Blood Administration

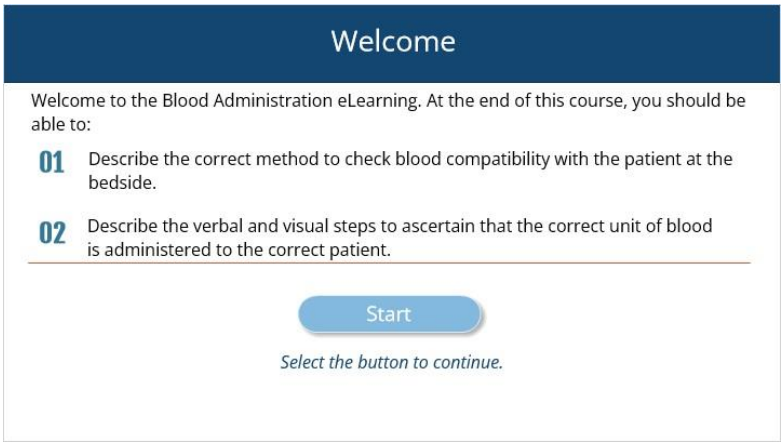
1. Home

1.1 Home

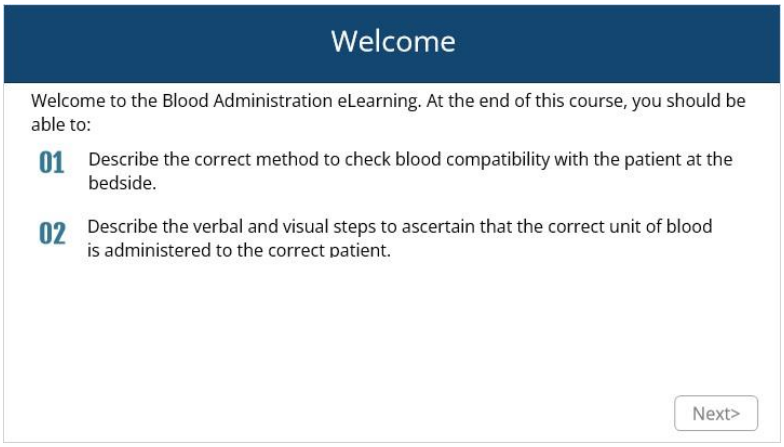


Notes:

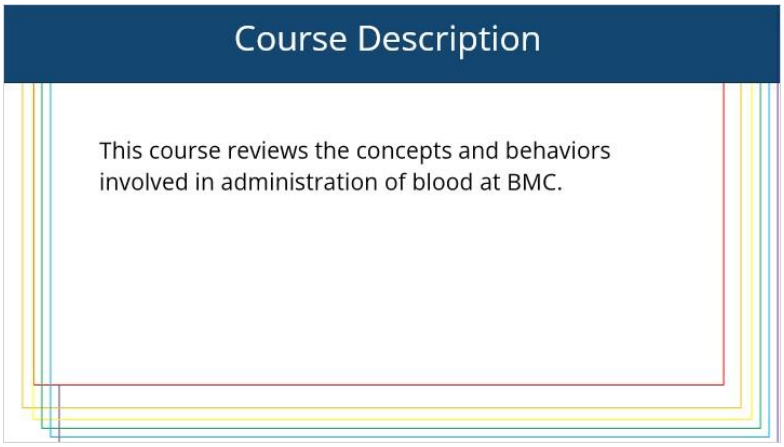
1.2 Learning Objectives



Hidepretestlayer (Slide Layer)



1.3 Course Description



Notes:

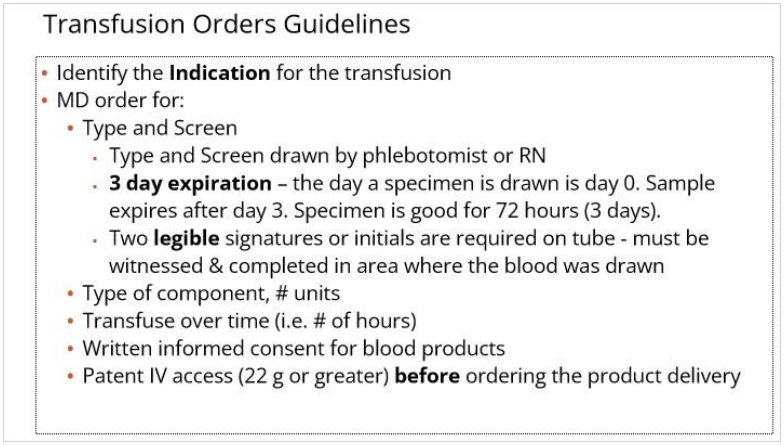
2. Blood Product Administration

2.1 Transfusion Orders



Notes:

2.2 Transfusion Orders Guidelines



Notes:

2.3 BMC Informed Consent for Blood Components Transfusion

BMC Informed Consent for Blood Components Transfusion

- Informed Consent means that the patient has been provided with sufficient information to make an informed decision regarding consent to treatment
- Blood Consent is valid for **60** days **or** the duration of the hospital admission as long as it is related to the same illness
  - A new consent form must be signed if the reason for the transfusion has changed
- Check **surgical** consent for transfusion consent if patient is post-op and bleeding is related to the surgery
- **Chronic** on-going transfusion consent requires an annual consent

2.4 Blood Bank Specimens

Blood Bank Specimens

- Two people must be present at the time a type and screen is collected
  - One person collects the specimen and both people independently verify the accurate patient identifiers - full name and complete MRN
  - Both people sign **(legible signature or initials)**, date & time the tube prior to exiting room
- Specimens will be rejected by the blood bank if they do not have 2 legible names or initials



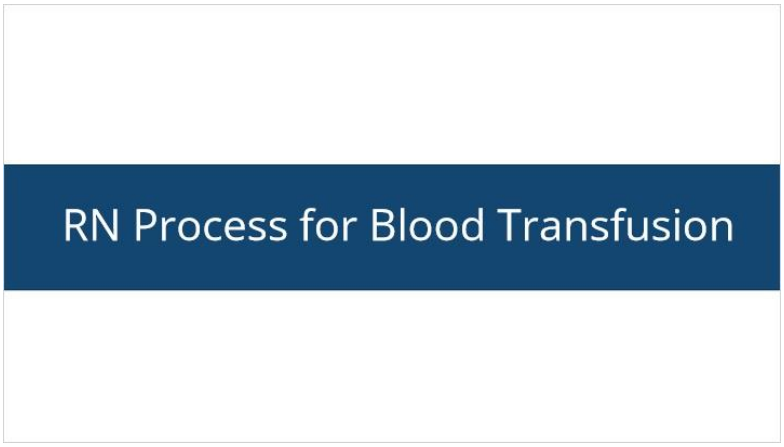
2.5 Verification of Blood Type

Verification of Blood Type

- Patients who have no history with the BMC Blood Bank will require a second specimen be sent to the Blood Bank to verify ABO/Rh
- Blood Bank will notify the nursing unit if the second sample is required and send a white top tube and label
- This sample also requires:
  - 2 legible signatures or initials
  - Date and time labeled in the presence of the patient at the time of the blood draw

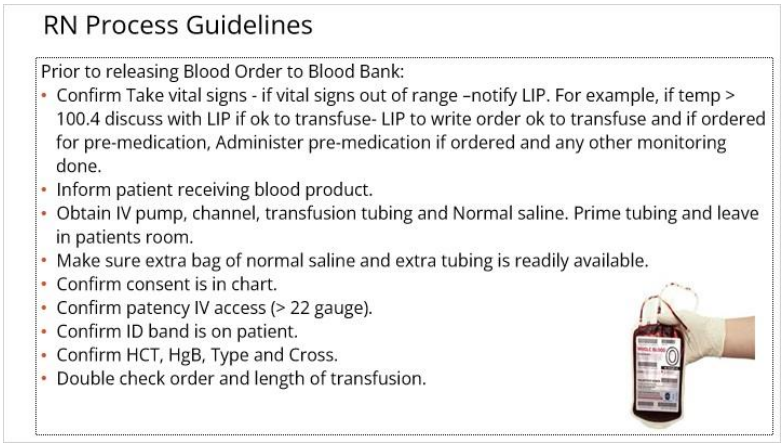


2.6 RN Process for Blood Transfusion

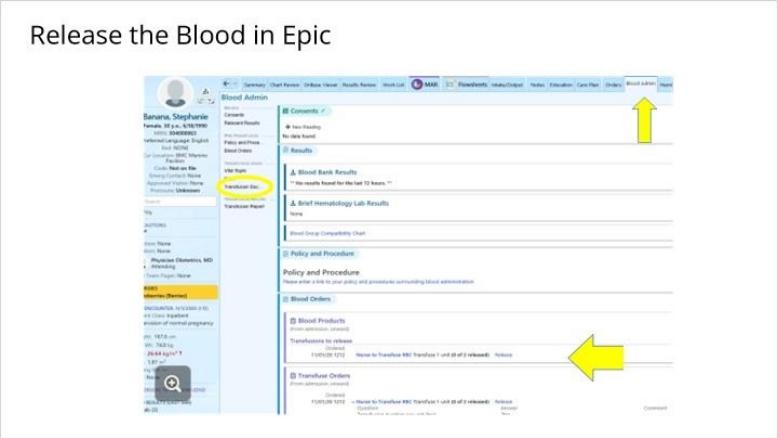


Notes:

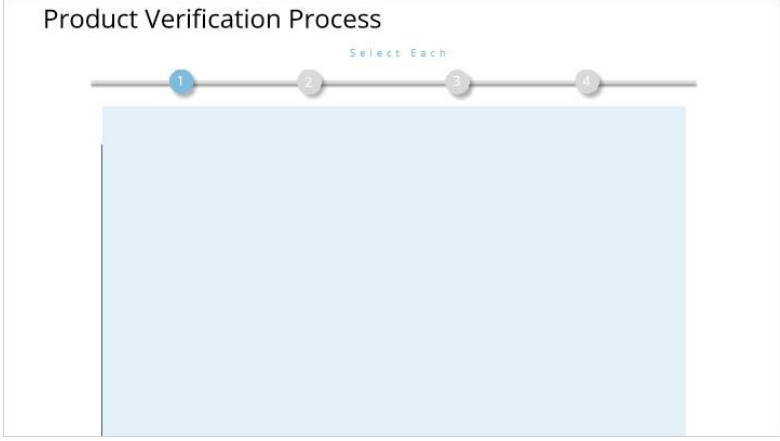
2.7 RN Process Guidelines



2.8 Release the Blood in Epic

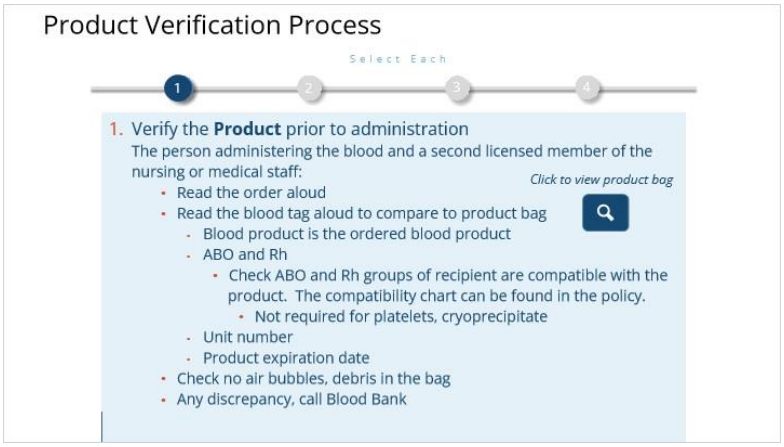


2.9 Product Verification Process

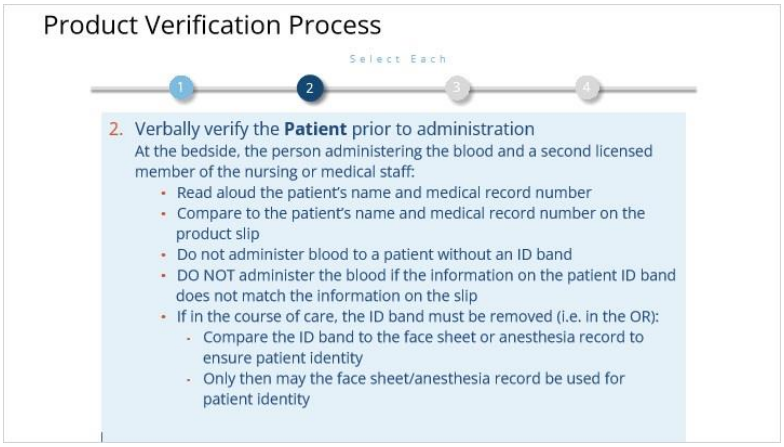


Notes:

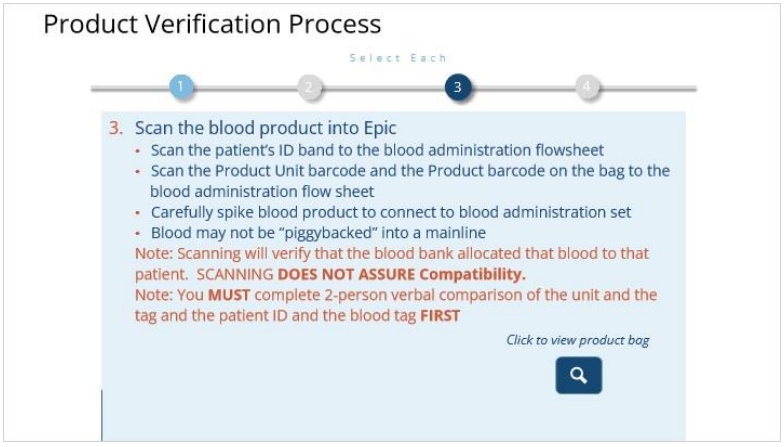
1 (Slide Layer)



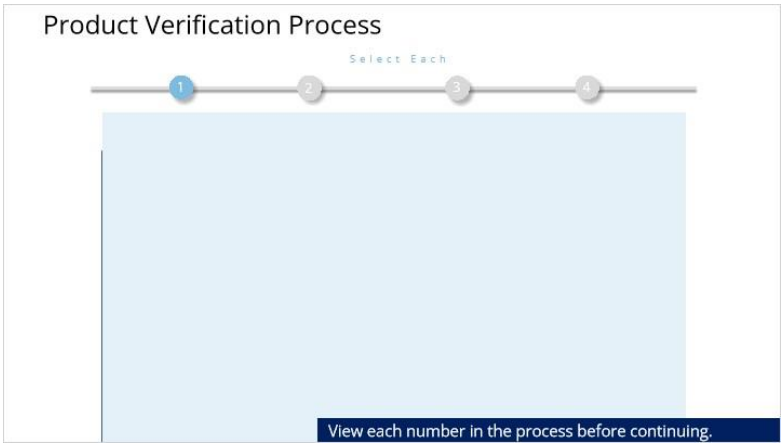
2 (Slide Layer)



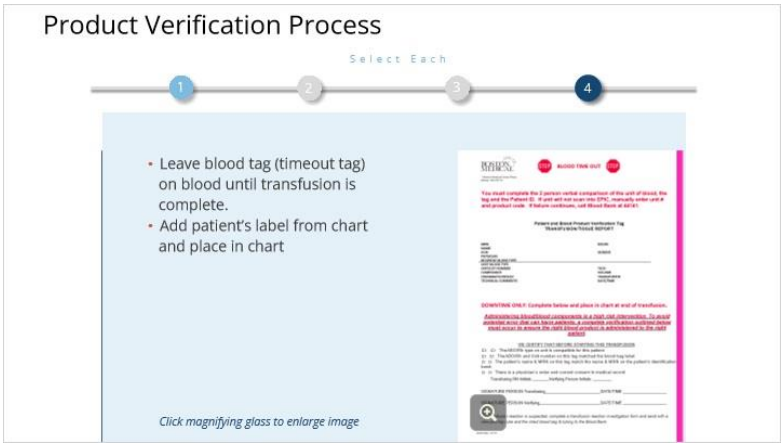
3 (Slide Layer)



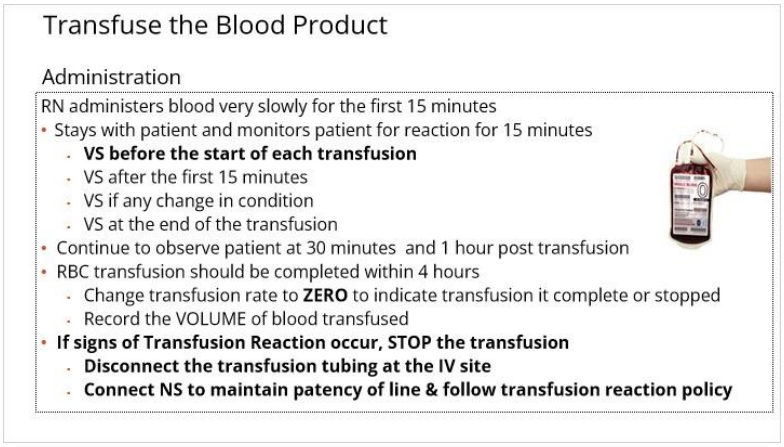
ReminderAll (Slide Layer)



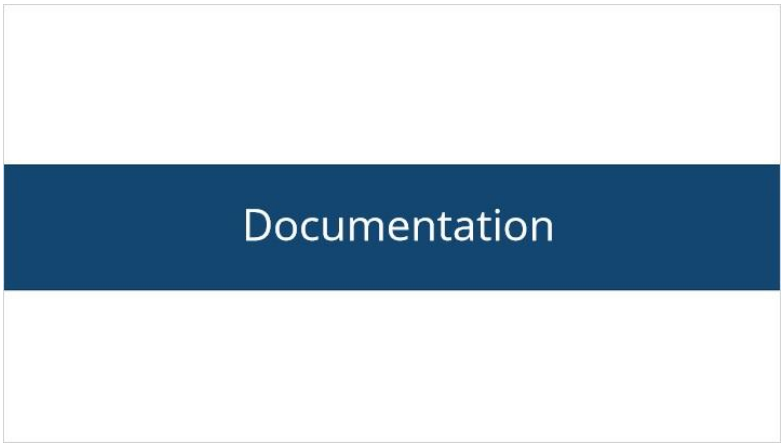
4 (Slide Layer)



2.10 Transfuse the Blood Product

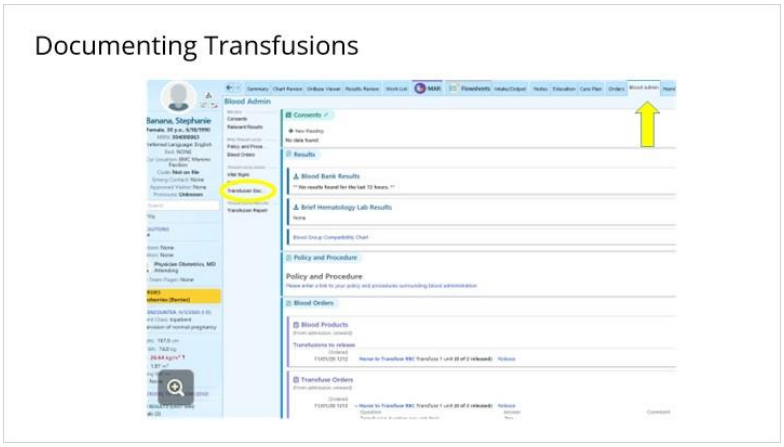


2.11 Documentation

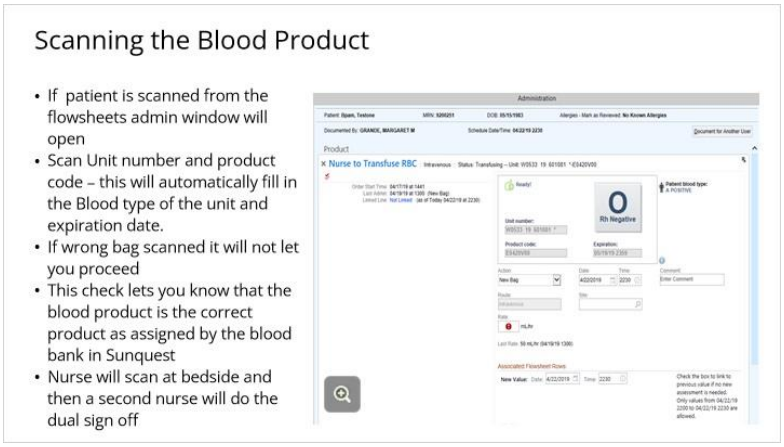


Notes:

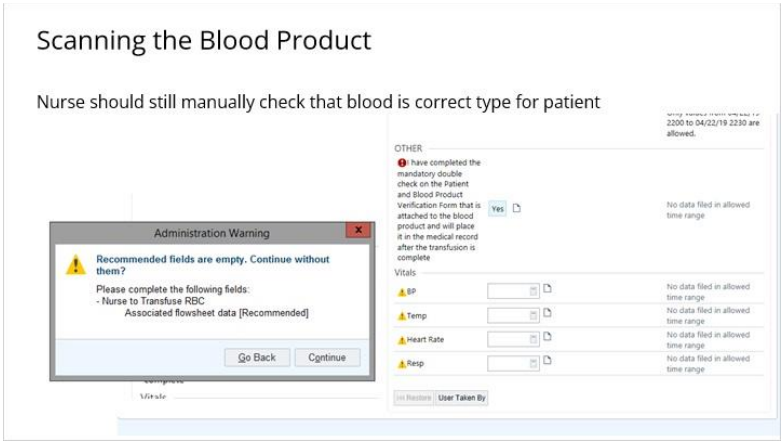
2.12 Documenting Transfusions



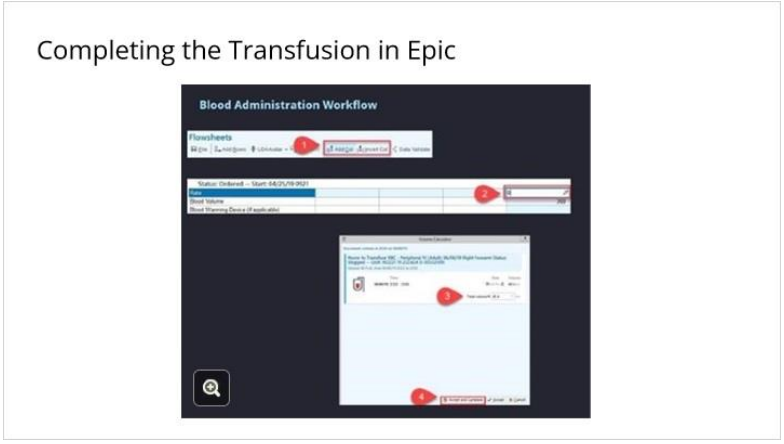
2.13 Scanning the Blood Product



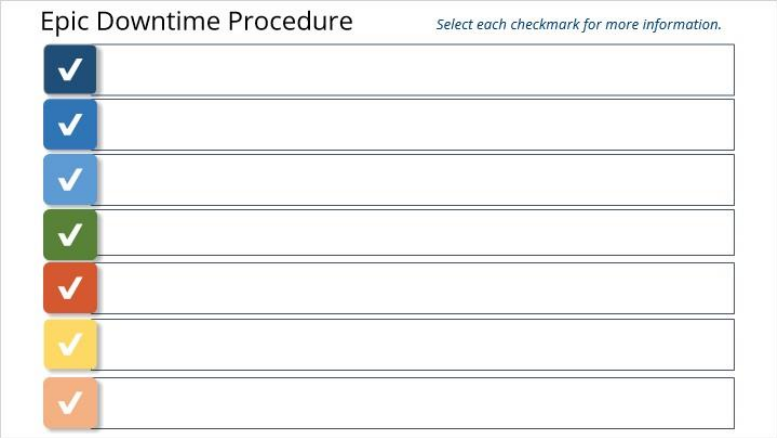
2.14 Scanning the Blood Product



2.15 Completing the transufion in Epic

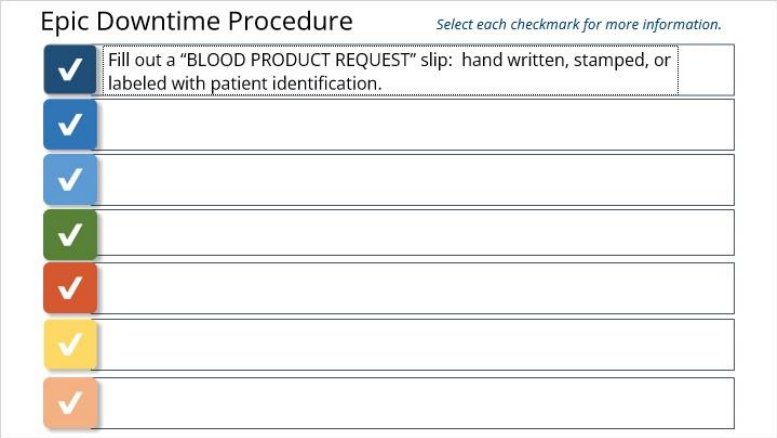


2.16 Epic Downtime Procedure

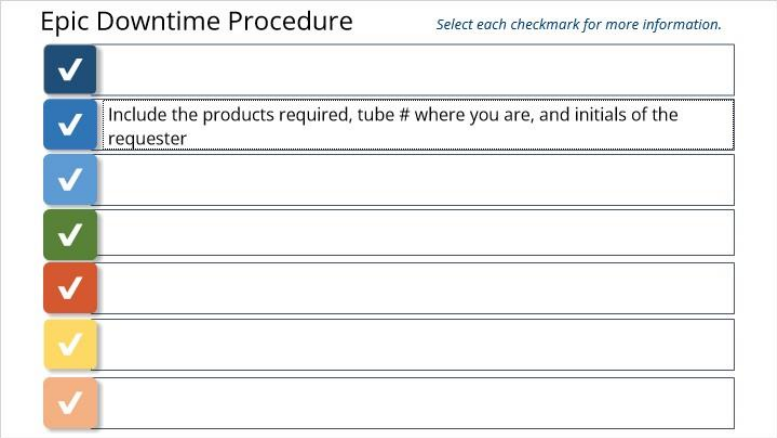


Notes:

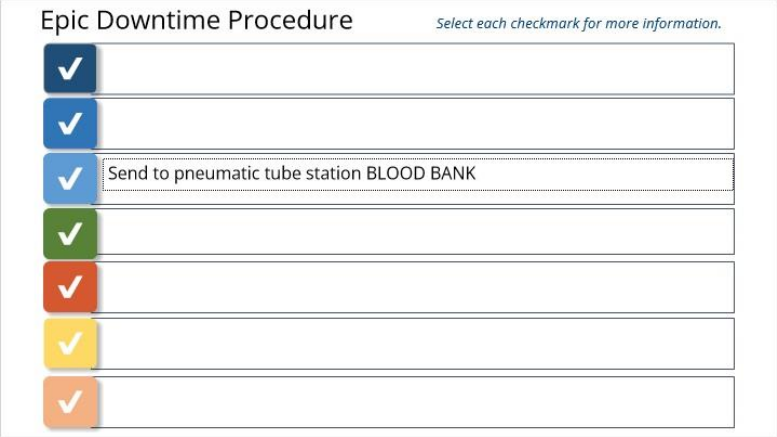
1 (Slide Layer)



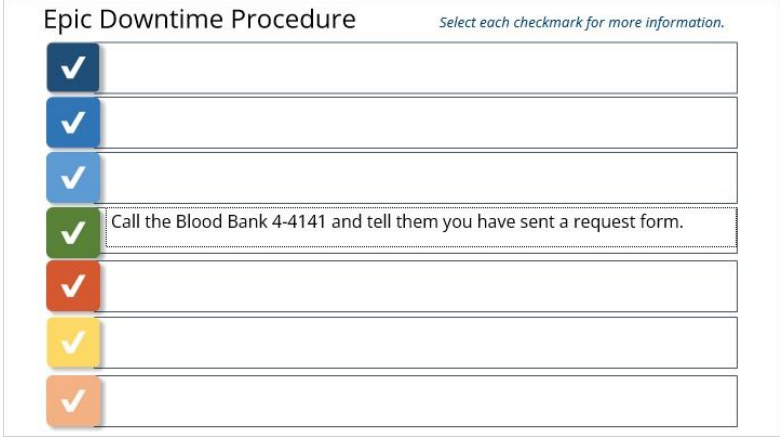
2 (Slide Layer)



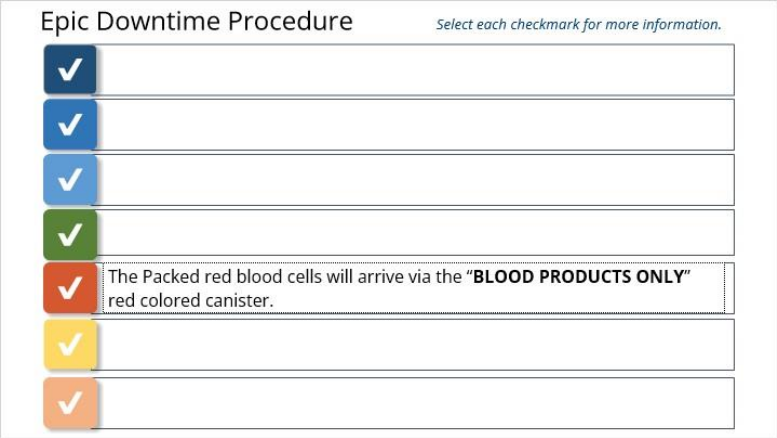
3 (Slide Layer)



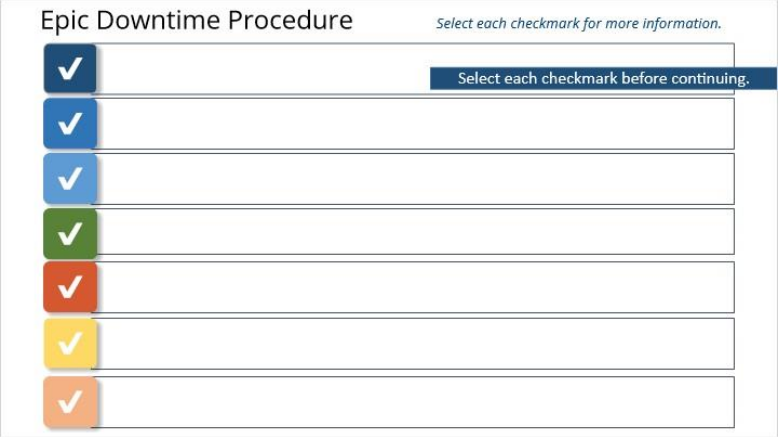
4 (Slide Layer)



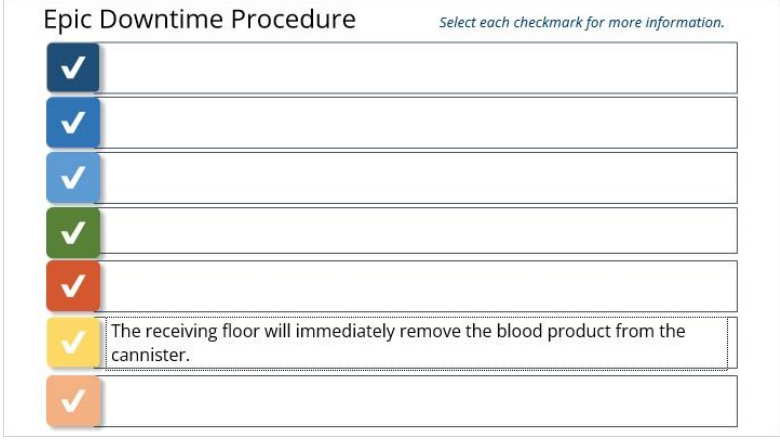
5 (Slide Layer)



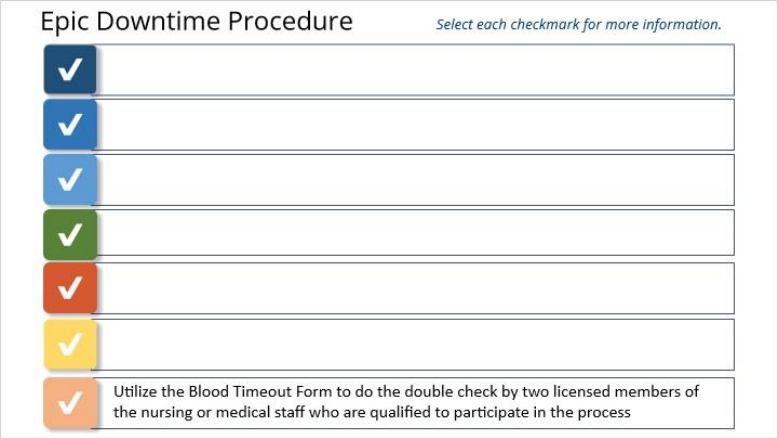
Reminder (Slide Layer)



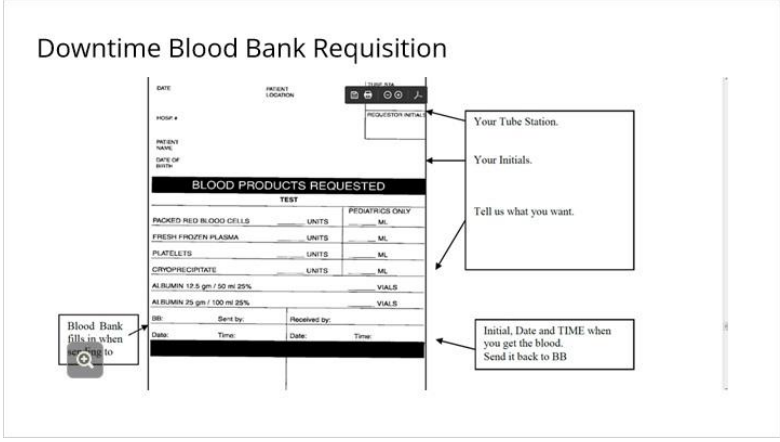
6 (Slide Layer)



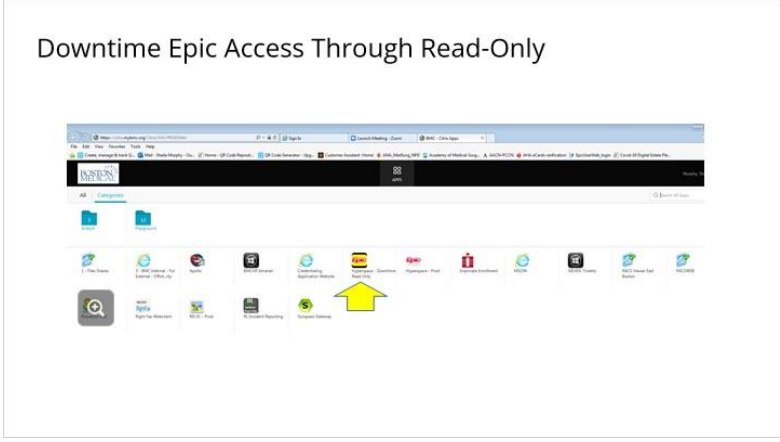
7 (Slide Layer)



2.17 Downtime Blood Bank Requisition

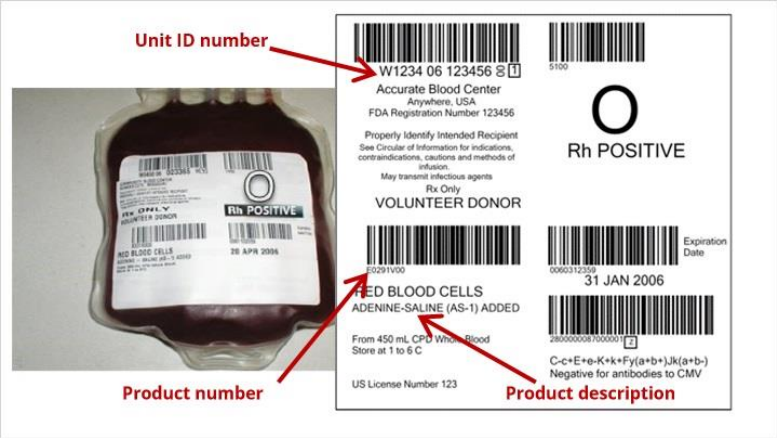


2.18 Downtime Epic Access Through Read-Only



3. Lightboxes

3.1 Light Box Blood Component Label



3.2 Light Box Blood Component Scan



4. Untitled Scene

4.1 Thank you



Notes:

Nursing Assessment / Reassessment & Documentation of Plan of Care

Policy #:	10.01.060
Issued:	July 2015
Reviewed/ Revised:	9/2018, 1/2019, 12/2020, 2/2024, 4/2024, 10/2024, 9/2025
Section:	Nursing

Purpose:

To standardize the manner in which all patients are assessed and reassessed, and care needs are documented, and to assure that a comprehensive nursing assessment and plan of care based on identified care needs is provided.

Policy Statement:

1. All patients at [redacted] will have a comprehensive nursing assessment based on their identified care needs including actual or potential health problems. All assessment screenings must be completed within 24 hours of admission for all inpatients or according to departmental policy.
2. All patients will have a documented head-to-toe assessment a minimum of every 8 hours and with any change in caregiver. In the Intensive Care Unit (ICU), head-to-toe assessments are completed a minimum of every 4 hours. Additional focused assessments should be done as ordered/needed, but at least every 4 hours for the following :
    - Post-operative patients (for 48 hours postop)
    - Abnormal findings or critical lab values
    - Change in patient condition
3. Assessments, interventions, and medication administration are all documented at point of care.
4. Registered Nurses (RNs) must perform and document their own patient assessment. The copy forward function may be used by the RN to copy forward THEIR OWN documentation (i.e., their second or subsequent assessment). (at 4 hours since last assessment and prn) if the assessment that is being copied forward has not changed in-between the first and second assessment. Copy forward can only be used once if no changes are noted.
5. All shift-to-shift handoffs will be completed at the bedside using IPASS. This will include a bedside visualization of the patient, review of medications and rate/dose verification of all intravenous (IV) infusions. All IV infusion lines should be traced from bag to patient. (refer to *Policy #03.77.000 - Patient Handoff Standardization*).
6. Hospital at Home patients will have a documented head to toe assessment a minimum of twice a day. Additional focused assessments should be done as ordered/needed, but at minimum three times a day.
7. Shift to Shift Handoff for Hospital at Home patients will be completed using IPASS. RNs will review patient data and medications. (refer to Policy #03.77.000 - Patient Handoff Standardization)

Application:

Registered Nurses (RNs) in all inpatient units

Exceptions:

Non-designated inpatient units (i.e. procedural areas)

Procedure:

1. Nursing Assessment and Reassessment
    a. Each patient is assessed by a RN following admission to the hospital. A RN is responsible for initiating the patient's plan of care.
    b. Determination of the patient's needs and plan of care using the nursing process is based on the RN assessment of relevant physical, psychological, age specific and social status needs. This begins with the nurse's first encounter with the patient and is reassessed throughout the stay as condition or diagnosis warrants. Reassessment occurs at change of caregiver.
    c. The information gathered on the patient's first contact determines if a more detailed or broader assessment is needed. Further assessment will depend on the patient's diagnosis, the care they are seeking, the care setting, the patient's response to previous care, and their consent to treatment. (See unit specific assessments Policies and Procedures.)
    d. Unlicensed assistive personnel participate as delegated to in the data collection elements of the patient assessment process and fall under the supervision of the licensed nurse (See *Policy #10.01.080 - Certified Nursing Assistant (CNA) Patient Care Documentation Guideline*).
    e. The admission assessment will include the principal conceptual areas, listed below, in addition to the anticipated length of stay for major patient populations. Admission assessment identifies:
        i. Biophysical needs which include physical, nutritional, and reproductive history.
        ii. Patient History/Social history and Psychosocial needs which include religious, cultural, and language
        iii. Current or past use of substances
        iv. Pain Assessment
        v. Educational needs
        vi. Discharge planning needs
        vii. Ability to perform activities of daily living, AM-PAC mobility assessment
        viii. Environmental/Functional problems expected in hospital or home.
        ix. Condition of the patient's skin, including any open areas, rashs, bruising, etc.
        x. Abuse/violence that the patient is has experienced
        xi. Safety/suicidality
        xii. Fall risk screening
        xiii. Thrive Screening
        xiv. Alcohol Screening
    f. Patient/families are involved in formulating the interdisciplinary plan of care and discharge planning.
    g. Reassessment of patient needs/problems and plan of care is completed at the change of shift and as determined by diagnosis and patient condition, response to treatment and patient/family desires following established policies/procedures and nursing standards of care.
    h. The Plan of Care is reassessed based on the priority of the problems. Reassessment as above is done and documented at least once per shift in the clinical notes and appropriate forms/flowsheets.

FLOW SHEET: Frequencies and information included

I. Vital Signs Flow Sheet

a. **Weights** – If weights are ordered, document in kilograms (kg) and document how the weight was obtained (bed scale, standing scale, infant scale). Medication dosing weights are documented in the ICU.

b. **Vital Signs** – Temperature, blood pressure (BP), heart rate (HR), respiratory rate (RR), and oxygen saturation (O2 Sat) and other vitals as appropriate:

1. In the ICU/PICU vital signs/hemodynamic monitoring data are documented every 1-2 hours. Ventilator settings and mode are validated by the RN every 4 hours and with changes.
2. In the Neonatal intensive care unit (NICU) vital signs are documented every 1 to 4 hours, and as needed. Ventilator settings are validated every 2-4 hours and with changes.
3. In the intermediate care unit (IMCU)/progressive care unit (PCC) vitals are documented every 2-4 hours. Ventilator settings are documented every 4 hours and with changes.
4. In the medical/surgical & pediatric units vitals are documented every 4-8 hours.
5. Hospital at Home patients will have vitals signs documented at least three times a day.
6. For postoperative patients, vital signs are documented every 4 hours for 48 hours.
7. Any abnormal vital signs should be reassessed as the patient's condition warrants.
8. For Obstetrics follow the MCH Policy #16.01.260 - Triage Placement of Obstetrical Patients, MCH Policy #16.01.210 - Maternal Immediate and Postpartum Care, MCH Policy #16.01.105 - Fetal Monitoring (FM), and MCH Policy #16.02.080 - Newborn Care At and Following Delivery.
9. Behavioral health patients will have vital signs documented at least two times per day.

II. **Pain/Sedation** - Assessment and reassessment of pain, using the appropriate scale, is documented with every change in caregiver, after a procedure that could incur pain, and after receiving pain medication or non-pharmacologic pain intervention on the vital signs flow sheet. Document if active pain score and patient refuses pain medication (refer to Policy #03.36.000 - Pain Assessment and Management for more information). For Sedation Scale, document when appropriate.

III. **All patients with active pain** and/or actively sedated should have pain addressed with a care plan and documentation on the education flow sheet of education and patient understanding of pain scales and multi-modal treatments.
   a. Patients in the ICU on sedation will have a Riker score documented every 4 hours and with titration. For PICU patients less than age 18 the State Behavioral Scale (SBS) will be used.

IV. **Patient Safety Observation (PSO) Documentation** (refer to Policy #03.99.060 - Patient Safety Observation for more information)

V. **Restraints:** Restraint documentation is on the restraint flow sheet and care plan.
   a. See Policy #03.03.000 - Restraint Use or Seclusion for Non-Behavioral Health Units
   b. MCH Policy #16.01.200 - Anti-Shackling for Incarcerated Patients - Obstetrics.

VI. **Screening Scores**
   a. **Braden Scale, or Braden Q for children less than 5 years of age** - Completed once every 12 hours. Score 18 < will add a plan of care to the patient's care plan; exception Maternity and Labor and Delivery.
   b. **Neonatal Skin Score** - Completed at least once a shift or with a change in care giver.
   c. **Falls** - Completed on admission, change in caregiver or patient condition. If the patient is deemed a fall risk (score >10) a falls plan of care will be added to the patient's care plan.

