel deemed competent will prepare the PHMP according to the guidelines (see Attachment 4 for frozen PHMP and Attachment 5 for shelf-stable PHMP)

   d. NOTE: One container of PHMP from the licensed milk bank may be used for multiple infants.

4. **Documentation of Administration of PHMP by patient**

   a. The bedside RN will document in the electronic medical record if the infant receives PHMP, the amount fed, the route of feedings, and lot number and serial number (when provided by the milk bank) from each individual container of PHMP used.

   b. In the event of multiple infants who are receiving PHMP simultaneously exhibit symptoms of clinical complications, use will be stopped, the physician/nurse practitioner and the distributer will be notified immediately.

5. **Disposal of PHMP**

   a. PHMP will be tracked as a tissue and unused portions will be accounted for.

   b. The bedside RN will pick up expired unused PHMP from the breast milk refrigerator each day and log unused amounts on the corresponding PHMP Tracking Log.

6. **Product Recall**

   a. In the event that a lot of PHMP is recalled, the individual receiving the notification of the recall will notify the NICU and Newborn Nursery charge nurses. The recalled lot will be removed immediately from the refrigerator, freezer, and patient bedsides, labeled as "recalled", and sequestered in a dedicated, secured area.

   b. The Charge Nurse will notify the NICU and Newborn Nursery Directors of the recall.

   c. The PHMP Lot Number Log will be reviewed by an RN to determine if any patient received the recalled lot.

   d. If patients received the recalled PHMP, an incident report will be initiated by the RN. Additionally, the flowing will happen:

4.6.d.1 The charge nurse (or designee) will notify the physician/nurse practitioner immediately.

4.6.d.2 The physician/nurse practitioner will inform the parent(s) in person or via phone.

7. **Quality Assurance and Safety Monitoring, Reporting, and Improvement**

a. FDA Approved Milk Banks will verify safety of product by providing report on their testing/quality outcomes upon request.

b. Receipt of PHMP, refrigerator temperature log, freezer temperature log, and lot and serial number logs will be maintained according to policies.

c. The appropriate temperature range for the freezer is less than -20°C; the appropriate temperature range of the refrigerator is 1° to 4°C.

4.7.c.1 Plant Operations will be notified immediately if the temperature of the refrigerator or freezer are out of range.

4.7.c.2 All PHMP will be removed and placed into the most conveniently located alternative patient refrigerator/freezer. If previously frozen PHMP has thawed, milk must be used or discarded per policy.

d. All documentation logs will be reviewed by the Nursing Directors or their designees to ensure ongoing quality.

e. Personnel involved with PHMP at any time in the chain of receipt, delivery, preparation or administration may report an unplanned outcome by completing an Incident Report.

5. REFERENCES

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Prior Release Dates: 5/2/2018	**Retire Date:** N/A
Document Owner: NICU Department Director	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
2/15/2018	Dietary	No	
2/20/2018	Shipping and Receiving	No	
2/21/2018	Nursing Policy and Procedure Committee	No	
3/27/2018	Policy Approval Committee	No	
4/25/2018	Hospital Executive Committee	No	
6/20/2018	M. Maury-Holmes, Nursing Director	Yes	Attachments updated to reflect revised forms and updated processes; expiration times for shelf-stable milk revised; addition of serial number to tracking requirements; minor wording changes
6/26/2018	C. Bailey, ANM	Yes	Attachments updated to reflect OB practices; minor wording changes.

Attachment 1

OTRCN

Permission to Feed Processed Human Milk Products

Human milk is best for babies. It is easy to digest, lowers the risk of illness, and helps with brain growth. Feeding only human milk the first few days of life helps babies stay strong and healthy. Human milk is also very important for babies that are born early or are sick.

A mother's own milk should be used first. It is best because it is made for her baby. A mother's own early milk is high in nutrients and also contains cells that help her baby fight infection.

Doctors prefer feeding a baby processed human milk when a mother's own milk is not available. Using processed human milk allows a baby to avoid formula (cow's milk). It can be added to a mother's own milk or given alone if a mother does not have enough milk.

Processed human milk comes from approved milk centers that follow strict rules. Processed human milk is only used from donors who pass a health test, including blood work. All processed human milk is heat-treated and tested. It has been safely used in hospitals since the 1900s. Processed human milk offers many health benefits that your baby may not get from formula.

In the Neonatal Intensive Care Unit (NICU) Only
Babies that are born very early and that are in the (NICU) need a breast milk fortifier for growth. Fortifiers may be made out of human milk or cow's milk. Fortifier made from processed human milk is preferred by doctors when a baby is fed human milk. It is used for babies that do not or may not tolerate a cow's milk product.

Permission – Your signature below indicates that:

- The use of processed human milk products has been adequately explained to me by my baby's provider.
- All of my questions have been answered.
- I give permission for my baby to be fed processed human milk products.

Signature of Parent or Guardian	Printed Name	Relationship to Baby	Date / Time

Witness Signature	Printed Name

Interpreter's Statement

Signature of interpreter	Title	Printed Name	Date / Time

☐Remote Language Access Line #_____ (if interpretation is provided remotely)

Riverside University Health System – Medical Center

Processed Human Milk Products Permission

1 White-Chart; Yellow-Patient 8/2017

Attachment 2

Product type: Prolact HM® 118mL Tracking Form
Lot #:
Serial #:__________
Expiration Date on Bottle:

Dry Ice Frozen Upon Receipt	Condition of Bottle: Frozen and Intact**	Date/Time Frozen Bottle is Placed into the Freezer*	Name of Staff Logging and Storing Milk Shipments
☒Yes ☐No	☒Yes ☐No	Date: Time:	

Date/Time Frozen Bottle is removed from the freezer and placed in the refrigerator*	Date/Time bottle will expire in refrigerator (36 hours AFTER removal from freezer)	Name of Staff removing bottle from Freezer and labeling bottle with expiration Date/Time
Date: Time:	Date: Time:	

Name and MRN of all Patients Using this Bottle (place sticker)	Removal Record	Volume discarded	Discard/Waste Record
	mL: By: Date/Time:	mL: Includes: ☐HMF ☐Protein	By: Date/Time: Reason: ☐Expired ☐__________
	mL: By: Date/Time:	mL: Includes: ☐HMF ☐Protein	By: Date/Time: Reason: ☐Expired ☐__________
	mL: By: Date/Time:	mL: Includes: ☐HMF ☐Protein	By: Date/Time: Reason: ☐Expired ☐__________
	mL: By: Date/Time:	mL: Includes: ☐HMF ☐Protein	By: Date/Time: Reason: ☐Expired ☐__________
	mL: By: Date/Time:	mL: Includes: ☐HMF ☐Protein	By: Date/Time: Reason: ☐Expired ☐__________
Unused Volume REMAINING in Original Bottle:		mL:	By: Date/Time:
TOTAL Volume Discarded (sum of all entries)		mL:	

Attachment 3

Newborn Nursery Shelf-Stable PHMP

Receiving and Tracking Log

Product Name: Benefit -20 118 ml Lot Number_____ Exp. Date_____

Date Received_____ By_____ Number of pouches_____

Condition of pouches UNDAMAGED, LABELED AND INTACT ☐ Yes ☐ No (if no STOP, contact Medolac)

Patient ID Label	Serial Number	Volume	Date/Time Prepared (transferred into bottles)	Twelve (12) hour expiration date/time (of warmed milk)	Nurse/Co-Signer	Discarded/Waste Date/ Time Amt/ Reason

Attachment 4 – Preparation and Handling of Frozen PHMP

THAWING

- To thaw frozen PHMP, either:
    - Place frozen, unopened bottle in refrigerator set between 1°C and 4°C
        - PHMP will be labeled with the date and time it is removed from the freezer and placed in the refrigerator and documented on the corresponding tracking sheet
        - Expiration dates will be marked on PHMP containers
        - Thawed PHMP is considered good for 36 hours from transfer from breast milk freezer to breast milk refrigerator for overnight thawing unless otherwise on the product label.
    - Place in a hospital-grade human milk warmer set to "Thaw" and follow manufacturer's instructions
        - PHMP will be labeled with the date and time it is removed from the freezer and thawing initiated and documented on the corresponding tracking sheet
        - Expiration dates will be marked on PHMP containers
        - Thawed PHMP is considered good for 36 hours from transfer from breast milk freezer to begin thawing unless otherwise on the product label
    - Once thawed, previously frozen PHMP may not be refrozen.
    - Lot number and serial numbers as they appear on original container

PREPARATION AND MIXING

- Maintain aseptic technique when preparing and handling human milk.
- Prepare PHMP using appropriate personal protective equipment
- Clean all work surfaces using a hospital-approved antiseptic cleaner and using the approved contact time prior to preparation of milk and between orders on surfaces that come into direct contact with milk
- Perform hand hygiene
- Verify labels on milk containers for proper product and expiration date
- After the bottle has been properly thawed, remove the cap from bottle. Swirl the bottle gently.
- If the bottle is to be used by more than one infant, decant the quantity required for 12 hours into a separate, sterile bottle for each baby. Label per policy.
    - The RN will record the follow information in the PHMP Log:
        - Date/time
        - Patient name(s)

  - Patient medical record number(s)
  - Amount being removed for patient use

- Product must be administered within 24 hours, if fortified, and within 36 hours of removal from the freezer, if unfortified.
- Record/document patient feeding according to hospital standards for documentation in enteral nutrition section of patient medical record sheet, along with volume fed and lot and serial numbers of product used.
- Do not mix a mother's own milk, PHMP and/or formula into the same bottle/syringe. Each type of feeding is to be prepared, stored and administered separately.
- Use or discard within 1 hour of starting an oral feed and do not allow to hang for more than 4 hours if a continuous feed.

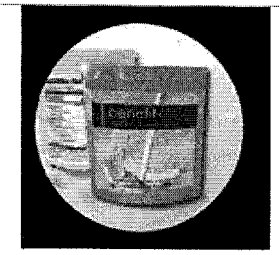
Attachment 5 – Preparation and Handling of Shelf-Stable PHMP

PREPARATION

- Maintain aseptic technique when preparing and handling human milk.
- Prepare PHMP using appropriate personal protective equipment
- Clean all work surfaces using a hospital-approved antiseptic cleaner and using the approved contact time prior to preparation of milk and between orders on surfaces that come into direct contact with milk
- Perform hand hygiene
- Ready four sterile containers with a minimum volume of 30 mL for use.
- Verify labels on milk pouch for proper product and expiration date
- Inspect the pouch for any damage, leaking or bulging. DO NOT USE DAMAGED POUCHES. Retain any damaged pouches and contact the vendor for instructions.
- Agitate the pouch before opening to ensure contents are uniform.
- Clean the outside of the pouch with isopropyl alcohol wipe or other appropriate disinfectant before pulling the tear strip located at the top of the pouch.
- Allow container surface to air dry before opening.
- After opening storage pouch:
    - Pour 30 mL of the contents into each of the four, sterile containers that have been readied and cover with solid lids.
    - Label containers with Lot number, serial number, expiration date and current date/time
    - Do not freeze
    - Store in in refrigerator set between 1°C and 4°C for up to 7 days after opening
    - Store at room temperature (bedside) for up to 12 hours
    -
- Record/document patient feeding according to hospital standards for documentation in enteral nutrition section of patient medical record sheet, along with volume fed and lot and serial numbers of product used.

Attachment 6

Shelf-stable PHMP:



MEDOLAC INVENTORY (COLD)

PHMP to remain refrigerated for ONLY 7 DAYS

Maintain Refrigerator Temp at 36-46 F

Today's Date	Date/Time PHMP Expires	Quantity of PHMP Available	Storage Temp	RN/LC Initials

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 695	Page 1 of 5
Title: Stroke Scope of Service	**Effective Date:** 10/12/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☒ Procedure ☐ Guideline

1. Definitions:

1.1 National Institute of Health Stroke Scale (NIHSS): defined as a standardized method used by healthcare professionals to measure the level of impairment caused by stroke.

1.2 Telehealth: defined as a mode of delivering health care services via information and communication technologies to facilitate the diagnosis, consultation, treatment, education, care management, and self-management of a patient's health care while the patient is at the originating site and the health care provider is at a distant site.

2. Riverside University Health System-Medical Center's (RUHS) Stroke Program is established to ensure excellent stroke care for patients with neurological deficits secondary to cerebrovascular disease, including but not limited to: thrombosis, embolism, or hemorrhage through early recognition, following evidence-based interventions while maintaining a safe, patient centered environment.

3. Location, hours of service:

3.1 24 hours per day, 7 days per week.

3.2 Stroke Program services will respond to the Emergency Department (ED) and all adult in-patient units.

3.3 Stroke Program services will be provided by the Stroke Team.

4. Scope of services provided:

4.1 The Stroke Team serves three critical functions:

a. Facilitate effective interaction and collaboration among agencies, services, and people involved in providing prevention and the timely identification, transport, treatment, and rehabilitation of individual stroke patients.

b. Provide a standardized approach to stroke care.

c. Establish performance measures to evaluate effectiveness and to revise, as needed, for improvement.

4.2 The Stroke Team provides patients and providers with best practice recommendations to promote effective stroke prevention, treatment, and rehabilitation

a. Ensures that decisions about protocols and patient care are individualized and are in the patients' best interest.

b. Identifies and addresses potential obstacles to successful implementation.

c. Provides the appropriate resources and delivers primary stroke care, in accordance with best practice guidelines.

d. Works under the guidance of a Stroke Medical Director, Stroke Coordinator, Stroke Committee, written care protocols, pre-printed stroke physicians orders and in collaboration with Emergency Medical System (EMS), neuro-imaging, telehealth, radiology and laboratory services.

4.3 The Stroke Committee is responsible for:

a. Defining criteria for the evaluation of process and outcome measures, quality management, performance monitoring, problem identification, analysis, and reporting. Criteria are defined by consensus, institutional guidelines, and are based on evidence-based practice parameters.