The RN may use the [redacted]IP RN falls event note" in smart text to document an actual fall. The Cummings Pediatric Falls Assessment Scale will be used for children over 3 years of age.

d. **Distress Screening** - for all admitted hematology-oncology patients and patients admitted with a hematology-oncology consult.

e. **Delirium** - Confusion Assessment Method (CAM-ICU in the intensive care units and CAM in medical/surgical areas). Completed twice daily on patients over 65 in medical surgical areas and all patients in the ICU setting. If the patient screens positive for delirium, notify MD/DO and add the delirium nursing care plan.

f. **Other screening scores can be included by adding additional flow sheets:** i.e., Fetal Heart Rate (FHR), Neonatal Abstinence Score (NAS), Clinical Opiate Withdrawal (COW) scale, Clinical Institute Withdrawal Assessment (CIWA) score, Toxicity Flow sheet- post chemotherapy administration.

g. **Columbia Suicide Scale (patients age 12 and over):** The RN or designee will complete the suicide screen tool (Columbia Suicide Severity Rating Scale, C-SSRS, 2008) (if the patient is identified as being at risk of self- harm or threatens to harm another individual. Patients determined to be high risk on Columbia Suicide Scale require the suicide precaution order set and continuous 1 to 1 observation (PSO) until cleared by Psychiatry for less monitoring. RN or designee will perform an hourly visual screening of the patient and document the check in the EHR. (Refer to Policy #03.43.000 - Screening, Assessment, and Management of Patients at Risk for Suicide).

VII. Intake and Output Flow Sheet

a. **Intake and Output (I & O)** -Recorded on all patients in the Intake/Output flow sheet. This can include- intravenous (IVs), secondary medications, continuous medications, keep vein opens (KVO) infusions, tube feedings, by mouth (PO) intake, drains/tubes, bowel movements, ostomy, bladder output, irrigations, blood transfusion and peritoneal and hemodialysis balances, etc.

b. I & O will be reconciled by the RN at the end of the shift
   1. I & O volume must be documented within 4 hour intervals or sooner, if appropriate.
   2. ICUs I & O volumes must be documented every 1-2 hours
   3. IMCU/PCC I & O volumes must be documented every 2-4 hours
   4. NICU I & O volumes must be documented every hour

c. If the infant is breastfeeding, document occurrence verses attempt based on assessment of the quality of feeding.

VIII. Nursing Assessment Flow Sheet

a. **Vaccine assessment** for administration eligibility must be completed when appropriate.

b. **The flow sheet assessment sections are documented by systems** – Please document patient assessments using Within Defined Limits "WDL" if row parameters are met within that system. If the patient assessment is deemed abnormal select an "X" and document the exceptions.

c. **Spiritual/Psychosocial** - Document support offered to patient - free text any relevant information

d. **Provider Notification:**

1. Documentation of critical alert values (CAV) in this row section (reference Policy #03.61.000 - Critical Alert Values and Call Back)
2. Document any other pertinent communication with providers, as appropriate.

IX. Line, Drains, Airways (LDAs)

a. **Skin/Skin Alteration Assessment**

1. Every patient will have a full skin assessment documented on admission and with change of caregiver, exception Obstetrics.
2. Any noted skin alteration (i.e. rash, abrasion) will be documented as a wound LDA.
3. Any new skin break down that occurred during patient's hospitalization (nosocomial) requires an online incident report to be completed.
4. A care plan for skin must be added if patient is at risk for skin break down (Braden <18)

b. **Peripheral and Midline catheters** are an added LDA. On insertion, document date, site assessment, size, type of catheter, number of attempts. On removal, document date, length of catheter and IV site assessment. Assessment of the site per Policy #10.04.060 - Intravenous Therapy.

1. IV tubing, extensions, connectors and cap changes are documented on the flow sheet.
2. Assessment of the site/dressing is documented every shift/change of caregiver on the flow sheet.
3. Pediatric Patients: assessment of site/dressing is documented hourly via attestation for patients receiving continuous IV fluids or every 4 hours, prior to fluid or medication administration and change in caregiver for saline lock.

c. **Central Line Vascular access devices (VAD) (all Central Lines: Ports, Apheresis, PICC, Hemodialysis)** are an added LDA

1. IV tubing, connector and cap, circuit (dialysis only) changes are documented on the flow sheet
2. Assessment of the site/dressing of all VAD is assessed and documented every shift/change of caregiver on the flow sheet. (refer to Policy #10.04.070 – Central Line Management)

d. Stomas, chest tubes, endotracheal tube (ETT), other catheters, and drains must be added if appropriate using add LDA feature in the correct flow sheet.

X. Daily Cares Flow sheet:

a. **Patient Precautions** - Document any Precautions (examples: Seizure, aspiration, latex etc.) when appropriate.

b. **Safety** -

1. Document ID band on patient once per shift (if patient has allergies or precautions make sure they have appropriate arm band). See 8 #03.33.000 – Patient Identification.
2. Document call bell in reach and bed left in low position once per shift.

3. Newborns must have Mother Baby Bands and infant security bands per policy, Follow the MCH Policy #16.02.150 - Newborn Identification and MCH Policy #16.02.130 - Hugs Newborn Protection System.
4. Hospital at Home patients will have documentation of PERS (Personal Emergency Response System) check completed daily.

c. **Falls Interventions:**

1. If the patient is on falls precautions document the fall precautions interventions used and the effectiveness of those interventions in the daily care section of the flow sheet each shift or with each change in RN caregiver. Refer to Policy # 03.58.000 Fall Prevention.

d. **Nutrition- Meal Intake** - Document if patient is a full, partial or independent feed in the daily cares flow sheet. Document % of meal consumed. Refer to Policy #18.08.000 - Nutrition Assessment Documentation and Follow-Up Nutrition Care.

e. **Activity** -

1. Document the activity as per order in the daily cares flow sheet every shift
2. If the patient is unable to turn themselves, document turning, and repositioning every 2 hours or more frequently if indicated by Braden score for skin breakdown. Document patient position with turns (right, left, supine, prone).
3. Document patient ambulation and out of bed with tolerance and time. Document distance ambulated in single walk.
4. Document activity utilizing the Mobility Tool: Activity Measure (AM-PAC) daily by 10 am.
5. Anti-thromboembolism devices/intervention: Document once per shift

f. **Hygiene** - Oral and Personal Care (including peri and foley care) -document if patient is independent, partial assist or complete care. Documented at least once per shift and every time care completed.

g. **Family/Significant other:** Once per shift document communication with the patient and family and frequency of time spent with family. Adult ICU document family rooming in. NICU/Pediatrics: documentation of rooming in and visitation of family members should include details of who visits and how long.

h. **Family Interactions:** Skin to Skin (STS) must be documented following the Baby Friendly Standards of Care, MCH Policy #16.02.200 – Skin to Skin Contact in the Neonatal Period and MCH Policy #16.02.180 - Couplet Care.

i. In the NICU, alarm limits and emergency equipment check must be documented once a shift.

j. For infants on Mother Baby, emergency equipment must be checked and documented each shift. Nursery must check and document alarm limits with any follow up (when monitored).

k. In Labor and Delivery emergency equipment must be documented as checked once a shift.

XI. Education Activity

a. Learning assessments are completed once per admission.

b. Address education each shift and document the learner, readiness, method and response in the Education Activity once per shift. Any patient that is unable to be educated and has no family to educate the nurse can document "unable to teach at this time" in the last three columns of the patient education flow sheet.

c. Teaching titles are available for diagnosis/pathways, ICOUGH, etc. and when added will include educational components needed to be documented.

d. Teachback is a preferred method for patient education due to greater retention rates and allows for validation of an accurate understanding of education material.

e. All medication teaching should be documented. Including first dose and discharge medications.

f. All Postoperative patients will have ICOUGH education and documentation.

g. All patients on isolation precautions need documentation of education about the precautions they are on.

h. Education, including personal hand hygiene and symptoms of urinary tract infection is provided to patients with a urinary catheter.

i. Use of an in-person/ipad interpreter for patient education must be documented for non-English speaking patients.

XII. Nursing Progress Notes

a. **Plan of care (POC)/RN shift note**
   1. Care plan is initiated on admission.
   2. All focused active problems should have an outcome addressed each shift and with change of caregiver (unless care provided is less than < 4 hours.) All POC problems that are worsening must have a comment or note written.
   3. Interdisciplinary healthcare team members, within the scope of their practice, , collaborate with physicians, LIPs, patient, families, and each other in determining the patient's plan of care and in meeting the needs established for patients and families.

b. Once a note is initiated by the nurse it can be added to throughout the shift. To add an addendum after that shift, the nurse will append their previous progress note.
   1. **Medical/Surgical:** Patients on telemetry must have a care plan titled "Cardiac Monitoring". The Nurse must also complete a POC shift note on Cardiac Monitoring with each change in caregiver. The nurse may use the "Cardiac Monitoring" smart text.
   2. **EKG strip documentation: For the patient on Telemetry/Continuous Cardiac Monitoring**
      i. The RN caregiver during each shift runs a rhythm strip using Airstrip (or printing a strip if airstrip is not available). The rhythm strip is evaluated for: heart rate, rhythm and intervals for PR, QRS QT and QTc. This information, including identification of the underlying cardiac rhythm, is documented in Airstrip and saved in the EHR.
      ii. Any patient with a new change in rhythm (i.e. development of atrial fibrillation or heart block or change in QRS morphology) needs a documented snippet in the EHR or a printed strip and a twelve (12) lead EKG documenting the rhythm. The licensed independent

practitioner (LIP) caring for the patient must be notified of these changes.

iii. The RN caregiver reviews the alarm history every four (4) hours and clears artifact alarms from the history every shift. Multiples of the same rhythm, unless the dysrhythmias are 2nd/3rd degree AVB or true VT>2, may be deleted if at least two (2) samples are saved in history. Multiples of 2nd/3rd degree AVB and true VT>2 should not be deleted from alarm history until reviewed with the patient's medical team.

3. **Labor and Delivery PACU:** follow the PACU telemetry monitoring standards. Labor and Delivery patients receiving antihypertensive IV follow specific medication guideline monitoring standards.
4. **Patients on Falls Precautions, Restraints, Cardiac Monitoring (medical / surgical / Pediatrics), Skin or with active pain** should have these problems all listed as active care plans and these care plans are reviewed with each change in caregiver

c. Event Note- Event notes are used in conjunction with nursing progress notes. An event note is written when an unusual event occurs (transfusion reaction, patient fall, leaves AMA, etc.) The nurse should adjust the nursing plan of care (or add the new problem) in the POC section so the new plan is communicated to the next nurse.

XIII. Discharge Navigator:

a. This is the nursing documentation of patient's status at discharge, information the patient/family was educated on and referral information for any agency or services. A copy of the complete document is given to patient at discharge. The patient signs the signature page of the after visit summary (AVS) and that is placed in the paper chart.

b. Complete this form for **all** patients including discharge instructions, whether discharged to home or a facility.

c. Patients going home need a copy of the AVS only.

d. Patients going to a facility need an AVS, discharge summary, paper page 1, Provider discharge summary and the DC transfer report sent with the patient

e. Patients receiving services from a visiting nurse (VNA) receive the AVS, care transitions transfer document, Provider Discharge Summary and appropriate information pertinent to the patient's home services from the transfer report.

f. It will still be the **RNs responsibility to fax a copy to the referred agencies** when case management is unable to fax it.

g. The patient will receive the completed document at discharge. Ensure that all information is appropriate. (Please document in a progress note). information that is sensitive or is not appropriate for the patient to receive

h. Case managers will document in their notes any **follow up services** arranged.

i. For newborns being discharged please see MCH Policy #16.02.150 - Newborn Identification.

Discharge Documentation Table

Patient Going Home	Patient Going Home with services	Patient going to another facility (SNF, LTAC, Hospital)
AVS (give to patient)	AVS(print and fax)	AVS (print and send with patient)
	Care Transitions Transfer Document (print and fax to agency, send additional copy with patient)	Care Transitions Transfer Document (print & send with patient

XIV. ADDITIONAL Documentation:

a. Pre Procedure checklist

b. Rapid Response Team (RRT) notes, PICC line insertion notes, Code Blue and Surgical Airway are part of nursing documentation.

c. Sedation Narrator (completed with procedures that require moderate sedation) refer to *Policy #03.11.010 - Adult Moderate Sedation / Analgesia*) or *#03.11.020 Pediatric Moderate Sedation and Analgesia.*

d. Pre-op/pre-procedure navigator completed when the patient is going to the operating room or procedural area (IR, Endoscopy etc.)

e. Transfer navigator- completed when a patient is transferring levels of care or change in location. A transfer note is written within the navigator and the "transfer note" smart text may be used. (Refer to *Policy #03.28.000 - Internal Patient Transfers*).

f. Admission navigator completed when a patient is admitted inpatient within 24 hours (refer to *Policy #03.26.000 - Admission*)

g. Time out flow sheet- documented when a procedure is initiated without use of sedation (refer to *Policy #03.60.000 – Universal Protocol (Time Out)* for more information).

h. For circumcisions: Non-OR Universal Protocol flow sheet will be completed.

i. Labor and Delivery:
- Intake, Triage/Admission Navigator completed following the MCH *Policy #16.01.260 - Triage Placement of Obstetrical Patients*
- Triage Navigator completed following the MCH Policy according to the C-Section Navigator or Operative Record completed during surgery
- PACU Navigator completed follow MCH *Policy #16.01.261 - Transfer of Obstetrical Patients*
- Delivery Summary completed just prior to the Labor and Delivery patient transferring to Mother Baby unit. Delivery Summary is completed by the RN and Provider.
- Newborn documentation following the MCH *Policy #16.02.080 - Newborn Care At and Following Delivery*, MCH *Policy #16.02.140 - Neonatal Hypoglycemia Screening*, and MCH *Policy #16.07.180 – Management of Early Onset Sepsis in the Newborn*.

Responsibility:
RN

Forms:
EHR

Other Related Policies:
03.03.000 Restraint Use or Seclusion for Non-Behavioral Health Units
03.11.010 Adult Moderate Sedation / Analgesia
03.11.020 Pediatric Moderate Sedation and Analgesia
03.26.000 Admission
03.28.000 Internal Patient Transfers
03.33.000 Patient Identification
03.36.000 Pain Assessment and Management
03.43.000 Screening, Assessment, and Management of Patients at Risk for Suicide
03.58.000 Fall Prevention
03.60.000 Universal Protocol (Time Out)
03.61.000 Critical Alert Value and Call Back
03.77.000 Patient Handoff Standardization
10.01.080 Certified Nursing Assistant (CNA) Patient Care Documentation Guideline
03.99.060 Patient Safety Observation
10.04.050 Peripheral Intravenous (PIV) Insertion, Care, Maitenance, and IV Therapy
10.04.070 Central Line Management
16.01.105 Fetal Monitoring
16.01.200 Anti-Shackling for Incarcerated Patients - Obstetrics
16.01.210 Maternal Immediate and Postpartum Care
16.01.260 Triage Placement of Obstetrical Patients
16.01.261 Transfer of Obstetrical Patients
16.02.080 Newborn Care At and Following Delivery
16.02.130 Hugs Newborn Protection System
16.02.140 Neonatal Hypoglycemia Screening
16.02.150 Newborn Identification
16.02.180 Couplet Care
16.02.200 Skin to Skin Contact in the Neonatal Period
16.07.180 Management of Early Onset Sepsis in the Newborn
18.08.000 Nutrition Assessment Documentation and Follow-Up Nutrition Care

Initiated by:
Nursing

Reviewed by:
Information Technology Services

Medication Administration

Policy #:	10.03.010
Issued:	December 1996
Reviewed/ Revised:	6/2009, 5/2010, 8/2010, 8/2013, 5/2014, 1/2016, 3/2017, 6/2017, 11/2017, 1/2018, 10/2019, 12/2019, 10/2020, 3/2022, 11/2022, 1/2023, 3/2023, 7/2023, 10/2023, 4/2024, 10/2024, 10/2025
Section:	Nursing

Purpose:

To ensure that administration of medication(s) by all authorized healthcare personnel across [redacted] is done accurately and safely. Please refer to *Policy # 03.33.000 Patient Identification and Alert Bands* for patient identification process for medication administration.

Policy Statement:

1. Administration of medication is performed by authorized personnel only within their scope of practice. Refer to Policy # 03.99.080/13.01.060 Authorization to Administer Medications.
    a. Specific to Nursing students:
        i. Student nurses affiliated with [redacted] may administer medications under the direct supervision of a nursing instructor licensed in the Commonwealth of Massachusetts.
        ii. Senior nursing students affiliating for independent learning experiences may administer medications under the direct supervision of the RN preceptor.
        iii. Nursing students are not allowed to administer intravenous (IV) push medications either manually or via IV infusion pumps.

2. Authorized personnel may only administer medications from containers that are clearly marked with the name of the drug, concentration, dose, route, and expiration date. Outdated drugs must not be given unless granted an extension of the shelf-life by the Food and Drug Administration (FDA). Patients may not take their own medications unless ordered by a physician, verified by pharmacist, and per policy.

3. RN/ LPN may only administer medications mixed by themselves or pharmacy except in an emergency.

4. Nurses may administer medications as part of a nurse driven protocol as approved by the medical and nursing executive committees.

5. Refer to the [redacted] medication guidelines for drug-specific information and for information on medications that require cardiac or hemodynamic monitoring.

6. Any patient requiring IV drug therapy which necessitates continuous cardiac and/or hemodynamic monitoring will be monitored in a critical care area, step down unit, labor and delivery unit, or other units that can provide continuous monitoring as required except in an emergency situation.

7. IV chemotherapy agents may only be administered by RNs who have demonstrated competency in this area.

8. Signed and held medication orders are to be released after the patient arrives on the unit where the RN wants to access the patient's automated dispensing system (ADS) profile unless there is an immediate patient need before the patient arrives to that unit then the RN can release individual medication orders.

9. IV Medication Infusions:
    a. Continuous and secondary medications delivered on a smart infusion pump (e.g., Alaris, Braun) that has an available guardrail will be administered using the appropriate Smart Pump Guardrail technology.
    b. Continuous infusions are hung as a mainline when there is no need for a primary infusion of a continuous IV fluid per appropriate medication reference (i.e., [redacted] medication guidelines, Micromedex, Pediatric Injectable Drugs aka Teddy Bear Book, Neofax).
    c. Continuous IV fluid needs an order specifying the fluid, rate, and duration.
    d. With an order for continuous fluid therapy, the medication and IV fluid therapy solution that is ordered must be compatible and the continuous medication line is accessed at the port closest to the patient.
    e. [redacted] *Policy #13.03.013 Hazardous Drug Handling* identifies hazardous medications that must be administered via a Closed System Transfer Device (CSTD), in accordance with USP 800 standards.
    f. Weight-based continuous infusions may require a dosing weight.
        i. Dosing weight is used to avoid the situation of multiple body weights in medication orders when actual weight is used, since actual weight may change during a hospital admission.
        ii. Dosing weight is defined as the weight most closely reflecting the patient's dry, actual body weight.
        iii. Any licensed independent practitioner, nurse, or pharmacist may enter a dosing weight in the electronic health record (EHR). In adult intensive care units (ICUs), the nurse will assign a dosing weight on admission to the ICU.
        iv. During a hospitalization, if the current actual weight changes by >10% of the dosing weight, the patient care team should update the dosing weight and adjust medication orders, as clinically appropriate.

10. A Normal Saline Flush that is used to maintain IV catheter patency is considered a medical device and does not require a physician's order

11. Nurses may administer medications via the following routes:
    a. Oral/enteral
    b. Sublingual
    c. Inhalation
    d. Dermato-mucosal
    e. Intradermal (with training)
    f. Epidural (according to specific protocol)
    g. Peritoneal (according to specific protocol)
    h. Intravesicular (according to specific protocol)
    i. Parenteral (IV, intramuscular [IM], subcutaneous [SQ])
    j. Intraosseous (with training)
    k. Rectal

l. Intranasal
m. Umbilical vein and Umbilical artery (according to specific protocol)
n. Transdermal

12. Administering medications via an enteral tube (nasogastric tube [NGT], orogastric tube [OGT], gastrostomy tube [GT])
    a. Prepare medications.
        i. Pills: Using a pill crusher, crush each pill one at a time in separate pouches. Keep the package label with the medication in the pouch for future comparison of information and take the separate pouches to the patient's bedside.
        ii. Liquids: When pouring liquid medications from a multi-dose bottle, pour the liquid in a medicine cup(s) and read the amount of medication at the bottom of the meniscus at eye level. Label the medicine cup(s) with a medication label including patient name, medication, dose, date, and time before taking to the patient's bedside.
    b. Administering the medications to the patient.
        i. At the bedside, perform the third check of the medication label against the medication administration record (MAR) after identifying the patient using bar code scanning.
        ii. Dissolve each crushed medication with purified water or other recommended liquid in a clean cup or container, keeping each medication separate from the others.
        iii. After verifying proper tube placement, flush the gastric tube with at least 15 ml of purified water.
        iv. Note: Purified water is potable tap water, treated in a water processing plant to remove impurities and contaminants. It is not necessary to use sterile water or saline to administer medications or to flush an enteral tube.
        v. Administer the medication using a clean enteral syringe.
        vi. Flush the enteral tube again with at least 15 ml of purified water, taking into consideration the patient's volume status.
        vii. Repeat the procedure with the next medication, if prescribed.
        viii. Note: Don't mix together different medications intended for administration through the enteral tube because of the risks for physical and chemical incompatibilities, tube obstruction, and altered therapeutic drug responses.
        ix. Flush the enteral tube one final time with at least 15 ml of purified water.

13. Nurses may not administer medications via the following routes:
    a. Intracardiac
    b. Intra-articular
    c. Intrasynovial
    d. Intra-arterial (except nurses instructed in specific administration procedure)
    e. Intrathecal
    f. Intraplura

14. Standard Medication Administration Times
    a. Medications should be administered according to standard medication administration times specified in the MAR.
    b. Unless delayed for diagnostic testing, medications should be given no earlier than 30 minutes before the scheduled time or no later than 30 minutes after the scheduled time.

c. The MAR will create scheduled times for administration of medications. The nurse must check scheduled times for appropriateness of scheduled intervals.
d. The nurse has the discretion to schedule/reschedule medications to meet specific patient needs (i.e., Operating Room [OR], diagnostic tests, "nothing by mouth" [NPO] etc.). The nurse can reschedule a future medication dose once and then must message pharmacy to adjust the schedule of subsequent doses.
e. Whenever possible, medications should be scheduled to avoid waking the patient.
f. Cardiac medications will default to specific times; consult with team prior to changing these times.

15. Documentation of Medication Administration
    a. Medications are documented at "Point of Care" in the MAR
    b. Documentation of medication administration must include the strength, dose, route, date, and time of administration.
    c. IV continuous infusion solutions are documented as rate/dose verified at RN Handoff/change in caregiver at the beginning and the end of the shift and with any change in dose.
    d. One time IV medications are documented at "Point of Care"
    e. IV continuous infusion medications (medication drips infusing for 4 hours or longer), are documented at the beginning and end of the shift and with any change in dose.
    f. The IV volume is documented in the Intake and Output flow sheet according to patient condition and unit standard.
    g. Titratable IVCI medications dose changes are documented on the flow sheet (as specified on the MAR)
    h. Red shading in the due time on the MAR indicate that the medication was not administered within the 30 minutes of the scheduled time (see statement under Standard Medication Administration Times).
    i. If a medication is unable to be administered due to clinical circumstances, the nurse should reschedule the medication one time and send a message to pharmacy to adjust the schedule (if applicable) to ensure that the next nurse caring for the patient can properly document medication administration.
    j. If a dose is not going to be administered due to clinical circumstances the medication should be marked as not given.
    k. Assess and document the location on the patient of all transdermal patches during RN handoff between caregivers

16. Medication Errors
    a. All medication errors (e.g., incorrect dose or solution, time, route, patient, drug or medications omitted) must be reported to the physician and the nurse manager/nursing supervisor and an Incident/Medication Safety form is to be completed on line.
    b. If an error has been made with IV medication preparation, send the IV solution to Risk Management.
    c. If an error is associated with the pump, sequester pump, label with appropriate label, return to Clinical Engineering and write an Incident/Safety report.

17. Adverse/Allergic Reactions
    a. All patients admitted with documented medication allergies will have a red color-coded wristband placed on the patient on admission.

b. When a drug reaction or drug allergy is suspected, the physician, nurse manager/nursing supervisor and pharmacist will be notified immediately and an Incident/Medication Safety form is to be completed on-line.
c. When a drug reaction or drug allergy is suspected, the nurse will place a red color-coded wristband (pictured below) on the patient and update the patient's allergies in the EHR.



d. When available, the drug container (package or vial) will be saved and sent to Pharmacy.
e. The nurse will document the symptoms of the suspected drug reaction or allergy in the patients' progress notes.
f. Adverse drug reactions or allergies must be documented in all the appropriate places in the EHR. Pharmacy and physician are to be notified.

18. EHR Down Time:
    a. During EHR downtime a printed report is available for all units to view the medications administered for the past 24 hours and medications due to be administered in the next 24 hours.
    b. This report can be used for documentation during the downtime period. This is not a permanent record.
    c. When downtime has ended, the nurse will enter all medication administration occurrences on the MAR. The EHR application will record these medication administrations as having occurred during downtime.
    d. Please refer to [redacted] Downtime Procedures outlined on the internal [redacted] website.
        i. www.internal[redacted].org
        ii. Hang on the Help link found on the top screen in the Blue Bar
        iii. Select Downtime Procedures

Application:
All patients receiving medications

Exceptions:
Hospital at Home Patients

1. Medications are administered only by those authorized to do so by the nature of their license/certification and scope of practice. Virtual RNs are present via video for all medication administrations. The use of the "5 Rights of Medication Administration" are utilized in place of barcode scanning for Hospital at Home patients.

2. [redacted] endorses the Massachusetts's Board of Registration in Nursing (BORN) safety standard of the "5 Rights of Medication Administration*" and the "3 checks*" of the medication. Prior to administration of any medication the administering nurse should know why the patient is receiving that medication and knowledge of that medication's actions, dosage, adverse effects, route of administration, compatibilities and specific monitoring parameters is required. It is the responsibility of the nurse administering the medication to consult available resources if unfamiliar with the above.
    a. Medications are administered only by those authorized to do so by the nature of their license/certification and scope of practice. Virtual RNs are present via video for all

medication administrations. The use of the "5 Rights of Medication Administration" are utilized in place of barcode scanning for Hospital at Home patients.

b. [redacted] endorses the Massachusetts's BORN safety standard of the "5 Rights of Medication Administration*" and the "3 checks*" of the medication. Prior to administration of any medication the administering nurse should know why the patient is receiving that medication and knowledge of that medication's actions, dosage, adverse effects, route of administration, compatibilities and specific monitoring parameters is required. It is the responsibility of the nurse administering the medication to consult available resources if unfamiliar with the above.
    i. The nurse administering the medication will review the medication order. The review process includes:
        1. Checking the patient's EHR profile for presence and accuracy of the following information; Patient's name, medical record number (MRN), weight in Kilograms and allergies
        2. Checking that the medication order is within the dose range for the patient
        3. Checking that the patient, medication, dose, route and frequency are correct.
        4. Check expiration date of the drug.
c. Medication effects are monitored on a patient-specific basis.
d. Use of patient's own medications are addressed in all medication reconciliations.
e. IV Medications are verified utilizing the 5 Rights of Medication Administration witnessed by the Virtual RN and the Primary In Home Clinician (PIHC).

3. Medications that require Independent Double Checks will be completed by Two Virtual RNs; Virtual RN and PIHC or Virtual RN and Patient and or Designated Patient Representative. After the 5 rights of medication administration and IV considerations are confirmed, the nurse documents the administration of the medication and indicates the name of the co-signer in the co-signature box on the MAR.

Clinical Stabilization Services (CSS) at Brockton Behavioral Health Center

1. Patient's participating in the [redacted] Brockton CSS program, as part of a residential program, utilize their own medications when admitted into the CSS program. Refer to Policy # 03.16.030 Use, Storage and Disposition of Patient-Supplied Medication/ Alternative Therapies

2. While participating in the [redacted] Brockton CSS Program, patient's own medications are administered only by those authorized to do so by the nature of their license/certification and scope of practice. In lieu of medication barcodes on patient's own medications, the use of the "5 Rights of Medication Administration" and "3 checks" are utilized in place of barcode scanning for CSS patients.
    a. [redacted] endorses the Massachusetts's BORN safety standard of the "5 Rights of Medication Administration*" and the "3 checks*" of the medication. Prior to administration of any medication the administering nurse should know why the patient is receiving that medication and knowledge of that medication's actions, dosage, adverse effects, route of administration, compatibilities and specific monitoring parameters is required. It is the responsibility of the nurse administering the medication to consult available resources if unfamiliar with the above.
    b. Medication administration process:
        i. Patient gives the nurse their medication bottles upon admission

ii. Licensed independent provider reviews medications and places order in EHR for medications that will be distributed during the patient's admission at CSS
iii. Medications that will be ordered and administered at CSS are then given to the pharmacist to be verified. Once verified, a "verified" sticker will be placed on the medication bottle. Medications that are not ordered will follow the process of patient home medication storage.
iv. The nurse will review the current order and the MAR in front of the patient:
    1. Identify patient using the two-patient identifier process
    2. Check for allergies
    3. The nurse will scan the Patient ID wristband for all CSS patients.
    4. The nurse will then compare medication to MAR for right patient, right medication, right dose, right route and right time/frequency

3. In the event patients cannot utilize their own medications while admitted into the [redacted] Brockton CSS Program, they are not considered as part of this exclusion criteria and will follow medication administration guidelines outlined below.

Equipment:
Computer with EHR and barcode scanner

Procedure:
[redacted] endorses the Massachusetts's BORN safety standard of the "5 Rights of Medication Administration*" and the "3 checks*" of the medication.

Prior to administration of any medication the administering nurse should know why the patient is receiving that medication and knowledge of that medication's actions, dosage, adverse effects, route of administration, compatibilities and specific monitoring parameters is required. It is the responsibility of the nurse administering the medication to consult available resources if unfamiliar with the above.

1. The nurse administering the medication will review the medication order. The review process includes:
    a. Checking the patient's EHR profile for presence and accuracy of the following information; Patient's name, MRN, weight in Kilograms and allergies
    b. Checking that the medication order is within the dose range for the patient
    c. Obtaining the medication and prepare as necessary (checking that the patient, medication, dose, route, and frequency are correct).
    d. Check expiration date of the drug.

2. The nurse who is removing medication from the ADC must transport this medication inside a medication cup or bag with the original labeling intact or labeled with the appropriate medication sticker.

3. The nurse who is drawing up medications from a vial or bottle will:
    a. Visually inspect the vial or bottle to determine clarity and concentration of medication.
    b. The ADC Verify Calc Icon may be used to calculate the volume to remove
    c. Draw up medication and verify dose and volume to be administered
    d. The caps on the vials are not intended to maintain sterility of the diaphragm. Please disinfect the diaphragm after removing the cap with alcohol swab and allow it to dry before inserting any device into the vial to access medication.

e. Label any syringe containing medication with a medication label which includes patient's name, drug, dose and nurse initials
f. Mulit-dose- multi-patient drugs will be drawn up and scanned and pended in the medication room.
g. Multi-dose patient medications at [redacted] will be drawn up in the med room and a labeled with ADC label for patient and medication identification. However, if printer not working, medication will be scanned and pended in med room.
h. Multi-dose single-patient medications can be drawn up in the medication room or at bedside but the vial needs to be brought to patient room to be scanned.
i. Narcotic wastes will be documented in the ADC.

4. Prior to medication administration the nurse will assess physiological parameters (when applicable)

5. If physiological parameters are outside recommended parameters or the parameters written in the medication order/order set, the nurse will:
   a. Contact the physician prior to administration of the medication
   b. Confirm whether the medication should be administered or held
   c. Document

6. The nurse will review the current order and the MAR at the patient's bedside:
   a. Identify patient using the two patient identifier process
   b. Check for allergies
   c. The nurse will scan barcode on the patient's ID wristband which is on the patient.
   d. The nurse will scan medication barcode
   e. Compare medication to MAR for right patient, right medication, right dose, right route and right time/frequency

      Note:

      i. If a patient regularly uses another name that is different from their legal name, the name regularly used may appear in the medical record in quotes and ALL CAPS next to the legal name (i.e.: Optime, Francine "PETER"; Johnson, Donald "DONNA"; Smith, Mary "REBECCA"; Lopez, Michael "JAMES").
      ii. A patient's legal name will be typed on their patient identification band. If the names on the medical record/MAR, the identification band, and the medication match, except for the regularly used name, then there is a match.
      iii. A patient's regularly used name (the portion in caps and quotes in the medical record) is not considered part of the legal name and therefore only the legal name should be used for the purposes of identifying the patient for medication administration.
      iv. If necessary, explain to the patient that effort will be made to address them by their regularly used name, but that their legal name must be used in the clinical setting for identity verification purposes related to the administration of medication for patient safety and policy compliance.

7. The nurse will remain with the patient until the medication is taken. Medications are not left at the bedside. For pediatric and neonatal patients, parents may give oral medications in the RN or licensed practical nurse's (LPN's) presence.

8. The MAR administration form will open and the nurse verifies that appropriate dose, time, and date are documented and verifies that the given action is selected.

9. MAR HOLD:
    a. **For PRE-OP AREAS**:
        i. Medications that are on MAR hold should not be given. Medications that need to be given in pre-op MUST be re-ordered by the physician in a pre-op phase of care. Exceptions are medications that do not go on MARhold. These non-MARhold medications may be given when due and do not need to be in a phase of care order.
    b. **For PACU AREAS**:
        i. Medications that are on MAR hold should not be given. The MD/DO must perform a medication reconciliation to remove medications from MAR hold. All medications administered in PACU MUST be written in a PACU or PACU & Post-op phase of care. Exceptions are medications that do not go on MAR hold. These non-MAR hold medications may be given when due and do not need to be in a phase of care order.
    c. **For INPATIENT AREAS**:
        i. When an inpatient transfers to the integrated procedural platform (IPP) area and is documented either as In Holding or In Room, all current medications, EXCEPT for the following:
            1. Flolan
            2. Lantus insulin
            3. Total parenteral nutrition (TPN)
            4. IV Heparin drip
            5. Epidurals
            6. Insulin pumps
            7. Bupivacaine continuous nerve block
            8. IV antibiotics
        ii. When a patient transfers from the PACU BACK to an inpatient bed, page the care team to complete their medication reconciliation in order to release MAR HOLD. When the MD/DO does Medication Reconciliation, the MAR Hold will end.
        iii. The nurse must address those meds that were held during the time of MAR HOLD. If time dependent medications on MAR hold are due or past due before med reconciliation (example-cardiac medications) notify the licensed independent practitioner (LIP) to discuss whether to continue MAR hold or give medication.
        iv. It is the responsibility of the receiving floor nurse to review MAR Hold meds and address missed doses. Once the action is taken on the dose missed and it is marked as given or not given, the medication will drop from the MAR Hold tab. The nurse should consider medications that might have been given in the Operating Room (OR) one time (like IV antibiotic) and the time of next dose due when taking action.

10. If the patient refuses the medication, the nurse will return the unopened/unused medication to the medication dispensing system and document on the MAR as "not given".

11. The following medications are considered to be high risk medications and require an **independent double check*** by a second nurse, after the initial review process by the nurse administrating the medication has been completed.

a. An independent double check is required with initiation, dose/rate/bag change, and RN hand off of the following medications:
    i. Patient Controlled Analgesia (PCA)/Epidurals: **independent double check** documented in the MAR
    ii. Chemotherapy: **independent double check** documented in the MAR
    iii. Unfractionated Heparin Drip: **independent double check** documented in the MAR; also required for bolus doses
    iv. TPN: **independent double check** documented in the MAR
    v. Epoprostenol: **independent double check** documented in the MAR with each cartridge change
    vi. Magnesium Sulfate IV Obstetrics and Magnesium Sulfate IV for Fetal Neuroprotection use requires an **independent double check**
    vii. Select continuous infusions Neonatal ICU (NICU) medications: Midazolam, morphine, fentanyl, dexmedetomidine, insulin and vecuronium requires an **independent double check**

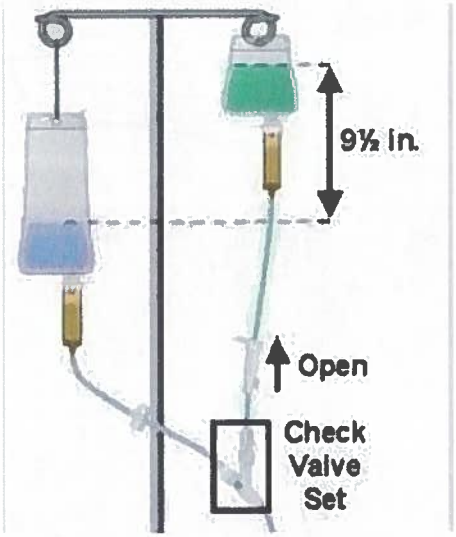
12. In the event of an emergency or moderate sedation procedure, the nurse will document medications administered during that event on the appropriate documentation tool.

13. During instances in which a nurse is unable to use the computer by the bedside, the nurse will document the actual administration of a medication no later than 30 minutes after the scheduled time (see policy statement # 10).

14. For **continuous medication** infusions being administered via a smart pump (e.g. Alaris) with the guardrails:
    a. [redacted]guideline is to program the volume to be infused (VTBI) on initiation and bag changing for 20% less than the total bag volume to prevent the IV infusion from running dry and allows time for the nurse to obtain a replacement bag.
    b. For titratable continuous infusion medications, refer to *Policy #14.02.100 Titratable Continuous Infusion Medication*.
    c. When administering an IV medication with the Alaris Guardrail, if an alert appears (indicating the dose is higher or lower then recommended dosing) the RN should investigate the cause of the alert then review the orders to ensure:
    d. The pump settings and concentration of drug match the order
    e. The medication math calculations and patient weight used in the order are correct as compared to our IV medication guidelines (verified through an independent double check)
    f. If all of the pump settings match the order the nurse should collaborate with the ordering prescriber or pharmacist to ensure that the order is correct
    g. Alerts should only be bypassed when these steps have been taken and the nurse understands the rationale for administering a higher or lower dose then usually recommended (i.e. the patient might weigh more or less than average or have a tolerance to the medication)

15. For intermittent medications administered via secondary line (piggyback):
    a. Intermittent medications, such as antibiotics, infusing through an Alaris channel that holds an IV bag, upon completion, must have a 20 ml (Pedi and Adult) flush of compatible solution (or appropriate neonatal volume flush) infused through the same line to flush remaining antibiotic for a time period less than 1 hour.
    b. If the secondary container is glass or semi-rigid, open the vent on the drip chamber

c. If the patient needs a continuous rate to keep vein open (KVO), an order should be obtained
d. **If medication administered via an Alaris Pump**: (First option)
    i. For patients with a primary infusion: Set the secondary line rate and VTBI on the infusion pump, open secondary set roller clamp, and start Alaris pump.
    ii. If the patient does not have a primary infusion ordered, set the pump to run the primary and secondary medication line at the same rate but set the primary line volume to be infused at 20ml or appropriate neonatal/pediatric KVO.
e. **If medication administered via Gravity:** (Not recommended except when no other option).
    i. Open the secondary roller clamp and adjust the clamp on the primary set to the appropriate rate.



The primary IV bag is positioned below the secondary IV Bag

16. Set up of the intermittent medication via a secondary line (piggyback) is pictured below.

17. Intermittent medications, such as antibiotics, infusing through a smart pump channel that holds a syringe, upon completion must have a 2 ml flush of compatible solution infused through the same line to flush remaining antibiotic for a time period less than 1 hour

18. For **neonates** who have a Pediatric Total Fluid Order, two RN's will independently check the Total Fluid Order against the rate on the Alaris pump and document on the MAR with a "Rate/Dose Verify".

***An Independent double check** means that two nurses will check **independently** of one another the following factors (but are not limited to these factors)

1. **Right Patient** identification using two identifiers per policy
2. **Right Drug** (check against MAR and physician order)
3. **Right Dose,** including mathematic calculations using appropriate factors (e.g. mg/kg, mg/m^2, etc) and that is within the range for the patient population
4. **Right Route** of administration
5. **Right Time**/Frequency

When administrating IV medications that require an **Independent double check,** in addition to the 5 Rights of Medication Administration, ensure:

1. Proper Compatibility/Concentration/Dilution
2. Appropriate pump and right rate

After the 5 rights of medication administration and IV considerations are confirmed, the nurse documents the administration of the medication and indicates the name of the co-signer in the co-signature box on the MAR

***The co-signer will document in the MAR that they have performed the independent double check**

Responsibility:

All healthcare personnel authorized to administer medications by their scope of practice

Clinical Information:

1. "3 Checks" of medication label: The Massachusetts BORN reminds nurses to check a label 3 times before administering any medication.
    a. Check the medication label when taking the medication out of the ADC/stored area.
    b. Check the medication label when scanning at the bedside but before pouring, opening packaging or accessing the medication for administration.
    c. Check the medication label before discarding the packaging /hanging medication and administering it to the patient

2. Practice is to bring a computer, along with labeled medications, the original medication package, or the medication still in the original package to the patient's bedside when administrating medications.

3. Point of care means the actual time a nurse performs an action. In this instance it means when a medication is administered.

4. In the instance that the appropriate medication pump is not available and the RN needs to administer a medication infusion, they should prioritize the pumps available on the unit/floor so that every IV medication is delivered on the appropriate pump.

5. In the event that there is a problem scanning the patient barcode, medication barcode or no scanner is available the nurse may manually chart the administration and notify the appropriate departments to rectify the issue.

6. For more clinical information on intermittent medication administration via a secondary line (piggyback) refer to *Policy #10.04.050 Peripheral Intravenous (PIV) Insertion, Care, Maintenance and IV Therapy.*

7. For more clinical information on IV push medication administration refer individual medication recommendation in Lexi-Comp or Up to Date.

8. An incident or safety report is required for lost/unaccounted narcotic, found narcotic or inventory count more or less than expected.

Forms:
MAR

Other Related Policies/Protocols/Guidelines:
03.33.000 Patient Identification and Alert Bands
03.65.000 Medication Ordering
10.01.040 Nursing Student Clinical Placement Policy
10.04.050 Peripheral Intravenous (PIV) Insertion, Care, Maintenance and IV Therapy
10.04.060 Intravenous Therapy (retired and merged with 10.04.050)
13.08.020 High Alert Medications
13.03.013 Hazardous Drug Handling
14.02.100 Titratable Continuous Infusion Medication Policy

References:

1. Hadaway, L.C. (2004.) Delivering multiple medications via back priming. *Nursing,* 3, 24-25 Kaiser Foundation Hospital, Walnut Creek, Administrative Policy and Procedure Manual, Policy Number: 2610, High Alert Medication List. Retrieved 06/2007
2. Levine, S., Cohen, M., Blanchard, N. et al (2001). Guidelines for preventing medications errors in pediatrics. The journal of Pediatric Pharmacy and Therapeutics; 6; 426-442.
3. Massachusetts Board of registration in Nursing, Board Newsletter, Safety Alerts. January 3:1, 2008.
4. Lippincott (2016) Nursing Procedures, Seventh Edition. Wolters Kluwer: Philadelphia http://www.mass.gov/?pageID=eohhs2subtopic&L=5&L0=Home&L1=Provider&L2=Certification%2 C+Licensure%2C+and+Registration&L3=Occupational+and+Professional&L4=Nursing&sid=Eeohh s2 accessed 2.14.08
5. Lippincott (2019). Nasogastric Tube Drug Installation. Nursing Procedures, Eighth Edition. Wolters Kluwer: Philadelphia, p. 521-522.

http://www.ihi.org/IHI/Topics/PatientSafety/MedicationSystems/Changes/IndividualChanges/Conduct+Independent+Double-Checks+on+the+Unit.htm accessed 6.20.07

6. http://www.ismp.org/newsletters/acutecare/articles/20031030.asp accessed 6.20.07
7. http://www.ismp.org/newsletters/acutecare/articles/20030306.asp accessed 6.20.07
8. www.cardinalhealth.com/alaris (Medication Administration), Secondary Infusions: back priming technique, Cardinal Health, 2005. card # SSM1651A
9. www.nursingcenter.com accessed 6.29.16 (Medication Administration)
10. Kienle, P. C. (2020). The Chapter <800> Answer Book. Bethesda, MD: American Society of Health-System Pharmacists
11. Parrish,C. R. (2016). Sterile water and enteral feeding: Fear over logic. Practical Gastroenterology. https://med.virginia.edu/ginutrition/wp-content/uploads/sites/199/2014/06/Parrish-October-16-2.pdf

12. Lynn, P. (2019). Taylor's Clinical Nursing Skills, Fifth Edition. Wolters Kluwer: Philadelphia.
13. The Joint Commission Standards MM.06.01.01

Initiated by:
Nursing

Contributing Departments:
Pharmacy, Quality and Patient Safety

Keywords:
Medication administrations, administer medication, smart infusion pump

[redacted]

Screening, Assessment, and Management of Patients at Risk for Suicide (Non-Inpatient Psychiatry Areas)

Policy #:	03.43.000
Issued:	December 2001
Reviewed/ Revised:	1/2014, 6/2007, 12/2010, 7/2012, 10/2012, 5/2013, 5/2015, 1/2016, 3/2018, 8/2018, 10/2018, 3/2019, 7/2019, 10/2019, 11/2020, 5/2021, 4/2024, 5/2024, 6/2025, 10/2025
Section:	Clinical Care/Patient Rights

Purpose:

To outline the procedures for managing patients who are deemed to be at risk of harming themselves within non-Department of Mental Health (DMH) licensed Inpatient Psychiatry areas. For DMH licensed Inpatient Psychiatry areas, please refer to *Policy # 46.01.011 Inpatient Psychiatry Suicide Precautions.*

Policy Statement:

[redacted]tients who have threatened to, attempted to or have harmed themselves require different levels of observation and specific interventions in order to maintain a safe environment for all.

In accordance with this policy, a Suicide Screening Program (SSP) assessment will be performed on Emergency Department (ED) patients and inpatients by using the Columbia Suicide Severity Rating Scale (Posner, et al., 2011). Patients who screen high risk will immediately have patient safety observation precautions implemented and a STAT physician/licensed independent practitioner (LIP) order is placed for a psychiatric consult.

[redacted] recognizes that the ED and acute inpatient settings, due to the nature of services provided, are not considered to be ligature free/ligature resistant and the environment may pose risk to the patient assessed to be at risk for suicide. Therefore, [redacted] will take measures to provide a safe environment for this population as designated in this policy.

Application:

Except as provided below, all patients who are ≥ 6 years of age who are receiving medical care at [redacted]

Patients who are ≤ 5 years of age will be assessed if they exhibit signs and symptoms of suicidal ideation.

Video monitoring (tele-sit) will not be used for patients at high risk for suicide.

- Video monitoring is acceptable only as a complement to 1:1 monitoring, not as a stand-alone intervention.
- If unsafe for a staff member to be physically in the patient's room, staff must remain outside the room and able to intervene immediately.

Exceptions:

Ambulatory patients will not be routinely screened unless they exhibit signs and symptoms of suicidal ideation.

Definitions:

Suicidal Ideation (SI): When a person has or expresses thoughts of suicide or physical harm to themselves.

Suicide Screening Program (SSP): A standardized procedure in which an instrument or protocol is used to identify individuals who may be at risk for suicide.

Suicide Risk Assessment (SRA): A comprehensive evaluation done by a psychiatric clinician to confirm suspected suicide risk, estimate the danger and decide on a course of treatment

Suicide Scale: The suicide screen tool (Columbia Suicide Severity Rating Scale) and the Risk/Level Intervention Chart will be utilized by staff at [redacted] as identified by the Suicide Prevention Resource Center (see chart below).

LIP: For the purpose of this policy, LIP ("Licensed Independent Practitioner") is a Physician, Advanced Practice Nurse, or Physician Assistant

COLUMBIA-SUICIDE SEVERITY RATING SCALE

Ask questions that are bolded and underlined.	Past month	
Ask Questions 1 and 2	**YES**	**NO**
1) ***Have you wished you were dead or wished you could go to sleep and not wake up?***		
2) ***Have you actually had any thoughts of killing yourself?***		
If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.		
3) ***Have you been thinking about how you might do this?*** E.g. "*I thought about taking an overdose but I never made a specific plan as to when where or how I would actually do it....and I would never go through with it.*"		
4) ***Have you had these thoughts and had some intention of acting on them?*** As opposed to "*I have the thoughts but I definitely will not do anything about them.*"		
5) ***Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan?***		
6) ***Have you ever done anything, started to do anything, or prepared to do anything to end your life?*** Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc.	**Lifetime**	
	Past 3 Months	
If YES, ask: ***Was this within the past three months?***		

Item 1 Behavioral Health Referral at Discharge
Item 2 Behavioral Health Referral at Discharge
Item 3 Behavioral Health Consult (Psychiatric Nurse/Social Worker) and consider Patient Safety Precautions
Item 4 Immediate Notification of Physician and/or Behavioral Health and Patient Safety Precautions
Item 5 Immediate Notification of Physician and/or Behavioral Health and Patient Safety Precautions
Item 6 Over 3 months ago: Behavioral Health Consult (Psychiatric Nurse/Social Worker) and consider Patient Safety Precautions
Item 6 3 months ago or less: Immediate Notification of Physician and/or Behavioral Health and Patient Safety Precautions

Risk/Level Intervention Chart

Risk Level	Risk/Protective Factor	Suicidality	BMC Interventions
High (Red)	Psychiatric disorders with severe symptoms, or acute precipitating event; protective factors not relevant	Potentially lethal suicide attempt or persistent ideation with strong intent or suicide rehearsal	• Suicide/ homicide precautions • Psychiatric consultation • 1:1 patient safety observer (PSO) • Follow up appointment within 7 days of discharge to the Psychiatric Discharge Clinic • Give emergency crisis numbers
Moderate (Orange)	Multiple factors, few protective factors	Suicidal ideation with plan, but no intent or behavior	• Consider: o Suicide/ homicide precautions o Psychiatric consultation o Close observation by video monitoring or 1:2 PSO or q15min safety checks o Follow up within 7 days of discharge to the Psychiatric Discharge Clinic o Development of Crisis Plan • Rescreen using Columbia Suicide Severity Rating Scale if the patient exhibits signs/symptoms of behavioral issues or suicidal ideation • Give emergency crisis numbers
Low (Yellow)	Modifiable risk factors, strong protective factors	Thoughts of death, no plan, intent or behavior	• Rescreen using Columbia Suicide Severity Rating Scale if the patient exhibits signs/symptoms of behavioral issues or suicidal ideation • Give emergency crisis numbers

- This chart is an adaptation of the SAFE-T: Suicide Assessment [2] this chart is intended to represent a range of risk levels and interventions, no actual determinations

Procedure:

Ambulatory Clinics:

If patient exhibits signs and symptoms of suicidal ideation:

1. Do not leave the patient alone
2. Notify your supervisor/patient provider
3. Page appropriate medical emergency team based on location (Proceed-Out Team or 911)
4. Other support contacts include:
    a. Page the ED attending psychiatrist pager for immediate telephone consult (# 7706)
    b. If patient is referred to be seen in the ED, patient needs to be accompanied by BMC staff member (this could be Public Safety)
    c. Public Safety 4-4444
    d. BEST Team 1-800-981- HELP (4357)

Inpatient Units and Emergency Deparment:
The registered nurse (RN) or designee will complete the Columbia Suicide Severity Rating Scale section of the electronic health record (EHR). If the patient is identified as being at high risk to harm themselves or threatens to harm another individual then the RN or designee will notify the LIP immediately and initiate suicide or homicide precautions and place patient on PSO.

Inpatient	Emergency Department
Order set: 1. Suicide/Homicide Precautions 2. Psychiatric consultation 3. 1:1 patient safety observer (PSO) 4. Private room	*Order set:* 1. Suicide/Homicide Precautions 2. Psychiatric consultation 3. 1:1 patient safety observer (PSO)
Implementation: a) The RN or designee will survey the room completely and remove all objects/belongings that pose a risk for self-harm without adversely affecting the patient's medical care. (For guidance please use Attachment A: Suicide Precautions Checklist). (Patient personal items should be secured as per *Policy #03.29.000 - Patient Valuables and Other Belongings*). b) As appropriate the inpatient RN will contact the Public Safety Supervisor to place the patient in protective status as per Policy #03.05.000 - Protected Patients. c) The patient will be placed in a hospital gown as appropriate if identified high risk and being admitted into the hospital. d) The RN will notify Dietary that the dietary status is changed to finger foods only and paper products. *e)* The RN or designee will perform an hourly visual screening of the patient and document the check in the electronic health record (EHR). See *Policy# 03.99.060 / 10.02.090 Patient Safety Observation* f) The PSO who is assigned is to perform constant 1:1 observation of a high-risk suicide patient at all times. For those patients who are ambulating and use the bathroom, the PSO will monitor the patient when they are is in the bathroom. Bathroom door must remain open. g) PSO will monitor visitors as appropriate. h) When the patient is transported in custody by external law enforcement personnel, RN/PSO assigned to the patient MUST complete/implement all of the requirements of this policy. External law enforcement may not be used in lieu of hospital staff and patient care	*Implementation*: a) The RN or designee will remove all objects/belongings that pose a risk for self-harm without adversely affecting the patient's medical care. (For guidance please use Attachment A: Suicide Precautions Checklist). (Patient personal items should be secured as per *Policy #03.29.000 - Patient Valuables and Other Belongings*). b) The patient will be placed in a hospital gown as appropriate. c) RN or designee will only offer finger foods and paper products to the patient. d) The RN or designee will perform an hourly visual screening of the patient and document the check in the electronic health record (EHR). e) The PSO who is assigned is to perform constant observation of a high risk suicide patient. For those patients who are ambulating and use the bathroom, the PSO will monitor the patient when they are in the bathroom. Bathroom door must remain open. f) The PSO will monitor visitors as appropriate. g) When the patient is transported in custody by external law enforcement personnel, RN/PSO assigned to the patient MUST complete/implement all of the requirements of this policy. External law enforcement may not be used in lieu of hospital staff and patient care duties will not be delegated to external law enforcement. For those patients who are ambulating and use the bathroom, the external law enforcement personnel will

Inpatient	Emergency Department
duties will not be delegated to external law enforcement. For those patients who are ambulating and use the bathroom, the external law enforcement personnel will monitor the patient when they are in the bathroom through close monitoring of the time spent in the bathroom and through verbal communication with the patient. i) The patient is restricted to the patient room. In the event that tests or procedures are required, the RN or designee must accompany the patient to all tests and procedures. j) The RN will document a psychosocial assessment every shift for any patient identified as high risk for suicide. k) If any patient exhibits signs/symptoms of behavioral issues or suicidal ideation, the RN will rescreen the patient using the Columbia Suicide Severity Rating Scale	monitor the patient when they are in the bathroom through close monitoring of the time spent in the bathroom and through verbal communication with the patient. h) The patient is restricted to the patient room. In the event that tests or procedures are required, the RN or designee must accompany the patient to all tests and procedures i) The RN will document a psychosocial assessment every shift for any patient identified as high risk for suicide. j) If any patient exhibits signs/symptoms of behavioral issues or suicidal ideation, the RN will rescreen the patient using the Columbia Suicide Severity Rating Scale.

Psychiatric Consultant will:

a) Perform an initial STAT consultation and document recommendation in the consult section concerning continuation or discontinuation of one-to-one observation or initiation of remote video monitoring. This recommendation should also be reported directly to the RN in charge of the patient or to a member of the physician team.
b) If it is determined that the patient no longer requires ongoing 1:1 observation, the Psychiatric Consultant will document in a progress note and communicate to the primary care team (LIP) who can then order the new level of obsveration as appropriate.
c) If the patient is no longer deemed a risk to harm themselves or others by the Psychiatric Consultant/Attending Psychiatrist, the primary care team LIP is to discontinue the Suicide/Homicide Precautions order set.

Discharge:

1. High risk suicide patients will have a scheduled appointment for follow up with Outpatient Behavior Health within 7 days of discharge.
2. When a patient who has been at risk for suicide during the course of hospitalization has been cleared to leave the care of the hospital, the RN, physician or social worker will discuss with the patient about what they might do if suicidal feelings or ideas recur. Upon discharge, the RN/Provider will also provide the following suicide prevention information in the After Visit Summary (AVS) (including a crisis hotline) to the patient and their family for use if feelings of self-harm recur:
   - BEST (Boston Emergency Services Team) - for people living in the greater Boston area. The patient can come to urgent care site at [redacted] or mobile team of clinicians can come to patient's home, school, or elsewhere in the community to conduct evaluation and link to services. **1-800-981-HELP (4357)**
3. National Suicide Prevention Hotline **1-800-273-TALK (8255)**
4. Samaritans **1-877-870-4673**
5. Refer to Policy #03.27.000 – Discharge Planning.

Training:

[redacted] staff members must receive training in the following subjects as appropriate to the duties they perform under this policy. The training must take place before a new staff member is asked to implement the provisions of this policy and shall be repeated periodically, based on the results of quality monitoring activies, as indicated in [redacted]'s training plan.

[redacted] staff members (Nurses and nursing assistants) who screen or monitor patients for suicide must receive training in the following topics as defined by their scope of practice.

a. Identifying patients at risk for suicide
b. Identifying suicidal/escalating behavior
c. Suicide Screening
d. Appropriate provider notification
e. Monitoring of patients at risk for suicide
f. Clinical environment readiness
g. Documentation requirements

Responsibility:

Behavioral Health Consultant
Department of Psychiatry
Public Safety
Nursing
Medical Staff
Admitting
External Law Enforcement

Attachments:

Suicide Precautions Checklist

Other Related Policies:

03.03.000 – Restraint Use
03.05.000 – Protected Patients
03.27.000 – Discharge Planning
03.29.000 – Patient Valuable and Other Belongings
03.33.000 – Patient Identification and Alert Bands
06.04.000 – Care of Prisoners
10.01.060 – Nursing Assessment / Reassessment & Documentation of Plan of Care
03.99.060/10.02.090 – Patient Safety Observation
Virtual Safety Observation Program (VSOP) Algorithms – iObserver Workflows
03.99.060/10.02.090 Patient Safety Observation

References

The Columbia Lighthouse Project/ Center for Suicide Risk Assessment. (2018). *C-SSRS-Screener with Triage Points for Primary Care.* Retrieved from: https://cssrs.columbia.edu/the-columbia-scale-c-ssrs/cssrs-for-communities-and-healthcare/#filter=.general-use.english

HCPro.com., Briefings on Accreditation and Quality. Using a screening program to improve suicide prevention. 2016, 26:5.

Johnson C., Roaten K. Bring universal Suicide screening to your hospital. Patient Safety Monitor Journal, 2017.

[1]Posner, K., et al. (2011). The Columbia–Suicide Severity Rating Scale: initial validity and internal consistency findings from three multisite studies with adolescents and adults. ***American Journal of Psychiatry,*** *168*:1266–1277. doi: 10.1176/appi.ajp.2011.10111704

[2]Substance Abuse and Mental Health Services (SAMHSA) Department of Health and Human Services. SAFE-T: Suicide Assessment Five-Step Evaluation and Triage for Clinicians. https://www.integration.samhsa.gov/images/res/SAFE_T.pdf accessed 11/2017.

Initiated by: Quality & Patient Safety

Contributing Departments:
Psychiatry
Nursing
Public Safety

Suicide Precautions Checklist

[redacted] ***non-bahavioral health licensed areas are not designated as ligature free/ resistant, all interventions listed below are to mitigate immediate risks for patient's deemed at High Risk for suicide and create a ligature safe environment. Objects that cannot be removed/ are medically necessary are maintained under 1:1 constant observation.***

Prior to admission to floor/ arrival to ED area, Prepare Room. Remove any:

- ☐ Metal, glass or sharp objects e.g., vases, soda cans, etc.
- ☐ Utensils
- ☐ Cleaning supplies
- ☐ Sanitizers (hand, call housekeeping to empty) (inpatient only)
- ☐ Medication
- ☐ Cords of any kind that are not medically necessary and can be removed should be removed (this does not include call bells, bathroom pull cords, blinds, etc).
- ☐ Tie up/ remove long cord call light/remote (inpatient only)
- ☐ Shower curtains/hooks (call housekeeping for curtains) (inpatient only)
- ☐ Telephone/ patient cell phone and charging cord
- ☐ Extra bed linens
- ☐ Bedside table
- ☐ Trash barrels
- ☐ Gloves
- ☐ Plastic bags

Based on LIP assessment of patients, above items may be deemed acceptable for use and should be clearly documented in the chart.

Emergency Department	***Inpatient***
☐ Patient should be in hospital provided attire	☐ Patient in private room (inpatient only)
☐ Remove all personal belongings/clothing	☐ Patient should be in hospital gown
☐ Secure clothing/belongings and document in EPIC *(per Policy #03.29.000 Patient Valuables and Other Belongings)* o Valuables go to security o Medications to pharmacy	☐ Remove all personal belongings/clothing ☐ Secure clothing/belongings and document in EPIC (inpatient: 3 drawer bedside table in alcove outside room facing wall*) (per Policy #03.29.000 Patient Valuables and Other Belongings)* o Valuables go to security o Medications to pharmacy
☐ Order set placed	☐ Order set placed
☐ Suicide/homicide precautions o Psychiatric Consultation o 1:1 patient safety observer (PSO). Psychiatry must specify daily. o Notify Dietary requesting finger food and safe tray, no silverware, china plates, plastic trays or cans	☐ Suicide/homicide precautions o Psychiatric Consultation o 1:1 patient safety observer (PSO). Psychiatry must specify daily. o Notify Dietary requesting finger food and safe tray, no silverware, china plates, plastic trays or cans
☐ As appropriate, the RN will contact public safety supervisor to place patient in protected status. *(per policy #03.05.000 Protected Patients)*	☐ As appropriate, the RN will contact public safety supervisor to place patient in protected status. *(per policy #03.05.000 Protected Patients)*
☐ If CSSRS screening not completed at triage or change in patient behavior, complete CSSRS screening assessment	☐ If CSSRS screening not completed at triage or change in patient behavior, complete CSSRS screening assessment

On Arrival to floor/ ED treatment area 1:1 Observation:

- ☐ PSO (also known as "Sitter") should secure their own personal belongings such as pocketbook, etc. Do not take personal belongings into patient's room.
- ☐ PSO should position themselves with their back to the door facing the patient.
- ☐ PSO needs to maintain visual contact on the patient.
- ☐ PSO should never engage in activities that diverts their attention from the patient or compromises patient safety. PSO should not be on personal phone, social media, reading, watching TV, surfing the internet or using headphones
- ☐ If patient needs to use bathroom, PSO must maintain visual contact, bathroom door must remain open.
- ☐ Rooms must remain free from:
  - o No Metal, glass or sharp objects
  - o No Utensils
  - o No Telephone
  - o No Extra bed linens
  - o No Bedside table
  - o No trash barrels
  - o No plastic bags

Any equipment such as vital sign machines, SCD, EKG, and IV med/fluid are only to remain during use and application

*****Only keep lines / equipment that can be medically justified.***

review

[redacted]

[redacted] *includes the hospitals:*

[redacted]

Restraint Use or Seclusion for Non-Behavioral Health Units

Policy #:	03.03.000
Issued:	August 2008
Reviewed/ Revised:	3/2009, 11/2012 6/2014, 10/2014, 7/2015, 12/2015, 3/2017, 11/2018, 7/2019, 9/2020, 12/2023, 5/2024, 10/2025
Section:	Clinical Care/ Patient's Rights

Purpose:

To outline the parameters for using restraint and seclusion when they are necessary to improve care or protect the patient or others at all hospitals in the [redacted]

Policy Statement:

[redacted] supports the right of every patient to be free from restraints of any form that are not medically necessary.

- Restraints will be used to ensure the physical safety of the patient, staff, and only when less restrictive interventions are not effective.
- Patients should be restrained in the supine position (on their back) unless precluded by circumstances affecting patient's medical condition or safety. The use of restraints must be discontinued as soon as possible based on an individualized assessment and re-evaluation. Assessments and the use of restraints must be documented in the electronic health record (EHR).
- The use of handcuffs/shackles or other restrictive devices applied by non-hospital law enforcement officials are not governed by this policy (See policy 06.04.000)
- The use of restraints for the prevention of falls is not a routine approach to falls prevention.
- Medications are used at [redacted] only as part of the patient's treatment plan and in response to a diagnosis, condition or presenting symptom, not as a restraint. Restraint or seclusion shall never be used as a means of corporal punishment, coercion, discipline, convenience, or staff retaliation.

Application:

All inpatient care areas within [redacted]

Exceptions:

Ambulatory Care
Department of Mental Health (DMH) Licensed Behavioral Health Units

Definitions:

- **Mechanical Restraint** is any manual method, physical or mechanical device, material or equipment that immobilizes or reduces the ability of a patient to move their arms, legs, body or head freely.
- **Medication Restraint** is the administration of medication involuntarily to control an individual's behavior or limit freedom of movement and is not standard treatment or dosage for the patient's condition.
- **Seclusion** is the involuntary confinement of a patient alone in a room or area from which the patient is physically prevented from leaving. Seclusion may only be used for the management of violent or self-destructive behavior.
- **LIP:** For the purpose of this policy, LIP ("Licensed Independent Practitioner") is a Physician, Advanced Practice Nurse or Physician Assistant

Restrictive Methods that are not Restraint

A restraint does not include:

- Medically necessary positioning or securing device used to maintain position, limit mobility, or temporarily immobilize the patient during medical, dental, diagnostic or surgical procedures
- Operating room table positioning
- Surgical dressing or bandages
- Protective helmets
- IV arm boards and limb immobilizers unless secured to the bed immobilizing the entire limb
- Strollers, safety belts including wheelchair belts, swing safety belts, high chair lap belts, raised crib rails, and crib covers
- Hand mitts unless they immobilize the fingers or are secured to bed
- Raising 3 out of 4 side rails
- Raised side rails when recovering from anesthesia, on a stretcher, experiencing involuntary movement (i.e. seizures), or required by certain therapeutic beds (i.e. rotational beds intended to prevent patients from falling)

Alternatives to Restraint

Prior to applying restraint or seclusion, less restrictive methods should be employed whenever possible. Examples of less restrictive methods and alternative to restraints include:

- Camouflaging tubes
- Patient in a visible location
- Attend to physical needs
- Convert intravenous (IV) to saline lock if possible
- Discontinue tubes/IV if possible
- Optimize lighting
- IV pole out of patient's view
- Family/Staff Observer
- Assess patient's emotional status, cause of agitation-review medications

Mechanical Restraint

Mechanical restraints used a[redacted] include, from least to most restrictive:

- Four bedside rails
- Canopy bed (Exception: placement of a toddler in an enclosed or domed bed is not a form of restraint)
- IV arm boards and limb immobilizers that are secured to the bed preventing all limb movement
- Hand mitts secured to a fixed object, does not allow flexing of the fingers, cannot be easily removed by patient in the same way staff applied them
- Wrist restraints
- Four-point soft restraint
- Four-point restraint using Twice as Tuff restraint.

Restraint Application

1. Four-point restraint using Twice as Tuff restraint and security assisted
2. When applying restraints to Violent or Self-Destructive patients, all four limbs must be restrained. This is the only acceptable type of restraint application unless medical conditions warrant the application of fewer limb restraints (e.g. amputee/paralysis).
3. The patient's privacy, dignity, rights, and safety must be safeguarded at all times.
4. When the patient is placed in four (4) point restraints, the patient shall be positioned in a supine position, in proper body alignment. The patient is never placed in 4-point restraints in a prone position (face down).

Physical holding for Forced Medications is the application of force to physically hold a patient in order to administer a medication against the patient's wishes. In certain emergency situations when a patient is

violent and in imminent danger of self-harm or harming others it may be necessary to medicate the patient against their will. In an emergency situation when applying restraints the order shall be obtained as soon as the situation which required the application of the restraint has been stabilized. If it is necessary to physically hold the patient to administer the medication, an LIP must conduct a face-to-face evaluation within one hour of the application of the physical hold.

Procedure:

<table>
<tr><th>Non-Violent/Non-Self Destructive
(Medical – to support medical care)</th><th>Violent / Self Destructive
(Behavioral – to help manage/support patient behavior)</th></tr>
<tr><td colspan="2">Prior to the initiation of restraint or seclusion a comprehensive patient assessment by an RN or LIP must determine that the risks associated with the use of restraints outweigh the risks of not using the restraint. Less restrictive interventions are considered and documented.</td></tr>
<tr><td colspan="2">A registered nurse may initiate restraint or seclusion prior to obtaining an order if necessary to protect the patient, staff members or others from harm, provided that an order is obtained from an LIP who is responsible for the patient as soon as the situation that required the application of the restraint is stabilized.</td></tr>
<tr><td><u>Order</u>
▪ Physician orders for restraint shall remain in effect until
a) The patient's behavior or situation no longer requires the use of restraint, or
b) The end of the calendar day following the date of the order unless the order for restraint includes the specific indications for continuation and discontinuation.</td><td><u>Order</u>
▪ Orders for restraint or seclusion shall remain in effect until the patient's behavior or situation no longer requires the use of restraint or seclusion, but no longer than
o 4 hours for adults 18 years of age or older
o 2 hours for children 9 to 17 years of age
o 1 hour for children 8 years of age or younger.
▪ Renewal orders may be given for the above durations if the indications for restraint or seclusion persist. However, continuation of restraint or seclusion for longer than 24 hours shall be based on an in-person evaluation by a responsible physician.</td></tr>
<tr><td colspan="2"><u>Notification of the LIP:</u>
If the LIP responsible for the care of the patient did not order the restraint, they shall be notified that restraint was applied by the end of the calendar day following initiation of the restraint order. Documentation of any kind by the responsible LIP, whether or not it addresses restraint, shall constitute sufficient evidence that the responsible LIP was made aware of the restraint episode.</td></tr>
<tr><td><u>Monitoring and Assessment</u>
▪ The patient shall be assessed as often as indicated based on the patient's condition but at least every 2 hours</td><td><u>Monitoring and Assessment</u>
a) One-hour Face-to-face Assessment:
A LIP shall perform a face-to-face assessment of the patient's physical and psychological status within 1 hour of the initiation of restraint or seclusion.
b) Restraint or Seclusion Alone
Safety monitoring shall be performed at least every 15 minutes.
c) Simultaneous Restraint and Seclusion
Continuous monitoring through face-to-face observation by staff members or remote observation by members located near the patient who are viewing a simultaneous video image and audio signal of the patient shall be performed.
d) Assessment
Assessments by the registered nurse shall occur as often as indicated based on the patient's condition, behavior and environmental considerations but at least once every 60 minutes.</td></tr>
</table>

[redacted] [redacted] als:

Non-Violent/Non-Self Destructive (Medical – to support medical care)	Violent / Self Destructive (Behavioral – to help manage/support patient behavior)
The RN assessment shall include at a minimum: a) Restraints were properly and safely applied b) Need to continue the restraint based on application criteria c) Change in patient condition d) Any signs of injury e) Release and range of motion, ambulation, change in position as appropriate f) Hydration, nutrition and elimination needs g) Cognition, psychological, mental status, and level of distress	
Discontinuation Once the situation that served as the basis for the restraint or seclusion no longer exists and the safety of the patient, staff members, or others may be assured through less restrictive means, the restraint shall be discontinued. If restraint or seclusion is discontinued, **a new order** must be obtained before restraints may be reinitiated.	

Non-Violent/Non-Self Destructive (Medical – to support medical care)	Violent / Self Destructive (Behavioral – to help manage/support patient behavior)
Restraint Documentation: **Initial Restraint Application** • Clinical justification for initiating restraint/seclusion • Detailed description of the patient's behavior or circumstance that required the application of restrain/seclusion. • Less restrictive interventions attempted • Restraint type, date and time of application **Ongoing Assessment** Documentation of observations conducted at least every 2 hours need not be concurrent (e.g. may be documented in an end-of-shift note) and includes documentation of routine care given to the patient while restrained.	*Restraint Documentation:* **Initial Restraint Application** • Clinical justification for initiating restraint/seclusion • Detailed description of the patient's behavior or circumstance that required the application of restraint/seclusion. • Less restrictive interventions attempted • Restraint type, date and time of application **Safety Monitoring** Patient in restraint alone or in restraint and seclusion shall be documented every 15 minutes. **Ongoing Assessment** Documentation of assessment observations conducted at least every 60 minutes and includes documentation of routine care given to the patient while restrained.
Restraint Plan of care is reviewed by the RN at the end of every shift or with every change of caregiver and updated according to the restraint assessments.	

Transporting Patients in Restraints:
If a patient is being transported off the unit in restraints, the patient must be accompanied by someone trained in restraint use.

Reporting:
Reporting of Patient Deaths a member of the clinical team must promptly file an online incident report and notify the SAFE (7233) pager to report for:

a. Any patient death that occurs while the patient is in restraints or seclusion.
b. Any patient death within 24 hours after a patient has been removed from restraint or seclusion.

[redacted] [redacted]

c. Any death [redacted] knows about that occurs within one week after restraint or seclusion, where it is reasonable to assume that the use of restraints or placement in seclusion contributed directly or indirectly to the patient's death.
d. Any patient death associated with the use of restraints or seclusion

Exception
If the patient dies while in (or within 24 hours of the removal of) 2-point soft wrist ties *only*, the hospital may note the death in a log (which shall be available for review upon request) rather than reporting to Centers for Medicare and Medicaid Services (CMS).

Training:
[redacted] staff members must receive training in the following subjects as appropriate to the duties they perform under this policy. The training must take place before a new staff member is asked to implement the provisions of this policy and shall be repeated periodically, based on the results of quality monitoring activities, as indicated in [redacted]s training plan,

a. **Physicians who order restraint or seclusion must be trained in the requirements of this policy.**
b. [redacted] **staff members (LIP's, RN's and nursing assistant) who assess patients for restraint or who apply restraints** must receive training in the following topics as appropriate to the patient population served.
   i. Techniques to identify staff and patient behaviors, events, and environmental factors that may trigger circumstances that require the use of a restraint or seclusion.
   ii. The use of nonphysical intervention skills.
   iii. Choosing the least restrictive intervention based on an individualized assessment of patient's medical or behavioral status or condition.
   iv. The safe application and use of all types of restraint or seclusion used by the staff member, including training in how to recognize and respond to signs of physical and psychological distress (for example, positional asphyxia).
   v. Clinical identification of specific behavioral changes that indicate that restraint or seclusion is no longer necessary.
   vi. Monitoring the physical and psychological well-being of a patient who is restrained or secluded, including but not limited to, monitoring respiratory and circulatory status, skin integrity, mental status, neurological evaluation, vital signs, and any special requirements specified by hospital policy associated with the 1-hour face-to-face evaluation of patients restrained or secluded for the management of violent or self-destructive behavior.
   vii. The use of first aid techniques and certification in the use of cardiopulmonary resuscitation, including required periodic re-certification.
c. [redacted] **staff members who monitor restrained patients** must be trained in the recognition of signs of physical and psychological distress, including the signs of asphyxia.

Responsibility:
Medical Staff
Nursing
Psychiatry
Public Safety
Quality and Patient Safety

Forms:
None

Other Related Policies:

04.01.000 Online Incident Reporting
04.05.000 Reporting of Adverse Events to External Regulatory Agencies
03.03.010 Pediatric Dental Protective Stabilization
03.19.000 Involuntary Commitment of a Patient to a Psychiatric Facility
03.43.000 Assessment and Management of Inpatients at Risk of Suicide/Homicide
06.04.000 Care of Inpatient Prisoners
10.01.060 Nursing Assessment & Re Assessment
10.02.090 Patient Safety Observation
15.05.004 Care of the Prisoner Patient in Procedural and Perioperative Areas
16.01.200 Anti-shackling for Incarcerated Women Obstetrics
26.44.00 Triage of Psychiatric Complaints
26.58.00 Management of Prisoners in the ED

References:
Joint Commission Resources, Inc., "2026 Hospital Accreditation Standards" Provision of Care Chapter Standards PC .03.05.01 -PC.03.05.19.

Center for Medicare and Medicaid Services (CMS) "State Operations Manual Appendix-A- Survey Protocol, Regulations and Interpretive Guidelines for Hospitals", §482.13(e) Standard: Restraint or Seclusion, §482.13(f) Standard: Restraint and Seclusion: Staff Training Requirements, §482.13(g): Death Reporting Requirements.

Initiated by: Regulatory Compliance Department
Contributing Departments:
Medical Staff , Nursing , Psychiatry, Public Safety, Quality and Patient Safety

Policy #:	03.34.000
Issued:	June 2000
Reviewed/ Revised:	6/2007, 8/2008, 7/2011, 6/2012, 1/2013, 3/2013, 10/2014, 11/2015, 2/2016, 10/2016, 3/2017, 12/2017, 2/2020, 12/2022, 10/2025
Section:	Clinical Care

Blood Products: Administration & Transfusion Reaction

Purpose:

To provide guidelines for the safe administration of blood components.

Policy Statement:

Patients who require the administration of blood components at [redacted] require an order and consent for the transfusion. Blood components are started only after two transfusionists double-check the patient's identity and verify blood typing and compatibility. Patients are monitored closely for signs and symptoms of a reaction during the initial infusion of the blood component and throughout the course of the transfusion.

If the transfusionist suspects a reaction, they will notify the physician in order to establish a management plan and the physician will further evaluate the patient to determine if the reaction is a transfusion reaction. If a transfusion reaction occurs, the blood transfusion will be stopped, the patient will be stabilized, the physician will be notified and the transfusion reaction protocol will be followed. In the event that the physician wishes to resume a transfusion that does not meet the specifications of this policy, the physician must consult the director of the blood bank to discuss the plan prior to re-initiating the transfusion

Application:

All patients at [redacted]

Exceptions:

- Rhogam does not require two-person checks.
- **For Massive Transfusion Protocol, see Policy 03.95.000**

Definitions:

Piggyback – administration of infusions as a piggyback is when there is a separate infusion set that is inserted into an access port on a primary infusion (see 8.3.1 and 8.3.2).

2-Person verification - To be completed by the transfusing RN, Anesthesiologist, Blood Bank technologist, or perfusionist, and the other person being a licensed member of the nursing or medical staff who is qualified to participate in the process.

Transfusionist: medical professional who is trained and assessed as competent prior to taking part in the transfusion of blood component process. All staff involved in the transfusion process must receive training at least yearly, which can be in the form of face to face training and/or electronic learning. Following the initial training, a practical competency assessment must be performed. This practical assessment does not need to be repeated if there is ongoing satisfactory performance but should be repeated if there is a period of greater than one year out of a workplace where regular transfusions take place. (National Blood Transfusion Committee, 2016).

Procedure:

1. **PATIENT CONSENT:**
   Prior to a transfusion, the patient's informed consent is required (see *Policy #03.20.000 - Patient Consent*).
   1.1. The consent is valid for 60 days or the duration of the admission or outpatient treatment as long as it is related to the same illness.
   1.2. The surgical consent form encompasses the transfusion consent as long as the transfusion is related to the surgical procedure.
      1.2.1. [Of note: If a patient rejects a blood transfusion with whole blood components (i.e., red blood cells, platelets, and/or plasma) then the consenting physician should consider whether or not there are fractionated blood component options that are appropriate and available.]
   1.3. Patients receiving on-going transfusions for a chronic condition require an annual consent.
   1.4. Medications derived from blood products distributed by the Department of Pharmacy do not require a written consent.
2. **PHYSICAN OR LICENSED INDEPENDENT PRACTITIONER (LIP) ORDER:**
   The administration of any blood product or component requires a LIP's order, which includes the type of component to be given, the number of units, and, if clinically indicated, the duration of infusion.
3. **CLINICAL INFORMATION - Specimen for type and cross**
   3.1. All patient specimens drawn for Blood Bank use must be labeled at the time and place drawn, in the presence of the patient, with:
      3.1.1. Two unique patient identifiers
      3.1.2. the time and date the sample is obtained,
      3.1.3. the legible name or initials of the phlebotomist, and
      3.1.4. the legible name or initials of the second individual verifying the patient's identity (when applicable). The verifying individual may be a lab phlebotomist, RN, licensed practical nurse (LPN), nurse practitioner (NP), physician's assistant (PA), certified nurse midwife (CNM), Emergency Department (ED) patient care technician (PCT), physician or third/fourth year medical student.
   3.2. A new blood sample is required every 72 hours, except for selected preoperative samples.
      3.2.1. The day a specimen is drawn is considered day 0, the sample expires after day number 3.
   3.3. In the case of a patient who does not have a transfusion history at [redacted] the Blood Bank will request a SECOND SPECIMEN for ABO/Rh verification to be drawn at a separate time from initial type and screen. The Blood Bank will notify the patient's nurse of the need for the second verification sample.
      3.3.1. This specimen will be drawn into a special tube provided by the Blood Bank and will require two legible signatures or initials, date, and time drawn, in the presence of the patient
      3.3.2. If another tube is used, signatures/initials are illegible, or specimens are drawn at the same time, the specimens are invalid and will be discarded by the Blood Bank.
   3.4. Expected turnaround times for the provision of blood components are listed below under Turn Around Times (TAT). Delays beyond these timeframes unique to specific patients (such as difficult crossmatches in alloimmunized patients) will be communicated by the blood bank to the appropriate member of the patient care team.
4. **PRIOR TO REQUISTIONING BLOOD the perfusing staff member ensures:**
   4.1. A physician's order entry in the electronic health record (EHR), or a written order in the case of a downtime, with the patient's name, medical record number and date of birth, and if clinically indicated, the duration of infusion, must be completed for:
      4.1.1. Red blood cells

4.1.2. Fresh frozen plasma
4.1.3. Rhogam
4.1.4. Platelets
4.1.5. Cryoprecipitate

4.2. A patent intravenous (IV) line must be in place before ordering delivery of blood components.
4.2.1. Adults: peripheral IV (22 gauge or larger, 20 gauge preferred), central line, or midline
4.2.2. Pediatrics: peripheral IV 22 gauge, central line
4.2.3. Red blood cells can be safely administered via smaller gauge catheters (24 gauge), however the flow rate should be slower

4.3. Vital signs should be checked PRIOR TO requesting blood component from blood bank.
4.3.1. If out of range, notify LIP, who will then document the decision on whether or not to proceed with the transfusion and whether other necessary interventions and increased frequency of monitoring of temperature and vital signs are necessary.
4.3.2. If temperature is greater or equal to 100.4 F, the LIP must be notified prior to transfusion.

4.4. With the exception of patients who are expected to have multiple transfusions, routine premedication prior to transfusion is not necessary or recommended. If the patient does need premedication, administer 30 minutes before start of transfusion.
4.5. Verify labs, including active type and screen and current complete blood count (CBC).
4.6. Check active consent (See Section 1).
4.7. Obtain IV pump or individual channel (if IV pump already in room) to administer product.
4.8. Prepare the Y site blood administration tubing by priming it with normal saline 0.9% NaCl after spiking a 250 or 500 ml bag. Hang it in patient's room.
4.9. Confirm with patient that they agree to transfusion.

5. REQUISTIONING BLOOD AND BLOOD PRODUCTS

5.1. Except in cases of emergency, the Blood Bank must be notified of a request for blood/blood products **at least 1 hour** before the planned infusion time.
5.2. In the patient's EHR, release the Blood Bank requisition from the Blood Administration Navigator **ONLY when you are ready to transfuse.**
5.3. Once released, the blood component will be sent to the floor between 10 and 30 minutes (see TAT on page 12). The blood bank will call the unit to notify the nurse in the event of a delay greater than 30 minutes. Delays beyond these timeframes unique to specific patients (such as difficult crossmatches in alloimmunized patients) will be communicated by the blood bank to the appropriate member of the patient care team.
5.4. Blood Bank will receive requisition as a print out in the blood bank.
5.4.1. [redacted] will also receive a printout of the requisition on their nursing unit due to limited/no pneumatic tube system.

5.5. **DURING EHR DOWNTIME**
5.5.1. Blood may be requested in writing utilizing the paper blood requisition form.
5.5.2. The requesting nurse or designee must provide the patient's name, medical record number, date of birth, and type of blood product requested on the form and tube to the Blood Bank.

See "Requesting Blood Components during the EHR Downtime procedure" appendix.

6. RECEIVING BLOOD AND BLOOD PRODUCTS

6.1. [redacted]: **Via Pneumatic Tube** -utilize "Red "**BLOOD PRODUCTS ONLY**" canister.
6.1.1. Red canister will arrive at the unit's pneumatic station based on patient's location in EHR.
6.1.2. Receiving person will immediately notify patient's caregiver.

6.2. [redacted]**:** If the pneumatic tube system is down:

6.2.1. After the Nurse "releases" the unit in the EHR Blood Transfusion Navigator, they may call the Blood Bank to determine when blood is ready for pickup.

6.2.2. An official sticker from the patient's chart is placed on a piece of paper and brought to the blood bank to pick up the blood when the blood is ready.

6.3. [redacted]and Delivery of Blood due to no tube system:

6.3.1. After the nurse "releases" the unit in the EHR Blood Transfusion Navigator, a requisition will print in both the blood bank and the nursing unit.

6.3.2. When the blood product is ready to be transfused, the blood bank will call the nurse to inform them that the product is ready for pick up.

6.3.3. A nurse or transport worker will bring slip to blood bank to pick up the blood product. Whomever picks up the blood must never leave the blood product unattended. If it is not the nurse picking up the blood product, transporter is to deliver directly to the nurse.

6.4 Hand Delivery of Blood - in the case of emergency transfusion or massive transfusion (ED, Intensive Care Units (ICU's)) See 03.95.000 - Massive Transfusion Protocol

6.4.1 The transport worker delivering blood to the unit MUST hand the blood to a nurse or LIP and not leave it unattended.

7. CHECKING BLOOD COMPONENTS PRIOR TO ADMINISTRATION (3 step Process)

7.1. Step 1: Verify correct product has been received for the correct patient. Two persons, one the transfusing RN, Anesthesiologist, Blood Bank technologist, or perfusionist, and the other a licensed member of the nursing or medical staff who is qualified to participate in the process, must:

7.1.1. Inspect product for gas bubbles, aggregates or any abnormal color. The component must be returned to the Blood Bank if any of these conditions exist.

7.1.2. Note need for any special equipment or lines and provide as needed.

7.1.3. Open patient's medical record in the EHR and confirm 2 patient identifiers in the EHR matches 2 patient identifiers on the Blood Timeout Form.

7.1.4. Read the LIPs order for the specific blood product - confirm what was ordered is what you received.

7.1.5. Read the Blood Timeout Form aloud, compare the Blood Timeout Form and the blood component label and verify the following:

7.1.5.1. Received blood product is what is indicated on both blood label and Blood Timeout form.

7.1.5.2. The expiration date of the component, which is only found on the blood component bag label.

7.1.5.3. The ABO, Rh and unit number on the Blood Timeout Form matches those of the blood component label. If there is any discrepancy, notify the Blood Bank and do not administer the unit.

7.1.5.4. The ABO and Rh groups of the recipient are compatible with those of the component sent for transfusion by checking patient's blood type in the EHR and utilizing ABO compatibility chart in blood navigator.

7.1.5.4.1. **SCANNING in the EHR does NOT verify compatibility**

7.1.5.4.2. **In the event of critical blood shortages or during massive transfusion, the Blood Bank Medical Director may authorize Rh Positive blood for an Rh Negative patient.**

Note: ABO and Rh matching are not required for platelets, cryoprecipitate, immune globulin, Rhogam. All products except Rhogam require a 2-person check.

7.1.6. Autologous and directed donor units will be issued first from the Blood Bank. These will have a bright pink "ALERT" label on the unit and on the cooler ID tag. Additional

crossmatched banked units may be obtained.

7.2. Step 2: Before beginning the blood or blood component transfusion, the patient must be objectively matched to the blood or blood component during a two–person bedside or chair side verification process, using at least two unique identifiers. Verify the patient's identification using two identifiers per policy. Two persons, one the transfusing RN, anesthesiologist, perfusionist, or Blood Bank technologist (apheresis procedures), and the second a licensed member of the nursing or medical staff who is qualified to participate in the process.

7.3. Overview of Blood Timeout Form to Identify Patient:
There is a Blood Timeout form attached to the unit of blood with patient's name, date of birth, medical record number, unit number, blood type of allocated unit, and expiration date.