4.4 The Stroke Committee is a multidisciplinary team and includes the following:

a. Neurology Chair (Stroke Committee Chair) or representative.

b. Medical Director or representative.

c. Chief Nursing Officer or representative.

d. Department of Emergency Medicine or representative.

e. Department of Neurosurgery or representative.

f. Department of Radiology Chair or representative.

g. Stroke Program Coordinator (Stroke Committee Co-Chair).

h. Department of Rehabilitation Services Manager or representative.

i. Director of Pharmacy or representative.

j. Department of Patient and Family Services Manager or representative.

k. Laboratory Manager or representative.

l. Quality Management representative.

m. Patient Safety Officer or representative.

n. Pre-hospital Liaison Nurse or representative

o. Food & Nutrition Services Manager or representative

4.5 Meetings are conducted a minimum of twice per year or as needed.

4.6 Code Stroke Responders

a. Emergency Department

- ED Physician
- NIHSS Certified Registered Nurse
- Neurologist or Telehealth
- Clinical Pharmacist (Stand by)
- Designated Certified Nursing Assistant
- Stroke Coordinator (As available)

b. In-Patient

- Primary Medical Team (one provider)
- NIHSS Certified Registered Nurse
- Neurologist or Telehealth
- Clinical Pharmacist (Stand by)
- Designated Certified Nursing Assistant
- Stroke Program Coordinator (as available)

5. Education

5.1 Nursing education includes:

a. Annual training in early stroke recognition, code stroke criteria, stroke care interventions, and stroke core measures.

b. Training twice per year for registered nurses working in the Emergency Department.

c. Maintenance of National Institute of Health Stroke Scale (NIHSS) certification for nurses working in the following areas:

- Emergency Department.
- Adult Critical Care Unit.
- Progressive Care Unit.
- Designated medical surgical units.

5.2 Physician education includes:

a. Review of RUHS's acute stroke protocol

b. Demonstration of knowledge in pathophysiology, presentation, assessment, diagnostics, and treatment of patients with acute stroke.

5.3 Community:

a. Collaboration with local agencies to increase knowledge of stroke risk factors and symptoms with activities related to stroke at a minimum of twice per year.

6. Quality improvement: The effectiveness of the Stroke Program is evaluated through data collection, data monitoring, and performance improvement as follows:

6.1 Performance improvement:

a. Monitor performance of the Stroke Program by the Stroke Committee through case review, concurrent and retrospective chart review, and stroke achievement 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.

6.2 Data collection

a. Data collection and maintenance will be gathered from Get with the Guidelines for Stroke using the Outcome Sciences Database.

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

6.3 Reporting data

a. The Quality Management Department will report quality measures to the Stroke Committee.

b. The Stroke Committee will report to the Performance Improvement & Patient Safety Committee and the Medical Executive Committee.

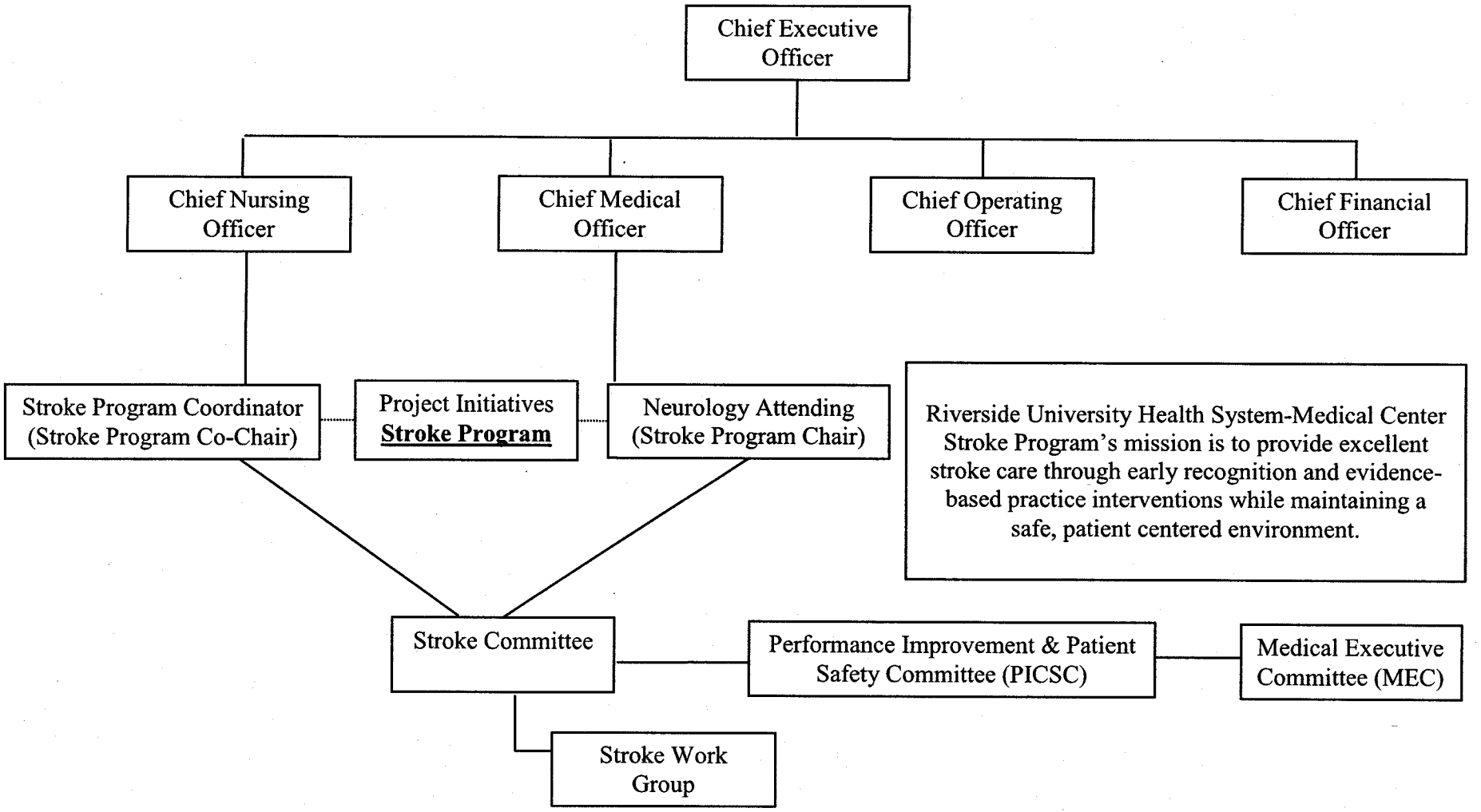
7. Attachments

7.1 Stroke Program Organizational Chart.

Document History:

Release Dates: 12/2013, 12/2015		**Retire Date:** N/A	
Sponsored by: Stroke Committee		**Replaces Policy:** # 100.02	
Date Reviewed	Reviewed By:	Revisions Made	Revision Description
5/2018	Stroke Committee	Yes	Minor changes to mirror Code Stroke policy
8/28/2018	Nursing P&P evote	No	
9/27/2018	PAC evote	Yes	Minor wording
10/11/2018	MEC	No	

Riverside University Health System-Medical Center
Stroke Program Organizational Chart



RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 712	Page 1 of 5
Title: Computer Hardware and Software – Access, Use and Security	**Effective Date:** 10/1/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☒ Policy ☐ Procedure ☐ Guideline

1. **POLICY.** The policy of RUHS – Medical Center is to:

   1.1 Ensure the security and privacy of the information stored and/or transmitted through the RUHS - MEDICAL CENTER computer hardware and software; computer networks; and Internet and email.

   1.2 Establish and govern workstation standards and safeguards for user access to the RUHS - MEDICAL CENTER computer system, Local Area Network (LAN)/CORNET, electronic mail (email), job related applications, and the Internet.

   a. RUHS - MEDICAL CENTER reserves the right to amend policies and guidelines without notice pursuant to the applicable federal, State, and local laws and regulations.

2. **DEFINITIONS**

   2.1 Information Technology. A computer system, with hardware and software, used to store, process, and maintain data in an electronic format. Computer systems include the use of linking a software program to multiple users through the use of RUHS - MEDICAL CENTER networked servers.

   2.2 Information Technology Department (IT). The department responsible for the oversight of the electronic processes and data that is stored, processed, and maintained on the RUHS - MEDICAL CENTER networked computer system.

   2.3 Security Standards. The reasonable safeguards, as required by federal, State, and local laws/regulation, that are implemented and practiced to protect the integrity, confidentiality, and availability of the RUHS - MEDICAL CENTER computerized systems and data.

   2.4 System Access Request (SAR) form. A form required to obtain access to the appropriate RUHS - MEDICAL CENTER information technology. This form identifies requested computer access for each person who has access to the RUHS - MEDICAL CENTER computer system. This form can be obtained from the RUHS - MEDICAL CENTER Intranet Forms and Templates section under the Information Systems header.

   2.5 Workforce Members. 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.

3. GUIDELINES

3.1 Use and Access Computer Hardware, Software, and Networks. Only authorized/authenticated workforce members approved by the SAR process will be provided appropriate access to computer hardware, software, and networks for the delivery of services. RUHS - MEDICAL CENTER maintains the right to regularly monitor all RCMC systems to ensure appropriate computer use.

a. Use of the RUHS - MEDICAL CENTER systems implies agreement to the terms of this RUHS - MEDICAL CENTER policy.

- RUHS - MEDICAL CENTER users do not hold an expectation of privacy in their use of RUHS - MEDICAL CENTER owned hardware, software, and computer network access and usage, including email.
- Email is not considered confidential and should not be used as a form of confidential or personal communication.

b. Authorized workforce members must be acting within the scope of their employment or contractual relationship with RUHS - MEDICAL CENTER.

c. Specific user names and passwords will be provided to all authorized users. Authorized users agree:

- Not to share their user names and/or passwords with anybody including co-workers, supervisors, and/or managers.
- To take steps to prevent the loss or theft of their user names and/or passwords.

d. Users agree to take reasonable and appropriate safeguards to protect the physical integrity, confidentiality, and availability of computerized systems/applications.

3.2 Use Prohibitions. Use prohibitions include but are not limited to:

a. Sending or sharing with unauthorized persons any information that is confidential by law, rule, or regulation.

b. Making unauthorized copies of RUHS - MEDICAL CENTER files or other RUHS - MEDICAL CENTER data.

c. Installing software or hardware that has not been inspected and authorized by staff and agents of RUHS - MEDICAL CENTER.

d. Attaching devices not authorized by RUHS - MEDICAL CENTER.

e. Attaching non-RUHS - MEDICAL CENTER owned computers without written permission from RUHS - MEDICAL CENTER.

f. Using network resources to play or download games, music, or videos that are not in support or under the scope of employment at RUHS - MEDICAL CENTER for business or educational functions.

g. Leaving workstations unattended without locking or logging out of the workstation.

h. Utilizing unauthorized employee-to-employee networking or file sharing.

i. Using RUHS - MEDICAL CENTER network resources for, or in, support of unlawful activities as defined by federal, State, and local law.

j. Utilizing network resources for activities that violate conduct policies as established by RUHS - MEDICAL CENTER and the County of Riverside.

k. Users agree that Protected Health Information (PHI) will not be stored or maintained on electronic remote access devices to be taken off site from the Moreno Valley or Arlington Campuses including, but not limited to, laptop computers or other portable electronic devices, flash drives, USB, etc.

l. Users agree any such person with access, authorized or not, to RUHS - MEDICAL CENTER computer system(s) who damages RUHS - MEDICAL CENTER hardware or software due to having installed, downloaded, or upgraded unauthorized software will be responsible for the cost of the repair. Any computer related purchases of goods or services, will be coordinated through the IT Department.

3.3 Access to RUHS - MEDICAL CENTER Networked Computer Systems. Workforce members requesting access to the RUHS - MEDICAL CENTER computer system must complete and submit a SAR form to the IT Department for processing.

3.4 Workstation Security. Workforce members will take reasonable steps to protect the integrity and confidentiality of information stored and maintained on the RUHS - MEDICAL CENTER networked computer system.

a. Users shall log-off or lock their workstations prior to walking away and leaving their workstation unattended.

b. Screen savers shall not be de-activated, where installed.

c. Workstations shall be placed in the most secure area possible, preferably behind locked doors or other secured areas of RUHS - MEDICAL CENTER.

d. Monitors shall be positioned in such a way that they are not easily viewed by any passerby.

e. Screen protectors shall be utilized in areas where there is a probability of unauthorized individual(s) viewing electronic Protected Health Information (ePHI).

3.5 Email Use. Email shall be used for communication which will assist in the efficient performance of job-related tasks. Email shall not be used for personal reasons.

a. Any information communicated via email shall be limited to only the minimum necessary information and unless in an encrypted attachment patient identifiers shall not be included.

b. A confidentiality statement shall be included with any emails containing confidential information.

- "This email is confidential and intended solely for the use of the individual to whom it is addressed. If you are not the author's intended recipient, be advised that you have received this email in error and that any use, dissemination, forwarding, printing, or copying of this email is strictly prohibited. If you have received this email in error, please delete all copies, both electronic and printed, and contact the author immediately."

c. Users are encouraged to "Archive" or create separate file folders to store email for future use. In accordance with BOS Policy, A-50, all items in the GroupWise "Trash" may be automatically purged every fourteen (14) days. All items in either the "In" or "Out" box (whether read, opened, or unopened) may be purged after no longer than 45 days from creation or receipt.

3.6 Email Prohibitions. Emails should be used only to send courteous, professional, and businesslike communications. The following list provides examples of information that may **not** be transmitted via email:

a. Patient information.

- Including names in any format, medical record numbers, date of birth, account numbers, social security numbers, etc.

b. Confidential material to an unauthorized recipient.

c. Unsolicited junk email, advertising, items-for-sale postings, or chain letters (e.g. "spam").

d. Any communications that violate County and/or RUHS - MEDICAL CENTER conduct policies.

3.7 Network Drives. The RUHS - MEDICAL CENTER Network is the safest storage choice for business-related documents and/or confidential information.

a. Business related documents and confidential information shall be saved to a local network drive (i.e. "P" drive, "W" drive). Such documents shall not be saved to any storage media outside of the network (i.e., "C" or "D" drive, USB devices, or any other portable devices).

b. Storing or sharing files through the Internet (i.e. Yahoo Briefcase or Google Documents, or any similar service) is strictly prohibited.

c. Personal screen savers, or photographs, shall be saved to the hard drive ("C" or "D" Drive).

3.8 Purchases of Computer Hardware, Software, Applications, or Other Computer Tools. Purchases of any computer hardware, software, applications, or other computer tools must be approved by IT prior to submittal for purchase. A Request for Supplies or Services Form must be completed.

3.9 Computer Relocations. Only IT staff is authorized to carry out computer relocations from one area to another area following approval from the department manager or administrator.

3.10 Reports of Policy Violations or Computer Concerns. Any suspicion of violations to this policy or suspicions of computer virus, worm, or other malicious malware that has infiltrated the computer workstation shall be reported immediately to the IT Help Desk at (951) 486-HELP (486-4657).