7.3.1. The Blood Timeout Form must stay attached to the blood component bag until transfusion is complete to allow for additional 2 person checks required for a change in caregiver (for instance, at shift change bedside handoff) or in the case of a suspected transfusion reaction.

7.3.2. Read aloud and compare 2 patient identifiers on the Blood Timeout Form and the patient's identification band.

7.3.2.1. If the patient's ID band needs to be removed in the course of patient care, compare the ID band to the face sheet or anesthesia record to ensure the patient's identity; the face sheet or anesthesia record may be used to check the blood. **Replace the ID band before the patient leaves the Operating Room and immediately in other areas.**

7.3.2.2. Do not administer blood to a patient who does not have an identification band.

7.3.3. Do not sign the form UNLESS EHR downtime procedures are being utilized. In the event of computer downtime, the form must have double signatures and be placed in the patient's chart at the end of the transfusion. **Otherwise, it can be discarded.**

7.3.4. Read the physician's order for the specific blood product and duration of transfusion.

7.3.5. Verify the Received blood product is the ordered blood product.

7.3.6. Verify Consent.

7.3.7. Verify labs- CBC, Type and Screen.

7.3.8. Verify the use of only normal saline opposite the blood components on a Y-type administration set.

7.3.9. Regularly used name versus legal name.

7.3.9.1. If a patient regularly uses another name that is different from their legal name, the name regularly used may appear in the medical record in quotes and ALL CAPS next to the legal name (i.e." Johnson, Donald "DONNA"; Smith, Mary "REBECCA").

7.3.9.2. A patient's legal name will be typed on their patient identification band. If the names on the medical record, the typed identification band, and the blood tag match, except for the regularly used name, then there is a match.

7.3.9.3. The regularly used name (the portion in caps and quotes in the medical record) is not considered part of the legal name and therefore only the legal name should be used for the purposes of identifying the patient for medication administration, consent for procedure, transfusion, specimen collection or such other activity.

7.3.9.4. If necessary, explain to the patient that effort will be made to address them by their regularly used name in routine conversation, but that their legal name must be used in the clinical setting for identity verification purposes related to the administration of blood and medication to ensure patient safety and policy compliance.

7.4. Step 3 – Documenting 2 person Verification

7.4.1. Utilizing Blood Product Administration Module (BPAM) in the EHR for Urgent Blood Transfusion or Single Unit Red Blood Cell (RBC) Transfusion

7.4.1.1. In areas where scanning is available, utilize the Blood Navigator in the EHR -scan the patient's ID and the Unit number and product number on the blood product.

7.4.1.2. Confirm the ABO and Rh groups of the recipient are compatible with those of the component sent for transfusion by utilizing Compatibility Chart found in the Blood Navigator or in the addendums of this Policy. **NOTE_SCANNING in the EHR does NOT verify compatibility.**

7.4.1.3. If BPAM returns an incompatibility message, call Blood Bank to verify correct unit was issued. If the correct unit was issued, Blood Bank may recommend using downtime procedure.

7.4.1.4. EHR DOWNTIME PROCEDURES -Blood Timeout Form REQUIRED Both persons must complete the 2 person verbal/visual comparison of the unit of blood, the blood tag, the Blood Timeout Form and the patient ID per the Blood Timeout Form then complete documentation on the Blood Timeout Form including staff signatures. Form must be entered in patients chart at end of procedure.

7.4.1.5. An RL safety report must be filed in cases where BPAM fails to verify unit. All computer related issues must be tracked to determine the cause.

7.4.2. If blood is to be hung greater than 30 minutes after initial vital signs (those taken prior to release of the blood product), another set of vital signs must be taken prior to starting transfusion.

7.4.2.1. Vital signs out of range (including a temperature $\geq$ 100.4°F) must be communicated to the LIP. The decision to proceed with the transfusion and any additional monitoring must be documented by the LIP.

7.4.3. After all double checks are completed including scanning of patient's ID, the unit number, and the product number, the 2 persons qualified to participate in the process are to sign off in the Blood Navigator.

8. ADMINISTERING BLOOD AND BLOOD COMPONENTS

8.1. Administer blood and blood products immediately upon arrival from blood bank. Do not store blood in the patient care unit refrigerator.

8.2. A unit of packed red blood cells must be completed within 4 hours of receipt of blood from blood bank.
See Infusion Duration chart appendix regarding platelets, fresh frozen plasma, and cryoprecipitate.

8.3. If for any reason the blood must be returned to the blood bank, it must be returned within 20 minutes of receipt from blood bank.

8.3.1. Blood may not be "piggybacked" into a main IV line, the product should be administered via separate primary line utilizing the Y line specifically for transfusions. **If using a double lumen midline, the blood component must be the only thing infusing via one midline port while the other port is saline locked.**

8.3.2. Never add medication and IV fluids to or "piggyback" them into the blood component while it is being transfused.

8.4. Blood components may be temporarily interrupted for the administration of IV medications if other IV access is unavailable. The IV line must be flushed with normal saline before and after the administration of the medication.

8.5. Once any blood component has been spiked or opened, discard any unused portions as contaminated medical waste.

8.6. Patients with Patent Foramen Ovale (PFO) require the use of an air eliminating filter for IV therapy. **The air eliminating filter is <u>not</u> required for a blood transfusion.**

8.7. **Initiate packed red blood cells at prescribed rate or no more than 120 ml/ hr for the first 15 minutes while observing for a reaction when clinically appropriate (exceptions are rapid blood loss, patients in the operating room).** After 15 minutes, if there is no sign of a reaction, increase the rate if needed to ensure completion of the transfusion in the ordered duration.

8.8. A pressure infuser bag (blood pump) may be used only in thecritical care area or the operating room and may not be used in the administration of platelets or cryoprecipitate.

8.9. Each unit of blood or component must be recorded on the Intake and Output (I+O) record.

9. MONITORING DURING ADMINISTRATION OF BLOOD/BLOOD COMPONENTS

9.1. The registered nurse remains near the patient for the first 15 minutes of transfusion of red blood cells to monitor for signs and symptoms of a transfusion reaction. The RN visually assesses the patient every 30 minutes during the transfusion and at the one hour mark after completion of the transfusion. This may be more frequent at the direction of the LIP if the patient is beginning the transfusion with an elevated temperature.

9.2. Record baseline vital signs within 30 minutes before the start of each transfusion, 15 minutes after initiation of the transfusion, **with any change in patient condition, and at the end of the transfusion.** A Y-type set can be used for up to 4 units of red blood cells or for 4 hours, whichever comes first. Administration (as ordered by LIP): -Adult: each unit over 2-3 hours, but no more than 4 hours, depending upon, patient's tolerance. Administer Pediatric: 2-5 mL/kg/hr.

9.3. Transporting Patients

9.3.1. Avoid transporting the patient unless medically necessary. Perform transport only if the blood component has been infusing for at least 20 minutes and the patient has stable vital signs and no signs or symptoms of a transfusion reaction.

9.3.2. Patient must be accompanied off unit by appropriate monitoring personnel who is a licensed member of the nursing or medical staff who is qualified to participate in the process.

9.4. Patients receiving blood while under the care of an anesthesia care provider will be monitored according to the American Society of Anesthesiologists (ASA) standards.

9.5. An LPN may monitor the patient under the direction of an RN duringthe transfusion.

9.6. Unusual occurrences-

9.6.1. If there is any unusual occurrence related to the transfusion, the nurse will contact the LIP immediately to report the findings. The nurse and LIP will determine whether increased frequency of monitoring of temperature and vital signs is necessary. The nurse will document the findings in an EVENT note.

10. TRANSFUSION REACTION OR SUSPECTED REACTION

10.1. If a patient develops one or more signs or symptoms of a transfusion reaction, the transfusion must be stopped, the IV line maintained with normal saline and the patient's physician notified immediately.

10.2. The physician must evaluate the patient and determine whether the reaction is localized or systemic based upon the patient's signs and symptoms (see flowchart attached to this policy).

10.3. A reaction is considered localized if the patient has ONE of the following:

10.3.1. A limited urticaria, rash or pruritus which responds rapidly to antihistamine; OR

10.3.2. A temperature elevation of 1.8°F or less AND the temperature is less than 100.4°F (oral).

10.4. If the physician determines that the reaction is localized and it is safe to restart the transfusion, the transfusor may resume the transfusion. If during re-initiation of the transfusion, additional signs or symptoms of a reaction occur, the transfusion must be stopped immediately and a full transfusion work-up completed.

10.5. A reaction is considered systemic if there are MULTIPLE signs and symptoms of a transfusion reaction which may include: increased temperature, rash, urticaria, pruritus,

shortness of breath and low back pain. If the reaction is determined to be systemic, the transfusor will do the following:

Note: Any transfusion should be discontinued for: A temperature elevation of at least 1.8°F over pre-transfusion value AND fever of greater than or equal to 100.4°F (oral); OR Chills/rigors.

10.5.1. If the blood component was being administered directly into the patient's IV catheter, the transfusor will immediately clamp off tubing of the Y administration set and disconnect from catheter. Attach a needleless device to the end of the Y type blood administration set to maintain sterility. Maintain the IV line with normal saline.

10.5.2. Assess and document the patient's vital signs according to physician orders at least every 30 minutes and prn until stable according to physician orders.

10.5.3. Notify the covering physician and the blood bank of the patient's reaction and treat the patient's symptoms according to the physician's orders.

10.5.4. Repeat bedside check of identifying units, patient tags and medical record numbers.

10.5.5. Place Transfusion Reaction Evaluation Order.

10.5.6. Obtain post-transfusion blood specimen from patient; fill one pink blood tube and send to blood bank. Label the specimen with the time the samples were drawn, the patient's name and medical record number and the phlebotomist's or nurse's signature. The specimen should not be drawn from the same site in which the blood product was infusing unless the patient has no other access.

10.5.7. In the Blood Administration Flow sheet in the electronic health record answer "Yes" to the Suspected Reaction row and complete Transfusion Reaction questions.

10.5.7.1. All documentation regarding suspected reactions should be completed in the EHR, except in the case of downtime. During computer downtime, complete "Transfusion reaction investigation" Form #90335, which can be obtained from the blood bank on each campus.

10.5.8. Print Transfusion Reaction Report. Click on "Blood Header". Click on "Transfusion Reaction" link. Transfusion Reaction report will open. Print by right clicking on the document.

10.5.9. Send the Transfusion Reaction Report, the remaining blood product (even if the bag appears empty) and tubing to the blood bank for culturing for detection of bacteria. Make sure tubing is clamped off and the end of the administration set is covered with a sterile needleless device.

10.5.10. Ensure that the proper documentation of the blood component has occurred in the patient electronic health record.

10.5.11. Write an event note.

10.6. If the physician suspects hemolysis (acute hemolytic transfusion reaction) within 24 hours of a transfusion, a first-voided post-reaction urine specimen must also be sent to the blood bank. Signs and symptoms of a hemolytic reaction are:

10.6.1. Fever and chills;
10.6.2. Nausea and vomiting;
10.6.3. Low back pain;
10.6.4. Dyspnea;
10.6.5. Tachycardia;
10.6.6. Chest pain;
10.6.7. Hypotension;
10.6.8. Shock;
10.6.9. Hemoglobinuria, oliguria, anuria;
10.6.10. Disseminated intravascular coagulation (DIC);
10.6.11. Pain and/or oozing at the IV site.

Note: A delayed hemolytic reaction may occur days to weeks after transfusion.

10.7. If the reaction is determined to be systemic and the physician wants to resume the transfusion, he/she must consult the blood bank director prior to re-initiating the transfusion.

10.8. After receiving the Transfusion Reaction, the blood bank technologist evaluates the specimens and discusses the reaction with the physician covering the transfusion service. The covering physician and technologist will investigate the event and summarize their findings in the lab report.

10.9. During downtime or in areas not using the electronic health record for blood transfusions, the nurse will request a paper transfusion reaction form from the blood bank, complete the necessary information, and will return the form to the blood bank along with the items listed above.

11. DOCUMENTING COMPLETION OF TRANSFUSION

Upon completion of the transfusion, document a set of vital signs:

11.1. Complete the transfusion in the blood admin flowsheet by adding or inserting a column that represents the time the blood transfusion is being stopped.

11.1.1. Enter a rate of "0" into the rate field.

11.1.2. When "0" is entered, the volume calculator displays and the RN verifies the amount displayed in the total volume field.

11.1.3. Click the "accept and complete" button.

11.2. Dispose of blood bags and tubing as hazardous waste on the unit. Any units that were not spiked, spiked then not transfused, or partially or fully transfused with the result of a suspected or actual transfusion reaction, must be returned to the Blood Bank for accurate accounting.

Responsibility:

RN, Blood Bank Technologists (apheresis procedures), Anesthesiologists, Perfusionist: Blood Administration. LPN: Monitoring of patient under direction of RN; Transport worker (Patient Equipment Transportation)

Related Policies:

02.38.000 - Pneumatic Tube System policy
03.20.000 - Patient Consent
03.33.000 - Patient Identification
03.34.000a - Blood Component Transfusion Guidelines
03.95.000 - Massive Transfusion Protocol
10.40.300 - Exchange Transfusions
10.40.400 - Stem cell infusion

Forms:

Transfusion/Tissue Report (90379)
Informed Consent for Blood Form and Blood Component Transfusion (Form 99242)
Blood Component Transfusion Supplemental Form (Form 1000802)
Transfusion reaction investigation form #90335 (which can be obtained from any [redacted] blood bank).

Attachments:

Product/Infusion Duration table
Turn Around Times (TAT)
EHR Downtime Procedure /#999375 Blood Products Request form
Blood Group Compatibility Chart
Transfusion Reaction Flowchart

Initiated by: Nursing Policy and Procedure Committee

Contributing Departments:
Laboratory Medicine
Pharmacy

References:
National Blood Transfusion Committee (2016). Requirements for training and assessment in blood transfusion. www.transfusionguidelines.org/document-library/documents/nbtc-requirements-for-training-and-assessment-final

Fung, Mark K., Grossman, Brenda J., Hillyer, Christopher D., & Westhoff, Connie M. (editors). (2014). Technical Manual, Eighteenth Edition. AABB, Bethesda, Maryland

Lippincott Nursing Procedures (2023). Ninth edition. Wolters Kluwer, Philadelphia, PA.

PRODUCT*	INFUSION DURATION
Packed Red Blood Cells – Floor and Intermediate Care Unit (IMCU)	2-4 hours Not Emergent or massive transfusion
Platelets	Use within 4 hours once pooled- Administration (as ordered by MD/DO): -**Adult**: administer slowly during first 15 minutes, then if no adverse reaction, give as quickly as possible as tolerated Monitor Blood Pressure (BP) more frequently in patients receiving angiotensin-converting enzyme (ACE) inhibitors
Thawed Plasma (Fresh Frozen Plasma)	-**Adult:** administer at 200 mL/hr or more slowly if volume overload is a concern -**Pediatric:** as indicated in clinical situation if hemorrhage, but 1-2 ml/min for clotting factor deficiency
Cryoprecipitate	Transfuse within 6 hours of the time it is thawed; if pooled, must be transfused within 4 hours of time it is pooled Rate Adult and Pediatric: 1-2 mL/min = 60-120ml/hr
	For more Information – refer to 03.34.000a - Blood Component Transfusion Guidelines

Use Y site blood administration tubing primed with normal saline

Turn Around Times (TAT)

Product	Times	Notes
ROUTINE TYPE AND SCREEN, CROSSMATCH	**2 hours**	
EMERGENCY RELEASE* UNCROSSMATCHED GROUP O UNITS	**2 minutes**	***Requires form - Red Emergency Release**
STAT TYPE AND SCREEN WITH CROSSMATCH	**30 minutes**	
ADDITIONAL CROSSMATCHED UNITS	**10 minutes**	
THAWING FFP	**10-30 minutes**	
PLATELETS	**10 minutes**	
CRYOPRECIPITATE Thawing time	**30 minutes**	

NOTES:

TAT may be lengthened if BB seeks approval to switch Rh types, by contacting on-call Blood Bank resident or attending. The TAT's above are for patients with no unexpected red cell antibodies.

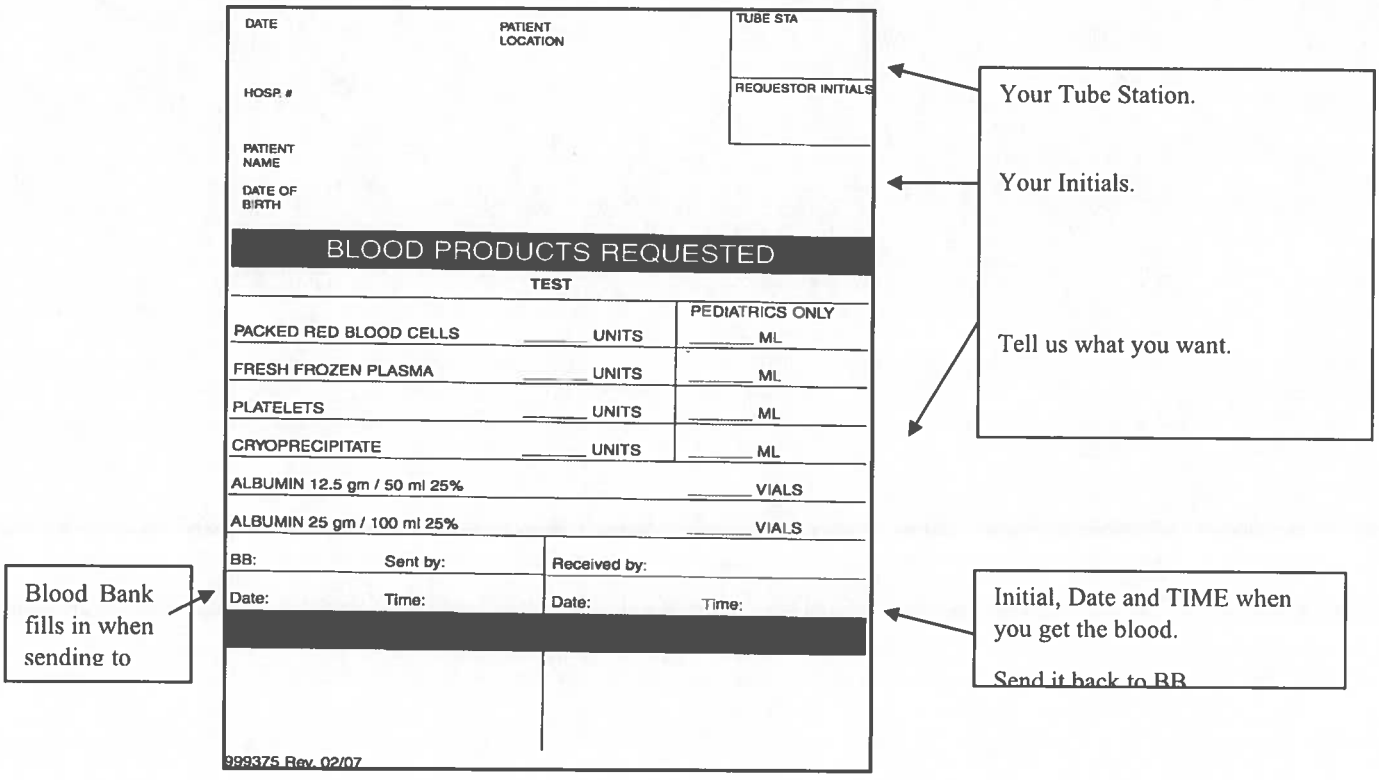
Identification of unexpected red cell antibodies may add hours to 2-3 days to the turnaround time.

DURING EHR DOWNTIME PROCEDURE:

1. Fill out a "BLOOD PRODUCT REQUEST" form (see example below): handwritten, stamped, or labeled with patient identification. Include the products required, tube # where you are, and initials of the requestor.
2. Send to pneumatic tube station BLOOD BANK
3. Call the Blood Bank 4-4141 and tell them you have sent a request form.
4. The Packed red blood cells will arrive via the "**BLOOD PRODUCTS ONLY**" red colored canister.
5. The receiving floor will immediately remove the blood product and fill in the receipt that accompanies the unit of blood to send back to Blood Bank.
6. Blood Products Request forms may be ordered through SMARTworks form vendor.
7. Utilize the Blood Timeout Form to do the double check by two licensed members of the nursing or medical staff who are qualified to participate in the process.

Blood Product Request Form

PLEASE NOTE: Blood Products Request forms may be ordered through vendor, # 999375



Blood Group Compatibility Chart

Patient's Blood Group	Compatible packed red cells	Compatible Plasma
O Positive	O Positive or O Negative	All
A Positive	A Positive or A Negative O Positive or O Negative	A Positive or AB Positive A Negative or AB Negative
B Positive	B Positive or B Negative O Positive or O Negative	B Positive or AB Positive B Negative or AB Negative
AB Positive	All types	AB Positive or AB Negative
O Negative	O Negative	All
A Negative	A Negative or O Negative	A Positive or AB Positive A Negative or AB Negative
B Negative	B Negative or O Negative	B Positive or AB Positive B Negative or AB Negative
AB Negative	AB, A, B or O Negative	AB Negative or AB Positive

- In a massive transfusion setting (more than 4 units of red cells needed in a 12-hour period), or in times of blood shortage, blood bank medical director may authorize the use of Rh positive red blood cells in Rh negative patients.
- A Plasma will be used in the Emergency setting for patients with an unknown blood type.

Platelets- All ABO types can be given to all patients (except neonates).

Pooled Cryoprecipitate Compatibility

Due to minimal plasma in single units, different ABO and Rh types may be pooled in one bag for Pooled Cryoprecipitate.

All pools are compatible with all patient blood types.

Pooled Cryoprecipitate may be labeled as:

O Pooled Rh
A Pooled Rh
B Pooled Rh
AB Pooled Rh
Pooled ABO Rh Positive
Pooled ABO Rh Negative
Pooled ABO Pooled Rh

Transfusion Reaction Flowchart

If Transfusion Reaction Occurs:

#1 Stop Transfusion

#2 Maintain IV with Normal Saline

Determine if reaction is **localized** or **systemic**

Reaction is considered **localized** only after an **MD/DO evaluation** reveals one of the following **EITHER:**

1. Limited urticaria, rash or pruritus which responds rapidly to antihistamine **OR**
2. There is a temperature elevation of 1.8°F or less **AND** temperature is less than 100.4°F (oral)

If MD/DO determines that transfusion reaction is localized and it is safe to resume, the Transfusor may re-initiate the transfusion.

Resume transfusion and continue to monitor patient according to MD/DO orders. If during re-initiation of the transfusion, additional signs and symptoms of a reaction occur, the transfusion must be stopped immediately and a full transfusion work-up completed.

Reaction is considered **systemic** if there are multiple signs and symptoms of a transfusion reaction which may include the following:

Temperature elevation ≥ 100.4°F (oral) **AND** an increase of at least 1.8°F, **OR** chills/rigors.

Other signs and symptoms may include low back pain, shortness of breath, rash, urticaria

If systemic reaction:

1. Assess and document patient vital signs per MD/DO orders (at least every 30 minutes and prn until stable)
2. Repeat check of identifying units, patient tags and numbers
3. Notify covering MD/DO and blood bank
4. Treat patient symptoms per MD/DO orders
5. Place Transfusion Reaction Evaluation Order
6. Obtain post-transfusion blood specimens (1 pink tube) using different site from transfusion location
7. If hemolysis is suspected obtain first voided post transfusion urine specimen and send to lab. Refer to above procedure: page 3, number 7, for hemolytic reaction information.
8. Send the following to the blood bank: Completed Transfusion Reaction Report, remaining blood products with tubing clamped and tip covered with sterile needless device, post transfusion blood and urine specimens.
9. Document the transfusion on Electronic Medication Administration Record (EMAR), the volume of blood infused on the I/O sheet and the reaction in patient's medical record in an Event note including type of blood product, amount of blood component transfused, signs and symptoms of transfusion reaction and response to treatment.

[redacted]

Policy and Procedure Manual

[redacted]

Policy #:	03.33.000
Issued:	June 8, 2000
Reviewed/ Revised:	6/2004, 1/2007, 6/2007, 8/2008, 5/2009, 12/2012, 7/2015, 10/2015, 3/2017, 1/2018, 4/2018, 2/2020, 4/2023
Section:	Safety

Patient Identification and Alert Bands

Purpose:

To establish a process for positively identifying patients at [redacted] To promote patient safety through a universal standard of unique patient identification and adequate alert band use.

Policy Statement:

[redacted] uses (1) patient name and (2) date of birth as Primary Identifiers for all patients. [redacted] will use these two identifiers when a patient is being admitted to the hospital or arriving in the ambulatory setting. [redacted] uses (1) patient address and (2) patient phone number as Secondary Identifiers when a patient is being admitted to the hospital or arriving in the ambulatory setting. [redacted] will request additional information, as necessary or if required by law, for positive verification of patient identification (ID).

All employees must use at least two patient identifiers (name and DOB) when providing care, treatment or services in the in-patient and ambulatory settings.

For patients who prefer to communicate in a language other than English, language interpretation in the patient's preferred language should be provided in order to facilitate accurate communication about the patient's identity. In addition, written instructions should be provided to patients in their preferred language with regards to procedures for confirming the patient's identity.

A universal ID band will be used for patients being treated in all inpatient, emergency room, peri-operative and selected outpatient locations. The ID band will include the patient's name, DOB, date of service, and medical record number. Staff or providers will confirm a patient's identity prior to any treatment or therapy, diagnostic procedure or test, transfer, medication administration, and meal delivery by asking the patient to identify themselves (name and DOB). If the patient is nonverbal, staff and providers shall refer to the patient's ID band. All patients receiving care must have the proper band(s) when required.

Application:

Patient Identification applies to all patients a[redacted] Patient bands apply only to those patients requiring a band.

Exceptions:

None

Definitions:

Legal Name: As used in this policy and other related policies, legal name refers to a patient's first name and last name that identifies a person for legal, administrative and other official purposes. It is validated by identification. A person's first legal name generally is the name of the person that was given for the purpose of registration of their birth and which then appears on a birth certificate, but may change

subsequently (e.g. due to marriage, official name change). A person's legal name is the name that must generally be on a patient's medical record and their insurance card.

Primary Identifiers: Information that is used to identify a patient. [redacted] uses patient's (1) name and (2) date of birth (DOB) as primary identifiers.

Secondary Identifiers: Information that is used to identify a patient in the event that patient's identity cannot be established through name and date of birth. [redacted] uses patient's (1) address and (2) phone number as secondary identifiers.

Regularly Used Name: As used in this policy and other related policies, Regularly Used Name refers to a name that a patient uses consistently other than their legal name. When a patient consistently uses another name that is different from their legal name, then the name consistently used may appear in the medical record in quotes and ALL CAPS next to the legal name (e.g. Optime, Francine "PETER"; Johnson, Donald "DONNA"; Smith, Mary "REBECCA"; Lopez, Michael "JAMES"). The regularly used name (the portion in caps and quotes) is not considered part of the legal name and therefore only the legal name should be used for the purposes of identifying the patient for medication administration, consent for procedure, transfusion, specimen collection or such other activity. However, the regularly used name should be used to address the patient in routine conversation aside from the patient identity verifications.

Procedure:

PATIENT IDENTIFICATION:

1. A staff member who has completed patient registration/ASR training will identify each patient at the patient's first point of entry to a [redacted] facility or office by using two primary identifiers: (1) patient name and (2) date of birth. If the patient cannot be identified by name and date of birth, then two secondary identifiers, (1) address and (2) telephone number, will also be used to identify the patient.

2. A staff member should not request government issued photo identification in lieu of using primary and secondary identifiers. If a patient offers a government issued photo identification, then the staff member may use that identification to identify the patient.

3. In the rare instances when a patient's identity cannot be confirmed by using the primary and secondary identifiers, a staff member may ask the patient if the patient has anything with them that has the patient's legal name written on it.

4. Hospital departments required by law to request government issued photo identification must do so. Examples: out-patient pharmacies must see photo ID before dispensing controlled substances, clinical services will ask for photo ID before giving a prescription for a controlled substance, Health Information Management must see photo ID before releasing medical record information, Patient Financial Services requests photo ID when a patient applies for MassHealth.

5. [redacted] Public Safety officers may ask to see a patient's or visitor's identification when it is necessary to ensure public safety on th[redacted] campus.

6. Some Departments may need to compare a patient's legal identification documentation in order to confirm that the patient's name and gender identifier are consistent with the patient's insurance information.

7. All [redacted] employees must use two primary identifiers (name and DOB) to confirm the identity of a patient when providing care, treatment or services.

7.1. Prior to any clinical intervention, staff and providers will identify the patient by asking the patient to state the patient's name and DOB. The patient's response will be compared with the information contained on the requisition, label, order form and/or medication administration record in addition to the patient ID band if one is applied (depending on location and services being provided). Positive identification must be performed prior to the following interventions:

- Collection of blood or tissues/fluid samples for cultures
- The administration of any medication, including intravenous fluids, blood or blood components
- Radiology exams
- Radiation therapy
- Delivery of dietary meals and snacks
- Minor and major invasive procedures
- Physical, occupational or speech therapy
- Transport to another department, unit or the morgue, prior to leaving and upon arrival
- Transfer to another facility or discharge

7.2. More than two patient identifiers may be used to ensure accuracy of patient identification.

8. Staff should not prompt or suggest information to the patient. If the patient is having difficulty communicating in English, then appropriate language interpretation services or written materials in the patient's preferred language should be used to facilitate clear communication. If the patient is confused or uncommunicative/non-responsive, the staff member shall validate the full patient name and the DOB on the patient ID band against the appropriate source of information (e.g. requisition, label, order form and/or medication administration record) and with a family member/legal patient representative, if present.

9. Label containers used for blood and other specimens in the presence of the patient[1]

10. Patient's room number or physical location is not used as an identifier.[1]

Patient Identifier Examples

Location	Patient Identifier Examples
Inpatient Observation Unit Emergency Department	Patient's full name and medical record number
Outpatient Outpatient Procedural Areas	Patient's full name and date of birth
Home Care Patient	Patient's full name and address

Examples of Proper Patient Identification

Proper Patient Identification	Improper Patient Identification
What is your full name?	Is your name Jane Doe?
What is your date of birth?	Were you born 1/1/1911?
What is your address?	Is your address 1 Boston Medical Center Place?

[1] 2017. Hospital Accreditation Standards. The Joint Commission, NPSG.01.01.01.

11. **Note:** All specimens drawn for Blood Bank must have two sets of initials on the tube label. Patient must be positively identified by two staff members to reduce the risk of mistransfusion.

12. **Note:** When a patient regularly uses another name that is different from their legal name, then the Regularly Used Name may appear in the medical record in quotes and ALL CAPS next to the legal name (e.g. Optime, Francine "PETER"; Johnson, Donald "DONNA"; Smith, Mary "REBECCA"; Lopez, Michael "JAMES"). The name regularly used (the portion in caps and quotes) is not considered part of the legal name and therefore only the legal name should be used for the purposes of identifying the patient for medication administration, consent for procedure, transfusion, specimen collection or such other activity. However, the regularly used name should be used to address the patient in routine conversation aside from the patient identity verifications.

PATIENT IDENTIFICATION BANDS:

All [redacted] employees will ensure patients receiving care have the proper identification band when required. All inpatients are required to have an identification band. In all cases of a patient identification band being used, the following applies:

Patient Identification Bands 	1. All patient ID bands must be attached to the wrist or ankle. • If a band must be removed during the course of patient care, it must be replaced as soon as possible. In the event the band cannot be replaced immediately, the removed ID band will be compared to the face sheet in the chart to ensure proper identification. The ID band must be placed on the patient as soon as it is feasible to do so. 2. If a patient is discovered without an identification band the following steps must be followed in order to confirm patient identity before putting a new band on the patient. • Ask the patient their name and the correct spelling • Ask the patient their date of birth. • Ask the patient to provide their address and social security number. • If the patient is unable to identify theirself, ask a family member /significant other to provide the information • If no family/significant other is available, ask a provider who has previously identified the patient. 3. Verify that the responses match the information on the face sheet and band of the patient immediately 4. ID bands must not be removed from deceased patients.

PATIENT ALERT BANDS:

Red Bands: Allergy Conditions 	1. The nurse at point of entry to [redacted] or on admission or at any point thereafter will place the proper, red alert band on the same extremity as the Patient Identification band. 2. In the event that the allergy alert band has to be removed for a treatment or a procedure, the nurse will remove the band and upon completion of the treatment or procedure, re-confirm the allergy, and reattach the band. 3. The nurse will instruct the patient and their family member(s) that the allergy alert band is a trigger to the care team to refer back to the actual medical record for reference on specific conditions and should not be removed. 4. The nurse will document the application of the red allergy alert band on the appropriate assessment in the patient medical record or in a progress note. 5. In the event that a patient refuses to wear the allergy alert wristband, a refusal note will be placed in the patient's chart.

Blue Bands: Infection Prevention Isolation (Contact, Droplet, or Airborne) 	1. The nurse at point of entry to [redacted] or on admission or at any point thereafter will place the proper, blue Infection Prevention Isolation alert band on the same extremity as the Patient Identification band. 2. **Patient Teaching**: At the time that an Infection Prevention Isolation alert band is applied, or at the earliest possible time thereafter, the nurse will educate the patient, and their family about the reasons for Isolation. Printed informational brochures are available on the Infection Prevention Department website to help explain conditions such as infection/colonization with resistant organisms, and Infection Prevention strategies to prevent spread. http://internal.bmc.org/infectioncontrol 3. The Patient Teaching is documented in the medical record. 4. In the event that the Infection Prevention Isolation alert band has to be removed for a treatment or a procedure, the nurse will remove the band and upon completion of the treatment or procedure, re-confirm the risks, and reattach the band. 5. If the Infection Prevention Isolation is discontinued [see Policy 05.03.040 - Isolation Precautions - Start/Stop/Transfer] the Infection Prevention Isolation alert band should be removed by the provider caring for the patient.
Pink Bands: Restricted Extremity 	1. The nurse at point of entry to [redacted] or on admission or at any point thereafter will place the proper, pink alert band on extremity of affected side of patient who has: • AV fistula/graft for Hemodialysis • Pending AV fistula/graft placement • Mastectomy/Breast surgery • Lymphedema • Post radial artery access for Cardiac Catheterization Lab or Interventional Radiology procedure • Post axillary lymph node removal/dissection • Deep Vein Thromboembolism (DVT) • Peripherally inserted central catheter (PICC) • Midline • Stroke deficits 2. In the event that the restricted extremity alert band has to be removed for a treatment or a procedure, the nurse will remove the band and upon completion of the treatment or procedure, re-confirm the restricted extremity, and reattach the band. 3. The nurse will instruct the patient and their family member(s) that the restricted extremity alert band is a trigger to the care team to refer back to the actual medical record for reference on specific conditions and should not be removed. 4. The nurse will document the application of the restricted extremity alert band on the appropriate assessment in the patient medical record or in a progress note. 5. In the event that a patient refuses to wear the restricted extremity alert wristband, a refusal note will be placed in the patient's chart.

Green Bands: Latex Allergy 	1. The nurse at point of entry to [redacted] or on admission or at any point thereafter will place the proper, green alert band on the same extremity as the Patient Identification band. 2. In the event that the latex allergy alert band has to be removed for a treatment or a procedure, the nurse will remove the band and upon completion of the treatment or procedure, re-confirm the latex allergy, and reattach the band. 3. The nurse will instruct the patient and their family member(s) that the latex allergy alert band is a trigger to the care team to refer back to the actual medical record for reference on specific conditions and should not be removed. 4. The nurse will document the application of the green latex allergy alert band on the appropriate assessment in the patient medical record or in a progress note. 5. In the event that a patient refuses to wear the latex allergy alert wristband, a refusal note will be placed in the patient's chart.

Responsibility:
All employees providing care and services to patients at [redacted]

Forms:
None

Other Related Policies:
02.33.000 - Identifying Patients and Merging Medical Records
05.03.020 - Transmission-Based Isolation Precautions
05.03.040 - Isolation Precautions – Start/Stop/Transfer
16.02.150 - Newborn Identification

Initiated by: Quality and Patient Safety

Contributing Departments:
1. Nursing
2. Registration
3. Support Services
4. Infection Prevention
5. Laboratory Services
6. Home Care

Reference:
Joint Commission Resources, Inc., "2023 Hospital Accreditation Standards", National Patient Safety Goals, pages NPSG -3

Policy #:	03.77.000
Issued:	March 2007
Reviewed/ Revised:	9/2012, 3/2013, 6/2015, 9/2016, 12/2018, 10/2019, 8/2021, 8/2024, 4/2025, 10/2025
Section:	Clinical Care/Patient Rights

Patient Handoff Standardization

Purpose:

The purpose of this policy is to provide a framework for standardization of communication of patient information when responsibility for a patient is transferred from one caregiver to another.

Policy Statement:

Caregivers at [redacted] will use the standardized approach Illness Severity, Patient Summary, Action List, Situational Awareness and Synthesis (I-PASS) with all hand-off communications **and include an opportunity to ask and respond to questions.**

Nursing Handoff at shift change will include the patient in the plan of care unless the patient has requested otherwise or the patient is currently off the floor at a test or procedure.

A standardized bedside handoff will occur, utilizing a safety check at the bedside and allowing time for questions. Together nurses check invasive lines, verify infusions and oxygen administration, if applicable. The goal is to transfer communication and maintain continuity of care. When shift change occurs at 7 AM and 7 PM, all team members are involved making it difficult to receive patients (which requires a visual check, initial vital signs, and an assessment to ensure the patient is stable). Between 6:45-7:15 AM and PM, a 30-minute pause (No Fly Zone) can be implemented to facilitate a safe handoff and decrease factors that negatively impact communication and patient safety during the largest shift changes in the hospital.

Each applicable department is responsible for customizing as appropriate and clinically implementing this policy.

Application:

The information in this policy applies to all caregivers transferring or acquiring care of a patient at [redacted]s.

Exceptions:

None

Procedure:

1. Healthcare professionals at [redacted] will incorporate the I-PASS format to all handoff communications involving a transfer of patient care among caregivers.

2. The I-PASS framework provides a structure for ensuring that all accurate and pertinent information is exchanged during the handoff:

   I – Illness Severity:
   Stable, "watcher" unstable

P -Patient Summary:
Summary Statement
Events leading up to admission
Hospital course
Ongoing assessment
Plan

A – Action List:
To do list
Timeline and ownership

S – Situational Awareness/Contingency Planning:
Know what's going on Anticipate and plan for what might go wrong

S - Synthesis:
Receiver summarizes what is heard
Asks questions
Restates key action items/to do items

There must be an opportunity to ask or respond to questions during the handoff communication. The receiver of the handoff information must have an opportunity to review relevant patient data, which may include previous and planned care, treatment and services.

3. This standardized I-PASS format will be used when transferring care of a patient during, but not limited to, the following instances:
   - All nurse to nurse (RN to RN) interactions;
   - Attending Physician/House staff transfer of on-call responsibilities;
   - Attending Physician/House staff transfer of complete patient care;
   - Admission from Emergency Department (ED) to Medical/Surgical Team;
   - Pre-operative (Pre-Op) RN to Anesthesia;
   - Circulator RN to Circulator RN;
   - Anesthesia to Post-Anesthesia Recovery Unit (PACU) RN;
   - PACU RN to Unit/Floor RN;
   - Unit/Floor RN to Transporter with Ticket to Ride; and
   - Transporter to Ancillary Services with Ticket to Ride.

4. All patients who require continuous telemetry or oxygen saturation (O2 Sat) monitoring, intermediate care unit (IMCU)/Progressive Care Unit (PCC) or intensive care unit (ICU) status, have intravenous (IV) vasoactive medication drips, blood products, will be accompanied by an RN when traveling between units/procedural areas/ED/Operating Room (OR). Medications requiring an independent double check (Heparin, Patient Controlled Analgesia (PCA), Epidural etc.) will be accompanied by an RN when traveling between care areas.

5. Interruptions during handoffs must be limited to minimize the possibility that information would fail to be conveyed. Handoffs must be interactive, allowing for the opportunity for questioning between the current caregiver and the receiver of patient information. Although face to face communication is preferred, the following methods may be used to facilitate handoff communications:
   - Face to Face;
   - Phone;

- Written

6. Whenever possible, a patient and his/her family will be included in the handoff dialogue. The goal of this interaction is increased involvement and understanding of their care.

7. **I-SAFETY Nursing Bedside Handoff**

I-PASS verbal handoff takes place at the patient's bedside to:

• **S: Stand at the bedside**
• **A: Assess your patient**
  o **General appearance**
  o **Pain**
  o **IV site, Scan and verify IV Medications**
  o **Oxygen**
  o **Skin**
• **F: Educate on falls risk or other safety issues to address with patient**
	• **E: Introduce new caregiver, Explain plan of care to patient**
	• **T: Try to involve patient/family**
	• **Y: Why? Provide time to ask questions, state when you will return, thank the patient**
	• **Fix outstanding documentation issues:**
	• **Medication administration record Update Lines, Drains, & Airways (LDAs)**
	• **Acknowledge orders**
	• **Labs**
	• **Restraints**
	• **Resolve care plans/patient education**

Responsibility:

All individuals and organizations have a shared responsibility to ensure that the highest quality of care and safety is given to patients. Because handoff communication is so vital to continuity of care and continuity of information is so vital to patient safety, it is important that all professionals assuming responsibility of a patient be held accountable and understand that their actions greatly affect the overall care of the patient.

I. Departmental Managers or Designee:
   a. Managers/Designee must ensure that the handoff policy and any forms designed for their units are being used consistently and correctly.
   b. Managers/Designee must also ensure that staffing supports the incorporation of this policy into their handoff process and that the handoff process includes an opportunity to ask questions.
   c. Managers/Designee will evaluate the handoffs in their respective units to ensure handoff policy compliance among staff.

II. Healthcare Personnel:
   a. Personnel will comply with this policy and procedures as well as address any additional concerns.
   b. This policy will apply to all licensed and non-licensed healthcare personnel.

III. Physician Leadership:
   a. Physician leaders will ensure that their house staff provides all the necessary information for a timely, accurate and efficient handoff in compliance with the handoff policy.

Forms:

None

Attachment:
I-PASS with SAFETY Nursing Handoff Guidelines

Other Related Policies:
None

Initiated by: Quality and Patient Safety
Contributing Departments:
1. Nursing
2. Emergency Department
3. Department of Medicine
4. Department of Surgery

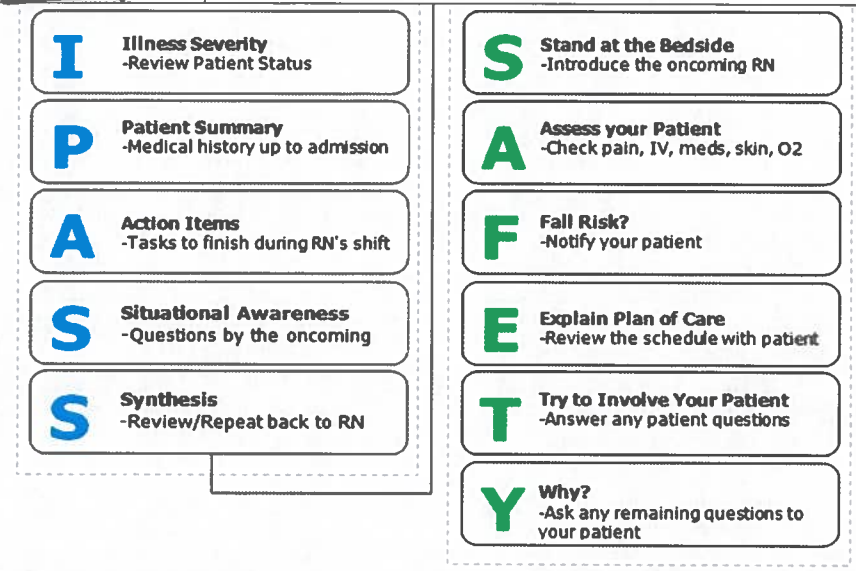
Key words:
Patient handoff, IPASS

References:

1. Alvarado K., Lee R., Christoffersen, Fram N., Boblin S., Poole N., Lucas J., Forsyth S. (2006). Transfer of Accountability: Transforming Shift Handover to Enhance Patient Safety. *Healthcare Quarterly,* 9, 75-79.
2. Ford, Y., Heyman, A., & Chapman, Y. (2014). Patients' perceptions of bedside handoff: The need for a culture of always. *Journal of Nursing Care Quality, 29*(4), 379-381.doi: 10.1097/NCQ.0000000000000056
3. Improving patient handoffs with a structured system. (2014). *Patient Safety Monitor Journal, 15*(3), 1-5. Retrieved from: http://ezproxy.lib.umb.edu/login?url=http://search.ebscohost.com.ezproxy.lib.umb.edu/login.aspx?direct=true&db=ccm&AN=2012627122&site=ehost-live
4. Heilman JA, Flanigan M, Nelson A, Johnson T, Yarris LM. Adapting the I-PASS handoff program for emergency department inter-shift handoffs. *WEST J EMERG MED.* 2016; 17(6):756-761. http://ezproxy.lib.umb.edu/login?url=http://search.ebscohost.com.ezproxy.lib.umb.edu/login.aspx?direct=true&db=ccm&AN=119398429&site=ehost-live. doi: 10.5811/westjem.2016.9.30574.
5. Huth K, Hart F, Moreau K, et al. Real-world implementation of a standardized handover program (I-PASS) on a pediatric clinical teaching unit. *ACAD PEDIATR.* 2016;16(6):532-539. http://ezproxy.lib.umb.edu/login?url=http://search.ebscohost.com.ezproxy.lib.umb.edu/login.aspx?direct=true&db=ccm&AN=117367896&site=ehost-live.
6. I-PASS handoff bundle improves communication. *AACN BOLD VOICES.* 2018;10(4):15-15. http://ezproxy.lib.umb.edu/login?url=http://search.ebscohost.com.ezproxy.lib.umb.edu/login.aspx?direct=true&db=ccm&AN=128582691&site=ehost-live.
7. Jeffs, L., Beswick, S., Acott, A., Simpson, E., Cardoso, R., Campbell, H., & Irwin, T. (2014). Patients' views on bedside nursing handover: Creating a space to connect. *Journal of Nursing Care Quality, 29*(2), 149-154.doi: 10.1097/NCQ.0000000000000035
8. Landrigan, C., & Lyons, A. (2012). I-PASS: Development of an evidence-based handoff implementation program for physicians and nurses. *FIRST do no Harm Quality and Patient Safety Division, Massachusetts Board of Registration in Medicine,* 1-3. Retrieved from http://www.mass.gov/eohhs/docs/borim/newsletters/qps-december-2012.pdf
9. Mardis, T., Mardis, M., Davis, J., Justice, E. M., Riley Holdinsky, S., Donnelly, J., . . . Riesenberg, L. A. (2016). Bedside shift-to-shift handoffs: A systematic review of the literature. *Journal of Nursing Care Quality, 31*(1), 54-60 7p. doi:10.1097/NCQ.0000000000000142

10. Maxson, P., Derby, K., Wrobleski, D., & Foss, D. (2012). Bedside nurse-to-nurse handoff promotes patient safety. *MEDSURG Nursing, 21*(3), 140-144.
11. Ogrinc, G., Davies, L., Goodman, D., Batalden, P., Davidoff, F., & Stevens, D. (2015). Squire 2.0 (Standard for Quality Improvement Reporting Excellence): Revised Publication Guidelines From a Detailed Consensus Process. *American Journal of Critical Care, 24*(6), 466-473 8p. doi:10.4037/ajcc2015455
12. Ransom B, Winters K. The I-PASS mnemonic and the occurrence of handoff related errors in adult acute care hospitals: A systematic review protocol. *JBI DATABASE SYST REV IMPLEMENT REP*. 2018;16(1):21-26. http://ezproxy.lib.umb.edu/login?url=http://search.ebscohost.com.ezproxy.lib.umb.edu/login.aspx?direct=true&db=ccm&AN=127438510&site=ehost-live. doi: 10.11124/JBISRIR-2016-003303.
13. Shahian DM, McEachern K, Rossi L, Chisari RG, Mort E. Large-scale implementation of the I-PASS handover system at an academic medical centre. *BMJ QUAL SAF*. 2017;26(9):760-770. http://ezproxy.lib.umb.edu/login?url=http://search.ebscohost.com.ezproxy.lib.umb.edu/login.aspx?direct=true&db=ccm&AN=124789940&site=ehost-live. doi: 10.1136/bmjqs-2016-006195.
14. Starmer, A. J., Spector, N. D., Srivastava, R., West, D. C., Rosenbluth, G., Allen, A. D., Landrigan, C. P. (2014). Changes in medical errors after implementation of a handoff program. N Engl J Med, 371(19), 1803-1812. doi:10.1056/NEJMsa1405556

Handoff Process at [redacted]	[redacted]-PASS with SAFETY Nursing Handoff Guidelines



Bedside Handoff	• Give verbal report in the I-PASS format use the tenets of AIDET (Acknowledge, Introduce, Duration, Explanation, Thank you) when addressing the patient. • Minimize noise and distractions during handoff. • To improve handoff efficiency nursing assignments should preferably be created with a **maximum of 2-3 RNs** to give handoff to per RN. • Assessments at the bedside are made by the incoming RN and supported through synthesis (asking questions and clarifying) with the patient or outgoing nurse. • Ask the patient about pain and discuss the preference of your patient with regard to the pain management plan. • Teach the patient about any safety concerns (e.g. fall prevention plan, toileting schedule, activity restrictions). • Confirm with the patient that they understand the plan of care and ask if they have any questions or preferences regarding that plan. • During closing of bedside handoff discuss a plan with the patient for when you will return and thank the patient (AIDET). • All patients who require continuous telemetry or O2 Sat monitoring, IIMCU or ICU status, blood products, will be accompanied by an RN when traveling. Only exception are patients who have an order to travel without monitoring off the unit. • Patient Care Technicians (PCTs) will complete PCT to PCT handoff at shift change, RN to PCT handoff will occur within 1 hour of shift change, and PCTs will handoff pertinent information to the RN throughout the shift at the time it occurs or is noted. • Handoff mid-shift for break times and short intervals < 1 hour includes an abbreviated verbal handoff. • IV medications will be verified with scanning and ensuring for the 7 rights of IV medication administration at shift change, transfer and admission by receiving RN for accuracy of dose infusing against the MD/DO order, medication administration record (MAR), and IV pump traced to patient. Medications that require an independent double check will be verified by 2 RNs at time of shift change, transfer and admission.

	The nurse must verify the pump settings are correct when compared with the MD/DO order and handoff of IV medications are documented in the Medication Administration Record (MAR). The volume to be infused (VTBI) on all primary/continuous infusions will be programmed for less than the total volume of fluid in the bag. The BMCHS guideline is to program the VTBI on initiation and bag change to 20% less than the total volume in the bag (i.e., 1000 ml bag program VTBI for 800 ml).
ED to ED Registered Nurse (RN) includes adult/pediatrics	• Shift handoff includes an update at the patient's bedside (except when patient is off the unit for tests/procedures). • Handoff is conducted in the I-PASS format utilizing the electronic handoff report tool in EMR. • Handoff mid-shift for break times and short intervals < 1 hour includes an abbreviated verbal handoff
ED RN to Observation unit RN	• Handoff occurs in the I-PASS format with review of the electronic I-PASS note the receiving RN. • Telephone call is made to the unit prior to sending the patient. • Phone call or in person handoff allows opportunity for questions and clarifications of handoff documentation. Medications requiring an independent double check (Heparin, PCA, etc.) will be accompanied by an RN to the Observation Unit when leaving the ED.
Observation RN to receiving RN during transfer/admission to floor, ICU or IMCU	• Handoff occurs verbally over the telephone or in person in the I-PASS format.
ED RN to any ICU/PICU or IMCU/PCC RN	• Handoff occurs in the I-PASS format verbally over the telephone or in person at the bedside. • If the ICU RN cannot come to the telephone when report is attempted by the ED RN he/she will leave name/extension for the return call. • The ICU RN or a peer RN will preferably return the phone call for report within a maximum of 30 minutes. The patient will NOT be sent to the ICU without verbal report (MD/DO sign out, RN report completed). • The patient will be accompanied by an RN for the transfer to the ICU. Medications requiring an independent double check (Heparin, PCA, Epidural etc.) will be accompanied by an RN to the ICU/IMCU/PCC/PICU when leaving the ED.
ED RN to Medical/Surgical floor RN	• Handoff occurs electronically with an I-PASS note. • There is a verbal exchange over the telephone where the floor RN utilizes the ED I-PASS electronic handoff note to guide questions/clarifications. • Telephone call is made by the ED RN to the floor RN prior to sending the patient. • In the event the floor RN is unable to answer this phone call, the phone extension for the ED RN will be located on the I-PASS note. • The patient will be sent to the floor without waiting for the return phone call.
ED RN to OR RN	• Nursing handoff to OR nursing occurs in addition to MD/DO sign out to anesthesia and is conducted verbally over the telephone or in person in the I-PASS format.

ED RN to Cardiac Catheterization Lab (Cath-lab) Interventional Radiology (IR), Endoscopy (Endo), Electrophysiology (EP) Lab RN	• Handoff will occur verbally over the telephone or in person in the I-PASS format. • All patients who require continuous telemetry or O2 Sat monitoring, IMCU/PCC or ICU status, have IV vasoactive medication drips, blood products will be accompanied by an **RN or Paramedic** to the Cath lab/IR/endoscopy/EP lab when leaving ED. Medications requiring an independent double check (Heparin, PCA, Epidural etc.) will be accompanied by an RN or Paramedic to the Cath lab/IR/endoscopy/EP lab when leaving the ED.
OR	• **OR to OR RN** shift handoff occurs at the patient's bedside in I-PASS format • **OR to PACU RN** report occurs in addition to anesthesia to PACU RN report and is in I-PASS format at the patient's bedside utilizing the IPASS tool. • **OR to ICU RN** handoff occurs in addition to anesthesia handoff and is in I-PASS format at the bedside in the ICU. • **ED RN will give OR RN** handoff verbally over the telephone or in person to OR RN in I-PASS format.
PACU	• **The Pre-op RN** will receive verbal handoff over the phone or in person from **ED, ICU, IMCU/PCC and Floor nurse** in I-PASS format utilizing I-PASS tool on all pre-op patients. • **The pre-op RN** will give handoff utilizing the I-PASS tool to **OR receiving RN**. • **PACU to PACU RN shift handoff** occurs at the patient's bedside in I-PASS format utilizing the IPASS handoff tool. • **PACU to ICU/IMCU/PCC RN, or PACU RN to Floor RN** report will occur verbally over the telephone in in person in the I-PASS format • **The PACU RN** will call the receiving floor when they are about to leave the PACU to ensure the floor RN will be ready to receive the patient.
Endoscopy (Endo)	• **Endo to Endo RN** shift handoff occurs at the patient's bedside in I-PASS format. • Endo RN to ICU, RN, IMCU/PCC RN and Floor RN report will be verbal in person or on the telephone in I-PASS format. • **ED RN** will give Endo RN telephone or in person report in I-PASS format.
Cardiac Catheterization Lab (Cath lab) / Interventional Radiology (IR)	• **Cath Lab RN to Cath Lab RN** will give in person report in I-PASS format whenever there is a transfer in caregiver. • **IR RN to IR RN** handoff will be performed at the bedside whenever possible in the I-PASS with SAFETY format • **Cath Lab RN/IR RN to ICU RN, IMCU/PCC RN and Floor RN** report will be verbal in person or on the telephone in I-PASS format • **The Cath Lab RN/IR RN** area will **receive a** verbal report on phone or in person from **ED, ICU, IMCU/PCC, and floor RN**.
Electrophysiology Lab (EP lab)	• **EP RN to EP RN** will be handoff will occur at the bedside whenever possible or verbally over the telephone in the I-PASS format whenever there is a transfer in caregiver. • **Pre-procedure the EP Lab RN** area will receive RN handoff verbally over the phone or in person **from ED, ICU, IMCU/PCC, and floor nurse** in I-PASS format • **Post-procedure the EP Lab RN to ICU RN, IMCU/PCC RN, and Floor RN** report will be verbally over the telephone or in person in I-PASS format

Resource RNs	• **Resource RN or receiving ICU, IMCU/PCC, floor RN or other appropriate RN may accompany patient when available if primary RN who gave report is unable to accompany the patient.** • **Resource RN must receive I-PASS handoff from primary RN or covering peer RN.** • **Resource RN will do bedside handoff with the receiving RN or covering peer RN.** • **The nurse on the receiving floor in any handoff must meet the transporting nurse for handoff upon arrival.** • **The nurse may be paged overhead if needed.**
PCT to PCT Handoff	• **Shift verbal handoff occurs at the start of each shift between the incoming and outgoing PCTs. Handoff includes most current information on the reason for admission, delegated tasks and individualized care needs of the patient.** • **Safety risk, VS frequency, In's & Out's (I&O), level of activity, falls, isolation/infection, diet, weights, Glucose finger sticks or other point of care testing.** • **Finger stick report, and weight report should be run at the beginning of each shift as needed.** • **Documentation in the electronic health record will be completed by the outgoing PCT before leaving at the end of the shift.** • **At the conclusion of verbal handoff the incoming PCT will introduce themselves to the patient using AIDET framework and update the patient communication boards** • **At the conclusion of verbal handoff outgoing PCT will remain on unit answer call lights and assist patients as needed until the end of the shift.**
RN to PCT handoff	• **Within the first hour of the shift the RN will provide verbal hand off to the PCT. At this time RN will provide pertinent info, address safety concerns, delegate tasks and provide situational awareness.** • **Information must include behavioral/safety issues and reason for 1:1 observation if necessary.**
PCT to RN handoff	• **There is ongoing communication throughout the shift. Any change in patient status will be communicated immediately to RN. Any critical values will be communicated immediately to RN.**

Peripheral Intravenous (PIV) Insertion, Care, Maintenance and IV Therapy

Policy #:	10.04.050
Issued:	December 2000
Reviewed/ Revised:	9/2006, 1/2010, 4/2011, 2/2013, 12/2015, 6/2017, 9/2018, 8/2019, 10/2019, 12/2019, 6/2020, 2/2021, 8/2021, 4/2022, 9/2022, 4/2024, 7/2025
Section:	Nursing

Purpose:

To ensure that all [redacted] patients needing Intravenous (IV) Therapy, have insertion site and line care according to the Infusion Therapy Standards (INS) of Practice. IV insertion is an invasive procedure and poses a risk for infection. Reduced infection risk by hand washing, aseptic techniques, skin prep, and universal precautions. All IV infusions are administered via an infusion pump utilizing Guardrails whenever possible.

Policy Statement:

Basic Requirements

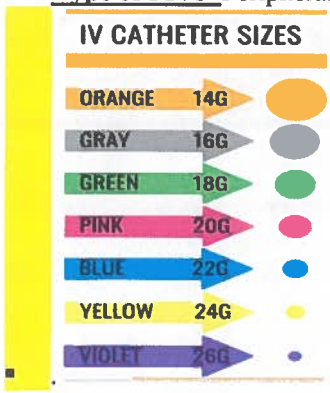
- All peripheral IVs (PIV) require an order. An order for a specific IV medication/therapy or telemetry implies an order for IV access. Refer to Policy - Medication Ordering.
- If admitted with PIV in place, the IV should be replaced and dressing changed. If patient arrives from Emergency Department (ED), switch to floor stock extension tubing to increase length of dwell.
- Only competency verified RNs can place PIVs or extended dwell PIVs (Ultrasound guided).

There is a separate training and skill validation for extended length/dwell PIVs that includes the ultrasound training in which the IV team is trained.

*Clinical RN's with IV insertion competency should attempt 2 PIV insertions prior to entering an order for the IV Team RN to place IV. If the clinical RN has not completed their competency, then they are to use their unit resources such as the Charge nurse or another staff RN who has gained competency to attempt the 2 sticks.

- After 2 unsuccessful attempts, then the clinical RN may escalate to a clinician such as IV team with a higher skill level by entering a PIV insertion request order
- Only place a request for PIV insertion by the IV Team if there is a loss of access or compatibility issues. **Please do not place IV request unless clinically necessary**.

Type of PIVs- Peripheral IVs come in varying gauges, etc



- There may be specialized size requirements or location requirements for certain procedures. For example, CT scan. Please check relevant policies. Use a 24 to 20 gauge IV for blood transfusions.

Extended dwell peripheral IVs are indicated for inpatients with poor vascular access. Placed at discretion of IV Team. Per PIV order set, the IV Team if unsuccessful with PIV attempt, may place a Powerglide IV which is considered a midline. See Policy: Midline Insertion, Care and Removal 10.04.080

PIVs that are longer in length than traditional PIVs, are placed under ultrasound guidance, have power injectable capability, have a securement device to secure them. These are not a replacement for central lines, rather they are to be utilized as an access for deeper veins (e.g. AC, obese patients) or for patients with poor venous access. If the vessel is difficult to palpate or visualize with the naked eye, the IV Team RN may choose Long PIV's.

Catheter and Site Selection

1. Catheter and site selection depends upon the prescribed therapy, venous accessibility, and patient discomfort.
2. Select the device with the shortest length and smallest gauge size that allows for the proper administration of the prescribed therapy.
    a. Use a forearm vein where possible to prolong dwell time, reduce pain during dwell, and reduce overall device failure
    b. Consider hand veins only for short term therapy (less than 24 hours).
    c. Contraindicated sites are:
        - **avoid the Antecubital fossa (AC) –PIVC insertion in areas of flexion are associated with higher rates of failure.**
        - lower extremities in adults
        - an extremity with an AV fistula (exception: dorsum of hand)
        - burns
        - severe ecchymosis
        - any extremity with infection
        - pain on palpitation
        - blood clot in that extremity
        - compromised skin and sites distal to these areas with open wounds
        - Avoid cephalic vein at the wrist, Volar aspect of the wrist, due to higher risk of nerve damage.
        - Surgical sites- i.e., broken arm, wrist, hand on same extremity
    d. For patients who have had mastectomies and/or axillary lymph node dissections access should be attempted on the contralateral arm.
    e. A doctor's order MUST be obtained to use any extremity with impaired lymph drainage. Patient should be educated on the long term ramifications of placement in this extremity
    f. Hemiparesis or paralysis- avoid venipuncture of affected extremity due to loss of sensation and alteration of blood flow.
    g. **Neonatal and PEDIATRIC** populations may utilize the lower extremities. Scalp veins may be used **in neonatal populations**.
    h. Consider use of internal or external jugular vein **(Licensed Independent Practitioner (LIP) to insert)** in patients in acute care and in emergency when other veins cannot be accessed. Collaborate with provider for alternative vascular access as soon as possible.
    i. If patient transferred from ED with IV in AC, check to see if other sites available and switch to new site.

Assessment of IV sites

1. It is the responsibility of the **clinical RN caring for the patient** with a PIV to assess the IV site and document the assessment in the patient record a minimum of once a shift and to assess at every bedside handoff, before any use of the line, and PRN.
2. Before use: Before any IV medications are administered, the site and patency of the IV must be assessed and documented in the patient record/patient care flow sheet.
3. IV sites are assessed for signs and symptoms of complications and dressing patency.
4. In the case of an infiltration, infection, or phlebitis: Remove IV, document assessment, notify LIP and in the case of infiltration of certain medications an antidote may be necessary, enter an Event note in the electronic health record (EHR), and file an RL internal incident report.
5. In the case of significant infiltration, the team may decide to administer an antidote. Consult LIP and Pharmacy. Document in EHR at time of assessment.

- **Site infection:** Signs and symptoms of a site infection include
    - redness
    - swelling
    - increased white blood cell count
    - elevated temperature
    - purulent drainage from the site.
  - In case of infection, IV should be discontinued by clinical RN and additional measures such as site elevation and application of warm packs OR cold packs may be required.
  - Document assessment and interventions in the EHR.

- **Phlebitis:** Inflammation of the vessel wall can be caused by chemical, mechanical or bacterial irritation.
    - REMOVE IV
    - Warm or cold compresses may be applied.
    - Elevate the extremity.
    - Document assessment and interventions in the EHR.
  - When documenting a phlebitis, the following Infusion Nursing Society (INS) scale should be implemented:

	INS Phlebitis Scale 2024 update
Grade	**Clinical Criteria**
0	No symptoms
1	Erythema at access site with or without pain
2	Pain at access site with erythema and/or edema
3	Pain at access site with erythema, streak formation, palpable venous chord
4	Pain at access site with erythema, streak formation, palpable venous chord > 1 inch in length, purulent drainage

- **Infiltration:** is the unintended administration of medication or solutions into the tissues surrounding a vessel. The circumference of the extremity may be increased and treatment will depend upon the properties of the infiltrated solution/medication.
    - Notify LIP
    - elevate the extremity
    - refer to *Policy (#10.03.110) Management of Intravenous (IV) Infiltrations and Extravasations* depending on medication involved then Pharmacy may be consulted to advise on antidote and plan of care in collaboration with LIP and nursing.
    - Document assessment and interventions in the EHR.

- May place ice pack or hot pack depending on the medication that was infiltrated- see Extravasation Policy.
- **Stage the infiltrate per the INS scale below:**

	INS Infiltration Scale 2024 INS
GRADE	Clinical Criteria
0	No symptoms
1	Skin blanched, translucent, Edema < 1 inch in any direction, Cool to touch, with or without pain.
2	Skin blanched, Edema 1-6 inches in any direction, Cool to touch, With or without pain.
3	Skin blanched, translucent, Gross edema > 6 inches in any direction, cool to touch, mild-moderate pain, possible numbness
4	Skin blanched, translucent, skin tight leaking, Skin colored bruised, swollen, Gross edema > 6 inches in any direction, Deep pitting tissue edema, moderate-severe pain, ******Infiltration of ANY blood product, irritant, or vesicant.

Dressings

- It is the responsibility of the nurse assigned to the patient to monitor and change the PIV dressings as needed. Dressings must be dated, timed, & initialed. If there is no date on the IV dressing, refer back to initial documentation of placement and label the dressing with the date. If no date can be identified, the IV must be assessed thoroughly and dressing replaced.
- Dressings should be transparent- no silk tape or Kerlex or Coban dressing that covers the insertion site is to be used. Dressing changes for all PIV's will be done routinely every 7 days and PRN using aseptic technique.
- Replace catheter site dressing as necessary if the dressing becomes damp, loosened, or visibly soiled.
- Document dressing change in EHR including "next date dressing is due."
- If securement device is present, nurse assigned can change to regular PIV dressing.

Documentation Requirements

- Documentation of the insertion within the EHR includes placement date, time, gauge, location of the catheter, site prep, if applicable local anesthetic and technique for insertion and next dressing due date.
- Documentation of assessment- site quality, patency, etc. blood return, flushing,
- Documentation of dressing assessment/changes: Dressings must be dated, timed, & initialed. If there is no date on the IV dressing, refer back to initial documentation of placement and label the dressing with the date. If no date can be identified, the IV must be assessed thoroughly and dressing replaced.
- Upon removal, document removal of Lines, Drains, Airways (LDA) from EHR including why the IV was removed.
- If EHR has old LDA's from previous admissions which are no longer in place, remove from documentation.
- Education: Patient and/or care giver education should include minimal site manipulation, avoidance of wetness, and notify nurse of pain or discomfort, swelling, drainage and/or bleeding at the insertion site or if the dressing is non-occlusive. Document education in EHR.

PIV Life

- PIV catheters may remain in place until IV therapy is completed unless signs or symptoms of infection, phlebitis (warmth, tenderness, erythema, drainage, and/or palpable cord), infiltration or a malfunctioning catheter occur.
- ****** The site assessment by the clinical nurse guides the need for PIV replacement based on clinical need for PIV access.
    - Prior to discharge, the patient's IV must be discontinued and documented unless a plan is in place for the transfer to homecare or healthcare facility (see Exceptions Page 6 -BMC Heart Failure IV Infusion Clinic patients). This plan of care must be documented in the EHR.

IV Tubing and Ports and Connectors

- All IV tubing will be labeled with the date and initials when the tubing is initially hung and changed at 96 hours. Change alcohol impregnated caps and connectors with tubing.
- Scrub Hospital approved connectors vigorously with alcohol and allow to dry prior to access of the Hospital approved connectors/cap.
- All ports on tubing and IV lines (y-site, normal saline lock etc.) require an antiseptic impregnated cap when not in use.
    - At no time should the end of the IV tubing be left open to room air. Recapping aseptically immediately after disconnection will prevent contamination.
- Intermittent IV sets (i.e. antibiotics) require aseptic recapping of the cannula with a sterile cap.
- All saline and Heparin locked IVs must have an alcohol impregnated cap applied when not in use.
- A normal saline flush that is used to maintain catheter patency is considered a medical device and does not require an LIP order.
- IV sites that are saline locked are to be flushed:
    - Every 12 hours for adult patients
    - Every 8 hours for **PEDIATRIC** patients
    - Before and after intermittent medication using the Saline/Administer (medication)/Saline (SAS) technique- Push/Pause Method.
    - If the catheter is a 24 gauge, flush every four hours.
- Normal Saline flushes may be pre-filled syringes or may be drawn from a single use vial. All flushes are one time use only. Use prefilled syringes if available to reduce the risk of central line associated bloodstream infection (CLABSI), save time for syringe preparation, and aid in optimal flushing technique and objectives per INS standards.
- A single secondary tubing set up may be used with compatible antibiotics so long as the solutions are back flushed with keep vein open (KVO) solution in between medications.

Glass Bottles and Semi Rigid Container

- Glass bottles require the use of vented tubing.
- When spiking a glass or semi-rigid container, squeeze the drip chamber prior to spiking to help prevent the vent from becoming wet.
    - Keep the drip chamber vertical. If the vent becomes wet when using glass or semi-rigid containers, it may not allow air to flow through it and may cause the infusion to stop. If vent becomes wet, the tubing needs to be changed.

TUBING + CONNECTOR CHANGES

4 Hours	12 hours	24 hours	96 hours	7 days
• Blood Tubing (d/t filter)	• Lipid emulsion container • Propofol container and tubing	• 3-in-1 Parenteral Nutrition Tubing • 2-in-1 Parenteral Nutrition Tubing and filter * • Lipid Tubing and filter *	• IV tubing – primary and secondary • Manufactured solutions • Peripheral line hospital approved connectors/cap • Hemodynamic pressure tubing/transducer and fluid • 0.2micron filter	• Central line hospital approved connector/cap

Special Populations

For Renal Patients

- Use the dorsum of the hand whenever possible, regardless of arm dominance, in patient with an actual or planned dialysis fistula or graft is allowed.

For PEDIATRIC Patients:

- IV insertion should be performed utilizing age-appropriate approaches, pain free strategies and child life support if available.
- **PEDIATRIC** populations may utilize the lower extremities.
- IV sites are assessed for signs and symptoms of complications and documented in the EHR:
    - Hourly assessments if the patient is receiving continuous IV fluids.
    - Every four hours, and with every change in caregiver, if the IV catheter is a saline-lock.
- **For PEDIATRIC patients,** all continuous IV solutions must have an order.

For Neonatal Patients:

- IV insertion should be performed utilizing age-appropriate approaches, pain free strategies, and child life support if available.
- Neonatal may utilize the lower extremities. Scalp veins may be used in neonatal populations.
- IV sites must be assessed for signs and symptoms of complications and documented in the patient record/patient care flow sheet:
    - Hourly, if the patient is receiving continuous IV fluids.
    - Every four hours, and with every change in caregiver, if the IV catheter is a saline-lock.
- It is not recommended to draw blood from an IV catheter in a newborn due to the increased risk of hemolysis of the blood sample.
- Continuous IV solutions infusing via central line must be filtered with a 0.2 micron air eliminating filter (unless contraindicated as specified by medication reference, i.e. Neofax).

Hospital at Home patients

- Requiring PIV line insertion after arrival to their home will have those devices placed by a contracted service provider in accordance with their policy and procedure guidelines.

[redacted] Heart Failure IV Infusion Clinic

- Patients with peripheral venous access who are being discharged from the ED to a [redacted] Heart Failure IV Infusion Clinic may leave the hospital with their peripheral venous access in place provided that an LIP has assessed patient is at low risk of misuse of peripheral venous access when leaving ED for the Heart Failure IV Infusion Clinic

Application:

All patients at [redacted] who need or have a PIV catheter.

Procedure:

PIV Insertion

Equipment:

- Alcohol Pad/Chlorhexidine Pad
- Non Sterile Gloves
- Single use tourniquet
- Peripheral catheter (appropriate size for age and therapy)
- Needleless connectors
- IV solution and primed IV administration set as ordered
- Prefilled normal saline syringe
- IV Pole and Alaris Pump
- Transparent dressing
- Arm board if needed to stabilize site
- Sterile gauze
- Band aid
- Tape

Procedure:

1. Gather appropriate equipment.
2. Perform hand hygiene.
3. Prepare the IV solution and hang on IV pole and place in pump.
4. Confirm the patient's Identity using two identifiers.
5. Explain the procedure to the patient.
6. Select the most appropriate site, using non dominant hand or forearm if possible (depending on the IV therapy ordered), and start at most distal site as appropriate. For IV medications that are irritating to vessels, choose larger vessels.
7. Ensure patient is in a comfortable position, with extremity lower than the heart to promote vascular distention/dilatation.
8. Selecting a vein: Apply the tourniquet at appropriate location above the intended insertion site, leaving tourniquet in place for no more than 2 minutes while identifying a suitable vein. Release the tourniquet while preparing the site.
9. Perform hand hygiene and don gloves.
10. Preparing the site: Clean with soap and water if visibly soiled. Using an antiseptic solution/pad, vigorously scrub the site using back and forth scrubbing motion for 30 seconds & allow the site to dry.
11. Reapply the tourniquet.
12. Uncover cannula and perform release maneuver, ending with bevel up and safety release button up.
13. Using thumb of your non dominant hand, stretch the skin taut below intended puncture site to stabilize the vein. Inform patient that you are about to insert the cannula.

14. Hold the needle bevel up and enter the skin directly over the vein at a 5-15 degree angle, pushing the needle through skin and into the vein in one motion. Check for flashback of blood in chamber behind the hub.
15. On flashback, lower the device and advance the catheter 2-3 mm to ensure the cannula has entered the vein and release the tourniquet.
16. Thread the cannula fully into the vein.
17. Stabilize the cannula hub and press the safety button to activate needle retraction.
18. Attach the primed extension tubing and IV set ensuring a blood return and flushing with NS to ensure catheter is patent & in the vein. Trace the IV set from patient to point of origin to ensure it is correct for the patient.
19. Clean site if appropriate, apply transparent dressing, and label the dressing with date and time of insertion, your initials, and gauge of IV catheter.
20. If IV site is near a movable joint, place a padded arm board under the joint and secure to patient to stabilize the joint. Ensure that the IV site is fully visible and frequently check the extremity distal to the board for impaired circulation, sensation, & motion anytime an arm board is used.
21. Discard used supplies appropriately (sharps in appropriate receptacle).
22. Perform hand hygiene.
23. Document in the EHR.

Extended Dwell PIV US Guided

Procedure:

1. Perform hand hygiene and don non-sterile gloves
2. Identify the vein and insertion site.
3. Clean and prep insertion site.
4. Remove needle cover and inspect the catheter unit. Break catheter tip adhesion before inserting by slightly rotating the catheter hub before returning to its final position with catheter tab facing up.
5. Advance guidewire from current position by moving the slide toward the catheter tip until it stops. Then fully retract the guidewire back into the needle by moving the slider away from the catheter tip.
6. Insert the needle into the vein and observe for blood return in the catheter.
7. Slowly deploy guidewire into vessel by gently moving the slider toward the catheter tip until fully deployed and it stops.
8. Advance catheter into vessel using 2 fingers at catheter hub and use opposite hand to stabilize the device. Avoid simultaneously pulling the needle out as the catheter is pushed in. Warning: Once the catheter has been advanced do not reinsert the needle back into the catheter or pull the catheter back onto the needle. If the catheter needs to be repositioned either do so without the aid of the needle or remove both the catheter and the needle as a unit to prevent the needle from damaging or shearing the catheter.
9. Depress the safety activation white button while stabilizing the catheter with the opposite hand. This will retract the needle and proximal portion of the guidewire into the safety chamber. If it doesn't retract push white button again. Coiled tip should remain visible for inspection. Do not bend needle before or during use as this may affect proper needle retraction.
10. Securely connect any accessory device (extension set) to the catheter hub and flush line prior to infusion. Caution use aseptic technique.
11. Secure catheter with Stat Lock and apply sterile transparent dressing over insertion site per policy.
12. Immediately discard safety chamber into the sharps container.

Intermittent Flush

Equipment:

- Alcohol pads
- 0.9 % Normal Saline Syringe
- Non- sterile gloves

Procedure:

1. Perform hand hygiene.
2. Verify order for flush and patient identification using 2 patient identifiers.
3. Don gloves.
4. Assess the IV site to ensure that it is free from infection, infiltration, and phlebitis.
5. Scrub the entire injection cap with 70% alcohol pad vigorously prior to each entry with new alcohol pad and allow to dry.
6. Maintaining sterility, attach the 0.9% normal saline syringe to injection cap and verify patency of catheter by gently pulling back syringe plunger and aspirating for blood return.
7. Use push pause method to agitate medication debris in hub and tubing to clear debris as you inject 0.9% normal saline into catheter while assessing for resistance (if resistance, stop, assess for cause, and take appropriate action), re-clamping while injecting the last 0.5 mLs
8. For adults administer 2-3 mL and for PEDIATRICs administer 0.5- 2 mL.

Initializing Continuous IV Fluids

Equipment:

- IV fluid per physician order
- IV tubing
- 0.9% Normal Saline Flush
- Alcohol swab
- IV pole/Alaris Pump

Procedure:

1. Perform hand hygiene and don non-sterile gloves
2. Obtain IV fluid as per MD/DO order.
3. Open appropriate newly opened IV fluid or pharmacy prepared IV fluid on IV pole. Remove the cap from the IV bag, avoiding contamination.
4. Open package of IV tubing, ensure that the clamp is secured.
5. Remove cap from the IV tubing, ensuring that the tubing end remains sterile.
6. Spike the bag.
7. Squeeze the drip chamber, allowing it to fill 2/3 full.
8. Open the clamp and prime the tubing over a waste container, removing the air, closing clamp, label tubing with date and initials.
9. Load IV tubing into Alaris pump.
10. Follow steps 1-6 above and administer 2-3 mL for adults and 0.5-2 mL for PEDIATRIC patients and remove the normal saline syringe.
11. Set the infusion pump using the Guardrails IV Fluids settings.
12. The volume to be infused (VTBI) on all primary infusions will be programmed for less than the total volume in the bag. This prevents IV infusions from running dry and allows time for the nurse to obtain a replacement bag.
13. [redacted] guideline is to program the VTBI on initiation and bag changing for 20% less than the total bag volume.
14. Scan the IV fluid and the patient with the MAR open. Begin infusion.

15. Link the infusion to the IV line you are administering it through and document the start of infusion in EHR.

IV Secondary Line Drug Infusions

Equipment:

- Prescribed IV medication
- Secondary Administration set (includes extension hook, needleless adaptor)
- Alcohol pads
- Primary line infusion set via an infusion pump- confirm that the primary line contains a secondary port before the line enters the Alaris pump chamber.

Procedure:

1. Avoid distractions and interruptions when preparing and administering medication to prevent medication errors.
2. Refer to *Policy #10.03.010 Medication Administration* for medication specific portion.
3. Perform hand hygiene and don gloves
4. Verify patient identity using two identifiers.
5. Assess the IV site for pain, redness, or swelling.
6. For a patient with a saline lock, scrub the needleless connector using friction and allow to dry, aseptically attach a normal saline filled syringe and gently flush with the normal saline to assess catheter patency, remove syringe, scrub the connector with another alcohol pad and aseptically attach the IV tubing and start the primary line.
7. Prepare the secondary container, close the roller clamp on the secondary tubing, and spike the container, hang on the IV pole.
8. For a patient with a running IV, ensure compatibility, if not compatible - prime and hang a compatible solution.
9. Disinfect the Y Site port with an alcohol pad before the tubing enters the pump and allow to dry. Attach the secondary line to the port.
10. Prime the secondary line with fluid from the primary infusion.
11. Use the extension hook, lower the main primary infusion so that the secondary drip chamber is higher than the primary bag.
12. Open the roller clamp on the secondary set
13. Program the Alaris pump to administer the Secondary Infusion and start the infusion.
14. Observe the infusion when it starts to see if secondary line is infusing.
15. Wash hands
16. Document in EHR

Removal of PIV and Extended Dwell PIV

Equipment:

- Tape
- 2x2 sterile gauze
- non-sterile gloves

Procedure

1. Perform hand hygiene and don non-sterile gloves
2. Remove tape and other securement material from the PIV site: Remove towards the insertion site to reduce injury to the vein.
3. With the non-dominant hand gently place a sterile gauze over the area where the catheter enters the skin.

4. With the dominant hand pull out the catheter. Immediately following removal apply pressure to the sterile gauze over the insertion site.
5. Continue to apply pressure until the bleeding has completely stopped.
6. Once the bleeding has stopped remove used gauze, apply new sterile gauze to the site, and tape gauze in place.
7. Dispose of the catheter, gauze, and gloves in trash and perform hand hygiene.
8. Document PIV removal in EHR (remove LDA) including reason for removal.

Responsibility:

Clinical Nurse for site assessment, care, and maintenance including dressing changes. Peripheral IV Insertion competency required for insertion.

Clinical Information IV Infusions, Intermittent Infusions:

- All IV infusions are administered via an infusion pump utilizing Guardrails whenever possible.
- All continuous IV infusions (solutions and medications) are verified and scanned at the start of each shift and with each change in caregiver during the I-PASS handoff
- Avoid use of short PIV for continuous infusion of medication with irritant or vesicant properties. .
- **For adult patients**: A Keep Vein Open (KVO) order in the EHR is available for LIP to order for use with continuous medications that stop/start based on labs and patient condition (i.e.: heparin). This order will allow the nurse to hang the specified compatible solution ordered and rate ordered, and the line will be kept open with that solution when the continuous medication must be stopped. The KVO order is designed to default to 20 ml/hr as the preferred rate. The LIP must write the order for solution and rate, which can be 10, 15, or 20ml/hr in the adult. Any higher rates are fluid therapy orders and are not a KVO. 20 mL is rate for all central lines.
- Intravenous solutions are considered a medication. Refer to *Policy #10.03.010 Medication Administration* when administering intravenous solutions.
- For pharmacy compounded drip solutions that have an expiration date, change solution per expiration date and with tubing change.
- Medication drips that are in manufacture ready-to-use bags can be hung for 96 hours
- *Policy #13.03.013 Hazardous Drug Handling* identifies hazardous medications that must be administered via a Closed System Transfer Device (CSTD), in accordance with USP 800 standards.
- IV fluid bag/syringe with admixtures will be labeled with the drug(s), dose, and concentration, as well as the date, time and initials that the solution was hung.
- IV bags must never be marked directly with a marker.
- Intermittent medications, such as antibiotics, infusing through an Alaris channel that holds an IV bag, upon completion, must have a 20 ml flush of compatible solution infused through the same line to flush remaining antibiotic for a time period less than 1 hour. If a continuous IV fluid rate is needed to keep the vein open (KVO rate), an IV fluid order must be obtained. KVO rate in pediatrics is 5 mL/hr.
- Intermittent medications, such as antibiotics, infusing through an Alaris channel that holds a syringe, upon completion must have a 0.9- 2ml flush of compatible solution infused through the same line to flush remaining antibiotic for a time period less than 1 hour.

Attachments:

None

Forms:

None

Other Related Policies/Protocols/Guidelines:

03.65.000 - Medication Ordering
05.02.040 - Event Related Sterility
05.02.050 - Hand Hygiene
10.01.060 - Nursing Assessment and Re Assessment
10.03.110 - Management of Extravasations of Vesicant and Irritant Drugs
10.04.130 - Peripherally Inserted Central Catheter
10.04.210 - Neonate and Infant: Peripherally Inserted Central Catheter (PICC) Insertion, Care and
10.04.070 - Central Line Management
10.04.080 - Midline Insertion, Care and Removal
10.04.100 - Implanted Infusion Ports: Access and Maintenance and de-accessing (Port-a-cath)
10.04.120 - Apheresis Catheters
10.04.140 - Insertion and Removal of Peripherally Inserted Central Line Catheter (PICC)
10.03.010 - Medication Administration
16.55[redacted] Medication Guideline: Procedural Pain Management in Neonates through Adolescents

References:

Infusion Nurses Society. *Policies and Procedures for Infusion Therapy: Acute Care.* 7th ed. Infusion Nurses Society; 2024.

Nickel, B., Gorski,L, Kleidon,T., Kyes, A., DeVries, M.,Keogh, S., Meyer, B.,Sarver, M. J., Crickman, R., Ong, J., Clare, S., Hagle, M.E.(2024) Infusion therapy standards of practice, 9th Edition. *Journal of Infusion Nursing.* 47(1S):S1-S285.doi: 10.1097/NAN.0000000000000532

Initiated by:

Nursing Professional Development

Contributing Departments:

IV Therapy Team
Infection Prevention
Pharmacy
Quality

Policy #:	03.58.000
Issued:	June 2003
Reviewed/ Revised:	4/2006, 3/2008, 7/2011, 12/2014, 7/2015, 10/2015, 1/2016, 4/2016, 6/2017, 2/2020, 7/2020, 4/2023, 4/2024, 1/2025, 10/2025
Section:	Quality and Patient Safety

Fall Prevention

Purpose:

- To identify patients at risk for falls by assessing all hospitalized patients' and screening at-risk ambulatory care patient's risk for falling.
- To effectively communicate patient risk and implement patient-specific strategies and interventions to prevent patient falls.
- To ensure safe post-fall care and documentation in the event of a fall.

Policy Statement:

- All [redacted] employees who have direct contact with patients have a responsibility for the safety of patients and need to assist with preventing patients from falling.
  - Every hospitalized patient will be assessed for falls: on admission, with each change in caregiver, a change in condition, or in the event of a fall.
  - Every patient who is transferred from one unit to another during the course of their hospitalization will be reassessed at that time by the receiving registered nurse (RN).
  - A yellow arm band and yellow slip resistant socks will be used on Falls Precaution patients to alert all staff that the patient is a fall risk and to help prevent slipping.
  - High fall risk patients will be accompanied to the bathroom and kept in full view at all times when in the bathroom (the majority of patient falls a[redacted] occur in the bathroom).
  - For neonates and infants, omit yellow socks/arm band and scoring process, but follow instructions in **Section 2: Inpatient Post Fall** below.
  - Only at-risk ambulatory patients will be screened by a clinician.
- In the event of a fall, the nurse and the medical doctor will collaborate in the post-fall plan of care and complete an online incident report.
- Hospital at Home
  - Patients will not have yellow socks or arm band. They will have Yellow Fall Signs placed in their home for in home service providers to visualize and be aware.

Application:

Hospital:
All hospitalized patients are assessed for falls at all[redacted]

Ambulatory:
At-risk ambulatory patients are screened for falls at all[redacted]

Exceptions:

- Ambulatory patients will not routinely be screened for falls unless they meet the ambulatory "at-risk" falls criteria.
- Patients not seen by a licensed clinician (licensed independent practitioners, registered or licensed

practical nurses).

Definitions:

Fall - A patient fall is an unplanned descent to the floor with or without injury to the patient. Include falls when a patient lands on a surface where you wouldn't expect to find a patient. All unassisted falls are to be included whether they result from physiological reasons (fainting) or environmental reasons (slippery floor). Also report patients that roll off a low bed onto a mat as a fall. Source: National Database for Nursing Quality Indictors (NDNQI). A planned descent to the chair or floor is not defined as a fall.

Ambulatory "At Risk" Falls Criteria - Ambulatory visits for chief complaints that may include but are not limited to: history of falling, neurological deficits, and/or conditions/diagnosis known for increased risk of falling such as mobility issues.