4. REFERENCES

4.1 Health Insurance Portability and Accountability Act of 1996 (HIPAA)

4.2 Electronic Communications Privacy Act

4.3 Board of Supervisors Policy A-38, Information Technology

4.4 Board of Supervisors Policy A-50, Electronic Media and Use Policy

4.5 Board of Supervisors Policy A-58, Enterprise Information Systems Security Update

4.6 Board of Supervisors Policy H-11, Acquisition and Management of Information Systems, Technology and Services

Document History:

Prior Release Dates: 3/2000, 4/2005, 1/2015	**Retire Date:** N/A
Document Owner: Information Services	**Replaces Policy:** N/A

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 723	Page 1 of 2
Title: HIPAA Security Risk Management, Evaluation, and Audit	**Effective Date:** 10/1/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☒ Policy ☐ Procedure ☐ Guideline

1. POLICY

1.1 The policy of Riverside University Health System – Medical Center (RUHS - MEDICAL CENTER) is to take effective steps to minimize or eliminate any potential risks and vulnerabilities to the electronic protected health information (ePHI). RUHS - MEDICAL CENTER shall continually assess potential risks and vulnerabilities to protected health information (PHI), including ePHI, in its possession, and develop, implement, and maintain appropriate security.

2. DEFINITIONS

2.1 Information Technology. A computer system, with hardware and software, used to store, process, and maintain data in an electronic format. Computer systems include the use of linking a software program to multiple users through the use of RUHS - MEDICAL CENTER networked servers.

2.2 Information Technology Department (IT). The department responsible for the oversight of the electronic processes and data that is stored, processed, and maintained on the RUHS - MEDICAL CENTER networked computer system.

3. GUIDELINES

3.1 Risk Assessment

a. RUHS - MEDICAL CENTER shall conduct an organization-wide risk assessment on an annual basis and system specific analyses prior to implementation of new systems under the direction of the Information Security Officer (ISO). The risk analysis shall demonstrate at a minimum, the following:

- The level of risk associated with each potential vulnerability;
- Steps to be taken to reduce the risk of vulnerability;
- Processes for maintaining no more than the acceptable level of risk;
- Technical evaluations including security functional testing, penetration testing, analysis, and verification as appropriate.

3.2 Risk Management

a. The ISO and the RUHS - MEDICAL CENTER HIPAA Security Officer will ensure that the risk analysis and risk management procedures are conducted.

b. Non-compliance and unacceptable risks shall be mitigated to a reasonable and appropriate level as defined by the ISO.

c. Results of all risk analysis shall be securely stored utilizing authorized mechanisms determined by the ISO.

d. The ISO, the HIPAA Security Compliance Committee, the Compliance Oversight Committee, and the governing body will review the outcome of the risk analysis findings.

3.3 Evaluation

a. The HIPAA Security Compliance Officer in concert with the RUHS - MEDICAL CENTER designated Information Technology Officer shall conduct an evaluation of RUHS - MEDICAL CENTER compliance with technical and non-technical HIPAA security standards.

b. Technical and non-technical evaluations shall be conducted when there is an environmental or operational change that possibly affects the security (confidentiality, integrity, or availability) of ePHI.

c. Results of non-compliance shall be remediated as soon practicable, depending on specific circumstances and the acceptability of the risk determined by the ISO and hospital administration.

d. Results of all technical and non-technical evaluations shall be securely stored using authorized mechanisms determined by the ISO.

e. Results of all technical and non-technical evaluations shall be reviewed by the HIPAA Security Compliance Committee and reported through the committee structure as necessary.

3.4 Audit

a. The HIPAA Security Compliance Officer in concert with the RUHS - MEDICAL CENTER designated Information Technology Officer shall implement an audit program for the purposes of measuring departmental compliance with RUHS - MEDICAL CENTER HIPAA Security Policies.

b. Results of the Audits shall be reported to the HIPAA Security Compliance Committee and to the Compliance Oversight Committee.

4. REFERENCES

4.1 CFR 164.302 to 164.318

Document History:

Prior Release Dates: 1/28/2015	**Retire Date:** N/A
Document Owner: Information Services)	**Replaces Policy:** N/A

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 724	Page 1 of 3
Title: Securing of Laptop Computers and Mobile Devices	**Effective Date:** 10/1/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☒ Procedure ☐ Guideline

1. POLICY

1.1 The policy of Riverside University Health System – Medical Center (RUHS - MEDICAL CENTER) is to secure laptop computers and mobile devices, including workstation on wheels (WOW) when not in use. Each Department or Nursing Unit that utilizes laptop computers or other mobile devices must have a department specific procedure to account for each device.

2. DEFINITIONS

2.1 Information Technology. A computer system, with hardware and software, used to store, process, and maintain data in an electronic format. Computer systems include the use of linking a software program to multiple users through the use of RUHS - MEDICAL CENTER networked servers.

2.2 Information Technology Department (IT). The department responsible for the oversight of the electronic processes and data that is stored, processed, and maintained on the RUHS - MEDICAL CENTER networked computer system.

3. PROCEDURES

3.1 Each Department or Nursing Unit that utilizes laptop computers or mobile devices must have a department specific policy that addresses the following:

a. How each laptop computer or mobile device will be secured in the department while in use or stored when not in use and who will have access to the stored device. The device will always be deemed to be in the custody of a responsible party.

b. Sign in and out logs unique to the individual laptop computer or mobile device that contains the legible signature for the individual staff member utilizing the laptop computer or mobile device and the date and time signed in and out.(See Attached Sign in Sign Out Log)

c. Each device being logged onto the network at minimum one (1) time per week for a period of time sufficient to receive required updates and security patches.

d. If a device is to be transferred from one staff member to another during the course of business, the log must reflect the transfer including actual date and time the device was transferred from one staff member to another.

e. Department managers or designee must audit the log weekly to ensure the security of the laptop computers or mobile devices is maintained. Each log must be scanned and e-mailed to the IT Department weekly.

f. Department managers must reconcile the inventory of laptop computers, mobile devices and desktop computers on a weekly basis. This reconciliation will be documented and e-mailed to the IT Department weekly.

g. If a device is noted missing, the Department Manager will immediately notify the IT Department, the Compliance Hotline (951-486-4659), and the Assistant Hospital Administrator or Assistant Chief Nursing Officer with oversight of the department.

3.2 Device control for laptop computers or mobile devices issued to specific individuals (rather than a department) for business purposes must comply with the following:

a. Each staff member who is provided an individual laptop computer or mobile device is responsible for securing the device at all times. An office space, locked at all times is sufficient.

b. If the device issued to the staff member is noted to be missing, the staff member shall immediately notify the IT Department, the Compliance Hotline (951-486-4659), and the Assistant Hospital Administrator or Assistant Chief Nursing Officer with oversight (as applicable).

3.3 Failure to comply

a. Failure to comply with requirements to secure laptop computers and mobile devices is subject to disciplinary action up to and including termination.

4. REFERENCES

4.1 CFR §164.306, §164.308, §164.310, §164.310(b), §164.310(c), §164.310(d)

5. ATTACHMENT

5.1 RUHS - MEDICAL CENTER Laptop Computer or Mobile Device Log

Document History:

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RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

RUHS – MEDICAL CENTER

Laptop Computer or Mobile Device Log

Date signed out	Time signed out	Staff utilizing device*	Where will device be used? ie. OB Clinics, Respiratory, HOME Use	Date returned	Time returned	Staff returning device*

*Full legible signature required
Reference: RUHS – Medical Center HIPAA Policy 724

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 726	Page 1 of 3
Title: Notification of Security Breaches	**Effective Date:** 10/1/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☒ Procedure ☐ Guideline

1. DEFINITIONS

1.1 Security Incident: A security incident is defined as "the attempted or successful unauthorized access, use, disclosure, modification, or destruction of information or interference with system operations in an information system." RUHS - MEDICAL CENTER is required to identify, respond to, and to mitigate any harmful effects of security incidents, and to document the incidents, actions taken, and outcomes.

1.2 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 individually identifiable 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.

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

1.3 Examples of Security Incidents: Examples of security incidents include but are not limited to:

a. The destruction of or damage to electronic Protected Health Information (ePHI) caused by a system intrusion such as a suspect email or virus

b. Leaving ePHI on a computer that is donated to a local organization

c. Employee losing mobile device that receives work email

2. POLICY

2.1 **Management of Security Incidents:** RUHS - MEDICAL CENTER Information Security Officer is responsible for conducting an annual risk analysis to identify vulnerabilities and potential threats to the electronic system(s). The Security Officer will also identify responses that will mitigate those risks. Security incidents are to be reviewed by the RUHS - MEDICAL CENTER Information Security Officer periodically as part of updating the risk analysis.

2.2 **Security Incident Report:** The RUHS - MEDICAL CENTER Information Security Officer is responsible for documenting the security incident by completing a Security Incident Report within 48 hours of a reported incident. A copy of the Report will be submitted to the Corporate Compliance and Privacy Officer. Documentation of security incidents are to be maintained for at least six years. All reported security incidents will be analyzed and corrective action taken, as appropriate to reduce future vulnerability to risk. In addition, security incidents are to be reviewed by the RUHS - MEDICAL CENTER Information Security Officer periodically as part of updating the risk analysis. Each Security Incident will be assigned a severity rank from 1(least serious) to 5 (most serious). The Security Incident Report should contain the following information:

a. Description of attempted or actual security incident

b. Date, time, and location of the incident

c. Person who discovered the security incident

d. How the security incident was discovered

e. Evidence of the security incident

f. Actions taken to mitigate damages to covered entity's electronic systems and protected health information

g. Policy and procedure changes implemented to avoid recurrence

h. Date of security incident report

i. Name and signature of security officer

2.3 **What to report:** If you suspect there has been an incident that might involve the acquisition, access, use, or disclosure of PHI in a manner not permitted under HIPAA, you must promptly report it to the Corporate Compliance Department. Workforce members should report:

a. Any event in which access to PHI might have been gained by an unauthorized person

b. Any event in which a device containing (or may be containing) PHI has (or might have been) lost, stolen or infected with malicious software (viruses, trojans, etc.)

c. Any event in which an account belonging to a person that has access to the data might have been compromised or the password shared with an unauthorized person (responding to phishing emails, someone shoulder surfing and writing down your password, etc.)

d. Any attempt to physically enter or break into a secure area where PHI is or might be stored

e. Any other event in which PHI has been or might have been lost or stolen

f. Any other event in which PHI has been or might have been improperly used (e.g. used without the individual's written authorization if authorization is required).

2.4 **How to Report:** Generally, workforce members should report before taking any investigative action. If a computer is involved, follow the following instructions in order to avoid destroying crucial forensic evidence:

a. Do not turn off or unplug the computer.

b. Unplug the network cable from the back of the computer and turn off any wireless internet connection.

c. Take no investigatory action.

d. Do not attempt to do anything further with the computer.

e. Do not attempt to encrypt any or otherwise protect any sensitive data on your system.

f. Report it immediately to:

i. Corporate Compliance Department: (951) 486-6471

ii. Information Security: (951) 486-4357

iii. If a crime might have occurred or a public safety concern exists, contact the Sherriff on duty at: (951) 453-9004

Document History:

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RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 729	Page 1 of 3
Title: Backup of Protected Health Information	**Effective Date:** 10/1/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☒ Policy ☐ Procedure ☐ Guideline

1. DEFINITIONS

1.1 **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 individually identifiable 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.

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

1.2 **Electronic Protected Health Information (ePHI).** PHI that is transmitted by electronic media or is maintained in electronic media is ePHI. For example, ePHI includes all data that may be transmitted over the Internet or stored on a computer, a CD, a disk, magnetic tape or other media.

1.3 **Personal Information (PI).** PI is an individual's first name or first initial and last name combined with any one of the following:

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
e. Health insurance information

1.4 **Medical Information.** Any information, in either electronic or physical form, regarding an individual's medical history, mental or physical condition, medical treatment, or diagnosis by a health care professional, and which may be in the possession of or derived from a health care provider, health care service plan, pharmaceutical company or contractor. "Health insurance information" means an individual's health insurance policy number or subscriber identification number, any unique identifier used by a health insurer to identify the individual, or any information in an individual's application and claims history, including any appeals records. Medical information and health insurance information for patients are also considered to be PHI.

1.5 **Restricted Information.** Any confidential or personal information that is protected by law or policy and that requires the highest level of access control and security protection, whether in storage or in transit. This includes PI, PHI and ePHI as defined in this section but could also include other types of information such as research data.

2. POLICY

2.1 Processes and Procedures. RUHS - MEDICAL CENTER shall implement processes and procedures to ensure that systems and data containing Restricted Information remain available for patient care and business functions in the event unexpected factors cause temporary unavailability of Restricted Information.

2.2 Plans must include processes to create backups of original source Restricted Information.

2.3 Plans must address both temporary unexpected loss of power, power surges or other situations which can cause damage to computer resources and data, and processes to restore systems in an emergency situation, such as a natural disaster, that may render resources unavailable for a period of time.

2.4 RUHS - MEDICAL CENTER's disaster recovery plans shall be tested on a periodic basis or in response to major changes in the working environment. Departments must also implement contingency plans to ensure that critical operations can continue during periods of temporary loss of computer infrastructure.

2.5 Disaster recovery and contingency plans. Plans shall address, at a minimum, processes to:

a. Create, archive and restore backup copies of data containing Restricted Information or other mission critical information.

b. Restore applications and systems.

c. Obtain or restore hardware equipment.

d. Periodically test data restoration.

e. Dispose of and/or recycle media and equipment containing Restricted Information or other mission critical information.

f. Implement down-time procedures to operate temporarily without computer resources.

g. Archive ("back up") restricted Information and other mission critical information to portable media on a regular basis. Portable media can include diskettes, network drives, CD-ROM, or digital tape as described in Section 1 above. Restricted Information backed up to portable media should be encrypted.

h. Store current copies of the archival media at a remote location that is unlikely to be affected by a local disaster. This media would be used to retrieve the Restricted Information or other mission critical information in the event that the system or local archival media is destroyed.

i. Put in place processes and procedures to ensure that applications can be restored in the event of an emergency.

j. Store a copy of the application on a central network server

k. Maintain a copy of the application locally within the department; and/or

l. Complete a contractual agreement with the vendor to obtain a copy of the application from them.

m. Prepare a contingency plan or "Down-time Procedures" for each RUHS - MEDICAL CENTER department that specifies the procedures to be implemented in order to function during temporary loss of computer infrastructure such as during a disaster situation. Plans should allow for facility access by IT staff for data restoration.

n. Test and revise RUHS - MEDICAL CENTER's disaster recovery plans periodically as appropriate.

2.3 Data Backup and Archival Procedures

a. Backup copies of original source Restricted Information or other mission critical information must be created and updated on a regular basis. The frequency of the backup shall be determined by the frequency with which the information is modified and/or updated, and the criticality of the data for ongoing patient care and business functions.

b. The backups and archives can be stored on:

   i. Portable media (e.g., CD-ROM, diskette, digital tape, etc.)

   ii. Network file servers if the data stored on the servers are backed up on a regular schedule and the archival media is stored in a safe, secure environment. (For example, the network file servers maintained by RUHS - MEDICAL CENTER Information Technology Services (RCIT) are acceptable for backup retention.)

   iii. Multiple servers simultaneously (servers should be maintained at separate locations).

c. In the event of damage or malfunction of any system, backup media or alternative data stores must be accessible within a reasonable period of time in order to provide timely access to Restricted Information or other mission critical information for patient care or other immediate needs.

d. Backups of Restricted Information on portable media should be encrypted.

e. When portable media is discarded, it should either be overwritten or destroyed, eliminating all possibility that any Restricted Information could be read.

f. When a system hardware or backup media is recycled, transferred to another user or discarded, all storage devices containing Restricted Information records must be overwritten, rendering all Restricted Information records unreadable.

g. For multi-user systems, the backup logs should be periodically reviewed by the appropriate supervisor or manager to ensure that backup processes are complete and working correctly.

h. Backup copies should be stored in a physically separate location from the original data source that would likely allow for the recovery of the information should a reasonably anticipated disaster occur (earthquake, fire, flood, etc).

Document History:

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RIVERSIDE COUNTY REGIONAL MEDICAL CENTER

Housewide

	Document No: 815	Page 1 of 3
Title: **Patient Controlled Analgesia (PCA) & End Tidal CO_2 ($EtCO_2$) Use/Monitoring**	**Effective Date:** 6/15/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☐ Procedure ☒ Guideline

1. DEFINITIONS

1.1 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.

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

1.3 $EtCO_2$ Module: Capnography or end-tidal (exhaled) carbon dioxide (CO_2) monitoring. Provides non-invasive, continuous measurement of respiratory rate and exhaled CO_2 concentration over time, measured at peak of expiration. It utilizes Microstream® capnography technology.

1.4 Vital Signs: In the context of this guideline, vital signs consist of temperature, heart, rate, respiratory rate, and blood pressure.

2. GUIDELINES

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

2.2 The registered nurse programs these parameters into the ALARIS Point of Care module.

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 $EtCO_2$ 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 $EtCO_2$ readings at time of starting infusion.

a. Assess and document patient's ability to self-administer
b. Document PCA module infusion pump settings and assess the following parameters **as ordered**: sedation, pain, $EtCO_2$, vital signs.

c. 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.
d. Assess PCA history every 4 hours and document on PCA record, then clear PCA data.
e. Reassessment may be performed and documented more frequently as indicated by patient condition.
f. 2 RNs will verify pump programming upon initiation, change of PCA setting and change of shift.
g. Run PCA into a primary IV fluid running at minimum rate of 5 - 10 mL/hour unless patient is already placed on maintenance fluid.
h. DO NOT activate infuser for patients. If patient is unable to activate infuser, consider using basal rate.

Documentation

2.6 Documentation:
a. Electronic Flowsheet
b. Electronic Medication Administration Record

2.7 Document each PCA infusion syringe when initiating or placing a new PCA syringes

2.8 Document PCA infusion pump settings and history at time of initiation then at least every 4 hours

Notify the physician for any of the following:

2.9 Respiratory rate 8-10 breaths/minute (compare to patient's usual respiratory rate and pattern) or evidence of airway obstruction. Stop infusion

2.10 $EtCO_2$ less than 28 mmHg or greater than 60 mmHg

2.11 Pulse oximeter demonstrates desaturation. Stop infusion.

2.12 Unrelieved pain: above patient's tolerable level.

2.13 Unrelieved side effects.

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

2.15 Unresponsiveness or shallow ineffective respirations

2.16 Change in mental status.

2.17 If PCA is interrupted for reasons other than decreased RR or SBP, contact physician for alternate orders.

Discontinuing PCA Infusion Therapy

2.18 Stop infusion immediately for signs of respiratory depression. Administer naxolone per order.

2.19 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.

2.20 Document each PCA infusion syringe on the Intravenous Medication Administration Record.

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, 2018

Document History:

Release Dates: 12/28/15		**Retire Date:**	
Sponsored by: Pharmacy Department		**Replaces Policy:** previously 390/C316, HW829/C317	
Date Reviewed	**Reviewed By:**	**Revisions Made?**	**Revision Description**
9/16/2014	Pharmacy Review Committee	Yes	Format change, addition of new lines, minor wording changes throughout document..
10/6/14	P&T Committee	No	
Noted 2/4/15	Priority Approval for JCAHO Survey thru MEC	No	Will be revised again by nursing
5/8/15	Nursing	Yes	Major re-workup to ensure safety and consider our current practice based on e-charting, supersedes HW829/C317.
5/20/15	Pharmacy Review Committee	Yes	Add MAK definition to definitions section. Add to 3.2 above a. verbiage similar as such: Assess and document that patient can self-administer PCA Remove brand "Alaris" from 3.2.a. 3.2.f. change rate to "5-10 mL/hr unless on maintenance fluid". Add "Document waste" to documentation section. 3.15 remove "!" Add "829" to Replaces Policy section.
6/23/15	Policy Approval Committee	Yes	Delete Purpose Statement; add part of it to Guidelines. Delete Troubleshooting section.
7/6/15	P&T Committee	No	
7/9/15	MEC	No	
1/9/2018	Pharmacy Review Committee	Yes	Format and content update so that Assessments section is not in conflict with EPIC Order Set.
1/16/2018	PCA Workgroup	Yes	Remove "respiratory rate" from 2.5b as this is already defined as part of "vital signs"
1/17/2018	Nursing Policy & Procedure Committee	No	
2/5/2018	P&T Committee	Yes	2.2 added "parameters" after these to specify content
4/3/18	Policy Approval Committee	No	
5/10/18	MEC	*No*	
6/15/2018	CEO	*No*	

RIVERSIDE UNIVERSITY HEALTH SYSTEM - MEDICAL CENTER
Administrative

	Document No: 816	Page 1 of 2
Title: Single-dose and Multiple-dose Ophthalmic, Otic and other Topical Preparations	**Effective Date:** 6/15/2018	☐ 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

This policy applies to handling of single-dose and multiple-dose vials at RUHS Medical Center, Behavioral Health and RUHS Care Clinics.

2. DEFINITIONS

2.1 Single-dose medication container: A container of medication that is meant for use for a single individual patient for a single case/procedure/injection. Single-dose or single-use containers/vials are labeled as such by the manufacturer and typically lack an antimicrobial preservative.

2.2 Multiple-dose medication container: A container of medication that contains more than one dose of medication and is approved by the Food and Drug Administration (FDA) for multiple use, doses or administrations. These products generally contain a preservative

2.3 Multiple patient use administration: A container of medication that may be used to administer doses of the medication to more than one patient without compromising the sterility and stability of the product.

2.4 Single patient use administration: Medications, even if available in a multi-dose vial/container, must be dedicated to administration to a single individual patient only.

3. PROCEDURES

3.1 Inpatient use of these agents is always single patient use.
3.2 Medications are only to be used in the setting where they have been dispensed; e.g. clinic use medications may not be brought and used in the inpatient area.
3.3 Preparations that are labeled as single-dose must only be used for a single patient.
3.4 Preparations that are labeled as single-use must only be used for a single patient and only for a single case/procedure/injection. If a second dose is required a new pack/unit-of-use must be utilized.
3.5 If a multi-dose container is used for any patient considered to be infectious or immune compromised in any way, the container must be treated as a single-use medication and discarded after use.
3.6 Diagnostic Use
   a. Multi-dose ophthalmic and otic drops utilized for diagnostic purposes may be used for more than one patient and shall not be kept longer than 7 days once opened. This does not apply to preparations labeled single dose/ unit of use.

b. The container must be discarded immediately if there is any evidence of contamination of the container or cap (ex: if it falls to the floor).

3.7 Antimicrobial Prophylaxis

a. Ophthalmic and otic preparations utilized for prophylaxis during procedures may be used for more than one patient and must not be kept longer than 7 days once opened.
b. Antibiotic drops used in the same day surgery area are treated as patient-specific.
c. The container must be discarded immediately if there is any evidence of contamination of the container or cap (ex: if it falls to the floor).

3.8 Treatment

a. Ophthalmic and otic drops and ointments that are for treatment purposes may be available in multi-dose containers, however, are single patient use only.
b. Under these circumstances the medication may be administered for up to 28 days or up to the manufacturer's expiration date, whichever comes first.

4. REFERENCES

4.1 Jensen MK, Nahoopii R, Johnson B. Using multidose eyedrops in a health care setting: a policy and procedural approach to safe and effective treatment of patients. JAMA Ophthalmol. 2014.

ISMP. Shared Eye Drop Bottles: Dnager in Making Every Drop Count. 1998

American Society of Ophthalmic Registered Nurses (ASORN). Recommended practice for registered nurses – Use of multi-dose medications. 2013. Available at www.asorn.org

4.2 HW832 Use of Multiple and Single-Dose Vials for Injectable Use

Document History:

Release Dates: 4/2015	**Retire Date:**
Sponsor: Pharmacy	**Replaces Policy:** N/A

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
10/15/2014	Pharmacy Focus Group		New Policy
10/2014	Pharmacy & Therapeutics Committee, Sentinel Event Taskforce Committee, Nursing	Not applicable	New Policy
11/3/2014	Pharmacy and Therapeutics Committee	No	
1/2015	MEC	No	
4/9/2015	PAC	Yes	Changed to procedure. Clarified inpatient use as pt specific.
4/2015	HEC	No	
2/6/2018	Pharmacy Review Committee	Yes	Updated to latest policy format. Added Scope and References.
4/2/18	P&T	Yes	Add Reference to policy 832. Changed language to "must" vs should
6/5/18	PAC	Yes	Added new 3.1 and 3.2; split 3.3 into two statements (3.3 and 3.4)
5/10/18	MEC approved through minutes	No	
6/15/2018	CEO	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER

Housewide

	Document No: 817	Page 1 of 4
Title: Guidelines for Ordering Parenteral Phosphate Solutions for Patients 18 Years of Age and Older	**Effective Date:** 8/6/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By:  Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☐ Procedure ☒ Guideline

1. DEFINITIONS

1.1 **Ideal Body Weight (IBW):**

a. IBW (male) = 50 + (2.3 x height in inches over 5 feet)
b. IBW (female) = 45.5 + (2.3 x height in inches over 5 feet)

1.2 **Actual Body Weight (ABW):** This is the measured body weight

1.3 **Adjusted Body Weight (AdjBW):** [IBW + 0.25 (ABW-IBW)]

1.4 **Moderate hypophosphatemia** manifests with muscle weakness, malaise, paresthesias, CNS irritability, confusion, and obtundation with a 20% mortality rate.

1.5 **Severe hypophosphatemia** leads to seizures, coma, respiratory failure, hemolytic anemia, tremors, platelet and leukocyte dysfunction with an associated 30% mortality rate.

2. GUIDELINES:

2.1 Phosphate is critical due to the way the body utilizes this anion in energy production and storage, as well as in maintaining cell integrity. Normal serum levels range from 2.5 to 4.5 mg/dL.

2.2 An infusion of 15 mMol of phosphate (0.24 mMol/kg for a 70 kg patient) can be expected to increase the serum phosphate level by approximately 0.8 mg/dL as measured 8 hours post infusion, without significant decrease in serum calcium levels. A phosphate infusion of 30 mMol (0.48 mMol/kg for a 70 kg patient) can be expected to increase the serum phosphate level by approximately 0.9 mg/dL as measured 8 hours post infusion, but a decrease in the serum calcium level of 0.5mg/dL may result.

2.3 **Phosphorous Replacement Guide:**

a. Replacement must be ordered in mMol of phosphorus or a clarification order must be obtained from the prescriber if ordered in mEq.
b. Either potassium or sodium phosphate may be used, however replacement with Potassium Phosphate should be reserved for serum K level between 3.5-3.9.
c. Recommended infusion rate is 3mMol/hour of phosphate, and maximum infusion rate should not exceed 7mMol/hour since faster infusion rates can often cause thrombophlebitis.
d. It is recommended that a serum phosphate level be obtained 8 hours post replacement dose.

e. For patients receiving concurrent enteral/parenteral nutrition, ABW may be used for patients weighing >130% of ideal body weight.

2.4 General Replacement Guidelines:

- Low dose, serum phosphorous losses are recent and uncomplicated: 0.08 mMol/kg over 6 hours.
- Intermediate dose, serum phosphorus level 0.5-1 mg/dL: 0.16-0.24 mMol/kg over 6 hours.

2.5 The following may be used as a guide for patient receiving parenteral nutrition:

Table 1

Severity	Serum Phosphorus Concentration (mg/dL)	IV Phosphorus Dose (mMol/Kg)
Mild	2.3-2.7 mg/dL	0.08 to 0.16 mMol/kg
Moderate	1.5-2.2 mg/dL	0.16 - 0.32 mMol/Kg
Severe	<1.5 mg/dL	0.32 - 0.64 mMol/kg

Note: The following table is only a guide; the prescriber should use their clinical judgment when ordering electrolyte replacement. In addition the following guide is for patients with normal renal function, doses should be reduced by at least 50% for patients with renal impairment depending on the severity of the impairment.