Procedure:

1. **Inpatient:**
   - 1.1. The RN performs an initial assessment upon admission in the admission navigator and documents additional fall assessments/interventions in the screening section of the electronic flow sheet. The RN uses the appropriate Fall Risk Assessment Tool to assist them in determining if the patient is at risk for falling (See Addendum B for Adult or Addendum D for Pediatrics). If a patient receives a score of 10 or above, the RN places the patient on Fall Precautions and places a yellow arm band and yellow socks on the patient.
   - 1.2. The RN will accept the best practice alert activating the fall/safety risk care plan. The RN will then proceed to identify which safety interventions apply to the individual patient.
   - 1.3. The RN will:
     - 1.3.1. Document the fall precaution interventions used and the effectiveness of those interventions in the electronic health record (EHR), each shift or with each change in RN caregiver. (See Addendum C).
     - 1.3.2. Educate the patient/family about fall precautions and interventions initiated. Document the patient/family education in the patient education activities tab in the EHR.
     - 1.3.3. The RN documents the score of the Fall Risk Assessment in the daily care section of the flow sheet, RN re-evaluates the patient with each change of RN caregiver, using appropriate Fall Risk Assessment Tool.
     - 1.3.4. If the patient is transferred to another unit at any [redacted]tal, the RN transferring the patient completes a Fall Risk Assessment using the appropriate tool and documents the score on the Transfer Note.
     - 1.3.5. If the patient is no longer a fall risk the nurse may use their nursing judgment and remove the patient from fall precautions. If patient has a significant change in condition that may increase their risk for falling, the RN reassesses the patient at that time and each shift per policy.
   - 1.4. **Special considerations:** If patient is on Clinical Institute Withdrawal of Alcohol (CIWA) protocol, Intensive care unit (ICU) severe alcohol withdrawal protocol, is status-post a procedure with moderate sedation, or has a physiologic process which may increase their risk for falling (e.g. hypotension, hypoglycemia or other electrolyte imbalance, weakness, dizziness, mental status change) then the patient should be placed on fall precautions.
   - 1.5. If a patient is on multiple medications that increase risk for falling consider consulting pharmacy to optimize medication management.

   NOTE: The RN uses their assessment and nursing judgment to determine if a patient is at risk

for falls and places patient on fall precautions regardless of the score on the Fall Risk Assessment Tool.

2. **Inpatient Post Fall:**
   - 2.1. The RN will assess for the presence of injury and type of injury. The RN takes vital signs and assesses for mental status changes and completes and documents a focused neuro assessment and assesses for other potential injuries.
   - 2.2. The RN will report the incident as soon as possible to the MD/DO for evaluation.
   - 2.3. MD/DO to evaluate patient and order appropriate test(s). If unwitnessed and/or patient unable to give accurate history of fall and /or head trauma cannot be definitively ruled out, and the patient is on an anticoagulant then the MD/DO will order a Cat Scan (CT) of the head (or other appropriate radiologic study/tests) unless contraindicated by patient status.
   - 2.4. If head trauma cannot be definitively ruled out, RN will perform and document neurologic checks every 4 hours for 24 hours unless ordered otherwise.
   - 2.5. The RN will report the incident to the Nurse Director or designee,or Off Shift Nurse Manager.
   - 2.6. The RN will place the patient on fall precautions (when appropriate), implement the procedures of the fall prevention policy, and complete post fall assessment score and document the score.
   - 2.7. The RN and/or the MD/DO complete an incident report (see *Policy #04.01.000 - Online Incident Reporting*).
     - 2.7.1. [redacted] Campus: If there are known or suspected serious injuries, the RN pages the Patient Safety Risk Specialist on call by paging SAFE (7233) as defined in *Policy #04.03.000 - Disclosure of Unanticipated Outcomes of Care"* and the nurse manager/off shift nurse manager.
       - The RN follows up with Patient Safety Risk Specialist if there are known injuries sustained after the MD/DO has evaluated the patient or after the results of any test performed have indicated an injury.
   - 2.8. If applicable, the RN educates family members about injury prevention strategies.
   - 2.9. The RN documents the post-fall flowsheet rows and a fall/event note in the patient's EHR.
   - 2.10. A post fall debrief huddle should be done by the RN caring for the patient and other staff involved in the fall using the [redacted] Post Fall Debrief Huddle Tool (Addendum E). The purpose of this tool is to identify what occurred and what might have been done to prevent the fall and to guide data collection for the online incident report and fall event note.

3. **Ambulatory:**
   - 3.1. Screening for falls risk will occur for at-risk population only. Appropriate interventions will be determined by the clinical team.

4. **Ambulatory Post Fall:**
   - 4.1. The staff will assess for the presence of injury and type of injury.
   - 4.2. The staff will report the incident as soon as possible to the MD/DO for physician evaluation.
   - 4.3. MD/DO to evaluate patient and order appropriate test(s). If unwitnessed and/or patient unable to give accurate history of fall and /or head trauma cannot be definitively ruled out, and the patient is on an anticoagulant then the MD/DO should order a CT of the head (or other appropriate radiologic study/tests) unless contraindicated by patient status.
   - 4.4. The staff will report the incident to the Nursing Director or designee.
   - 4.5. The manager/staff/MD/DO complete an incident report (see *Policy #04.01.000 - Online Incident Reporting*).
     - 4.5.1. [redacted]us: If there are known or suspected serious injuries, the staff pages the Patient Safety Risk Specialist on call by paging SAFE (7233)

as defined in *Policy #04.03.000 - Disclosure of Unanticipated Outcomes of Care"* and the nurse manager/off shift nurse manager. ([redacted]

4.6. The Nursing Director or designee /RN follows up with Patient Safety Risk Specialist if there are known injuries sustained after the MD/DO has evaluated the patient or after the results of any test performed have indicated an injury.

4.7. If applicable, the staff/MD/DO educates family members about injury prevention strategies.

4.8. The MD/DO documents a fall/event note in the patient's EHR.

5. Hospital at Home Program

5.1. The RN performs an initial assessment in collaboration with the onsite Primary In Home Clinician (PIHC). Upon admission RN and PIHC will complete the Home Safety Assessment Checklist. This checklist is included in the patient's medical record. RN documents in the admission navigator and documents additional fall assessments/interventions in the screening section of the electronic flow sheet. The RN and PIHC uses the appropriate Fall Risk Assessment Tool to assist them in determining if the patient is at risk for falling (See Addendum B for Adult or Addendum D for Pediatrics). If a patient receives a score of 10 or above, the RN places the patient on Fall Precautions and PIHC places Fall signage in the home. During the admission visit, the PIHC works with the patient and caregiver to address and manage any immediate environmental issues. Admission PIHC assists patient with donning of personal emergency response system (PERS) device; instructs patient and family on use. Admission PIHC or RN notifies Physician of any updates to overall fall risk evaluation and follows up to reduce fall and injury risks.

5.2. The RN will accept the best practice alert activating the fall/safety risk care plan. The RN will then proceed to identify which safety interventions apply to the individual patient.

5.3. The RN will Document the fall precaution interventions used and the effectiveness of those interventions in the EHR each shift or with each change in RN caregiver. (See Addendum C). RNs confirm patient's compliance with wearing the Personal PERS device and understanding of use. Documentation of teaching, compliance, and continued understanding of activation of PERS device is completed each shift.

5.4. Educate the patient/family about fall precautions and interventions initiated. Document the patient/family education in the patient education activities tab in the EHR. Patients, family, and caregiver(s) are educated to call Command Center Team in the event of a fall and call 911 immediately in the event of a fall with any head strike, obvious trauma, or if the patient is unable to recover self from their fallen position.

5.5. The RN documents the score of the Fall Risk Assessment in the daily care section of the flow sheet, RN re-evaluates the patient with each change of RN caregiver, using appropriate Fall Risk Assessment Tool.

5.6. If the patient is transferred to another unit at any [redacted] the RN transferring the patient completes a Fall Risk Assessment using the appropriate tool and documents the score on the Transfer Note.

5.7. If the patient is no longer a fall risk the nurse may use their nursing judgment and remove the patient from fall precautions. If patient has a significant change in condition that may increase their risk for falling, the RN reassesses the patient at that time and each shift per policy.

6. Hospital at Home Program Post Fall

6.1. The RN will assess for the presence of injury and type of injury virtually. The RN will place a STAT visit for a PIHC to visit patient. The RN instructs patient or patient's family member to takes vital signs. RN will virtually assess for mental status changes and completes and documents a focused neuro assessment and assesses for other potential injuries.

6.2. The RN will report the incident as soon as possible to the MD/DO for evaluation.

6.3. MD/DO to evaluate patient virtually and order appropriate test(s). If unwitnessed and/or

patient unable to give accurate history of fall and /or head trauma cannot be definitively ruled out, and the patient is on an anticoagulant then the MD/DO will order a CT of the head (or other appropriate radiologic study/tests) unless contraindicated by patient status.

6.4. If head trauma cannot be definitively ruled out, Hospital at Home medical team will evaluate patient status and determine frequency of neurological checks and potential return to Brick and Mortar for further evaluation.

6.5. The RN will report the incident to the Nurse Manager or Off Shift Nurse Manager.

6.6. The RN will place the patient on fall precautions (when appropriate), implement the procedures of the fall prevention policy, and complete post fall assessment score and document the score.

6.7. The RN and/or the MD/DO complete an incident report (see Policy #04.01.000 - Online Incident Reporting).

6.8. If there are known or suspected serious injuries, the RN pages the Patient Safety Risk Specialist on call by paging SAFE (7233) as defined in Policy #04.03.000 - Disclosure of Unanticipated Outcomes of Care" and the nurse manager/off shift nurse manager.

6.9. The RN follows up with Patient Safety Risk Specialist if there are known injuries sustained after the MD/DO has evaluated the patient or after the results of any test performed have indicated an injury.

6.10. If applicable, the RN educates family members about injury prevention strategies.

6.11. The RN documents the post-fall flowsheet rows and a fall/event note in the patient's EHR.

6.12. A post fall debrief huddle should be done by the RN caring for the patient and other staff involved in the fall within 1 hour of fall using the [redacted]ost Fall Debrief Huddle Tool (Addendum E). The purpose of this tool is to identify what occurred and what might have been done to prevent the fall and to guide data collection for the online incident report and fall event note.

Responsibility:

All members of the healthcare team

Attachments / Addenda:

A: [redacted] Fall Algorithm
B: Modified Hendrich II Criteria
C: Fall Prevention Interventions
D: Cummings Pediatric Falls Assessment Tool
E: [redacted] Inpatient Post Fall Assessment Tool

Other Related Policies:

04.01.000 Online Incident Reporting
04.02.000 Sentinel Events
04.03.000 Disclosure of Unanticipated Outcomes of Care

References:

Cameron, I.D.; Dyer, S.M.; Panagoda, C.E.; Murray, G.R.; Hill, K.D.; Cumming, R.G.; Kerse, N. Interventions for preventing falls in older people in care facilities and hospitals. *Cochrane Database Syst. Rev.* **2018**, *9*, CD005465.

https://www.ahrq.gov/patient-safety/settings/hospital/fall-prevention/toolkit/index.html

Campanini I, Bargellini A, Mastrangelo S, Lombardi F, Tolomelli S, Lusuardi M, Merlo A. Performance of the Hendrich Fall Risk Model II in Patients Discharged from Rehabilitation Wards. A Preliminary Study of Predictive Ability. *International Journal of Environmental Research and Public Health*. 2021;

18(4):1444. https://doi.org/10.3390/ijerph18041444

Hendrich, A., Bender, P.S., and Nyhuis, A. (2003). Validation of the Hendrich II Fall Risk: A large concurrent case/control study of hospitalized patients. *Applied Nursing Research*, 16, 9-21

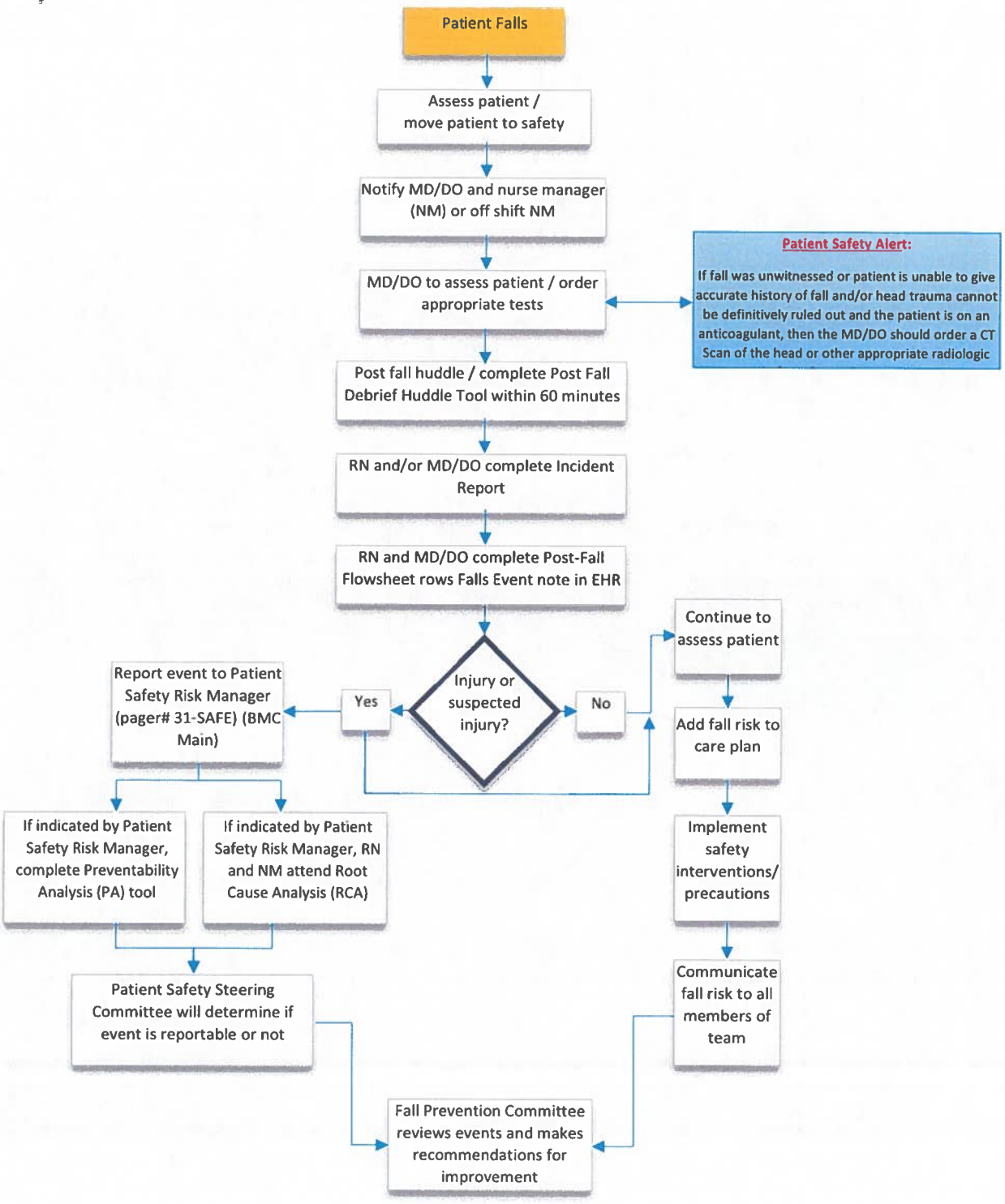
J.T. Posey Company, Falls Assessment Tool 2006 Hendrich, A. II Fall Risk Model. Retrieved December 2007, http://www.ahincorp.com/hfrm/

Press Ganey. (2024, April). *NDNQI guidelines for data collection and submission: Patient Falls Indicator*. Press Ganey Associates. https://members.nursingquality.org/ndnqiwrapper/if/indicatorfactory/resource/resource?rt=2&linkid=s0_p1_f491_m73_m230_a0_m236_a0

Initiated by: Quality and Patient Safety

Reviewed by: Nursing

Addendum A - [redacted] Fall Algorithm



Addendum B - Modified Hendrich II Criteria

1. AGE (0 pts) < 70 years old; (2 pts.)70-79 years old;* (1 pt.) 80 or more years old * Research indicates the age group 70-79 y/o is less likely to request nursing assistance before arising: therefore they are at greater risk of falling.	_____pts
2. MENTAL STATUS ☐ (0 pts) Oriented at all times ☐ (0 pts) Sedation score modified Riker less than or equal to 3 and/or pt on neuromuscular blockade ☐ (2 pts) Confusion at all times ☐ (2 pts) Nocturnal confusion ☐ (4 pts) Intermittent confusion	_____pts
3. ELIMINATION ☐ (0 pts) Independent and continent ☐ (1 pt) Catheter and/or ostomy ☐ (3 pts) Elimination with assistance ☐ (5 pts) Independent and incontinent * Research shows that patients who are independent but incontinent have an increased risk to slip and fall on their by-products of elimination.	_____pts
4. HISTORY OF FALLING WITHIN THE PAST SIX MONTHS ☐ (0 pts.) No history ☐ (2 pts.) Has fallen 1 or 2 times before ☐ (5 pts.) Multiple history of falling	_____pts.
5. KNOWN UNCORRECTED VISUAL IMPAIRMENT ☐ (1 pt.)	_____pts.
6. KNOWN UNCORRECTED AUDITORY IMPAIRMENT ☐ (1 pt.)	_____pts.
7. CONFINED TO CHAIR OR BED ☐ (3 pts.)	_____pts.
8. KNOWN CHANGE IN SYSTOLIC BLOOD PRESSURE of 20 mm Hg or more between lying and standing ☐ (2 pts.)	_____pts.
9. BALANCE ☐ (0 pts) No current known balance issues ☐ (1 pts) Decrease in muscular coordination ☐ (2 pts) Loss of balance while standing or when walking	_____pts
10. MOBILITY ☐ (0 pts.) No Assistance ☐ (1 pt.) Ambulates without assistance at night. ☐ (2 pts.) Requires assistance when ambulating or uses assistive device (cane, walker, furniture, etc.) ☐ (4 pts.) Requires assistance and use of assistive device (cane, walker, furniture, etc.)	_____pts.
11. MEDICATION ☐ (0 pts.) No medication ☐ (1 pt.) 1 medication ☐ (2 pts.) 2 or more medications ☐ With a change of medication and/or dosage in the past five days, add 1 point to the medication score.	_____pts
A score of 10 or above indicates a risk of falling. The RN is to use their assessment and nursing judgment to determine if a patient is at risk for falls and can put any patient on Falls Precautions regardless of score if other factors warrant further nursing interventions. See **FALLS PREVENTION INTERVENTIONS on next page** **Falls Precautions Nursing Steps- (Policy 3.58 FALLS PREVENTION POLICY)** 1. Apply yellow arm band and non- slip yellow socks 2. Select falls prevention interventions to be used and document in the EHR each shift. 3. Report to oncoming RN and PCT that patient is on Falls Precautions. 4. Reassess with every change in RN caregiver, a significant change in patient's condition, or post fall. **Total Score:**	_____pts

Addendum C - FALL PREVENTION INTERVENTIONS

For all patients consider the following interventions

(Documented under 'Daily Cares/Safety' Flowsheet):

Safe Environment

- Yellow arm band and non-slip yellow socks on (only for patients identified as high risk)
- Evaluate side rails (except for Seizure Precautions, 4 side rails are considered a restraint & requires an order)
- Ensure a safe environment- call light and personal objects within reach, bed in lowest position and wheels locked, proper fitting shoes/nonskid footwear, optimized lighting, room hazard free with clear pathways, sip puff device

Fall Risk Interventions

- Orient to environment frequently
- Assess for orthostatic blood pressure (BP) changes
- Patient teaching regarding safe transfer techniques and fall risks
- Family presence/education
- Institute distraction activities (radio, TV, other)
- Consult Physical Therapy (PT)/Occupational Therapy (OT) for gait and/or adaptive device training
- Yellow slip resistance socks to identify patient to all staff
- Utilization of chair and/or bed alarms
- Patient safety checks
- Plan toileting schedule based on patient's voiding habits (i.e., every 2 hours offer bathroom/bedpan assistance)
- Move patient to a different location (i.e. patient room near nurses station or outside in the hallway)
- Schedule walks based on patient's habits
- Provide equipment at correct height (i.e. commode, wheelchair)
- Safety bed (i.e. canopy bed or low boy bed)

Addendum D - Cummings Pediatric Falls Assessment Tool

HISTORY OF FALLS:
- NO= 0
- YES= 3

PHYSICAL ALTERATIONS/ IMPAIRMENT:
- NO= 0
- YES= 3

FUNCTIONAL STATUS:
- NONE=0
- WEAK=1
- IMPAIRED OR AGE SPECIFIC (LEARNING TO WALK) =2
- CRUTCHES, WALKER, BRACES, ORTHOSTATIC HYPOTENSION=3

EQUIPMENT
- NO=0
- YES=3

COGNITIVE/PSYCHOLOGICAL
- ORIENTED TO OWN ABILITY =0
- BIO-BEHAVIORAL CONCERNS/NEURO LIMITATIONS ILLNESS =2

MEDICATIONS THAT ALTER EQUILIBRIUM
- NO=0
- YES=3

Additional considerations for pediatric patients:

Cribs: Children less than 3 years should be placed in a crib. Crib side rails will be in the highest position when the child is in the crib. Double check that the crib side rail is locked into position before leaving the bedside. Any child with the potential capability of pulling self to standing (approximately 9 months) will have the upper flaps of the crib engaged. Children age 2-3 years may be in a bed, if the child sleeps in a bed at home and the child is under the continuous supervision of a parent while hospitalized.

Beds: (Refer to above for age guidelines). Electric beds are to be placed in the lowest position and in the locked position with the power off for children 5 years of age or less.

Highchairs: Children placed in highchairs must have safety belt securely fastened and the tray in the locked position.

Equipment: Areas will be kept clear of freestanding equipment and items that could cause trip and falls.

Addendum E - [redacted] Inpatient Post Fall Assessment Tool

Instructions: Information to be collected by [redacted] staff during post fall assessment and recorded in Incident Reporting System (RL)

Fall Assessment Data Element	Done / Implemented (Yes or No)	Detail
Admission Fall Risk Assessment		Document score:
Daily Fall Risk Assessment		Document score:
Fall Prevention Interventions:		
a) Yellow arm band/non slip socks		
b) Call light within reach		
c) Bed in lowest position		
d) Bed alarm on		
e) Purposeful Rounding		
f) Fall Prevention Education		
g) Toileting schedule		
h) Room free of clutter		
i) Equipment within reach		
j) Other non-restraint device (i.e.; floor pad)		List all other safety interventions tried:
Fall Care Plan added to EHR		
Fall event note		
Activity at time of event (e.g., trying to go to bathroom)		If getting out of bed ask patient why
Contributing factors identified:		
a) Confused		
b) Change in mental status		
c) CIWA		Document score:
d) Delirious		Protocol initiated?
e) Dizziness		
f) Weakness		
g) Unsteady balance/gait		
h) Safety equipment not available		
i) IV or catheter tubing		
j) Room cluttered		
k) Wet / slippery floor		
l) Medications		List medications:
m) Other		List all other contributing factors identified:

[redacted]

Adult Cardiac Rhythm Monitoring

Policy #:	03.81.000
Issued:	September 2007
Reviewed/ Revised:	7/2008, 2/2009, 3/2010, 11/2011, 3/2015, 6/2018, 1/2019, 4/2019, 8/2021, 3/2023, 5/2023, 6/2025, 10/2025
Section:	Clinical Care/Patient Rights

Purpose:
To delineate procedures for adult cardiac rhythm monitoring at all [redacted].

Application:
Adult inpatient and observation clinical areas providing cardiac monitoring to [redacted] patients.

Exceptions:
Emergency Department (ED), Operating Room (OR), and procedural areas.

Procedure:

I. REQUIREMENTS GOVERNING ADULT CARDIAC MONITORING

Standards of Practice

1. Standard default values for heart rate (HR) high, HR low and acceptable number of premature ventricular contractions (PVC)/minute, as well as the standard alarm level for specific rhythms are pre-programmed in the monitoring system in all clinical areas.
2. All alarms are set to be audible with respect to distances and competing noise within the unit to be heard on the patient care unit. The bedside clinical alarm audibility is determined by the RN with every change in RN caregiver.
3. When admitting a patient to the Central Station, the RN inputs the patient's full last name, when a list of patients is available and selects patient from the list confirming the medical record number. If a selection list is not available the RN will enter the required information into the central monitoring system to admit patient. A sample of the patient's rhythm is to be saved by the RN into the patient's alarm history on admitting the patient to the Central Station.
4. All patients on a cardiac monitor are monitored in at least two leads when possible, lead II and V1, unless otherwise indicated. In Critical Care where more than six (6) waveforms may need to be displayed, the nurse may display only one electrocardiogram (EKG) lead. Lead placement may also be altered to monitor for cardiac ischemia or ectopy vs aberration as clinically indicated.
5. All patients on a cardiac monitor must have a patent IV access route for use in emergencies.
6. The RN caregiver during each shift runs a rhythm strip through the Airstrip or printing a strip if airstrip not available. The RN goes to flowsheets, clicks on telemetry and uses the tools to create a snippet. This snippet is evaluated for: cardiac rate, rhythm and intervals for PR, QRS QT and QTc. This information, including identification of the underlying cardiac rhythm, is documented in Airstrip and saved in the electronic health record (EHR) or on paper strip and documented in the paper chart.
7. Any patient with a new change in rhythm (i.e. development of atrial fibrillation or heart block or change in QRS morphology) needs a documented snippet in the EHR or a printed strip and a twelve (12) lead EKG documenting the rhythm. **Notify Care Team for QTc >500 msec or as otherwise**

specified in orders. Document this QTc value on Flowsheet or Airstrip and in Provider Communication field of Flowsheet at the time provider notified The licensed independent practitioner (LIP) caring for the patient must be notified of these changes. RN or LIP may place an order for 12 lead EKG.

8. In the event of a Code Blue or Rapid Response call alarms are reviewed patients care team or the Code Team.
9. A licensed clinician who is skilled in dysrhythmia recognition must accompany a patient who requires continuous cardiac monitoring when the patient is off the nursing unit. Patients requiring continuous cardiac monitoring when traveling off the patient care floor include all monitored Critical Care, Post-Anesthesia Care Unit (PACU) and Intermediate Care Unit (IMCU) patients and all medical surgical patients whose adult cardiac monitoring orders specify they must be on cardiac monitors when off the unit. An order for patient to travel off the floor without a monitor should be obtained if patient not traveling with clinician trained in telemetry.
10. . A discharge order placed on a medical surgical patient automatically discontinues further cardiac monitoring and the patient's cardiac monitor may be removed after reviewing alarm history.

Alarm Settings: Critical Care, PACU and IMCU

11. Adult cardiac monitoring is considered the standard of care in all BMCHS Adult Critical Care, PACU, and IMCU areas. Adult cardiac monitoring orders do not appear in these settings. If cardiac monitoring is not indicated or is being stopped in these areas, the LIP or RN will document that cardiac monitoring requirement has been discontinued.
12. In Critical Care, PACU, and IMCU orders are not required to change default values and alarm levels. These settings are altered by the nurse caring for the patient according to the patient's cardiac rhythm and hemodynamic data and are reevaluated with each change in RN caregiver.

Alarm Settings: Medical –Surgical Areas

13. In adult inpatient settings, the initiation and discontinuing of adult cardiac monitoring requires an LIP order. RNs in these settings may place a patient on a cardiac monitor without an order if there is a change in hemodynamic status or a suspected dysrhythmia. The RN must then obtain an order for Adult Cardiac Monitoring prior to the end of the shift.
14. On medical surgical floors, parameters for HR high and HR low are specified within the cardiac monitoring order. This order establishes the acceptable outer ranges for the specific patient for these parameters.

Alarm Response: Nursing Standard of Practice

15. RNs immediately respond to the patient upon recognizing a true emergent alarm.
16. ALL STAFF upon seeing an emergent alarm at a central station must notify the nearest RN of an emergent alarm.
17. RNs on the patient care unit share the responsibility for answering all emergent alarms immediately.
18. ONLY AN RN CAN SILENCE AND CANCEL ALARMS.
19. The RN completes these five (5) steps when answering an emergent alarm at the central station:
    a) Highlight the patient box for patient alarming
    b) Silence alarm only after this patient box has opened
    c) Open and gain access to actual alarm
    d) Take appropriate action based on the nature of the alarm
    e) Notify RN and LIP caring for patients of all true emergent alarms
20. The RN silencing the emergent alarm is accountable for interpreting and managing the alarm.

II. CARDIAC MONITORING USING A TELEMETRY BOX

Equipment:

Telemetry transmitter box with two (2) AA batteries
Electrodes
Lead wires
Soap and water or wipes
Wash cloth or 4x4's and towel

Procedure:

The RN will

1. Explain procedure to patient.
2. Check expiration date on electrode packet.
3. Determine lead placement. Patients will normally be monitored in leads II and VI when available screen space. Ischemic condition and certain arrhythmias may require different monitoring sites (See Supplemental Clinical Information).
4. Select electrode sites that are not over bony prominence or muscular area.
5. Cleanse area with soap and water or wipes and allow skin to dry thoroughly. Clip excess hair as needed to allow good skin contact.
6. Connect lead wires to transmitter box and lead wires to electrodes before placing electrodes on patient.
7. RN will select appropriate pacer parameter when admitting the patient.
8. Run an EKG strip to check clarity of the strip and confirm accurate placement of leads.
9. Create a snippet in Airstrip and save in EHR or print a strip documenting rate, intervals for PR, QRS, QT, and QTc and identifying the cardiac rhythm.
10. Assess skin surrounding electrode disc for signs of irritation daily and as necessary.
11. Change electrodes daily and as needed when EKG strip indicates poor conduction waveform.

III. CARDIAC MONITORING USING A HARD WIRE MONITOR

Equipment:

Cardiac monitor and cable
Lead wires
Electrodes
Soap and water or wipes
Wash cloth or 4x4's and towel

Procedure:

The RN will

1. Explain procedure to patient.
2. Check expiration date on electrode packet.
3. Determine lead placement. Patients will normally be monitored in leads II and VI when screen space available. Ischemia and certain arrhythmias may require different monitoring sites (See Supplemental Clinical Information).
4. Select electrode sites that are not over bony prominence or muscular area.
5. Assess skin site before placing electrodes. Cleanse area with soap and water or wipes and allow skin to dry completely. Clip excess hair as needed to allow good skin contact.
6. Check that EKG monitor is plugged in and turned ON.
7. RN should select appropriate pacemode for patients with pacemaker.
8. Turn alarm buttons ON.

9. Attach cable to monitor.
10. Attach lead wires to cable.
11. Attach lead wires to electrodes before attaching them to patient.
12. Run an EKG strip to check clarity of the initial strip and accurate placement of leads.
13. Create a snippet in Airstrip and save in EHR or print a strip and place in chart documenting rate, intervals for PR, QRS, QT, and QTc and identifying the cardiac rhythm.
14. Assess skin surrounding electrode disc for signs of irritation daily.

Change electrodes daily and as needed when EKG strip indicates poor conduction waveform. *

IV. PLACING AN EHR ORDER FOR ADULT CARDIAC MONITORING

1. Adult cardiac monitoring will be considered the standard of care in all Adult Critical Care Units, PACU, and IMCU areas of [redacted] Adult cardiac monitoring orders will not be placed in these settings.
2. In all other inpatient medical/surgical settings, adult cardiac monitoring will require a specific order to be placed via Adult Cardiac Monitoring Order Set.
3. *Adult Cardiac Monitoring Ordering Set* in the EHR requires ordering LIP to enter
   a. *Indication for cardiac monitoring*
   b. *Cardiac monitoring level*
      - *Adult Cardiac Monitoring Med/Surg: May go off floor without monitor*
      - *Adult Cardiac Monitoring Med/Surg: Requires monitor when off floor*

      In general, patients requiring cardiac monitoring when off floor include those patients with the following conditions/situations:
      - Rule out for myocardial infarction pending cardiac enzymes
      - Acute Coronary Syndrome awaiting percutaneous coronary intervention (PCI) or coronary artery bypass graft (CABG) who have had chest discomfort or anginal equivalent in prior 24 hours or who are on intravenous (IV) nitroglycerin, IV Heparin, Glycoprotein IIb/IIIa (GPIIbIIIa) Inhibitor
      - Cardiac arrest where the threat of a recurrent arrest remains
      - Ventricular tachycardia (VT), 2nd /3rd degree heart block (HB), atrial fibrillation (AF) with rapid ventricular response or any symptomatic dysrhythmias
      - IV Antiarrythymic agents
      - Prolonged QTc $\geq$ 500 msecs
      - Hemodynamically unstable
      - High flow fraction of inspired oxygen (FiO2) requirement to maintain O2 sats
      - Uncorrected metabolic/electrolyte abnormalities that have potential cardiac effects
4. It is recognized that unexpected cardiac events may occur that could not have been foreseen by LIP in placing specific Telemetry order.
5. A discharge order on medical surgical floors automatically discontinues further telemetry monitoring at the time this order is placed.
6. Patients going off the unit with an order to go off the unit without cardiac monitoring, will have the telemetry box and leads removed and reapplied when returned to unit.

V. SUPPLEMENTAL CLINICAL INFORMATION

1. Place electrodes for a 3 lead system as follows:
   a. RA electrode to the patient's right shoulder
   b. LA electrode 4th intercostal space right sternal border
   c. LL electrode at the 5th intercostal space left midaxillary line
   d. Select lead I for an MCL 1 and Lead II to obtain MCL 6

2. Place electrodes for a 5 leads system as follows:
   a. RA electrode to the right shoulder
   b. LA electrode to the left shoulder
   c. RL electrode level to the last right sided rib, on the right abdomen, or above the right hip
   d. LL electrode as the with the RL but on the left side
   e. V electrode at the 4th intercostal space right sternal border (if patient cannot have electrode on sternal border or when QRS amplitude is not adequate for arrhythmia monitoring, considering placing V electrode at 5th intercostal space mid axillary line).

Illustration of Correct 5 Electrode Placement

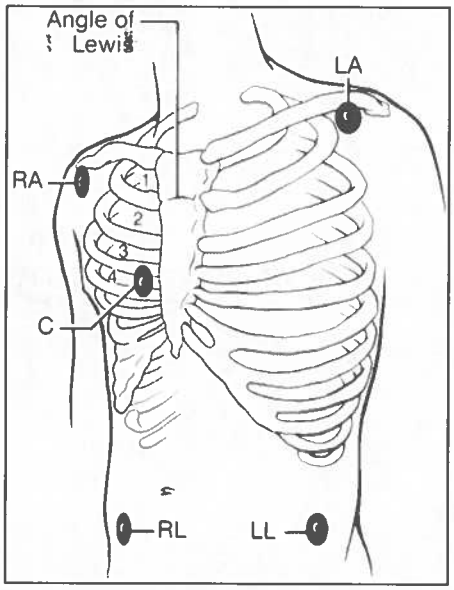
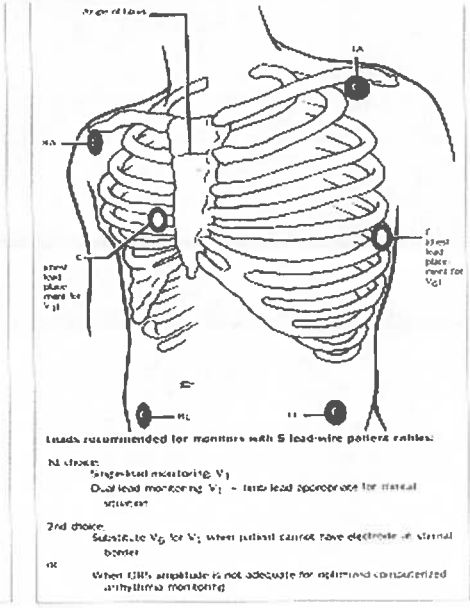
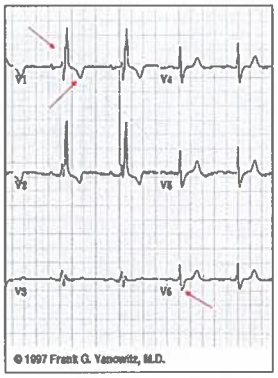


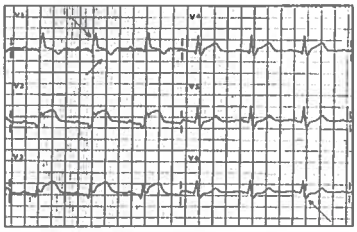
Illustration of Correct 6 Lead Placement



3. Alternate lead options may be used to monitor patients as determined by patient need. These should be discussed with LIP.
   a. For atrial flutter – II and III
   b. Inferior MI or ischemia – II, III, AVF
   c. Anterior MI – V2 or V3
   d. In monitoring arrhythmias with a wide QRS complex such as bundle branch block or ventricular paced rhythms consider V1
   e. To differentiate between ventricular ectopy and supraventricular conduction with aberration consider V1 or V6 which may be monitored looking for a right bundle branch block (RBBB) morphology to assist in rhythm identification

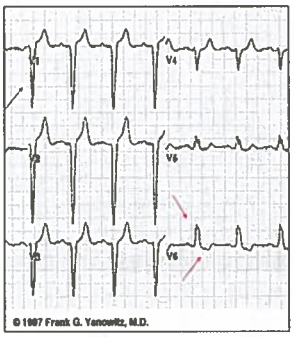
Characteristics RBBB





- V1
  - RsR'
  - Delayed intrinsicoid deflection
  - ST & T wave = strain pattern
- V6
  - qRs
  - Wide S wave

Characteristics LBBB



- V1
  - QS or Q wave
- V6
  - rSR' or widen positive R wave
  - Delayed intrinsicoid deflection
  - ST & T wave - strain

http://medstat.med.utah.edu/kw/ecg/mml/ecg_533.html

PLEASE REFER TO APPENDICES FOR MORE INFORMATION ON [redacted]
SPECIFIC SITE INFORMATION FOR MAIN, BRIGHTON AND SOUTH

Clinical references:

1. GE Healthcare:Carescape Canvas Modular Monitors Clinical reference Guide. Version 3.3.2023
2. [redacted]resource: Lippincott Nursing Procedures, 8th ed, 2019
3. Drew BJ, Califf RM, Funk M et al. Practice Standards for Electrocardiographic Monitoring in Hospital Settings. *Circulation* 2004; 110:2721-2746.

4. Drew BJ, Funk M. Practice Standards for ECG Monitoring in Hospital Settings: Executive summary and guide for implementation. *Crit Care Nurs Clin N A.* 2006; 18: 157-168.
5. AACN Practice Alert: Dysrhythmia Monitoring, 2016. http://www.aacn.org/wd/practice/docs/practicealerts/dysrhythmia_monitoring_04-2008.pdf. Published April, 2008. Accessed February 14, 2014.
6. Whalen DA, Covelle PM, Piepenbrink JC et al. Novel Apprach to Cardiac Alarm Management on telemetry Units. *J Cardiovasc Nurs. 2014 Sept-Oct; 29(5) : E13-22*
7. Sandau, K. E., Funk, M., Auerbach, A., Barsness, G. W., Blum, K., Cvach, M., Lampert, R., May, J. L., McDaniel, G. M., Perez, M. V., Sendelbach, S., Sommargren, C. E., & Wang, P. J. (2017). Update to practice standards for electrocardiographic monitoring in Hospital Settings: A scientific statement from the American Heart Association. Circulation, 136(19). https://doi.org/10.1161/cir.0000000000000527
8. AHA Scientific Statement Practice Standards for Electrocardiographic Monitoring in Hospital Settings An American Heart Association Scientific Statement From the Councils on Cardiovascular Nursing, Clinical Cardiology, and Cardiovascular Disease in the Young: Endorsed by the International Society of Computerized Electrocardiology and the American Association of Critical-Care Nurses. Circulation 2004; 110: 2721-2746
9. The Joint Commission. Medical Device Alarm Safety in Hospitals. *Sentinel Event Alert* No. 50. Apr 8, 2013. Accessed Oct 15, 2015 http://www.jointcommission.org
10. Joint Commission, 2024, EC.02.04.01, EC,02.04.03, EP 2, EP 3, EC.03.01.01, EP 1
11. Joint Commission 2024 NPSG.06.01.01
12. NIAHO® Accreditation Requirements, Interpretive Guidelines and Surveyor Guidance Revision 23-0, PE.7, SR.1 & SR. 6
13. Joint Commission. Medical Device Alarm Safety in Hospitals. *Sentinel Event Alert* No. 50. Apr 8, 2013. Accessed Oct 15, 2015http://www.jointcommission.org
14. American Heart Association's *Practice Standards for ECG Monitoring in Hospital Settings: Executive Summary and Guide for Implementation.*
15. AACN: Alarm management Practice Alert, 5/2013
16. Critical care Nurse. Stop the Noise: A Quality Improvement project to Decrease ECG Nuisance Alarms. August 2015; 35: 15-22.
17. Standards of the American Society of Anesthesiologists: Standard for Basic Anesthesia Monitoring
18. The Source for Joint Commission Compliance Strategies. John Hopkins Improves Clinical Alarm Safety with Alarm Escalation Algorithms. September 2013 v11:9

Responsibility:
Registered Nurse (RN), Licensed Independent Practitioner (LIP)

Forms:
None

Appendices:
Appendix A. [redacted] Monitoring Precautions
Appendix B. [redacted] Airstrips
Appendix C. [redacted]
Appendix D. [redacted]

Other Related Policies:
None

Initiated by: Nursing and Telemetry Process Task Force

Contributing Departments:

1. Cardiology
2. Cardiothoracic Surgery
3. Internal Medicine
4. Critical Care
5. Surgery
6. Information Technology Support
7. Quality and Patient Safety (QPS)
8. Clinical Engineering
9. Nursing

Boston Medical Center
Hospital Emergency Responses
Code Blue, RRT, BRT

Nursing Orientation 2025

BOSTON MEDICAL CENTER

Objectives

01	Know nurses role in Code Blue and how to initiate/Call BMC Code Blue
02	Define : Proceed out, Rapid Response, and Code Stroke
03	Code Green
04	Behavioral Response Team (BRT)

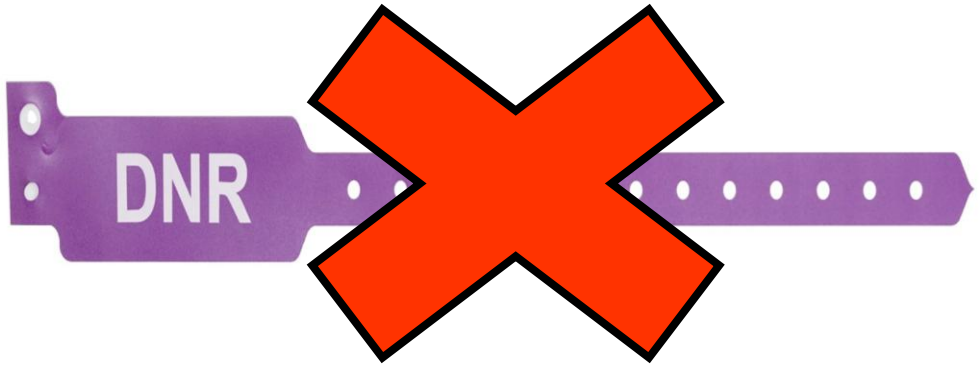
Emergency Numbers

- **Code Green**: **4-4444**
- Code Red: **4-6666**
- Code Blue / Code Stroke: **4-7777**
- Rapid Response / Proceed out: **4-7777**
- Code BRT: Stat page BRT team at **7813,** phone: 857-283-0037

BOSTON MEDICAL CENTER

Boston Medical Center Code Blue Policy

- All patients are resuscitated unless documented DNAR.
- Code Call : For cardiac/respiratory arrest; for any situation requiring immediate medical intervention (intubation, anaphylaxis, hemorrhage)
- Every opening of code cart / intubation box requires a Code Record to be completed.
- Mouth-to-mouth ventilation is discouraged. Use Ambu bags located throughout BMC.
- All healthcare workers with a current BLS/AED care are expected to use the AED.