Table 2

IVPB Concentration Sodium Phosphate	Route	Recommended Infusion Rate
20 mMol/100 mL	Central line only	4 hours
30 mMol/100 mL	Central line only Fluid Restricted	6 hours
20 mMol/250 mL	Peripheral line	6 hours
25 mMol/250 mL	Peripheral line	6 hours

Table 3

IVPB Concentration Potassium Phosphate	Route	Recommended Infusion Rate
20 mMol/100 mL	Central line only	4 hours
27 mMol/100 mL	Central line only	6 hours
20 mMol/500 mL	Peripheral line	6 hours
27 mMol/500 mL	Peripheral line	6 hours

Table 4

MAXIMUM CONCENTRATIONS PER LINE	MAXIMUM PERIPHERAL LINE	MAXIMUM CENTRAL LINE
Potassium phosphate	0.067 mMol/ml (=0.1 mEq/mL)	0.268 mMol/ml (0.4 mEq/ml)
Sodium phosphate	0.1 mMol/ml (0.13 mEq/mL)	0.3 mMol/mL (0.39mEq/mL)

2.6 CAUTION: **CONSIDER THE ACCOMPANYING SODIUM OR POTASSIUM LOAD AND MONITOR SERUM ELECTROLYTES AND EKG ACCORDINGLY.**

Potassium Phosphate **4.4 mEq/mL Potassium**
3.0 mMol/mL Phosphate

Sodium Phosphate **4.0 mEq/mL Sodium**
3.0 mMol/mL Phosphate

3. REFERENCES

3.1 Arch Intern Med 1988;148:153-155

3.2 The A.S.P.E.N Adult Nutrition Support Core Curriculum, 2nd Edition;112-114

3.3 Sodium Phosphates Package Insert. Lexicomp, accessed on December 27, 2017

Document History:

Release Dates: 4/2015	**Retire Date:** N/A
Sponsor: Pharmacy	**Replaces Policy:** Pharmacy 300.2, October 1990

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
1/9/2018	Pharmacy Review Committee	yes	Added AdjBW definition, added concentrations for peripheral and central lines to expand product availability. Added Table names.
05/07/2018	Pharmacy and Therapeutics Committee	No	
060518	PAC	No	
6/14/18	MEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM –MEDICAL CENTER
HOUSEWIDE

	Document No: 821	Page 1 of 2
Title: Neonatal Starter Total Parenteral Nutrition (TPN)	**Effective Date:** 5/2/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☐ Procedure ☒ Guideline

1. DEFINITIONS

1.1 Starter TPN: Standard initial parenteral nutrition support.

1.2 Premature: Infant less than 37 week gestational age

1.3 Neonate: Infant less than 28 days old, and for the purpose of this policy any infant admitted to the neonatal intensive care unit (NICU)

2. GUIDELINES

2.1 Premature neonates require nutrition support to prevent nutritional deficiencies
   a. Evidence supports that it is critical to establish adequate early nutrition soon after birth to prevent long term adverse effects of inadequate nutrition

2.2 Pharmacy will provide Starter TPN 24 hours daily
   a. Individual standard Starter TPN solution contains dextrose, amino acids, calcium, heparin and water[i]

STANDARD STARTER TPN:

Dextrose	7.5%
Amino Acid	3%
Calcium gluconate	2 mg/mL
Heparin	1 unit/mL
Total Volume:	300 mL

At 80 mL/kg/day TPN provides: 2.4 g/kg/day, protein
4.2 mg/kg/min, Dextrose 7.5%

2.3 Standard Starter TPN may be initiated upon prescriber order
   a. Starter TPN will be processed as a high priority medication with an expected maximum turn-around-time of 1 hour
   b. Starter TPN will have an automatic 24 hour stop date

2.4 Blood glucose will be obtained at least 1 hour after initiation and monitored per NICU guidelines

Document History:

Prior Release Dates: 4/2015	**Retire Date:**
Document Owner: Pharmacy	**Replaces Policy:** Pharmacy B215, August 2006, 8/14

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
01/10/17	Pharmacy Review Committee Approved	Yes	Updated formulation to match EPIC
12/01/17	Pediatric pharmacist reviewed	No	
01/08/18	P&T Committee	No	
03/06/18	PAC	Yes	Changed Name to RUHS-Medical Center and put in new template. Add "TPN" to title. Removed GIR in definition
4/12/18	MEC	No	
4/25/2018	HEC	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 822	Page 1 of 4
Title: Downtime Procedures – Inpatient/Infusion Center Pharmacy	Effective Date: 6/15/2018	☐ **RUHS – Behavioral Health** ☐ **RUHS – Care Clinics** ☒ **RUHS – Medical Center** ☐ **RUHS – Public Health** ☐ **Departmental**
Approved By: Jennifer Cruikshank CEO/Hospital Director		☐ **Policy** ☒ **Procedure** ☐ **Guideline**

1. DEFINITIONS

1.1 **Scheduled Downtime**: Any planned situation where software, hardware or other upgrade requiring a temporary shutdown of pharmacy applications from normal operations.

1.2 **Unscheduled Downtime**: Any non-planned situation including software, hardware or power malfunctions that lead to inability for normal operations to continue.

1.3 **BCA** (Business Continuity Access): Web-based data that is available from the last Shadow Server refresh. This is available to end-users if the WAN/LAN is available

1.4 **Epic SRO** (Shadow Server Read Only): Server that runs parallel to the production server, and refreshes/saves a snapshot of data from the production server. When the production server is the only server experiencing downtime, end-users will be able to access data from the Shadow Server.

2. PROCEDURES

2.1 Information Services (IS) will:

a. Communicate with Pharmacy, through the Information Technology (IT) pharmacist when possible, the following:
   i. Downtime: date, time and duration
   ii. Systems affected:
      - Epic
      - BD Carefusion products (CII Safe, ParX, Pyxis Medstation)
      - Vigilanz
      - TPN Compounder software
      - Interface Engine
      - Other
   iii. Person who is managing the downtime
   iv. The purpose of the downtime, current status, next steps and proposed resolutions.

b. Pharmacy department and IS will discuss the impact of downtime on patient care and financial consequences.

2.2 Pharmacy Department will:

a. Review current staffing schedule
b. Discuss with Pharmacy personnel involved
c. Schedule extra personnel as required

2.3 Information Services (IS) will notify the pertinent departments to communicate downtimes via e-mail including but not limited to:

a. Pharmacy
b. Nursing
c. Respiratory
d. Dietary
e. Laboratory
f. Radiology

2.4 Information Services (IS) will notify all vendors if applicable:
a. Epic
b. BD Carefusion
c. Vigilanz
d. Baxter (Abacus TPN software)
e. Openlink - Interface
f. Others

2.5 Pharmacy Director, IT pharmacist or a designee will communicate with necessary support staff:
a. Pharmacy staff will, when appropriate:

(Downtime checklist attached as a tool to help document)
i. Check for a sufficient supply of pre-printed IV labels
ii. Review with staff downtime work flow
iii. Ensure fax machine is ready with paper and toner
iv. Ensure tube system is ready; call Plant Operations for support
v. Notify Transportation service, as needed
vi. Schedule extra Pharmacists and/or Pharmacy Technicians, especially upon recovery to backload downtime orders
vii. Enable critical override on Pyxis if downtime is over 15 minutes
viii. Disable critical override when system is back up and pharmacy workload is caught up to normal operations

2.6 During system down
a. MAR
i. Paper MARs printed by nursing from BCA web, if hospital network is down then the BCA downtime PC must be used (before downtime starts if downtime is scheduled).
ii. If MARs cannot be printed, nursing staff will write next day's MARs.
b. Patient profile
i. View using Epic SRO which is a snapshot of Epic prior to downtime and can be used to reproduce previously generated labels
c. Pharmacy staff shall enable Pyxis critical override mode
d. Ensure all critical equipment and medication refrigerators are on emergency power, contact Plant Operations for any additional support that may be required.
e. Pyxis Connect
i. Collect all faxed orders
ii. Pharmacy will annotate nursing unit on the faxed order
iii. Pharmacy will scan orders into Pyxis Connect for archiving purposes
f. Order Processing
i. Inpatient/Infusion Center orders
1. Send all orders that are not loaded in Pyxis and note on order amount dispensed
2. After processing the order, file the order in downtime folder corresponding to nursing units
3. Forward any IV order to IV room
4. Link the annotated order in the Pyxis Connect review queue to the appropriate patient and MRN by manually typing.

ii. IV orders
    1. Process IV orders
    2. Dispense and write the amount dispensed on copy of the order
    3. Forward any IP order to IP pharmacists
    4. Keep processed orders in Downtime Protocol folder

2.7 Computer system returned
    i. Backload process
        1. Pharmacists will enter all downtime orders
        2. Nurses will back document all downtime medication administrations which will trigger a patient charge
    ii. Disable Critical Override mode after orders back load completed

Pharmacy/IS Down Time Checklist

- Downtime: Between Date _____ Time _____ and
  Date _____ Time _____
- System Down: (Check appropriate system)

  ____EPIC ____Pyxis ____Vigilanz ____TPN compounder ____Interface ____Other
- I/S Contact for Upgrading the System:
  - _____
  - _____
- Pharmacy Personnel Notified: (Who/When/How)

  _____

  _____
- Nursing Personnel Notified: (Who/When/How)

  _____

  _____
- Transportation Services Notified (Who/When/How)

  _____

  _____
- Vendor Notification: (Who/When/How)

  _____

  _____

Release Dates: 4/2015	**Retire Date:**
Sponsor: Pharmacy	**Replaces Policy:** Policy # 237, 221, B220,

Date Reviewed	Reviewed By:	Revisions Made?	Revision Description
1/2018	PRC	Yes	Updated to reflect conversion to Epic
4/2/18	P&T	No	Not patient care, does not go to MEC.
5/1/2018	PAC	No	
6/13/2018	CEO	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
HOUSEWIDE

	Document No: 824	Page 1 of 3
Title: Anesthesia Narcotic Record Monitoring and Reconciliation	**Effective Date:** 6/15/2018	☐ 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 Under the direction of Pharmacy, the Anesthesia Department will be responsible for educating Anesthesia staff for appropriate medication usage, documentation and wastage. The pharmacy department will be responsible for participating in the interdisciplinary development of hospital-wide policies and procedures ensuring appropriate medication storage, administration, and wastage.

2. DEFINITIONS

2.1 Appropriate medication documentation – Patient medical record accurately reflects the medications administered.

2.2 Appropriate medication return - Any unused medications that are still untampered in its original packaging must be returned to Pyxis.

2.3 Appropriate medication waste – Any unused portions of medications that have been opened must be discarded in the appropriate waste container. Any narcotic or otherwise specified medication must be wasted with a witness on Pyxis and placed into OR narcotic return bin with patient information clearly attached.

2.4 Inventory process – Anesthesia resident is required to perform full narcotic inventory count after the last case of the day in each OR room that had been utilized that day.

2.5 Pyxis – product name of automated dispensing cabinets utilized at RUHS.

3. POLICY

3.1 Chair of Anesthesia or designee shall orient Anesthesia staff under the guidance of the Pharmacy Department to include:

a. Pyxis tutorial

b. Bio ID enrollment

c. Anesthesia documentation

d. Returns & waste process

e. Inventory process

f. Reconciliation process

3.2 Attending physician shall review Pyxis activity and Anesthesia record for appropriate use, documentation and wastage after each case. If a discrepancy is identified, attending physician shall discuss and re-educate anesthesia staff.

3.3 Pharmacy Director or designee will review Pyxis Activity Report for patients with Anesthesia records for:

a. Medication dispensed from Pyxis

b. Documentation of medications administered

c. Narcotic returns and waste

3.4 Proactive diversion monitoring will be performed by Pharmacy reviewer to track narcotic activity trends that are outliers in comparison to their peers. These warrant further investigation to determine if there is a valid explanation behind the increased activity.

3.5 Pharmacy reviewer will document questionable activity in Anesthesia record database.

3.6 Anesthesia records with discrepancies will be forwarded to Chair and Vice Chair of Anesthesia or designee for investigation with the following:

a. Anesthesia /Pyxis Activity Report Reconciliation form

b. Anesthesia record (if available)

c. Pyxis MedStation Activity Report (if available)

3.7 Pharmacy Director or designee will provide assistance to Anesthesia Department for discrepancy resolution as needed

3.8 Chair of Anesthesia or designee will investigate all narcotic discrepancies. Findings will be documented on the Anesthesia/Pyxis Activity Reconciliation Form and returned to pharmacy within 7 business days.

3.9 Pharmacy Director or designee will take appropriate actions that includes options such as:

a. Generate additional Pyxis Reports for Chair and Vice Chair of Anesthesia/designee

b. Complete Incident Report

c. Accept Anesthesia department correction

d. Update Anesthesia record database

e. Escalation to appropriate parties if unable to resolve

f. Removal of staff access to Pyxis until education, and remediation have been completed. Remediation may include direct observation and retraining.

Document History:

Prior Release Dates: 4/2015	**Retire Date:** N/A
Document Owner: Pharmacy	**Replaces Policy:** Pharmacy 308, B232

Date Reviewed	Reviewed By:	Revisions Made Y/N	Revision Description
1/9/2018	Pharmacy Review Committee	Yes	Changed to new format and revised workflow to reflect new Epic environment. Added 3.9f
2/6/2018	Anesthesia Department Review - Chair	No	
4/2/18	Pharmacy and Therapeutics Committee	Yes	Minor wording change. Not patient care, does not go to MEC.
	PAC		
	HEC		

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
HOUSE WIDE

	Document No: 828	Page 1 of 4
Title: Smart Infusion Pump System	**Effective Date:** 6/15/2018	☐ 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 To provide guidance for use of the Smart Infusion Pump Systems used at RUHS Medical Center and Infusion Center for the administration of medications.

2. DEFINITIONS

2.1 Drug Library: a drug data set to define a list of drugs and concentrations appropriate for each profile. Programming via the drug data set automates programming steps, including the drug name, drug amount and diluent volume, and represents established best practice.

2.2 Guardrails: Drug Error Reducing Software for the ALARIS® Infusion System

2.3 PCA Module: The ALARIS® module that is attached to the programming module for the delivery of patient controlled analgesic (PCA) medications. This module is placed to the immediate right (when facing the pump) of the programming module ("Point of Care Unit") to ensure security of the drug and device.

2.4 Profile: Represents a specific patient population within the ALARIS® Infusion System. Each profile contains drugs and instrument configurations that are appropriate for that patient population (Critical Care, Medical/Surgical, Oncology, Pediatrics, and Nursery)

2.5 Programming (Point-of-Care) Module: The module of the ALARIS® Infusion System that contains the drug library and pump configurations. This module controls all of the solutions and medications delivered through the pumping modules. The programming module cannot deliver any medication without a pumping module. Each programming module has the ability to control four pumping modules.

2.6 Pumping Module: The ALARIS® module that is attached to the programming module for the delivery of intravenous fluids or medications.

2.7 Syringe Module: The ALARIS® module that is attached to the programming module for the delivery of intermittent medications via syringe. This attachment to the ALARIS® Point of Care unit delivers exceptional delivery of concentrated drugs through advance pressure monitoring and rate flow accuracy.

2.8 Hard Limit: Does not allow the operator of the infusion system to adjust the rate of drug delivery outside of the parameters currently set within the dataset.

2.9 Soft Limit: Allows the operator of the infusion system to adjust the rate of drug delivery above the maximum dose or below the minimum dose. When a soft limit is reached, the operator will be asked to review and approve the infusion rate to assure

that an error has not been made before overriding the GUARDRAILS limit. A visual and auditory prompt will occur indicating that the infusion is being delivered above or below the GUARDRAILS limit when a soft limit is overridden. The visual alert will stay visible during the infusion.

3. GUIDELINE

3.1 Intravenous medications, solutions, and blood products for infusion must be administered via a smart infusion pump.

3.2 All staff that use the smart infusion system need to complete an education program and a hands-on demonstration prior to utilization of the pump. The Chief Nursing Officer is responsible for training of nursing users, the Director of Pharmacy is responsible for training of pharmacy users, and other respective managers are responsible for training their staff.

3.3 **Drug Library**

a. The library will be routinely maintained and updated by pharmacy in collaboration with other disciplines, at least annually, or more often as necessary

b. The Chair of Pharmacy & Therapeutics (P&T) Committee, a pharmacy director, or a pharmacy director's Designee will review and approve each infusion pump drug library update. Once approved, the new infusion pump drug library will be uploaded to the server and activated. In addition, the infusion pump drug library will be reported at the subsequent P&T Committee meeting.

3.4 **Users**

a. Assemble all needed equipment, open tubing and solution packages, prime tubing, invert all y-ports to purge air. When priming is complete use roller clamp to stop flow.

b. Ensure that secondary tubing is unclamped before infusion.

c. ALARIS® Infusion System:

- Medications and solutions delivered by the ALARIS® Infusion System must be administered using the appropriate clinical profile entry from the GUARDRAILS DRUGS or GUARDRAILS IV FLUIDS library.
- BASIC INFUSION and DRUG CALCULATION modes should be used as a last resort when there is no option for the medication or concentration in the drug library. In these instances, the user will notify the pharmacist so that the medication can be added to the drug library in the future.
- When initiating intravenous therapy, select YES when the programming module asks "Is this a new patient?" This will definitively clear the settings from the prior patient.
- Then select the appropriate profile for the area in which the infusion will run.
- Refer to the ALARIS® Quick Reference Guide for further instructions.

d. Special Considerations:

- When a patient transfers from one unit to another, the receiving unit is responsible to check and/or change the profile to meet the level of care provided on that unit.
- All pumps and modules are returned to Central Processing Department after patient use for proper cleaning and disinfection. In the event that a pump or module needs to be taken to another patient before returning to Central Processing Department, follow the manufacturer's recommendation for proper cleaning and disinfection.
- DO NOT USE Smart Infusion System pumps near magnetic resonance imaging (MRI) room. The exception to this is the MRidium® MRI-Safe Smart Infusion Pump.
- Infusion pumps used for enteral feeding should not be used to administer medications.
- During neonatal transport, a smart infusion pump (PERFUSOR® SPACE INFUSION PUMP) will be used if medication administration is required.
- Continuous albuterol inhalation therapy will be administered by the MEDFUSION® SYRINGE PUMP, Aerogen® Nebulizer System or Large Volume Nebulizer (i.e. HOPE Nebulizer).

4. REFERENCES

4.1 ALARIS® Infusion System, version 9.19, December 2016.

4.2 ALARIS® PC Point-of-Care Unit and ALARIS® Pump Module Quick Reference Guide, December 2016.

4.3 Centers for Medicare & Medicaid Services Conditions of Participation §482.23(c)(4)

4.4 ISMP. Proceedings from the ISMP Summit on the Use of Smart Infusion Pumps: GUIDELINES FOR SAFE IMPLEMENTATION AND USE. 2009

Document History:

Prior Release Dates:	**Retire Date:** N/A
Document Owner: Pharmacy Department	**Replaces Policy:** Pharmacy Dept PnP C315 ALARIS® Infusion Pump Nursing Dept PnP 718 Infusion Pump: ALARIS® Infusion System

Date Reviewed	**Reviewed By:**	**Revisions Made Y/N**	**Revision Description**
2/5/2018	Pharmacy & Therapeutics Committee	YES	3.3.b rearranged to avoid confusion
1/23/2018	Cardiopulmonary Services Managers	YES	Added clarification revision for continuous albuterol inhalation
1/17/2018	Nursing Policy & Procedure Committee	YES	1.1 Added "for the administration of medications." 3.4c Added statement that clarifies what to do if the medication in not in the drug library 3.4d Added statements to include use of other infusion pumps at RUHS.
1/9/2018	Pharmacy Review Committee	YES	Added ISMP reference
2/5/18	P&T Committee	YES	1.1 Add Infusion Center1.1 Add Infusion Center 3.3.b: Rearrange the sentence to avoid confusion
4/3/18	PAC	No	
5/10/18	MEC	No	
6/15/2018	CEO	No	

RIVERSIDE UNIVERSITY HEALTH SYSTEM – MEDICAL CENTER
Housewide

	Document No: 830	Page 1 of 3
Title: Guidelines for the Administration of Parenteral Medications	**Effective Date:** 8/6/2018	☐ RUHS – Behavioral Health ☐ RUHS – Care Clinics ☒ RUHS – Medical Center ☐ RUHS – Public Health ☐ Departmental.
Approved By: Jennifer Cruikshank CEO/ Hospital Director		☐ Policy ☐ Procedure ☒ Guideline

1. DEFINITIONS

1.1 Parenteral medications: medications administered by some route other than through the digestive tract, such as by subcutaneous, intramuscular, or intravenous injection.

1.2 Rapid titration: For unstable or rapidly decompensating patients, titration of critical medications in which the dosing rates and/or frequencies are verbally ordered outside of the standard administration parameters.

2. GUIDELINES

2.1 All parenteral medications ordered in the hospital will be administered according to evidence-based practices and standard guidelines.

2.2 If an order written by an authorized prescriber does not specifically state how the intravenous medication is to be diluted or infused, it will be processed and completed with the standard concentration and rate of administration according to the Guidelines for the Administration of Parenteral Medications (see Appendices).

a. Appendix 1: Route, standard concentrations, and rate of administration are listed for adults.

b. Appendix 2: Titration of Critical Medications--ADULT

c. Appendix 3: Pediatric and Neonatal Intravenous Administration Guidelines

d. Appendix 4: Titration Guide PICU (Standard Drips and Titration)

e. Appendix 5: Heparin PICU (Heparin Titration Protocol)

f. Appendix 6: Titration Guide NICU (Standard Drips and Titration)

2.3 Responsibilities for titratable medications are as follows:

a. Prescribers

i. Provide complete order for infusion, including start rate, titration parameters, and patient- specific goal(s).
ii. EXCEPTION: See "For unstable patients" or "Life-threatening situations," below
iii. Include parameters and time frame for restarting/titrating up again after reaching "0" dose if needed (e.g., patient no longer at specific goal(s)).

b. Pharmacists

i. Verify order for completeness, including start rate, titration parameters (including rate and frequency), patient-specified goal(s), and max rate.
ii. Contact prescriber for clarification if any questions about the order.

c. Nurses

i. Implement titration as ordered according to written parameters.
ii. Start drip rate at ordered/guideline rate. Nurse to contact prescriber and/or pharmacist to clarify start rate should any confusion exist.
iii. Titrate as specified, according to frequency and rate parameters to reach specified goal, including restarting as specified if needed after dose reaches "0" (zero).
- For ADULT patients, if not otherwise specified:

1. If the medication is titrated to zero and the patient remains in the desired target parameter range for six hours or more then the titratable drip may be "discontinued" and a new order is needed by the prescriber.

2. If the patient does not remain in the desired target parameter range within the first six hours after the medication has been titrated to zero, the nurse has the authority to restart the medication at the last documented rate prior to zero and titrate per original order.

iv. The corresponding parameters for titration (e.g., blood pressure, heart rate, RASS, CPOT) must be documented in the patient record as per prescriber.
v. Do NOT exceed maximum dosing rate without a new order. The administration instructions must also reflect the new max rate
vi. Contact prescriber if at maximum dosage or when titration guidelines do not seem appropriate for the individual patient. (e.g., if different rate or frequency needed to support care).
vii. Document notification of prescriber and obtain order for new titration instructions if needed.
viii. Clarify with prescriber for any questions about the order, including necessity for weaning of the infusion when prescriber orders to discontinue infusion.

2.4 Titrate to lowest dose

a. It is recognized that patients may remain within a hemodynamic goal, but may also be able to tolerate a lower dose of a titratable infusion. If a patient remains within desired parameters for at least two hours, it is acceptable for the nurse to titrate down using prescribed guideline and reassess within prescribed time frame if patient has tolerated this decrease. Titration may continue as long as patient remains within the ordered parameter.

2.5 For unstable patients

a. During an acute episode, the prescriber(s) present at the bedside may direct the rapid titration of the continuous infusion. A new order is not needed unless it exceeds the max dosing rate of the original order.
b. The nurse must document the titration rate changes as directed by the prescriber into the electronic medical record.
c. The nurse must document the prescriber is at bedside directing the rapid titration.
d. Upon patient stabilization of the acute episode, the titration will continue per existing order.

2.6 Life-threatening situations

a. While obtaining concurrent prescriber communication, when the patient is rapidly deteriorating and is not responding to standard titration order:
   i. The RN is authorized to increase or decrease a titratable drip more rapidly than prescribed, up to a maximum prescribed dose, or "off", as needed to support patient hemodynamic and sedation goals.
   ii. The RN is to document the rapid titration changes performed by the registered nurse and the emergent context in the comment section of the electronic medication administration record

2.7 The Infusion Guideline Appendices will be accessible in an electronic format. A hard copy of the document will be available in the Pharmacy in the event of an electronic communication failure.

Document History:

Release Dates: 6/29/15, 11/12/15, 3/20/18		**Retire Date:** N/A	
Sponsor: Pharmacy		**Replaces Policy:** Previously 395, C319 04/2012, 12/2012, 10/2014	
Date Reviewed	**Reviewed By:**	**Revisions Made?**	**Revision Description**
5/15/18	PRC	Yes	Revised to match documentation for rapid titration within EPIC.
6/4/18	P&T	Yes	For 1.2 Add verbiage "For unstable or rapidly decompensating patients", before the word "titration". Remove 2.5 c and d. For 2.6, b, Bullet #1, replace the word "will" with "may". Remove 2.6, b, Bullet #3." with "may".
6/14/2018	PAC	Yes minor	Took out the global statement about excluding peds and then put the info about "adults only" at the only place it applies in 2.6.
7/12/18	MEC	No	

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†in Code Blue/RRT
‡Initiate in ED/ACCU

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Drug Name	ACCU ED PACU	L&D	POST-PARTUM	2500 UNIT	MED/ SURG	COMMENTS	IVPB/Drip STANDARD CONCENTRATIONS / RATE OF ADMINISTRATION	IV Push/IM STANDARD CONCENTRATIONS / RATE OF ADMINISTRATION
Abatacept	IVPB	---	---	IVPB	IVPB	Adminster thru 0.2-1.2 micron filter Restricted to Infusion Center	Mix in 100 mL NS over 30 min	
Acetaminophen	IVPB	IVPB	IVPB	IVPB	IVPB	Restricted for use during the perioperative (pre-emptive and post-operative) period		
AcetaZOLAMIDE	Push	Push	Push	Push	Push	No more than 1 gm/ 24 hrs	500 mg/50 mL NS or D5W over 30 min	Dilute 5 mL sterile H2O per vial to 100 mg/mL – Rate: 500 mg over 3 min
	IVPB	IVPB	IVPB	IVPB	IVPB			
Acetylcysteine	Drip	Drip	---	Drip‡	Drip‡	Monitor vitals for analphylaxis every 15 minutes during 1st hour of infusion (loading dose); Loading dose to be given in ED/ACCU	Dose 1 (load): 150 mg/kg in 250 mL D5W infuse over 1 hr; Dose 2: 50 mg/kg in 500 mL D5W infuse over 4 hrs; Dose 3: 100 mg/kg in 1000 mL D5W infuse over 16 hrs; Note: Alternate dosing available for non-acetaminophen acute liver failure	-------
Acyclovir	IVPB	IVPB	IVPB	IVPB	IVPB		500-700 mg/100 mL D5W or NS; 800-1000 mg/250 mL D5W or NS infuse over 1 hr	-------
Adenosine	Push	Push†	Push	Push†	Push†	Administer peripherally preferably. If administered centrally, recommend ½ the dose.		6 mg/2 mL (undiluted); Rate: rapid over 1-2 seconds – follow w/ saline flush; may repeat w/ 12 mg after 1-2 min if indicated x 2.
Ado-Trastuzumab Emtansine	IVPB	---	---	IVPB	IVPB	Non-Formulary for Inpatient area	100 mg or 160 mg/250 mL NS (do not shake) infuse over 90 min (1st infusion) or over 30 min (if prior dose well tolerated) through a 0.22 micron inline nonprotein adsorptive polyethersulfone filter	Do NOT administer IV push or bolus
Albumin	IVPB	IVPB	IVPB	IVPB	IVPB		Rate: 50 mL/hr for 25% albumin; 125 mL/hr for 5% albumin.	
	Drip	Drip	Drip	Drip	Drip			
Alteplase	Push*	Push*	Push*	Push*	Push*	*Appropriate in all patient units for central line clearance	STEMI - >67 kg - 15 mg bolus over 1-2 min; 50 mg over 30 min; remaining 35 mg over next hr; </= 67 kg: 15 mg bolus over 1-2 min; 0.75 mg/kg over 30 min (not to exceed 50 mg); 0.5 mg/kg over 60 min (not to exceed 35 mg)	2 mg/mL – retain 30 mins in catheter for CVC/PICC clearance
	IVPB	---	---	---	---		Ischemic Stroke: load 0.09 mg/kg (max 9 mg) over 1 min, then 0.81 mg/kg (max 81 mg) over 60 min PE: 100 mg over 2 hrs	
Amikacin	IVPB	IVPB	IVPB	IVPB	IVPB	Non-Formulary	Mix in 50 mL or 250 mL D5W over 1 hr.	-------