Code Blue

- Dial 4-7777
  - State CODE BLUE:
    - **Type**: Adult, Maternal, Pediatric, or Neonatal
    - **Building**: Menino, Moakley, or Yawkey
    - **Floor and Room Number**: Example 6 East room 7 bed 1

    - **"Critical Call Back Policy"**
      - When calling Code Blue, PLEASE REMAIN ON THE LINE and wait for the telephone operator to confirm that they have the right information.
      - The operator will repeat back what the caller said and ask the caller to confirm that the information is correct. The operator will call the code within 30 seconds and call back to the floor in 60 seconds to verify that the code team arrived.

https://www.youtube.com/watch?v=UEGNItEIS-E

Code Coverage

- **Inpatient Code Team**
  - Cover inpatient clinical units
  - **4-4444 System for EMS/911 Coverage**
  - **Cover outlier areas: Doctor's Office Building, parking lots, medical school…**
  - State nature of emergency, building location, floor. Dial 4-4444 to notify Security who will then activate 911 and meet Boston EMS to direct them.
  - **Do not call 911 directly since hospital entrances need to be access for EMS by security.**

EXCEPTION

- **Emergency Department will Respond to Proceed Outs in Shapiro**
  - The proceed out team from the emergency Department will support the Shapiro Ambulatory Clinics in the event of an unexpected medical emergency in the outpatient setting.
  - Previously, Boston EMS or private ambulances responded to all Shapiro medical emergencies. This change will expedite the process and provide safe and fast patient transfers to the appropriate level of care.

Code Blue Team Responders

Adult Code Blue Team

Adult Code Team
Medical Resident
Medical Intern
Medical Consult/Night Float
Anesthesiologist
Critical Care RN (2)
Pharmacist
Respiratory Therapist (2)
Off-Shift NM/ Bed Control
Supply Chain Operations
Transport
Resource Nurse
Public Safety

Maternal Code Blue
Adult Code Blue Team
OB Team
NICU Delivery and Resuscitation Team

Pediatric & NICU Code Blue Team

Pediatric Code Team
PICU Resident
NICU Resident
Anesthesiologist
PICU/Pedi ED Attending
Pediatric critical care RN
Pharmacist
Respiratory Therapist
NICU Attending
Supply Chain Operations
Off-Shift NM/ Bed Control
Transport
Resource Nurse
Public Safety

Neonatal Code Team
NICU Resident
PICU Resident
NICU Attending
NICU Charge RN
Respiratory Therapist
Pharmacist
Off-Shift Nurse Manager
Supply Chain Operations
Public Safety
Resource Nurse

OR Code Blue

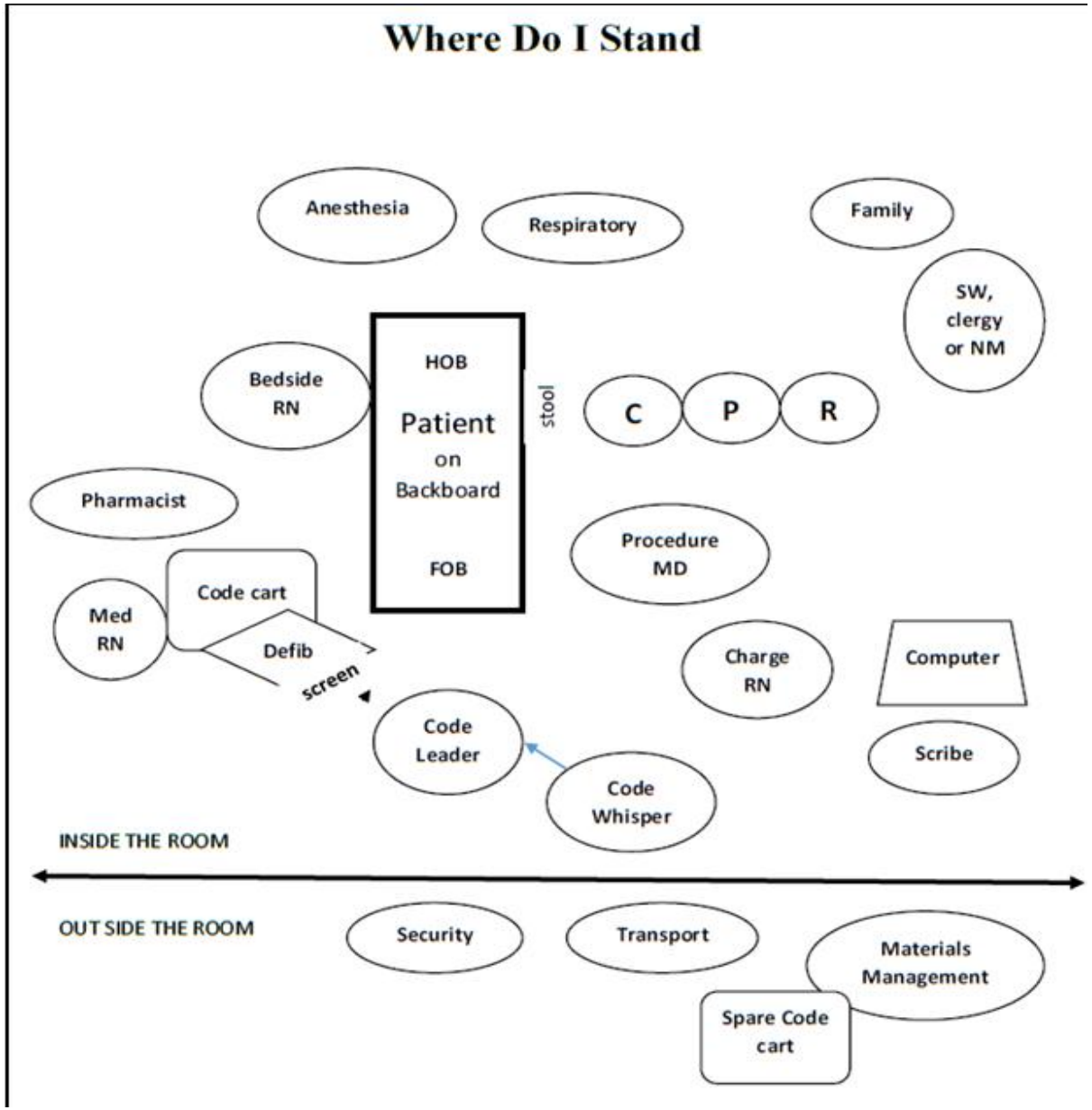
- To provide emergency support for OR and IPP procedural areas
  - A Resource Nurse and Pharmacist will arrive to support the nurses and anesthesia in the event of an unstable patient.
    - Please review the following steps to activate an OR CODE BLUE

1. Dial 4-7777
2. State OR CODE BLUE and location (Menino 2 OR / Moakley 2 OR)
3. Resource RN and Pharmacy beepers will be activated, but there will be no overhead hospital paging.
4. The front desk at Menino or Moakley will direct the Pharmacist and Resource RN to the specific room.

– The purpose of this process is to bring resources that may not be available in the OR while limiting excess traffic. Specific personnel can always be stat paged as well. However, OR staff can activate a FULL CODE BLUE at their discretion if the situation requires such.

RN Role in Code Blue

- Call for HELP from other staff members - **do not wait for assistance**, place the patient in the supine position and initiate CPR.
- Code button located behind the patients bed on the wall will alert the front desk of Code Blue once pushed.
- When code cart arrives, place the patient on the back board and place the AED on patients chest.
- Staff Nurse:
  - Participate in code, bring emergency equipment, ensure intern STAT paged, assist in completing code documentation. Lock used pharmacy draw in cart at the end of the code.
- ICU Nurse / Resource Nurse:
  - ACLS, PALS, NRP, peripheral IV/IO access, assist in transport of patient off to ICU
- Nursing Off Shift/ Bed Facilitator:
  - Facilitate transfer of patient to ICU
  - Participates in code if needed



Health Care Proxy

MASSACHUSETTS HEALTH CARE PROXY

YOUR BIRTH DATE ___/___/___

1. I, Patient Name (Principal -- PRINT your name), residing at Patient Address (Street) (City or Town) (State)

appoint as my Health Care Agent: Proxy # 1 Name (Name of person you choose as Agent)

of Proxy # 1 address (Street) (City/town) (State) Phone # (Phone)

(**OPTIONAL:** If my Agent is unwilling or unable to serve, then I appoint as my Alternate Agent:

Proxy # 2 name (Name of person you choose as Alternate Agent), of

Proxy # 2 address (Street) (City/town) (State) Phone # (Phone) .)

2. My Agent shall have the authority to make all health care decisions for me, including decisions about life-sustaining treatment, subject to any limitations I state below, if I am unable to make health care decisions myself. My Agent's authority becomes effective if my attending physician determines in writing that I lack the capacity to make or to communicate health care decisions. My Agent is then to have the same authority to make health care decisions as I would if I had the capacity to make them **EXCEPT** (here list the limitations, if any, you wish to place on your Agent's authority):

I direct my Agent to make health care decisions based on my Agent's assessment of my personal wishes. If my personal wishes are unknown, my Agent is to make health care decisions based on my Agent's assessment of my best interests. Photocopies of this Health Care Proxy shall have the same force and effect as the original and may be given to other health care providers.

3. **Signed:** Patient Signature

Complete only if Principal is physically unable to sign: I have signed the Principal's name above at his/her direction in the presence of the Principal and two witnesses.

your name (Name) BMC address (Street)

(City/town) (State)

4. WITNESS STATEMENT: We, the undersigned, each witnessed the signing of this Health Care Proxy by the Principal or at the direction of the Principal and state that the Principal appears to be at least 18 years of age, of sound mind and under no constraint or undue influence. Neither of us is named as the Health Care Agent or Alternate Agent in this document.
In our presence, on this ____ day of DAte, 20 ___

Witness #1 Witness # 1 (Signature) Witness #1 Witness # 2 (Signature)

Name (print) ____ Name (print) ____

Address: BMC address Address: BMC Address

* The Proxy cannot be a witness *

© Massachusetts Health Decisions 1999
Licensed for use by the Massachusetts Medical Society

Emergency Equipment

- Code Cart
- Monitor/ Defibrillator
- EKG
- 02 Tank
- Suction
- Lucas Machine

- **What other Equipment could you bring into the room?**

Code Carts

Adult Code Cart
Menino, Moakley, Yawkey, Shapiro



Pediatric Code Cart
Yawkey, Emergency Room



Neonatal Code Cart
Yawkey



BOSTON MEDICAL CENTER

Accessing Code Carts

- Nurses **must** know how to access code carts!
  - Push lever on right side of cart in a downward motion to snap the plastic tab. This will allow you access to the drawers.
- When you have finished using the code cart, push the blue handle in and then up to lock the drawer of the cart.
  - Department of Public Heath (DPH) and JCAHO mandate that code drugs be secured after the cart has been open and used. The drawer is **secured by the staff nurse immediately after use** by putting the medication transfer tray into the blue bag. Do **not** allow the code cart to leave the unit without this pharmacy tray secured.



Code Cart Drawers

- Medication will initially be in the clear tamper resistant bag in unopened carts.



- Medication will be returned to Code cart in the BLUE “X” or BLUE TRIM tamper resistant bag. Materials Management will return to pharmacy for restocking.



Medications- Where are they stored?

- **<u>Epinephrine for Code Blue:</u>**
  - Dose: 0.1mg/ml (1:10,000)
  - Route: IV/IO + Endotracheal



Code Cart

- **<u>Epinephrine for Anaphylaxis</u>**
  - Concentration- 1mg/ml (1:1000)
  - Route: IM



Epinephrine for Anaphylaxis

What else besides medications are in the code cart?

Working Suction

- Verify that there is working suction in the patient's room.
- If needed, there is Portable Suction located in the code cart 4th drawer.



Ambu Bags

- Set liter flow @ 15 LPM
- Reservoir bag inflated or tube fully extended



Colorimetric CO2 Detector

- The Easycap ® Colorimetric CO2 Detector is stored in the code cart and will be the initial verification for tracheal tube placement with the EMMA capnometry wave form used for validation in questioning situations.
- Continuous CO2 monitoring must be done using the Defibrillator and should occur throughout the entire resuscitation.
- **Gold is Good-** "Gold Standard"



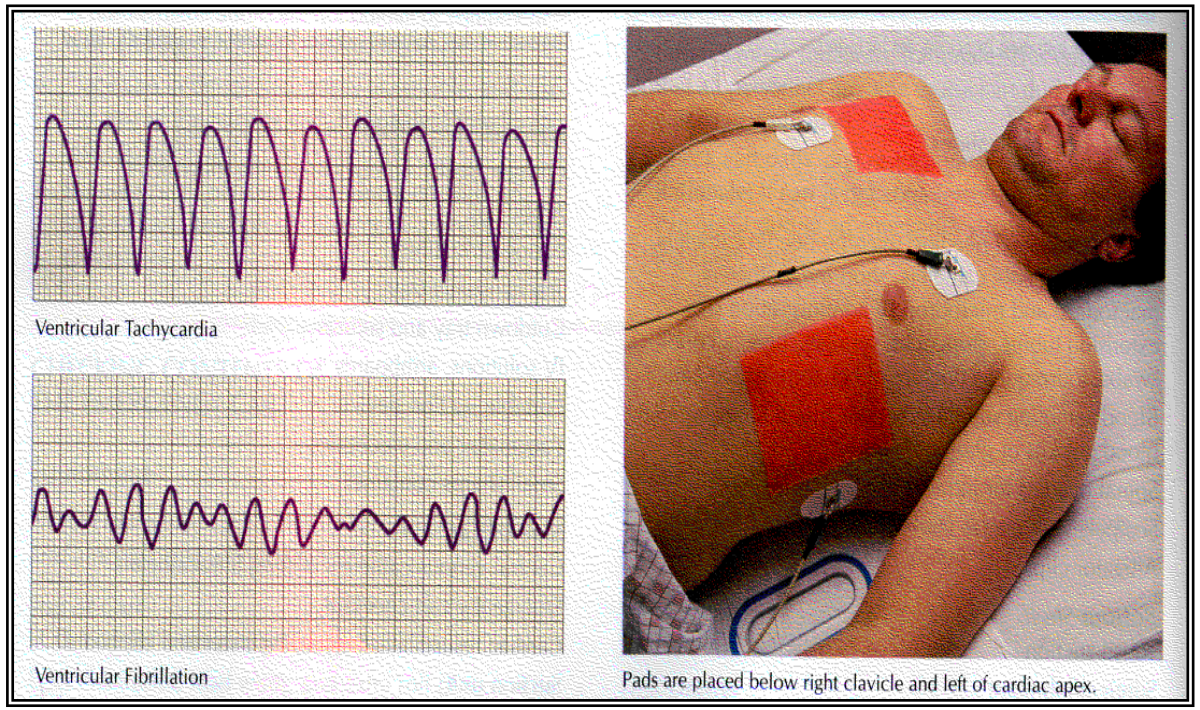
BOSTON MEDICAL CENTER

Cardiac Monitor/Defibrillator



https://www.youtube.com/watch?v=nLAQhyNb0JE

- V FIB = “Defib”
  - Acute Care : 3 minutes to respond (AHA)



Emergency Equipment Checklist

BOSTON MEDICAL

Clinical Policy and Procedure

CHECKING EMERGENCY EQUIPMENT

SKILL LEVEL: **Nurse or Designee.**

CLINICAL POLICY:

1. The nurse or designee will check and document emergency equipment **DAILY** as outlined on the form below

PROCEDURE CHECK: FOR MEDICAL EMERGENCY RELATED EQUIPMENT

1. **Check the following equipment for:**

A. Code Cart 1. Check/document snap lock # & intact
2. Check cart exp date

B. Clinic Box 1. Check/document snap lock # & intact
2. Check cart exp date

C. * Defibrillator 1. Check **when clinical area open**
2. See reverse side for specific defibrillator test

D. * Intubation Box, E. Surgical Airway Cart
(Identified Critical Care Areas ONLY)
1. Check/document snap lock # & intact
2. Check exp date

F. * EKG Machine 1.Check that plugged in; green AC light on
2. Check that spare paper present
3. Check that electrodes/tabs and clips present

G. * Oxygen Tank Check tank present & greater than 1/2 full (>800psi)

2. *** If asterisk, complete emergency equipment checklist for equipment, where applicable**
3. **If any lock is broken or expiration date has passed, call Supply Chain Operation (SCO) 4-5120 for a replacement.**

Unit:_____Month:_____Year:_____ ***Check (√) indicates completion of steps identified above***

DAY	A. CODE CART		B. CLINIC BOX		C. *DEFIB Lifepak		D. *INTUB BOX		E. *SURGICAL AIRWAY CART		F. *EKG	G. *O2 TANK	Initials	Comments
	Snap Lock	EXP DATE	Snap Lock	EXP DATE	√	# D	Snap Lock	EXP DATE	Snap Lock	EXP DATE				
1														
2														

BOSTON MEDICAL	Checking Emergency Equipment #03.37.000e	Page 2 of 2

LIFEPAK® 20e Defibrillator/Monitor Operator's Daily Checklist

Insert a ✓ in the box on the other side after completing.

1. Inspect physical condition for:
Foreign substances
Damage or cracks

2. Inspect power source:
AC power connector plugged into unit and AC power source; AC Mains LED is lit
Check for broken, loose, or worn power cable

4. Examine accessory cables (SpO2, ECG) for:
Cracking, damage, broken or bent parts or pins.

5. Defibrillator test is performed in Battery Mode
Disconnect the defibrillator from AC power, wait 2 seconds, press ON and check for:
Momentary ***SELF-TEST*** message, illumination of LEDs, and speaker beep
If Service light is on, power off device then power on. If Service light stays on, contact Clinical Engineering

6. Confirm cable connected to defibrillator.



1. Confirm test plug connected to therapy cable.
2. Press ANALYZE button
3. After *ANALYZING NOW* message, look for *REMOVE TEST PLUG* message.
4. Switch to manual mode by opening the door and pressing the ENERGY SELECT button
5. Press OPTIONS
6. Using speed dial select USER TEST and press User Test, then select YES to initiate test
7. Confirm user test succeeded. User Test will print out verifying successful test.
   Once test competed, unit powers down.
   Defibrillator cable is always connected to test plug
8. Check for Adequate paper supply.

7. Reconnect to AC power. Verify power off and AC Mains light is lit.

Notify Clinical Engineering at ext. 4-4692 if the defibrillator fails any part of the functional test.

For Specialty Areas that have paddles connected (Cath Lab, EP Lab)
If HARD PADDLES are connected:
- Confirm paddles properly seated in wells.
- Select 10 J and press the **CHARGE** button. **Note:** Discharging > 10 joules in paddle wells may damage defibrillator.
- When fully charged, press the **SHOCK** button on the paddles and look for the ***ENERGY DELIVERED*** message.
  If no energy delivered and shock tone continues, press Speed Dial to disarm, and contact Clinical Engineering.

Reconnect to AC power and then power off the device.

BOSTON MEDICAL CENTER

LUCAS

- Automated Chest Compression Device-
  - The LUCAS® 3 is a mechanical compression device (mCPR) that provides an automated way to deliver high quality CPR. The use of a mechanical device is an alternative clinical approach.

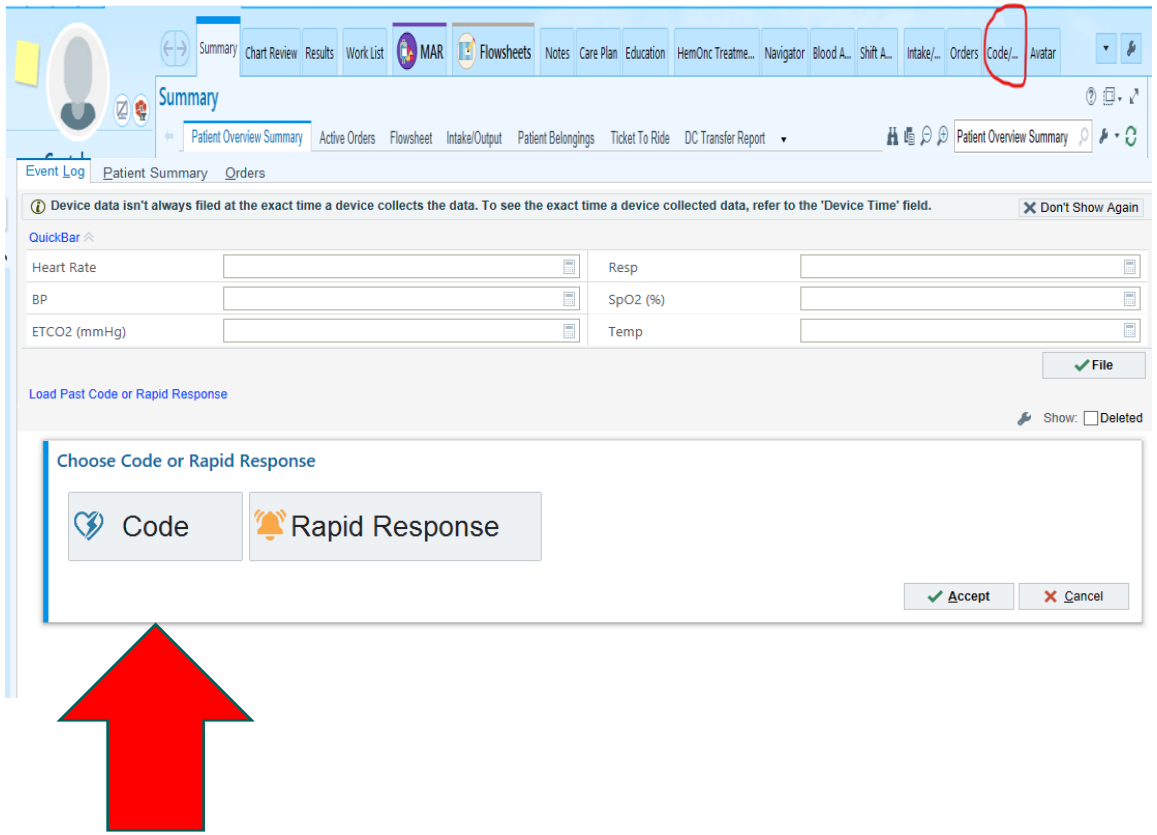
  - There are two LUCAS devices that will be stored in:
    - Medical ICU (MICU A)
    - Surgical Intensive Care Unit (SICU)

    - MICU A- charge nurse brings the Lucas & IO to code

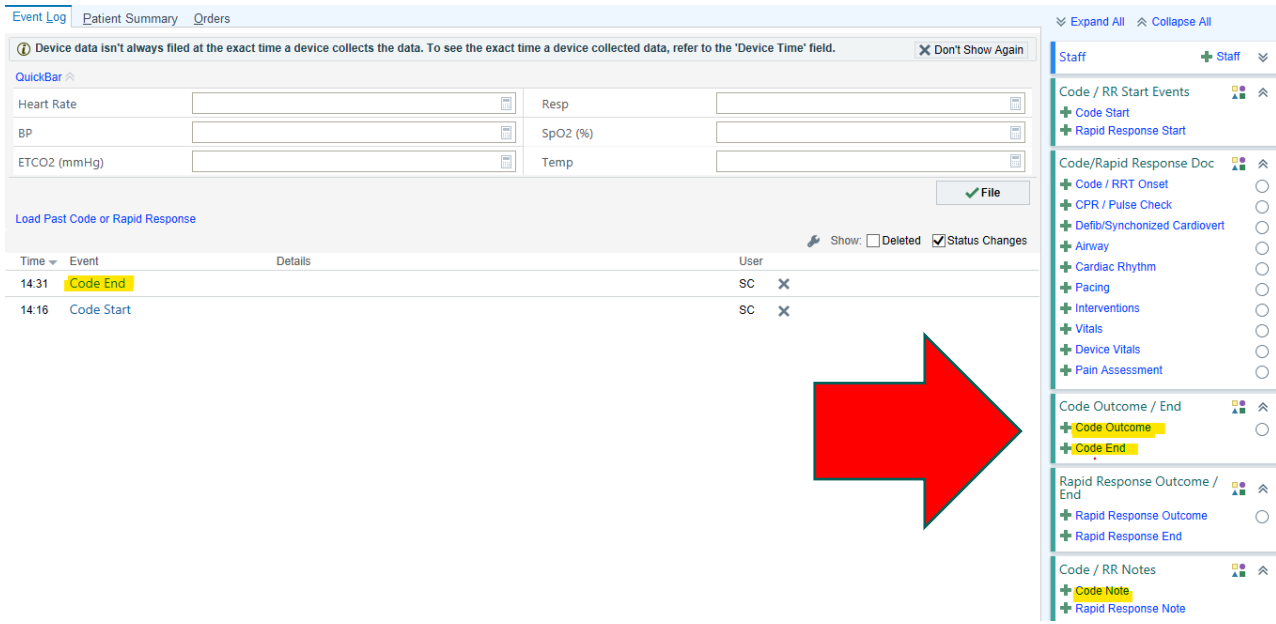


Code Documentation in EPIC

- This tab in EPIC is utilized for both Code documentation and Rapid Response Documentation.



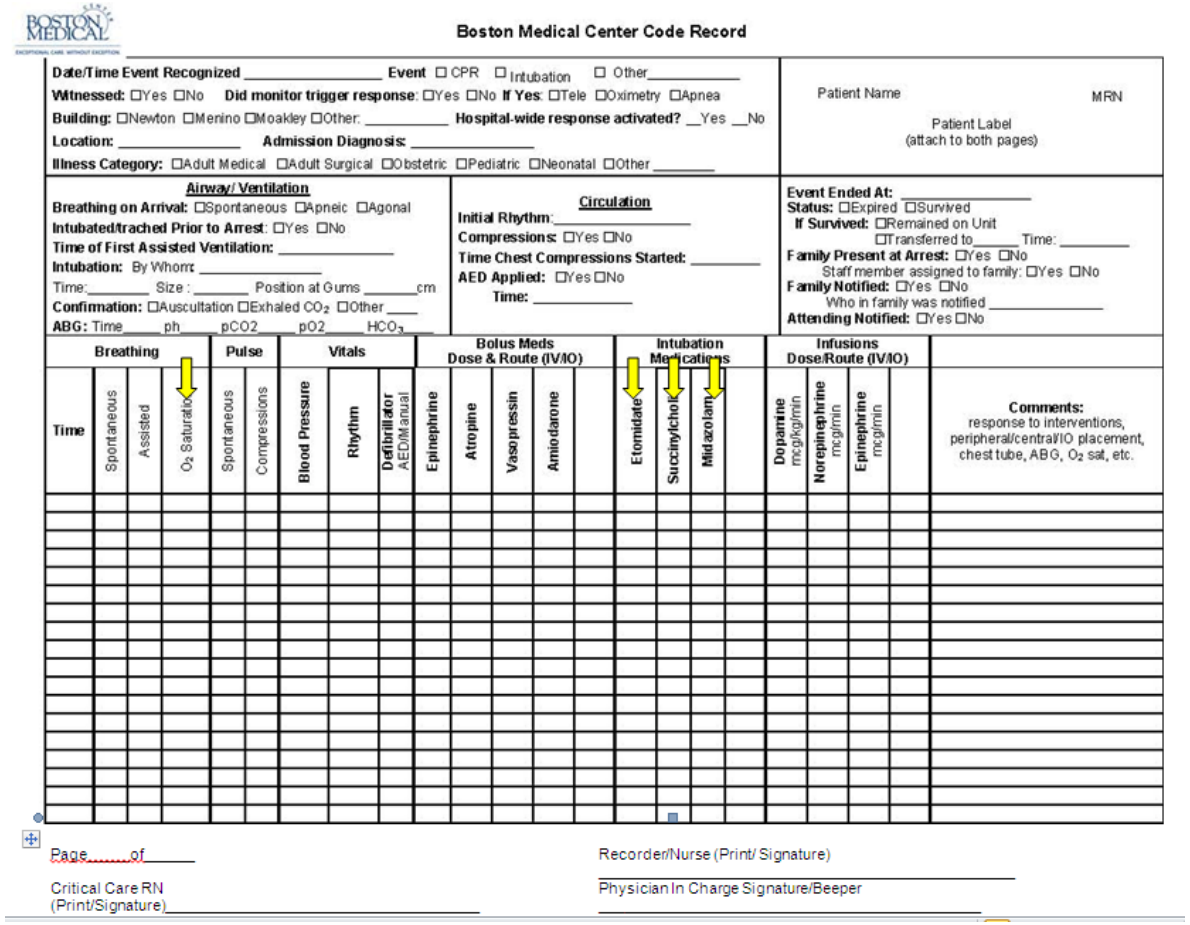
- Remember:
  - Make sure document both the code outcome and the code end!



Paper Documentation / EPIC Downtime

- Must be signed by both MD & RN and Scribe.
  - White copy in patient's chart
  - Yellow copy to Respiratory Therapist – brings to Code Committee

  - In both Epic documenting and paper documenting, make sure the documenter is charting **objectively**. Don't chart anything a lawyer would love to see!



Boston Medical Center Code Record

Date/Time Event Recognized _____ **Event** ☐ CPR ☐ Intubation ☐ Other_____
Witnessed: ☐Yes ☐No **Did monitor trigger response:** ☐Yes ☐No **If Yes:** ☐Tele ☐Oximetry ☐Apnea
Building: ☐Newton ☐Menino ☐Moakley ☐Other: _____ **Hospital-wide response activated?** __Yes __No
Location: _____ **Admission Diagnosis:** _____
Illness Category: ☐Adult Medical ☐Adult Surgical ☐Obstetric ☐Pediatric ☐Neonatal ☐Other _____

Patient Name MRN
Patient Label (attach to both pages)

Airway/ Ventilation
Breathing on Arrival: ☐Spontaneous ☐Apneic ☐Agonal
Intubated/trached Prior to Arrest: ☐Yes ☐No
Time of First Assisted Ventilation: _____
Intubation: By Whom: _____
Time:_____ Size : _____ Position at Gums _____cm
Confirmation: ☐Auscultation ☐Exhaled CO_2 ☐Other ____
ABG: Time____ ph____ pCO2____ pO2____ HCO_3____

Circulation
Initial Rhythm:_____
Compressions: ☐Yes ☐No
Time Chest Compressions Started: _____
AED Applied: ☐Yes ☐No
Time: _____

Event Ended At: _____
Status: ☐Expired ☐Survived
If Survived: ☐Remained on Unit
☐Transferred to_____ Time: _____
Family Present at Arrest: ☐Yes ☐No
Staff member assigned to family: ☐Yes ☐No
Family Notified: ☐Yes ☐No
Who in family was notified _____
Attending Notified: ☐Yes ☐No

	Breathing			Pulse		Vitals			Bolus Meds Dose & Route (IV/IO)				Intubation Medications			Infusions Dose/Route (IV/IO)				
Time	Spontaneous	Assisted	O_2 Saturation	Spontaneous	Compressions	Blood Pressure	Rhythm	Defibrillator AED/Manual	Epinephrine	Atropine	Vasopressin	Amiodarone	Etomidate	Succinylcholine	Midazolam	Dopamine mcg/kg/min	Norepinephrine mcg/min	Epinephrine mcg/min		Comments: response to interventions, peripheral/central/IO placement, chest tube, ABG, O_2 sat, etc.

Page_____of_____
Recorder/Nurse (Print/ Signature)
Critical Care RN (Print/Signature)
Physician In Charge Signature/Beeper

Proceed Outs

- A proceed out is called for an actual or potential medical emergency that pertains to:
  - *Visitors – Employees – Outpatient *
  - Dial **4-7777**- the Proceed Out team responds with stretcher, AED, ambu, and O2

FOR OUTPATIENT, VISITORS, EMPLOYEES

HOSPITAL PROCEED OUT TEAM

Adult Proceed-Out Team	Pediatric Proceed-Out Team
Medical Consult Resident	Pediatric ED Physician
Resource RN	Pediatric ED Nurse
Off Shift Nurse Manager	Resource RN
Transport	Transport
Public Safety	Public Safety

ED PROCEED OUT TEAM

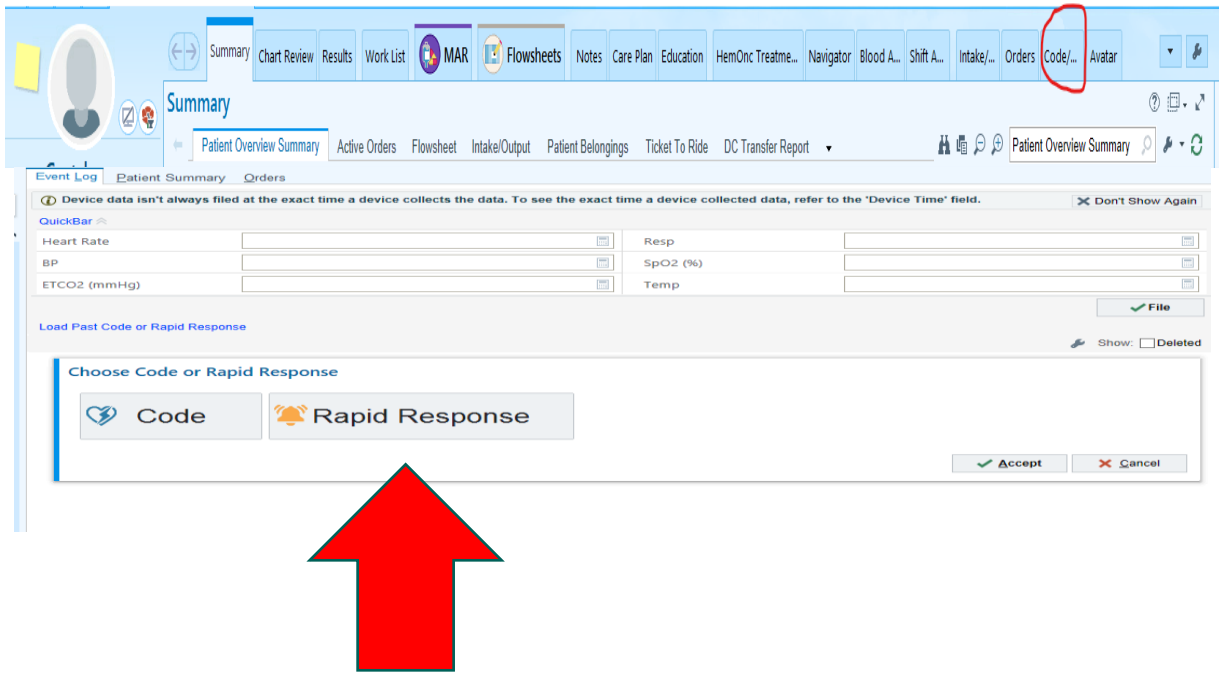
Adult Proceed-Out Team	Pediatric Proceed-Out Team
ED Physician	Pediatric ED Physician
ED RN	Pediatric ED Nurse
Resource RN	Resource RN
Transport	Transport
Public Safety	Public Safety

Rapid Response Team

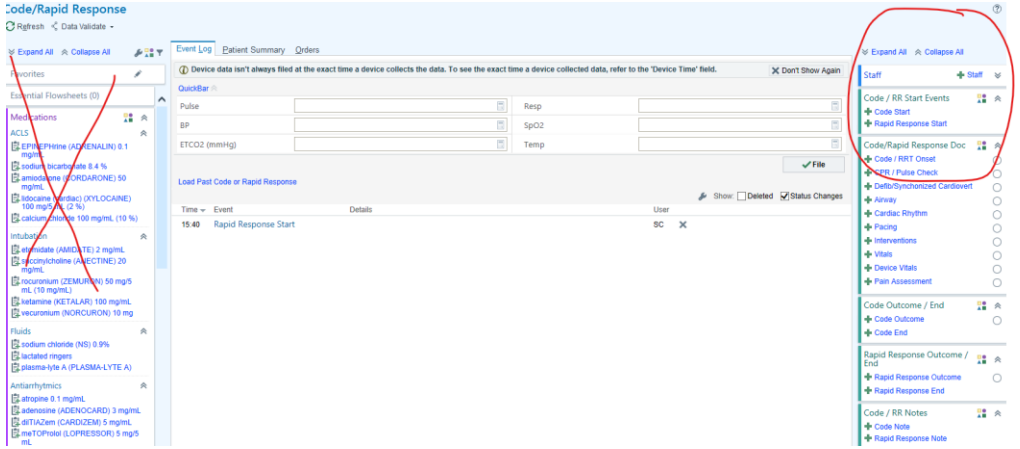
- Rapid Response Team (RRT)
  - Is utilized to prevent deaths in patients who are **clinically deteriorating** outside the ICU setting by improving early recognition, communication, and planning.
  - Call **4-7777,** state your calling for a Rapid Response, whether its an adult or pediatric, which building, the floor and the patients room number.
    - **For example : I'm calling an Adult Rapid Response, Menino 6 East room 7 bed 1.**
    - **<u>Remember to page covering team to inform them a Rapid Response has been called on their patient.</u>**
  - When would you call an RRT?
  - Who Responds to an RRT?

Rapid Response Documentation

- Bring computer to room, and open the patients record.
- Access the Rapid Response Narrator, under your Code for documentation.



- Document:
  - Assessments, interventions, vital signs using the menu on the right.
    - *Medications must be ordered the usual way and documented in the EMAR*



Code Stroke

Think that your patient is having a stroke?

- **BE FAST:**
  - **B**alance **E**yes **F**ace **A**rm **S**peech **T**ime

  - Call CODE STROKE:
    - Dial : 4-7777 (**inpatient**)
      - **ED**- Page 1000 for Code Stroke
    - State: Adult/ Pedi, and location (Building, Floor, Room#)

    - Remember to document using the Rapid Response Tab in Epic!



RN helpful tips for Code Stroke Situations

- Patients last known well time- when was the patient known to be without symptoms
- Vital signs, including temp
- Stat finger stick
- Place on telemonitor (DASH)
- Prepare to transport to radiology
- Validate IV access and place additional if needed (preferably R ante cube #18g)
- Keep the patient NPO including medications and water
- Report any pertinent current medications – anticoagulants / antithrombotic?
- Pertinent PMH
- Recent Labs

CODE GREEN

- A Code Green is called to facilitate the immediate response of an act of workplace violence.
  - Any employee or staff member who witnesses an act /threat of of violence should immediately call Public safety at 4-4444 or 617-414-4444 , state "Code GREEN", and tell the Public Safety officer the location of the incident.
  - If necessary, the caller should immediately leave the area and make the call from a safe location, as the person making the call will be asked a series of questions.
    - Questions may include: the number and description of the people involved, whether there are any weapons of any kind, or if anyone is injured.
    - Public Safety will immediately coordinate dispatch for response.

    - Follow up:
      - Human Resources – will be notified of Code Green incident, and will follow up to offer Employee Assistance Program for debriefing and counseling.
      - Local manager- will be notified of Code Green incident and will follow up with the staff within a 24 hour period.

Behavioral Response Team

- Behavioral Response Team (BRT) is a 24/7 consulting and response team. This team identifies agitated patients (with the help of the nurse) and partners with the care teams to develop a plan of care.
- The team consists of Nurse Practitioners who specialize in : Psychiatry, Family Medicine, Addiction, Geriatric Safety, and Quality Improvement.
- This team collaborates closely with: Psychiatry, Inpatient addictions, Patient Advocacy, Public Safety, Primary Teams, Geriatrics, Integrative Nurse Fellows and Nurse/Physician leadership.

- RNs can consult BRT for instances involving:
  - Assistance in managing acute agitation or withdrawal
  - Behavior care plans / referrals
  - To help RNs with management of weaning restraints or 1:1 sitter
  - Consulting to BRT does **not** replace a consult to Psychiatry or Inpatient Addictions

Code BRT

- When you call a Code BRT (7813) who responds?
  - Behavioral Response Team
  - Public Safety
  - RN Supervisors
  - Pharmacy

- The RN must separately page the Attending that a Code BRT was called on the patient
  - If needed you may page:
    - Patient Advocacy
    - Psychiatry

Documentation for BRT

- Here at BMC we utilize the BARS (Behavioral Activity Rating Scale) assessment tool for:
  - Rapid assessment
  - Does not require the patient to answer
  - Reliable and simple to use

Rating	Description	Comments
1	Difficult or unable to rouse	• Assess if level of care needs have changed and if different physical location needed for optimization (ie – Trauma room or ICU)
2	Asleep but responds normally to verbal or physical contact	• Be aware as patient at risk for unanticipated change in status upon being roused
3	Drowsy, appears sedated	• Be aware patient at risk for unanticipated change in status upon being roused
4	Quiet and awake (normal level of activity)	• Be alert to early signs of status change • Consider what preventive measures can be implemented
5	Signs of overt (physical or verbal) activity, calms down with instructions	• May need frequent redirection but efforts are effective (even if transient); May be situationally angry but responsive to conversation; may be resistant to care, demanding or vocalize agitation • Is engageable and redirectable • Consider what preventive measures can be implemented
6	Extremely or continuously active, not requiring restraint	• May have verbal threats, but is able to be redirected (even if requires constant engagement) • Active defined as: pacing, restless, excessive movement, not willing to sit down, uncooperative, impulsive, rocking, rubbing, moaning
7	Violent, requires restraint	• Physically assaultive or verbal/physical threats and unable to redirect; may be explosive or unpredictable • Body language consistent with threats • Active attempts at self-harm • Not able to redirect

Any Questions?

BOSTON MEDICAL CENTER

Comprehensive Stroke Center Education for New Hire RNs - 2025

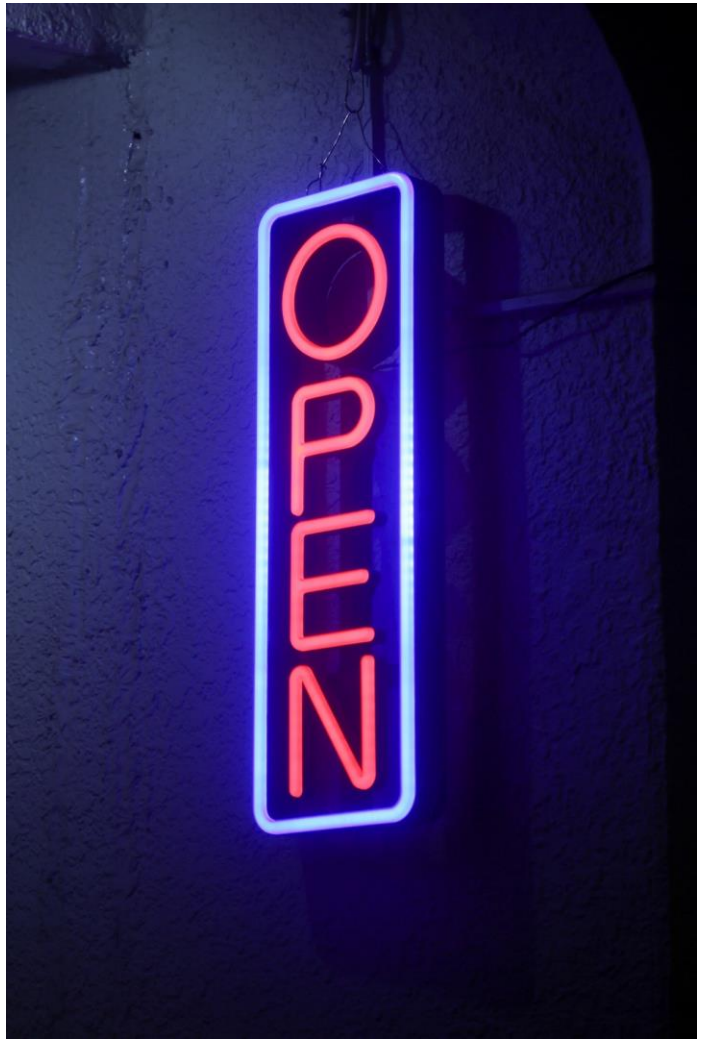
Boston Medical Center
HEALTH SYSTEM

Introduction & Objectives

- ✓ Understand the role of the Comprehensive Stroke Center
- ✓ Understand common types of Stroke, signs & symptoms, and risk factors
- ✓ Understand how to call a Code Stroke
- ✓ Understand the treatment options for Stroke
- ✓ Understand the importance of documentation
- ✓ Understand how Stroke affects quality of life and the challenges a Stroke presents
- ✓ Understand the importance of patient-specific, disease-specific education and stroke prevention in our patient population

What is a Comprehensive Stroke Center?