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Aminophylline	IVPB	IVPB	IVPB	IVPB	IVPB		250 mg/250 mL NS or D5W Load over 30 min – rate < 21 mg/hr.	IV push over 30 - 60 seconds for adenosine-, dipyridamole-, regadenoson reversal during nuclear cardiac stress test
Amiodarone *See Appendix 2 for titration protocol	Push† IVPB Drip	Push†	Push†	Push† IVPB Drip	Push†	Slow infusion if hypotension develops; physician clinical judgement for patient stability; Monitor BP q15 minutes x 4 after initiation of infusion and then per unit admission/discharge criteria	450 mg/250 mL D5W; PREMIX 150 mg/100 mL; Load 150 mg over 10 min (PREMIX preferred), follow with an infusion of 1 mg/minute for 6 hours, then 0.5 mg/minute for 18 hours No nursing titration in 2500 unit	Undiluted IV Push only during ACLS – otherwise load from IVPB
Amphotericin B (conventional)	Irrigation	Irrigation	Irrigation	Irrigation	Irrigation	Non-formulary Restricted to use in irrigation only. Use	Bladder irrigation – 50 mg/1000 mL sterile water irrigate over 24 hrs (Not compatible with NS)	------
Amphotericin B – Liposomal	IVPB	IVPB	IVPB	IVPB	IVPB	Prime and flush the line with D5W ONLY Infuse NS bolus pre and post Amphotericin infusion for renal protection	Dilute to a final concentration of 1-2 mg/mL infuse dose over 2 hrs	------
Ampicillin	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL NS; 2 gm/100 mL NS over 30 min	------
Ampicillin/Sulbactam	IVPB	IVPB	IVPB	IVPB	IVPB		1.5 gm/50 mL NS; 3 gm/100 mL NS over 30 min	------
Argatroban *See Appendix 2 for titration protocol*	Drip	Drip	Drip	Drip	Drip		250 mg/250 mL NS – titrate per protocol	------
ARIPiprazole	IM	IM	IM	IM	IM	7.5 mg/mL: Restricted to Psychiatry		IM Injection ONLY
ARIPiprazole Lauroxil	IM	IM	IM	IM	IM	Restricted to Psychiatry Restricted to adult patients Restricted to paitient with established oral Aripaprazole		IM Injection ONLY
Atropine	Push	Push†	Push†	Push	Push†	2500 Unit: Max cumulative dose 3mg (for bradycardia only)	Administer undiluted by rapid IV; slow injection may result in paradoxical bradycardia	1 mg/10 mL; Rapid IV push over 2-10 seconds.
Azithromycin	IVPB	IVPB	IVPB	IVPB	IVPB		Dilute in 250 mL D5W – over 1 hr	------
Aztreonam	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL D5W; 2 gm/100 mL D5W over 30 min	------

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Betamethasone	IM	IM	IM	IM	IM			IM Injection ONLY
Bevacizumab	IVPB	---	---	IVPB	IVPB	Restricted to Oncology Attendings	Mix with 100 mL NS – 1st dose over 90 min; 2nd dose over 60 min; subsequent doses over 30 min	-------
Bleomycin	IVPB	---	---	IVPB	IVPB		Mix with 50-100 mL NS over 10 min	-------
Bumetanide *See Appendix 2 for titration protocol*	Push	Push	Push	Push	Push	2500 Unit: No RN titration (drip), rate changes must be ordered by physicians	10 mg/100 mL NS or D5W No nursing titration in 2500 unit	0.25 mg/mLL (undiluted); Rate: 1-2 minutes
	Drip	Drip	Drip	Drip	---			
Benztropine Mesylate	Push	Push	Push	Push	Push	IM Preferred	-------	Over 2 min
Bupivacaine HCl	Epidural	Epidural	Epidural	---	---	Not recommended for IV use	-------	-------
Bupivacaine/ Epinephrine	Epidural	Epidural	Epidural	---	---	Not recommended for IV use	-------	-------
Butorphanol	Push	Push	Push	Push	Push		-------	2 mg/mL (undiluted); Rate: 2 mg over 3-5 min
Calcitrol	Push	Push	Push	Push	Push			Undiluted; rapid - over 2 min
Calcium Chloride	Push†	Push†	Push†	Push†	Push†	Push for ACLS/ hyperkalemia only	1 gm/100 mL D5W; 2 gm/100 mL D5W over 1 hr	Undiluted; rapid – over 2 min
	IVPB	IVPB	IVPB	IVPB	IVPB			
Calcium Gluconate	Push†	Push†	Push†	Push†	Push†	Push for ACLS or for symptomatic hyperkalemia, hypermagnesemia or hypocalcemia	1 gm/100 mL D5W or NS; 2 gm/100 mL D5W or NS over 1 hr	Undiluted; rapid – over 2 min
	IVPB	IVPB	IVPB	IVPB	IVPB			
CARBOplatin	IVPB	---	---	IVPB	IVPB		Mix in 250-500 mL NS (max conc 2 mg/mL) over 30-60 min	-------
carboprost Tromethamine	IM	IM	IM	IM	IM	DO NOT inject IV		Administer Deep IM
ceFAZolin	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL D5W; 2 gm/100 mL D5W over 30 min	-------
Cefepime	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL D5W; 2 gm/100 mL D5W over 30 min	-------
Cefotaxime	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL D5W; 2 gm/100 mL D5W over 30 min	-------
cefOXitin	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL D5W; 2 gm/100 mL D5W over 30 min	-------
cefTAZidime	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL D5W; 2 gm/100 mL D5W over 30 min	-------
cefTRIAXone	Push	Push	Push	Push	Push	DO NOT administer simultaneously with calcium-containing products including lactated ringer's (LR) solution due to risk of precipitation.	-------	1 gm/10 mL sterile water over 3 - 5 minutes
	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL D5W; 2 gm/100 mL D5W over 30 min	-------

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Cefuroxime	IVPB	IVPB	IVPB	IVPB	IVPB		750 mg/50 mL D5W; 1.5 gm/100 mL D5W over 30 min	-------
Cetuximab	---	---	---	---	---	Infusion Center only	2 mg/mL (do not reconst); load over 2 hr; maintenance over 1 hr	DO NOT IV PUSH
chlorproMAZINE	Push	Push	Push	Push	Push	Patients receiving IV must remain lying down during and for 30 min. after the injection to reduce risk of hypotension	Dilute 1 mg/ mL NS – Rate 1 mg/min	IV Push Rate 1 mg/min
	IVPB	IVPB	IVPB	IVPB	IVPB			
ciprofloxacin	IVPB	IVPB	IVPB	IVPB	IVPB		200 mg/100 mL Infuse over 60 min 400 mg/200 mL Infuse over 60 min	
Cisatracurium *See Appendix 2 for titration protocol*	IVPB	IVPB	IVPB	IVPB	IVPB		100 mg/100 mL NS; titrate to TOF	-------
CISplatin	IVPB	---	---	IVPB	IVPB		Mix in 500 mL NS; IV administration varied from 15-120 min infusion; usually 1 mg/min; up to 24 hr	-------
Clindamycin	IVPB	IVPB	IVPB	IVPB	IVPB		600 mg/50 mL D5W over 30 min 900 mg/50 mL D5W over 1 hr	-------
Colistimethate	IVPB	IVPB	IVPB	IVPB	IVPB		150 mg/100 mL NS over 30 min	-------
Cosyntropin	Push	Push	Push	Push	Push		-------	Undiluted over 2 min
Crotalidae polyvalent immune FAB	IVPB	IVPB	IVPB	IVPB	IVPB	Monitor for Hypersenstivity reaction	Dilute in 250 mL NS; Rate: first dose - 25 mL/hr x 10 min, then 250 mL/hr for remainder of infusion; subsequent doses over 1 hr	-------
Cyanide Antidote Kit (Sodium Nitrite, Sodium Thiosulfate)	Push (Sodium Nitrite)	---	---	---	---	Administer sodium nitrite first, followed immediately by the administration of sodium thiosulfate. Decrease rate of infusion in the event of significant hypotension	Sodium Thiosulfate 1 vial 12.5 gm/50 mL sodium thiosulfate (50 mL); Rate: IV infusion over 10-30 min	Sodium Nitrite 1 vial 300 mg/10 mL sodium nitrite (10 mL); Max dose: 10 mL Rate: slow IV injection 2.5-5 mL/min
	IVPB (Sodium Thiosulfate)							
cyanocobalamin	IM/SubQ	IM/SubQ	IM/SubQ	IM/SubQ	IM/SubQ	No IVP		
Cyclophosphamide	IVPB	---	---	IVPB	IVPB		Mix in 250 mL NS over 30 min	-------
cycloSPORINE	IVPB	IVPB	IVPB	IVPB	IVPB		1 mL/100 mL over 4 hr	-------
Cytarabine	IVPB	---	---	IVPB	IVPB		Mix in 250 mL NS over 3 hr	-------

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Dacarbazine	IVPB	---	---	IVPB	IVPB		Mix in 250 mL NS over 1 hr, can increase to 2 hr with IV pain	-------
Dactinomycin	IVPB	---	---	IVPB	IVPB	Push in Oncology Clinic	50 mL NS over 10-15 min	0.5 mg/mL over 2-3 min (clinic)
Dantrolene Sodium	Push IVPB Drip	Push IVPB Drip	---	---	---	Refer to malignant hyperthermia policy	Reconstitute each 250 mg vial w/ 5 mL sterile water without bacteriostatic agents. Post Crisis: 1 mg/kg q4h or 0.25 mg/kg/hr for at least 24 hr.	As rapidly as possible in treatment of malignant hyperthermia
DAUNOrubicin	Push	---	---	Push	Push		Dilute in D5W or NS over 15-30 min	5 mg/mL over 1-5 min
Decitabine	IVPB	---	---	IVPB	IVPB	Infusion Center only	Mix in 100 mL NS over 1-3 hours	-------
Deferoxamine Mesylate	IM IVPB	---	---	IM IVPB†	IM IVPB†	IM preferred – IV infusion only in cardiovascular collapse	500 mg/50 mL NS, 1000 mg/100 mL NS; Limit rate to 15 mg/kg/hr for the first 1000 mg. Subsequent doses not to exceed 125 mg/hr. (Pharmacy: reconstitute to 95 mg/mL with sterile water - then add to NS, D5W, ½ NS, or LR for further dilution.)	For IM Injection: Reconstitute with sterile water for injection (500 mg vial with 2 mL SWFI; 2000 mg vial with 8 mL SWFI) to a final concentration of 213 mg/mL
Dexamethasone	Push IVPB	Push IVPB	Push IVPB	Push IVPB	Push IVPB	20 mg or less dispensed IV Push	Dilute in 50 mL NS over 30 minutes	Undiluted over 2-3 min
Dexmedetomidine *See Appendix 2 for titration protocol*	Push Drip	---	---	---	---		400 mcg/100 mL NS	4 mcg/mL - Loading dose over 10 min
Dexrazoxane	Push	---	---	Push	Push		------	Over 5-15 min
Desmopressin acetate	Push IVPB	---	---	Push IVPB	Push IVPB		Dilute in 50 mL NS over 15 -30 min	Over 2 min
Dextrose 50%	Push	Push	Push	Push	Push		------	Rapid IVP 25gm/50 mL
Diazepam	Push	Push	Push	Push	Push	5 mg/mL undiluted	-------	Rate: 5 mg/min; Do not dilute
Digoxin	Push	Push	Push	Push	Push		-------	May be given undiluted or dilute with four-fold volume of sterile water, D5W, NS Inject slowly over ≥5 minutes
Digoxin Immune FAB	Push IVPB	---	---	---	---	Each vial (40 mg) binds 0.5 mg of Digoxin.	-------	If cardiac arrest is imminent, give IV Push
Dimercaprol	IM	IM	IM	IM	IM			DEEP IM Injection; Rotate injection sites

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Diltiazem (Cardizem) *See Appendix 2 for titration protocol*	Push Drip	Push†	Push†	Push Drip	Push†	Do NOT administer if previously administered IV beta-blockers within a few hours.	No nursing titration in 2500 unit	Injection-give bolus over 2 min, may repeat in 15 min
diphenhydrAMINE	Push IVPB	Push IVPB	Push IVPB	Push IVPB	Push IVPB		-------	50 mg/mL (undiluted); Rate: 25 mg/min
DOCEtaxel	IVPB	---	---	IVPB	IVPB		Mix in 250 mL over 60 minutes	-------
DOBUTamine *See Appendix 2 for titration protocol	Drip	---	---	Drip (fixed 5-10 mcg/kg/ min)	---	Monitor decrease in BP with initiation of drip q15 minutes X 2	500 mg/250 mL D5W – administer per protocol No nursing titration in 2500 unit	-------
DOPamine *See Appendix 2 for titration protocol*	Drip	---	---	Drip (5mcg/kg/min)	---	Monitor infusion site for phlebitis and symptoms of extravasation. Central line preferred. Peripheral line for short term use only with large bore needles (at least 20 gauge). Peripheral line should be placed in the upper arm or forearm contralateral to the blood pressure cuff. Hand/wrist lines should be avoided as well as any IV sites requiring more than 1 venipuncture.	No nursing titration in 2500 unit 400 mg/250 mL D5W (peripheral); 800 mg/250 mL D5W (central)	-------
DOXOrubicin	Push	---	---	Push	Push		-------	2 mg/mL over 20 min
DOXOrubicin (Liposomal)	IVPB	IVPB	---	---	IVPB		Mix in 250 mL D5W (<90 mg); 500 mL D5W (>90 mg) over 60 minutes (max rate 1 mg/min)	-------
Doxycycline	IVPB	IVPB	IVPB	IVPB	IVPB		100 mg/100 mL D5W over 2 hrs	-------
Enalaprilat	Push IVPB	---	---	Push IVPB	Push IVPB		Dilute in 25 mL D5W over 15 minutes	Undiluted over at least 5 min
Enoxaparin	SubQ	SubQ	SubQ	SubQ	SubQ		-------	-------
ePHEDrine Sulfate	Push	Push	Push				-------	Over 2 min
EPINEPHrine HCl	Push	Push†	Push†	Push	Push†	Monitor infusion site for phlebitis and	No nursing titration in 2500 unit	Rapid IV push

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*See Appendix 2 for titration protocol	Drip			Drip†		symptoms of extravasation. Central line preferred. Peripheral line for short term use only with large bore needles (at least 20 gauge). Peripheral line should be placed in the upper arm or forearm contralateral to the blood pressure cuff. Hand/wrist lines should be avoided as well as any IV sites requiring more than 1 venipuncture.	2 mg/250 mL D5W or NS (peripheral) 4 mg/250 mL D5W or NS (central)	
Eptifibatide	Push Drip	---	---	---	---		Undiluted – 1-2 mcg/kg/min (max 15 mg/hr) x 72 hr	180 mcg/kg (max 22.6 mg) over 1-2 min
Epoetin Alfa	Push	Push	Push	Push	Push			Undiluted over at least 1 minute
Epoprostenol	Drip	---	---			Restricted to Pulmonology attending. May continue patient's home pump on all units. Use 0.22 micron filter	0.25 mg/50 mL Flolan Diluent; 0.50 mg/100 mL Flolan Diluent Adjust by 2 ng/kg/min at ≥15 min interval	-------
Ertapenem	IVPB	IVPB	IVPB	IVPB	IVPB		1 gm/50 mL NS over 30 min	May be given IM
Esmolol *See Appendix 2 for titration protocol	Drip Push	---	---	---	---		2500 mg/250 mL NS No nursing titration in 2500 unit	Rate: 500 mcg/kg over 1 minute
Estradiol Cypionate	IM	IM	IM	IM	IM		-------	-------
Estradiol Valerate	IM	IM	IM	IM	IM		-------	-------
Estrogen, Conjugated	Push IVPB	Push IVPB	Push IVPB	Push IVPB	Push IVPB		Mix with 50 mL NS over 30 min	Reconstitute 25 mg w/ 5 mL H20; Rate: 5 mg/min
Ethacrynic Acid	Push IVPB	Push IVPB	Push IVPB	Push IVPB	Push IVPB		Mix in 50 mL NS over 30 min	Undiluted; Rate: 10 mg/min
Ethanolamine Oleate	Sclero-therapy	---	---	---	---	Only for sclerotherapy – not for direct IV administration max of 20 mL per treatment session	-------	-------
Etomidate	Push	---	---	---	---	Watch for hypotension, asthma, CV effects; OK for intubation and transfer	-------	Undiluted; Rate: over 30-60 seconds
Etoposide	IVPB	---	---	IVPB	IVPB	Must use 0.22 micron filter	Mix in 500 mL NS over 1 hour	-------

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Drug Name	ACCU ED PACU	L&D	POST-PARTUM	2500 UNIT	MED/ SURG	COMMENTS	IVPB/Drip STANDARD CONCENTRATIONS / RATE OF ADMINISTRATION	IV Push/IM STANDARD CONCENTRATIONS / RATE OF ADMINISTRATION
Factor VIIa (Recombinant)	Push	---	---	---	---	Reconstitute with provided diluent according to package instructions	--------	Rate: over 2-5 minutes – administer within 3 hours after reconstitution
Famotidine	Push IVPB	Push IVPB	Push IVPB	Push IVPB	Push IVPB		20 - 40 mg in 50 mL NS over 30 min	May dilute with 5-10 mL of NS or administer undiluted; Rate: over 2 minutes
Fat Emulsion, intravenous (IVFE)	IVPB Drip	IVPB Drip	IVPB Drip	IVPB Drip	IVPB Drip	Only stable for 20 hrs when out of admixture; See Intralipid rescue guildlines for local anesthetic toxicity posted in OR and L&D or visit the website: www.lipidrescue.org	Drip is 3-in-1 TPN	--------
fentaNYL **See Appendix 2 for titration protocol*	Push Drip	Push	---	Push Drip	---	2500 Unit: On mechanical vent or Comfort/Palliative/End of life Care; Only if patient cannot be managed by other opioid	1000 mcg/100 mL – titrate to goal pain score per pain/sedation protocol No nursing titration in 2500 unit	Dilute 100mcg/2mL vial with 8mL NS to a final concentration of 100mcg/10 mL [10mcg/mL]; Rate: 50 mcg over 1-2 min
Filgrastim G-CSF (Neupogen®)	SubQ IVPB	SubQ IVPB	SubQ IVPB	SubQ IVPB	SubQ IVPB	Do not shake vial; SubQ is preferred route; Not compatible w/ NS; Flush line before & after w/ D5W Do not administer earlier than 24 hours after or in the 24 hours prior to cytotoxis chemotherapy	Dilute in 50 mL D5W over 15-30 min	--------
Filgrastim (Zarxio®)	SubQ	SubQ	SubQ	SubQ	SubQ	Round to the closest prefilled syringe size- 300 mcg & 480 mcg	--------	--------
Fluconazole	IVPB	IVPB	IVPB	IVPB	IVPB		200 mg/100 mL NS over 1 hour; 400 mg/200 mL NS over 2 hours	--------
Fludarabine	IVPB	---	---	IVPB	IVPB		100 mL NS over 30 minutes (standard concentration 10-25 mg/mL)	--------
Flumazenil	Push	Push	Push	Push	Push		--------	Undiluted; Rate: Reversal of conscious sedation – 15 sec.; Benzodiazepine OD – 30 sec.
Fluorescein Sodium	---	---	---	---	---	Radiographic agent	--------	Undiluted – 1 mL/second
5-Fluorouracil	Push Drip	---	---	Push Drip	Push Drip		Mix in 1000 mL NS over 24 hrs	IV push over 10 minutes

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Fluphenazine Decanoate	IM	IM	IM	IM	IM		-------	-------
Fluphenazine HCl	IM	IM	IM	IM	IM		-------	-------
Fomepizole	IVPB	---	---	---	---		Mix in 100 mL NS over 30 min	-------
Fondaparinux	SubQ	SubQ	SubQ	SubQ	SubQ		-------	-------
Fosaprepitant	IVPB	---	---	IVPB	IVPB	Restricted to Oncologist or Chemotherapy order set.	150 mg/250 mL NS; infuse over 30min	-------
Fosphenytoin	IVPB	---	---	IVPB	---	Telemetry trained nurses ONLY may give IV administration. Use double chemotherapy gloves and a protective gown during administration by the reproductive employee; at minimum, use single chemotherapy gloves during administration by the non-reproductive employee. Continuous monitoring of the electrocardiogram, blood pressure, and respiratory function is required during infusion and for 10 to 30 minutes after the end of infusion.	IV administration of 100 mg PE / 2 mL (50 mg PE / mL) in 100 mL NS or D5W using patient specific dosing (must be diluted to concentrations of 1 to 25 mg PE / mL; max concentration: 25 mg PE / mL). Adult infusion rate: 25-100 mg PE / min (Max Rate: 150 mg PE / min). Load: 10-20 mg PE / kg [Max: 1500 mg PE], Usual: 4 to 6 mg PE/kg/day in divided doses. Administer diluted solution as intermittent IV infusion; do not administer as a continuous infusion.	IM administration of undiluted fosphenytoin (50 mg PE/mL) at 4-20 mg PE / kg using 1-4 injection sites (Max: 2 mL at deltoid, 5 mL at buttock). Do not administer as IV push.
Fulvestrant	IM	---	---	IM	IM		-------	250 mg/5 mL x 2 prefilled
Furosemide *See Appendix 2 for titration protocol*	Push IVPB Drip	Push IVPB Drip	Push IVPB Drip	Push IVPB Drip	Push IVPB	2500 Unit: No RN titration (drip), rate changes must be ordered by physicians	Give doses greater than 240 mg in IVPB; 100 mg/100 mL NS; 500 mg/100 mL NS; 500 mg/50 mL (no dilution); titrate to urine output or as ordered No nursing titration in 2500 unit	Undiluted - 10 mg/mL; Rate: 20-40 mg/min
Ganciclovir	IVPB	IVPB	IVPB	IVPB	IVPB	Extravasation precautions; use latex gloves when handling; dispose of in chemotherapy waste; No Chemo RN needed	500 mg/250 mL D5W over 1 hour;	-------
Gemcitabine	IVPB	---	---	IVPB	IVPB		Mix in 250 mL NS over 30-60 min	
Gentamicin Sulfate	IVPB	IVPB	IVPB	IVPB	IVPB		100 mg/100 mL NS; 80 mg/100 mL NS; 5 mg/kg in 100 mL NS - over 30 min	-------

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Drug Name	ACCU ED PACU	L&D	POST-PARTUM	2500 UNIT	MED/ SURG	COMMENTS	IVPB/Drip STANDARD CONCENTRATIONS / RATE OF ADMINISTRATION	IV Push/IM STANDARD CONCENTRATIONS / RATE OF ADMINISTRATION
Glucagon	Push Drip	Push	Push	Push	Push		20 mg/100 mL NS	Mix 1 vial with 1 mL diluents or sterile water; Rate: over 1 min
Glycopyrrolate	Push	Push	Push	Push	Push		-------	Undiluted - 0.2 mg/mL; Rate: 2-3 min
Haloperidol	IM Only	IM Only	IM Only	IM Only	IM Only		-------	-------
Heparin Sodium *See Appendix 2 for titration protocol*	Push Drip	Push Drip	Push Drip	Push Drip	Push Drip		25,000 units/250 mL D5W – adjust per protocol	Undiluted - 5,000 units/mL ; Rate: Max 40 mg/min
Hepatitis B Immune Globulin (HBIG)	IM	IM	IM	IM	IM	IV for post liver transplant	-------	-------
Hetastarch	Drip	Drip	Drip	Drip	Drip	BBW: acute renal injury; avoid use in critically ill patients, including patients with sepsis	Not to exceed 20 mL/kg/hr, rates have been studied up to 1000 mL over 7-8 min in critical situations	-------
Hyaluronidase	SubQ	SubQ	SubQ	SubQ	SubQ		-------	-------
hydrALAZINE	Push	Push	Push	Push	Push		-------	Rate: 5 mg/min
Hydrocortisone	Push IVPB	Push IVPB	Push IVPB	Push IVPB	Push IVPB	Doses ≤250 mg given Push	Dilute in 50 mL NS over 30 minutes	Undiluted; Rate: 30 sec
HYDROmorphone *See Appendix 2 for titration protocol*	Push PCA Drip	Push PCA Drip	Push PCA Drip	Push PCA Drip*	Push PCA Drip*	Drip: mechanical vent required except for DNR/End of Life/Comfort/Palliative Care *NO Titration Drips on 2500 or MED/SURG units; set rate only.	Drip: 50 mg/100 mL NS; PCA 25 mg/50 mL NS	Undiluted; over 3 minutes
hydrOXYzine HCl	IM Only	IM Only	IM Only	IM Only	IM Only		-------	-------
Ibuprofen (Caldolor)	IVPB	IVPB	IVPB	IVPB	IVPB	Restricted for use from pre-surgery to 24 hour post-surgery. NOT interchangeable with ibuprofen lysine		Diluted to final concentration of ≤4mg/mL; over at least 30 minutes
Ifosfamide	IVPB Drip	---	---	IVPB Drip	IVPB Drip		Mix in 250 mL NS over 30 min; Mix in 1000 mL NS over 24 hrs (depending on regimen)	-------
Immune Globulin, Human	IVPB	IVPB	IVPB	IVPB	IVPB	Please refer to IVIG order set.	Octagam 5%: 0.5mg/kg/min (0.6mL/kg/hr); double infusion rate if tolerated every 30 minutes up to a max	-------

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Drug Name	ACCU ED PACU	L&D	POST-PARTUM	2500 UNIT	MED/ SURG	COMMENTS	IVPB/Drip STANDARD CONCENTRATIONS / RATE OF ADMINISTRATION	IV Push/IM STANDARD CONCENTRATIONS / RATE OF ADMINISTRATION
	Drip	Drip	Drip	Drip	Drip		rate of 3.33mg/kg/min (4.2mL/kg/hour) Octagam 10%: 0.5mg/kg/min (0.6mL/kg/hr); double infusion rate if tolerated every 30 minutes up to a max rate of 12mg/kg/min (7.2mL/kg/hour)	
Indigotindisulfonate Na	Push	Push	Push	Push	Push	Diagnostic Agent	------	------
inFLIXimab	IVPB	---	---	IVPB	IVPB	Clinic Use Only	Mix in 250 mL NS, infuse over 2 hrs	------
Insulin, Human Regluar	Push Drip	Push Drip	Push	Push	Push	Only Regular Insulin for IV use	100 units/100 mL NS – infuse per protocol	Undiluted: 100 units/mL; Rate: 2-4 seconds
Interferon alfa-2b	IVPB	---	---	IVPB	IVPB	Outpatient formulary only	Mix in 100 mL NS over 20 min	------
INTRALIPD (see Fat Emulsion)								
Iohexol	---	---	---	---	---	Radiologic Contrast Agent – see specific procedures	------	------
Irinotecan	IVPB	---	---	IVPB	IVPB		Mix in 500 mL D5W over 90 min	------
Iron Dextran	IVPB	IVPB	IVPB	IVPB	IVPB		100 mg/250 mL NS over 1-6 hours; Test Dose – 25 mg/50 mL NS over 30 min	------
Isoproterenol	Drip	---	---	---	---	Not 1st line in ACLS No longer recommended in shock (hypovolemic/cardiogenic/septic)	1 mg/250 mL D5W; Rate: 0.3 - 10 mcg/min	------
Isosulfan Blue	---	---	---	---	---	Radiologic Contrast Agent - SubQ	------	------
Ketamine HCl *See Appendix 2 for titration protocol*	Push Drip	---	---	---	---	Sedation/ Anesthesia Drip: Need mechanical vent . Analgesia Drip: Does not need mechanical vent. Intubation not required for Analgesia use/ DNR/End of Life/ Comfort/Palliative Care.	100 mg/100 mL NS - titrate per order; see pain/sedation protocol Sedation: 0.2-0.8 mg/kg bolus, followed by: 0.12-0.42 mg/kg/hr (higher doses may be needed) Analgesia: 0.1-0.5 mg/kg bolus over 1-3 minutes, followed by: 0.1-0.4 mg/kg/hour (maximum 0.4 mg/kg/hr)	Undiluted: 10 mg/mL; Rate: 0.5 mg/kg/min; 100 mg/mL concentration should not be administered IV unless properly diluted with an equal volume of SWFI, NS, or D5W. May administer bolus/induction doses over 1 minute or at a rate of 0.5 mg/kg/minute.
Ketorolac Tromethamine	Push	Push	Push	Push	Push		------	Undiluted: 30 mg/mL; Rate: over 15 seconds
Labetalol *See Appendix 2 for titration protocol*	Push	Push	---	Push	Push	Max cumulative daily dose: 300 mg/day	300 mg/300 mL D5W	Undiltued: 5 mg/mL; Rate: 10 mg/min IV push requires telemetry monitoring