	Primary Stroke Centers	Comprehensive Stroke Centers
PATIENT CARE	Stabilize and treat most cases of acute ischemic stroke.	Cares for all types of stroke patients, both ischemic and hemorrhagic and including complex cases requiring advanced technology, specialized diagnosis and higher levels of treatment.
ADVANCED IMAGING	No advanced imaging (such as CT angiography, CT perfusion or transcranial doppler) required.	24/7 access to advanced imaging including CT angiography, CT perfusion, or transcranial doppler required.
ENDOVASCULAR INTERVENTION	Not required.	24/7 access to endovascular interventions such as mechanical thrombectomy for acute ischemic stroke, aneurysm coiling, and arteriovenous malformation embolization.
NEUROCRITICAL CARE	No requirement for a separate neuroscience ICU.	Dedicated neuroscience intensive care unit staffed 24/7 with neurocritical care experts.
NEUROSURGERY	Access to neurosurgery within 2 hours.	On-site neurosurgical providers available 24/7 to perform complex neurovascular procedures, such as aneurysm clipping, AVM resection, and carotid endarterectomy.
PATIENT TRANSFERS	Sends complex patients and those who require advanced intervention to CSC.	Receives patients from Primary Stroke Centers following stabilization.



Certifications and Program Overview

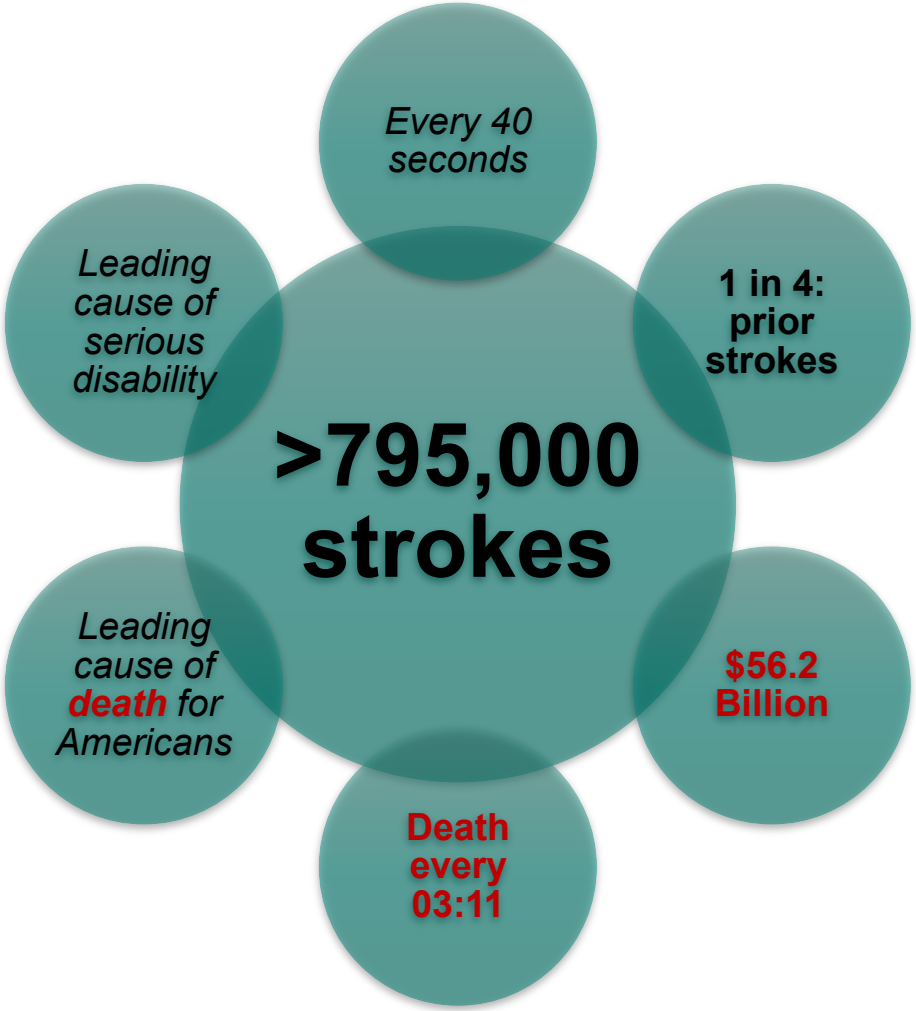
- Joint Commission Certified Comprehensive Stroke Center
- MA DPH/CDC Coverdell Stroke Performance Improvement Pilot
- American Heart Association Get With the Guidelines – Stroke
- Framingham Heart Study
- Clinical Trials
  - ASPIRE, DISCOVERY, CAPTIVA, STEP, Escape Me-VO, and many more!
- Stroke Neurology Team
  - Stroke Directors/Attendings
  - Stroke Fellows and Residents
  - Stroke NPs
  - Stroke Research Team
  - Stroke Nurse Coordinator/Nurse Manager
  - Stroke Nurse Navigator



Why Do You Need to Know About Strokes?

Boston Medical Center
HEALTH SYSTEM

Annual Stroke Statistics: United States



Stroke Risk Factors

Modifiable

- High Blood Pressure: 3.5x
- Atrial Fibrillation: 4-10x
- Physical Inactivity
- Overweight/Obesity: 1.5x
- High Cholesterol: 1.5x
- Tobacco Exposure: 2x
- Alcohol and Drug Abuse
- Diabetes: 2x

Non-Modifiable

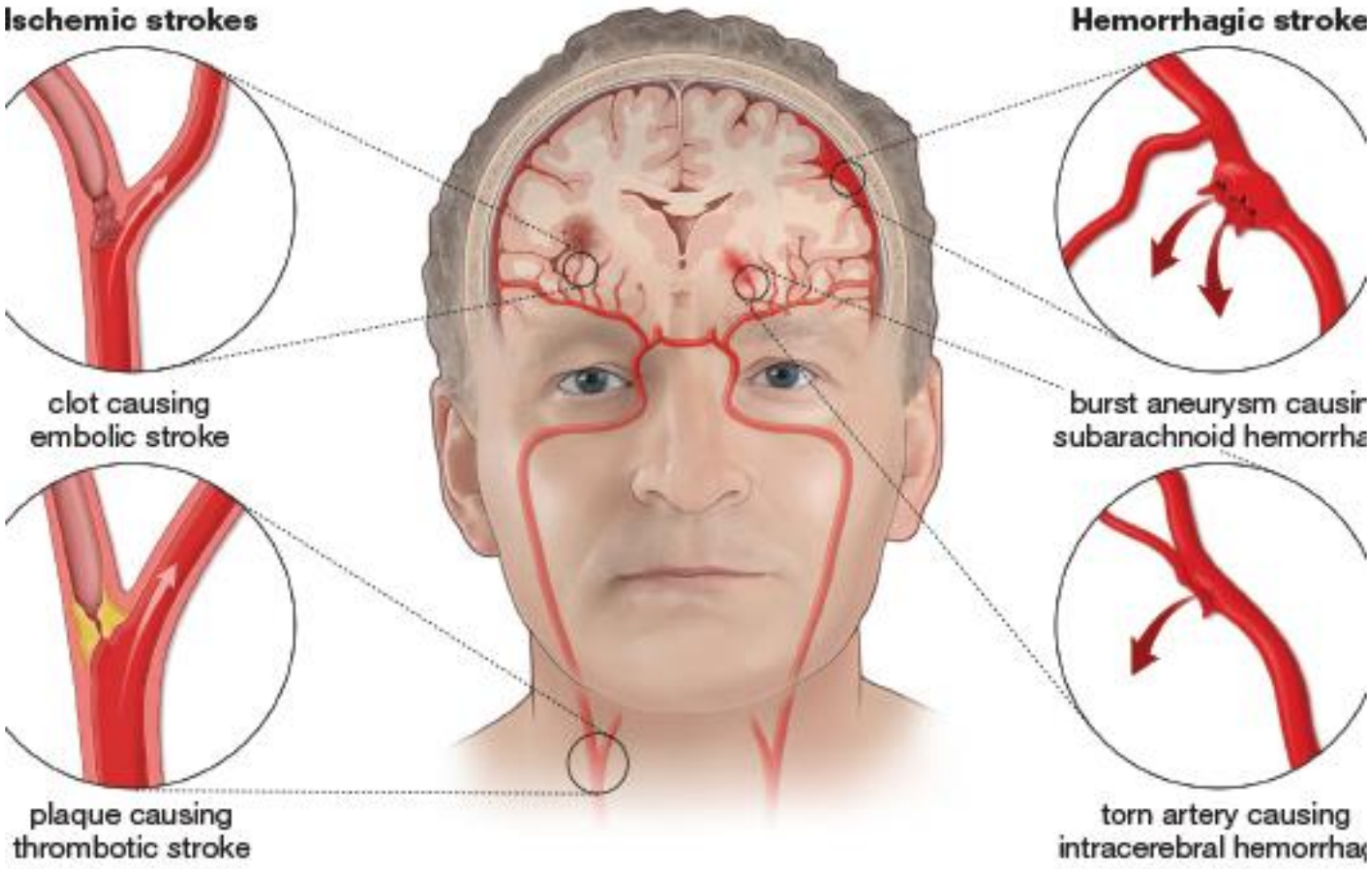
- Previous Stroke or TIA
- Age
- Gender
- Race
- Family History

Common Types of Strokes

Boston Medical Center
HEALTH SYSTEM

Three Types of Stroke

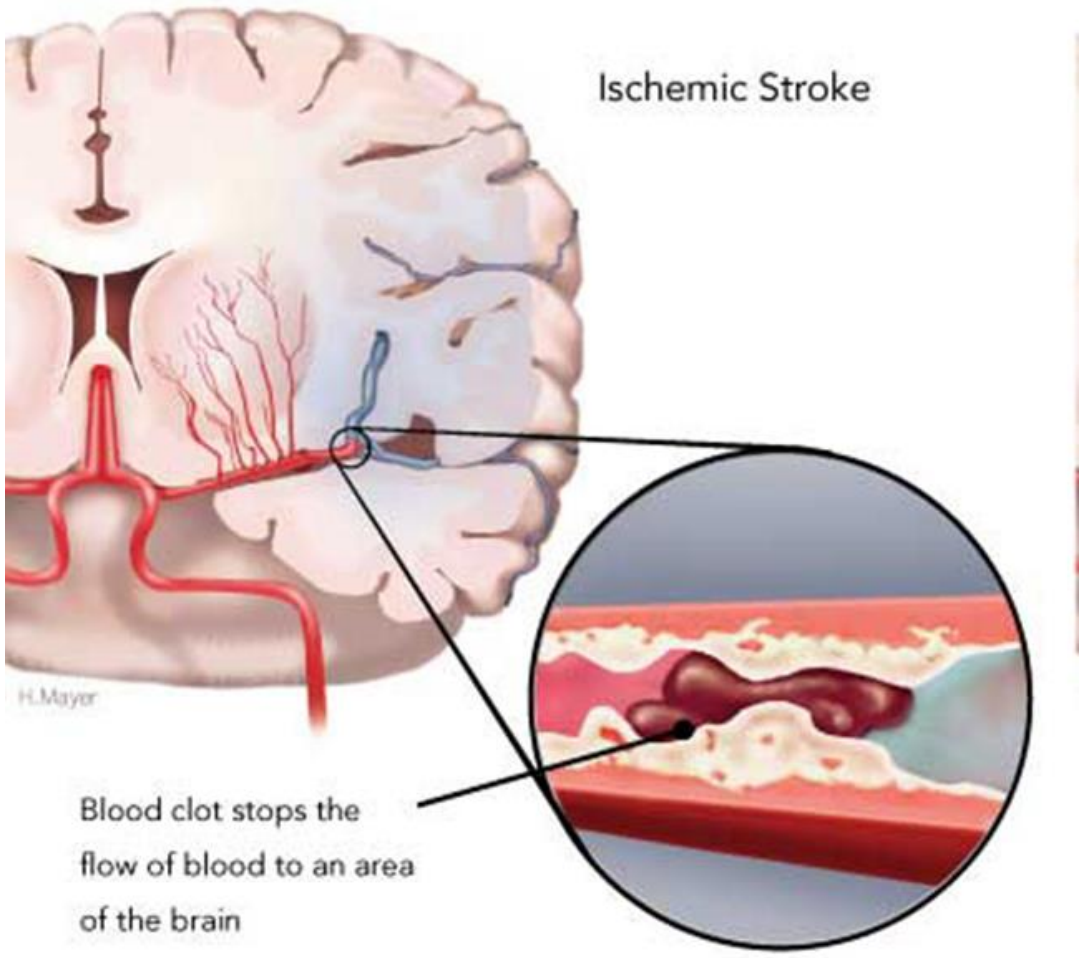
1. Ischemic
2. Hemorrhagic
3. Transient Ischemic Attack (TIA)



Ischemic Stroke: 87% of Strokes

When blood flow through the artery that supplies oxygen-rich blood to the brain becomes blocked.

- Thrombotic
  - Blood clot blocks artery
  - Usually seen in older patients with HTN, high cholesterol and atherosclerosis
- Embolic
  - Embolus (blood clot or cholesterol plaque) travels to artery in brain
  - Atrial fibrillation
- Lacunar
  - Blockage of arterioles
  - Very small ends of arteries penetrate deep in brain

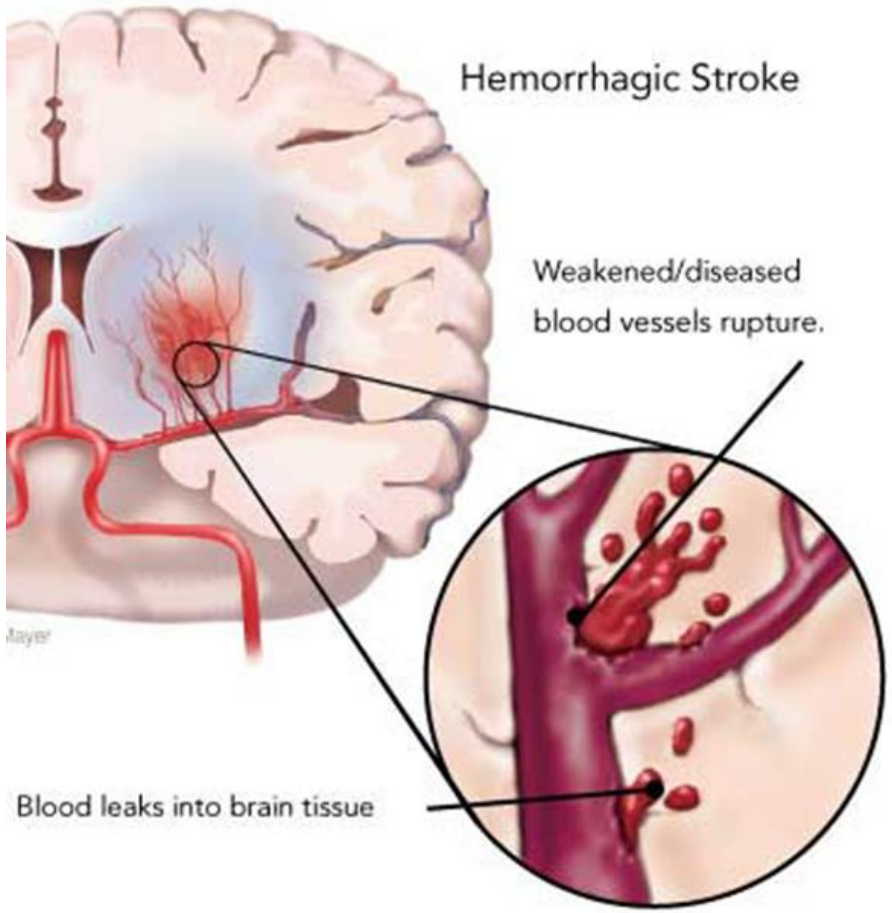


Hemorrhagic Strokes: 13% of Strokes

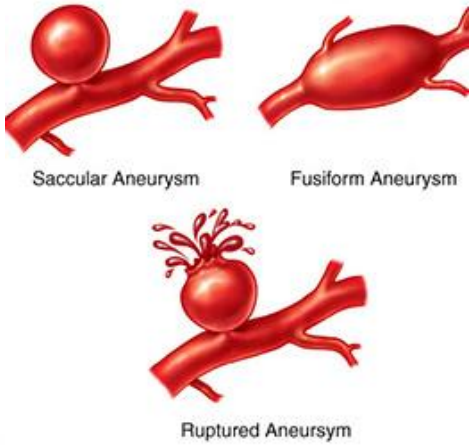
Blood Vessel Ruptures

When an artery in the brain leaks blood or ruptures. The leaked blood puts too much pressure on brain cells, which damages them

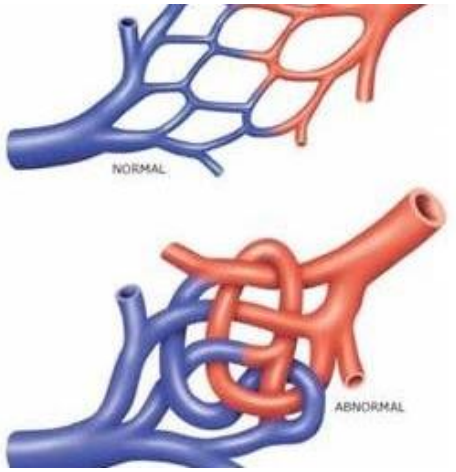
- Intracerebral (ICH)
- Subarachnoid (SAH)



Weakened Blood Vessels



Aneurysms



Arteriovenous Malformation (AVM)

Transient Ischemic Attack (TIA)

- Blood flow to the brain is blocked for only a short time – a few minutes to a few hours
- TIA is a medical emergency and a warning sign; it presents an opportunity to make timely changes that can help save lives in the future



American Heart Association/American Stroke Association. January 2025

NIH Stroke Scale

Boston Medical Center
HEALTH SYSTEM

NIHSS: National Institute of Health Stroke Scale



- A measure of **stroke severity** with a range of 0 – 42
- The higher the number, the greater the impairment
- NIHSS is done rapidly as initial assessment by Neuro Resident, NP or Fellow and as follow up to assess improvement/decline
- Score ≥12 has 91% predictive positive value of central LVO stroke

0 - 1 Normal

1 - 4 Minor Stroke

5 - 15 Moderate Stroke

15 - 20 Moderately Severe Stroke

> 20 Severe Stroke



The NIHSS is not perfect! A low (1) NIHSS doesn't mean the absence of Stroke! The scale may not capture all stroke signs such as nausea, headache, vertigo or truncal ataxia (disequilibrium)

NIHSS: The Scale

The Scale

1. LOC
2. Best Gaze
3. Visual fields
4. Facial palsy
5. Motor Arm
6. Motor Leg
7. Limb ataxia
8. Sensory
9. Best Language
10. Dysarthria
11. Extinction & Inattention

Visuals Used (New for 2024)



Words & Phrases

You know how.	MAMA
Down to earth.	TIP – TOP
I got home from work.	FIFTY – FIFTY
Near the table in the dining room.	THANKS
They heard him speak on the radio last night.	HUCKLEBERRY
	BASEBALL PLAYER

Stroke Treatments

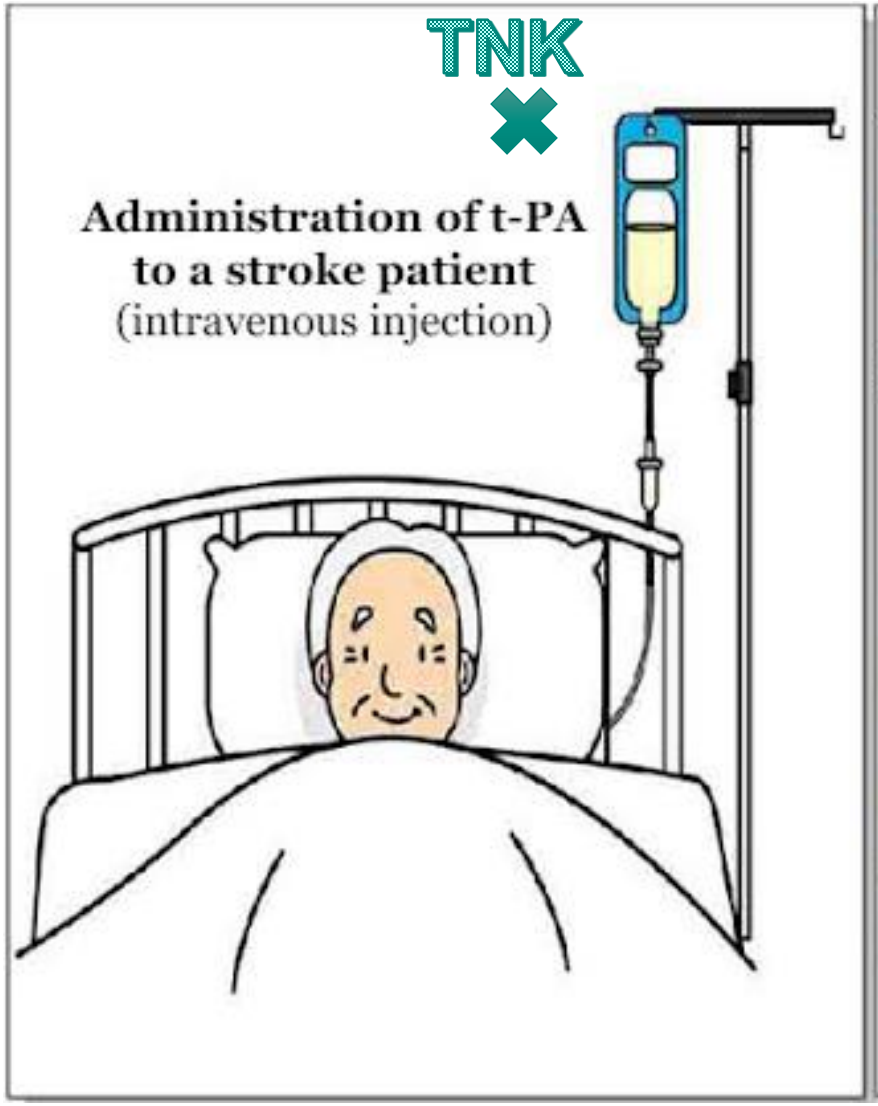
Boston Medical Center
HEALTH SYSTEM

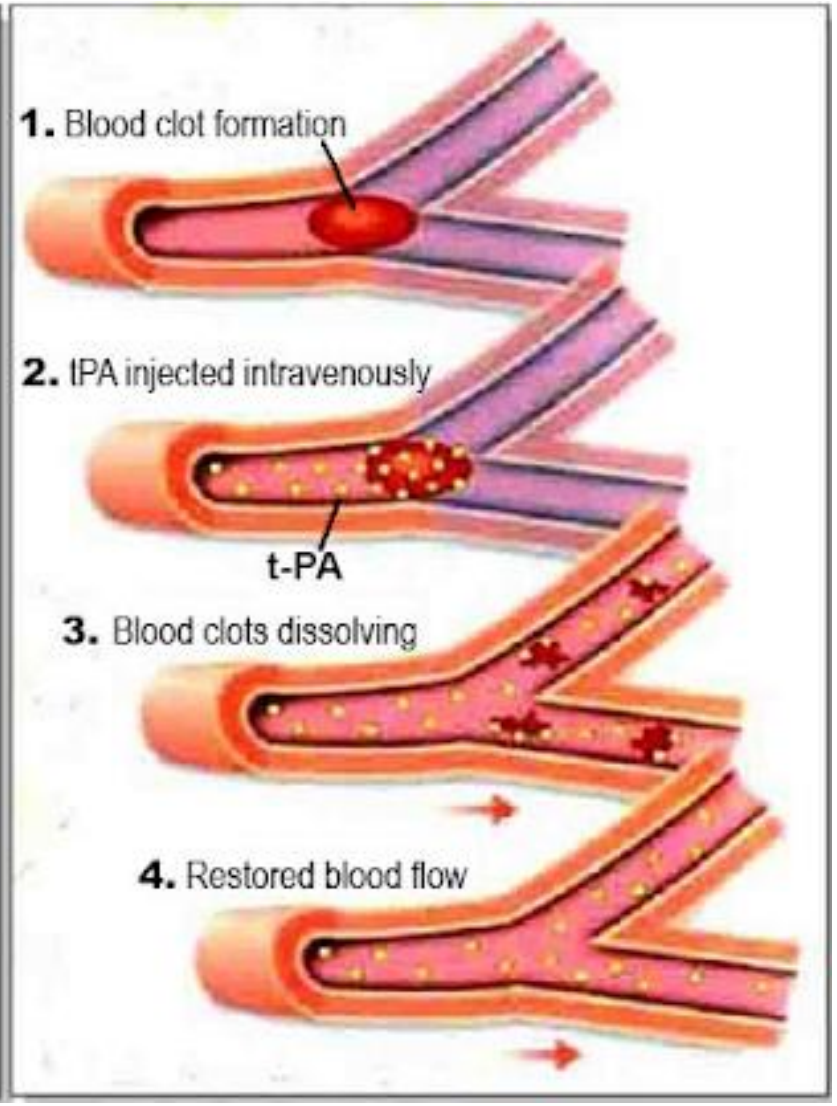
BMC Time Goals

Emergency Department Stroke Care Process Measure Assessment Tool	
Activity	**Time Targets**
Door to notification of Acute Stroke Team (AST), i.e., making the call to the team*	within 5 minutes of arrival
ED physician assesses acute stroke patient	within 5 minutes
Time from notification of AST to response of team member by phone or at patient bedside to assess patient*	within 5 minutes of being called
Pt leaves Trauma Bay to Radiology	within 10 minutes
Door to CT scan or MRI scan	within 15 minutes
Door to CT result	within 25 minutes
Door to completion of chest X-Ray and interpretation – if ordered	within 45 minutes
Door completion of ECG and interpretation- not to delay CT Head	within 45 minutes
Door to completion of labs and results/interpretation	within 25 minutes
Results (labs, CT) to tenecteplase decision time*	Within 5 minutes
ED door-to-needle time for IV thrombolytic (tenecteplase) treatment	within 30 minutes
Neurointerventional/ Neurosurgical intervention	as needed urgently
Door to Puncture for Thrombectomy	60 minutes for tranfers 90 minutes for ED patients

* AHA/DPH stroke care recommendations modified for BMC.

Ischemic Stroke Treatment: IV Tenecteplase (TNK)



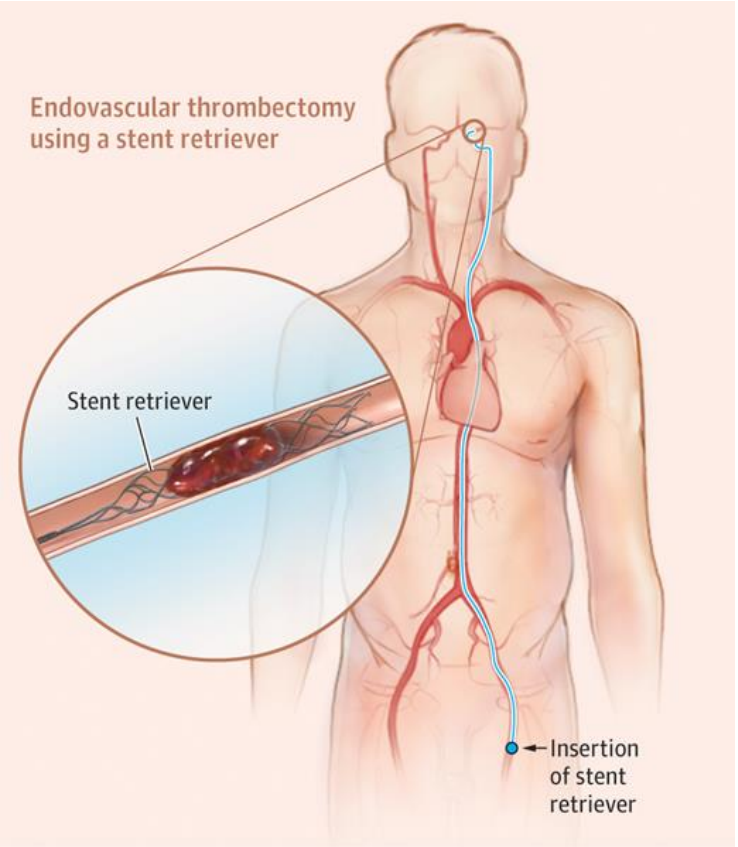


Ischemic Stroke Treatment: IV Tenecteplase (TNK)

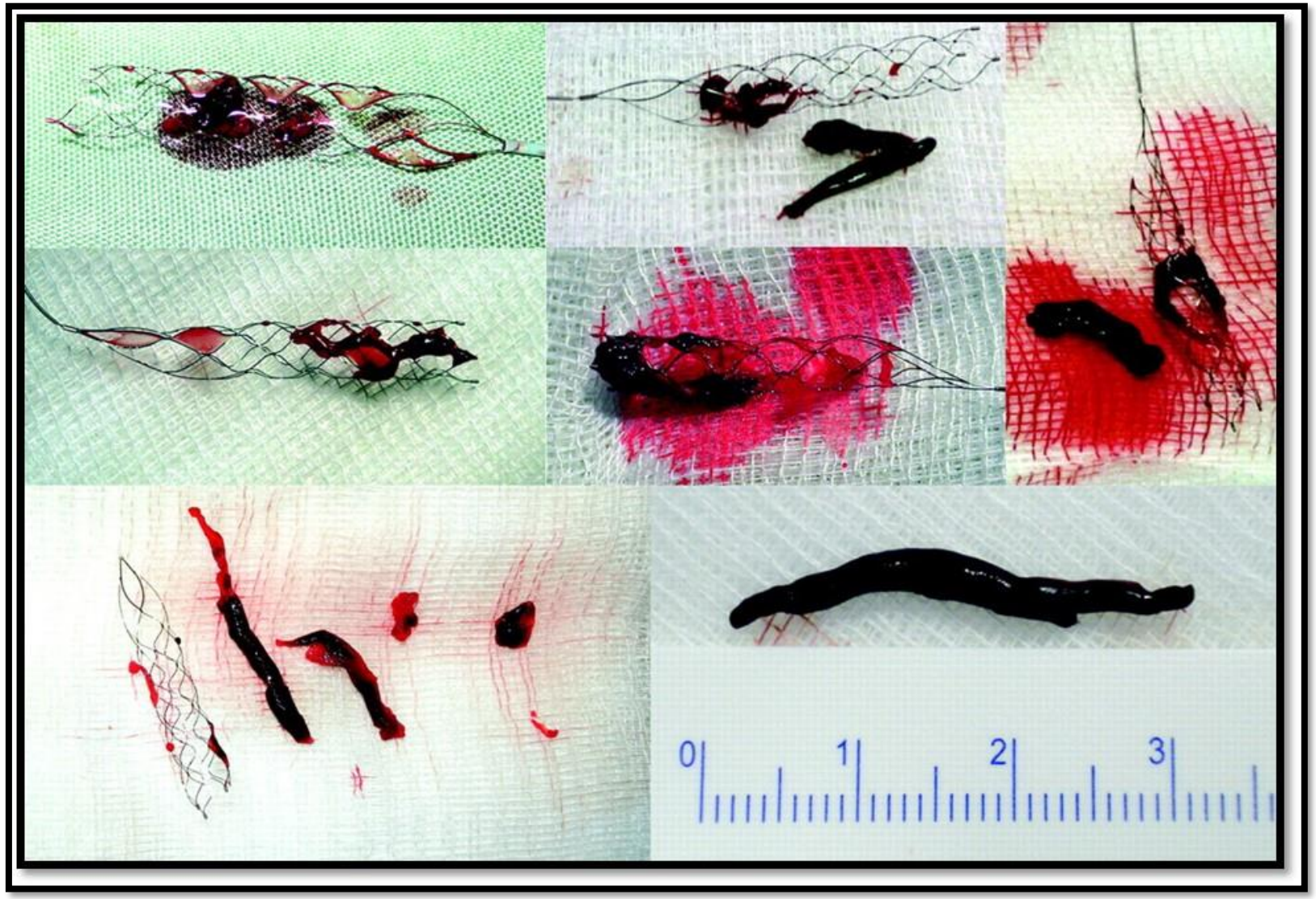
- Genetically modified form of wild-type tPa (alteplase) that has a longer half life and greater fibrin specificity
- Administered as a **single bolus**, given over 5 seconds
- **Same inclusion/exclusion criteria and post-administration monitoring as tPA (alteplase):**
  - **Inclusion: Ischemic Stroke with Last Known Well (LKW) 3-4.5 hours, >/= 18yo**
  - **Exclusion: bleeding, recent stroke, uncontrolled HTN, recent major surgery or significant head trauma; NIHSS 25 and history of stroke AND diabetes (only for 3-4.5h window)**
  - **Monitor in SNICU x24h; no punctures/catheter placements/antithrombotic drugs x24h unless life-saving**
- Blood pressure:
  - Below 185/110 before administration; Maintained < 180/105mmHg for at least 24 hours after
  - For patients not treated with thrombolytic therapy, BP should not be treated acutely unless the hypertension is extreme (systolic BP>220 mmHg or diastolic BP >120 mmHg); BP lowered slowly over several hours/sometimes days

Endovascular Ischemic Stroke Treatment: Mechanical Thrombectomy (MT)

- Indication: For Large Vessel Occlusions (LVO) that fail to open with TNK/tPA alone
- Inclusion Criteria
  - ✓ Minimal pre-stroke disability
  - ✓ Large vessel occlusion
  - ✓ ≥18yo
  - ✓ NIHSS ≥6
  - ✓ ASPECT ≥6
  - ✓ **6-24 hours of Last Known Well**
- Post MT, patients are transferred from Neuro IR to SNICU
- How Endovascular Stroke Treatment Works - YouTube



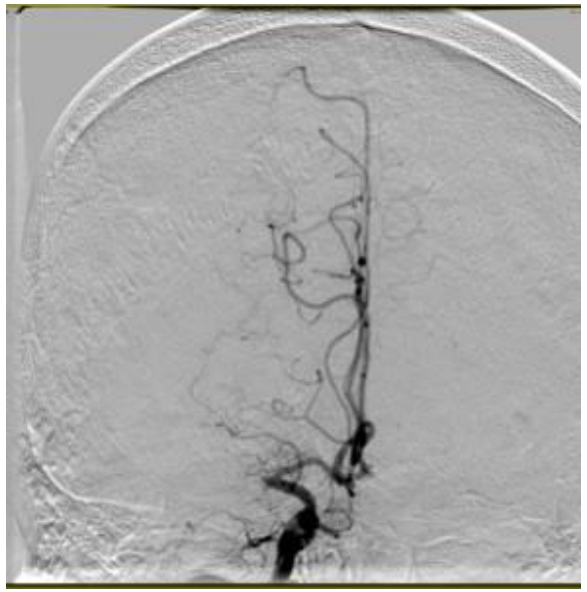
Endovascular Ischemic Stroke Treatment: Mechanical Thrombectomy (MT)



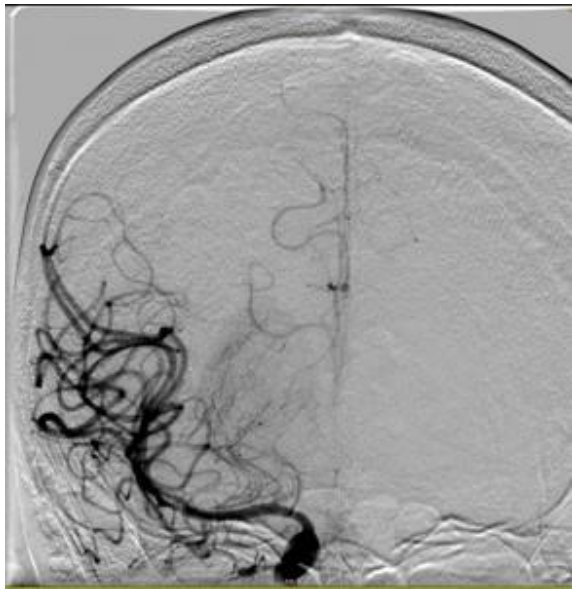
TICI Score for Reperfusion: Thrombolysis In Cerebral Infarction Scale

TICI Scale
TICI 0: complete occlusion. Absence of contrast passage through occluded vessel
TICI 1: filiform passage of contrast with virtually complete distal branches
TICI 2: passage of contrast filling distal branches of the treated vessel. It is subdivided into:
2a: Reperfused less than two thirds of distal branches
2b: Reperfused more than two-thirds but not complete
TICI 3: complete recanalization

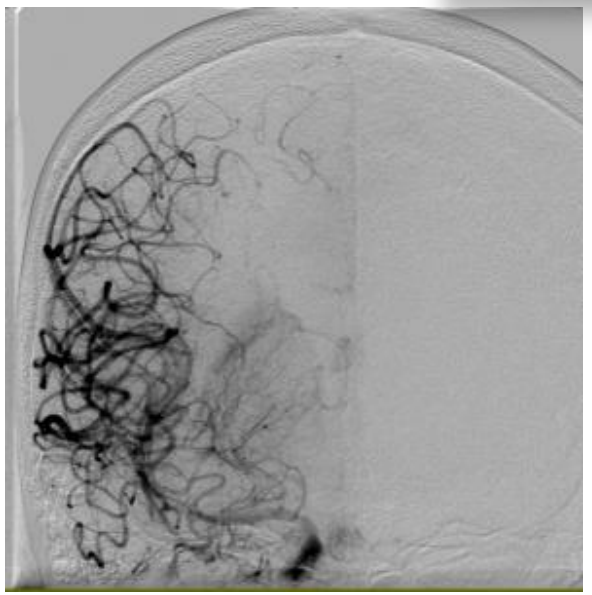
> **Successful recanalization**



TICI 0



TICI 2a



TICI 2b

Stroke Signs & Symptoms

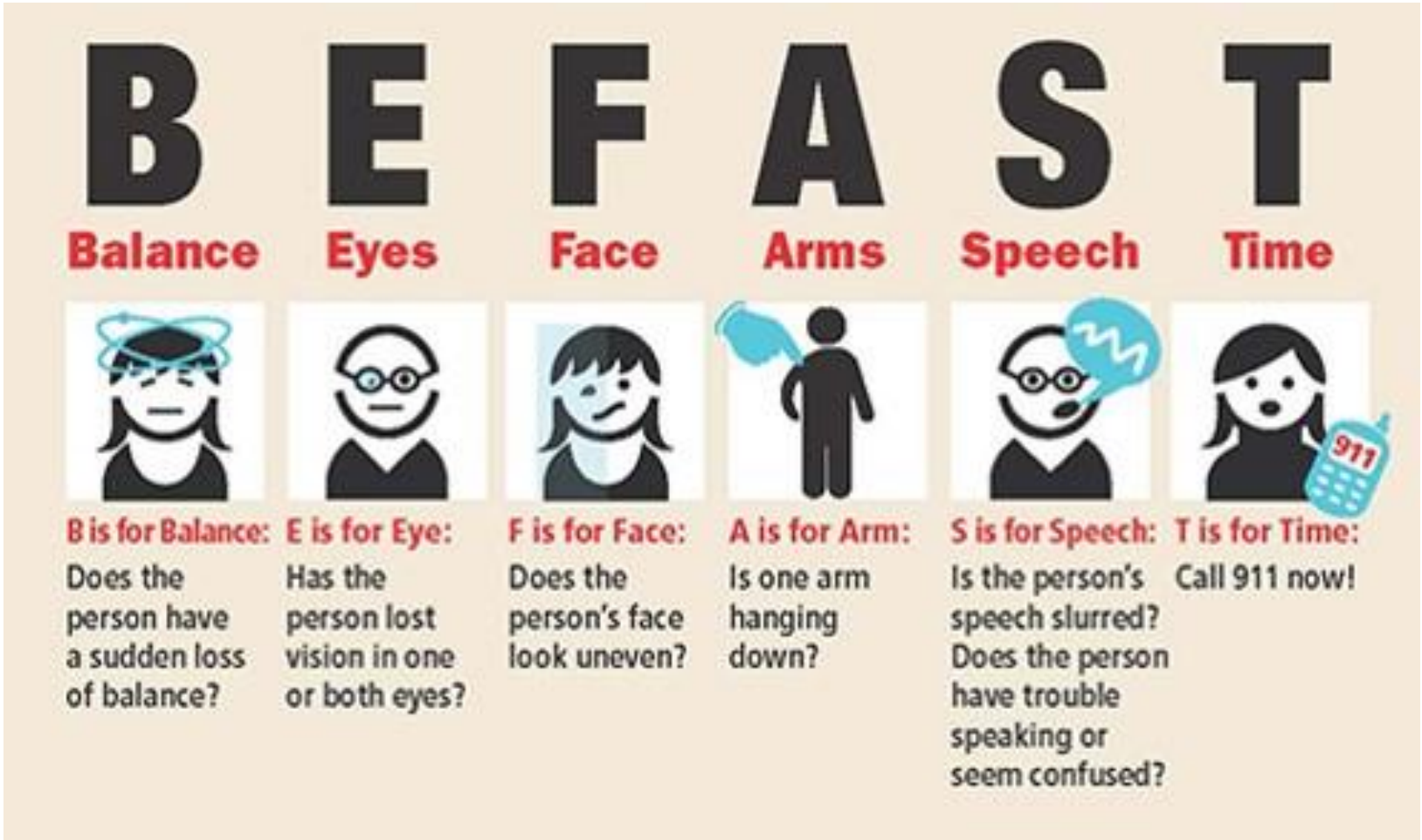
Boston Medical Center
HEALTH SYSTEM

Stroke Signs & Symptoms: The “Suddens”

- **Sudden** weakness or numbness of the body, especially on one side
- **Sudden** vision changes in one or both eyes
- **Sudden** severe headache with unknown cause
- **Sudden** dizziness, difficulty walking or imbalance
- **Sudden** confusion, difficulty speaking or understanding others

Stroke Signs & Symptoms: BEFAST

- Expanding on the FAST acronym, BEFAST includes balance and vision



What Do You Do If You Suspect A Stroke?

Boston Medical Center
HEALTH SYSTEM

Do you suspect a STROKE?

- If you suspect a stroke - don't hesitate to call
- BMC South – Call x5555; BMC Brighton call x666
- Time is of the essence
- Last known well- when were they last normal?
- Blood Pressure
- Stat finger stick (glucose)
- Place on monitor (DASH)
- Validate IV access (preferably on Right)
- **Keep patient NPO**
- Pertinent current medication- anticoagulation
- PMH
- Current vitals
- **Stay with the patient**: someone needs to **communicate** to the Stroke Team **why the Code Stroke was called**

Caring for the Stroke Patient

Boston Medical Center
HEALTH SYSTEM

Care of the Stroke Patient

Stroke Consideration	Nursing Intervention
Altered neuro status	Neuro checks as ordered – what is the patient's baseline? Have there been any changes?
Risk for aspiration	Dysphagia screen! Documented passing screen for ALL patients who present with stroke signs/symptoms and/or are being ruled out for a stroke prior to ANY PO intake
High fall risk: ~70% fall in 1st 6 months post-stroke	Fall risk precautions, close to nursing station, don't leave unattended in bathroom, declutter rooms, **communicate** to team
VTE prophylaxis	Sequential Compression Devices (SCDs), heparin, etc
Blood pressure goals	Know your patient's parameters
Risk for another stroke	Educate: patient-specific, disease-specific education that patient and/or caregiver can understand (language, reading level, etc)

Assess, Intervene and Document!!!

Dysphagia Screening: “3 oz water swallow challenge”

All patients with new stroke signs/symptoms, or who are being ruled out for a stroke, need a documented passing dysphagia screening prior to ANY PO intake

- ✓ Assess mental status, Facial Status, Breathing, Oral Secretions, Cough and Voice.
- ✓ Ask patient to say AHHH for 3 seconds.
- ✓ If patient passes all above criteria, give 3oz water
- ✓ If patient has no sign of aspiration, can finish the entire 3oz of water, and can say AHHH for 3 seconds again, they have passed the screen
- ✓ If patient fails screen, a speech and swallow screen needs to be placed
- ✓ Keep Patient NPO: no liquids, no medications, no food
- ✓ Speech Language Pathology (SLP) prioritizes stroke patients, and most times will see them within 24 hours



Time Is Brain!!!

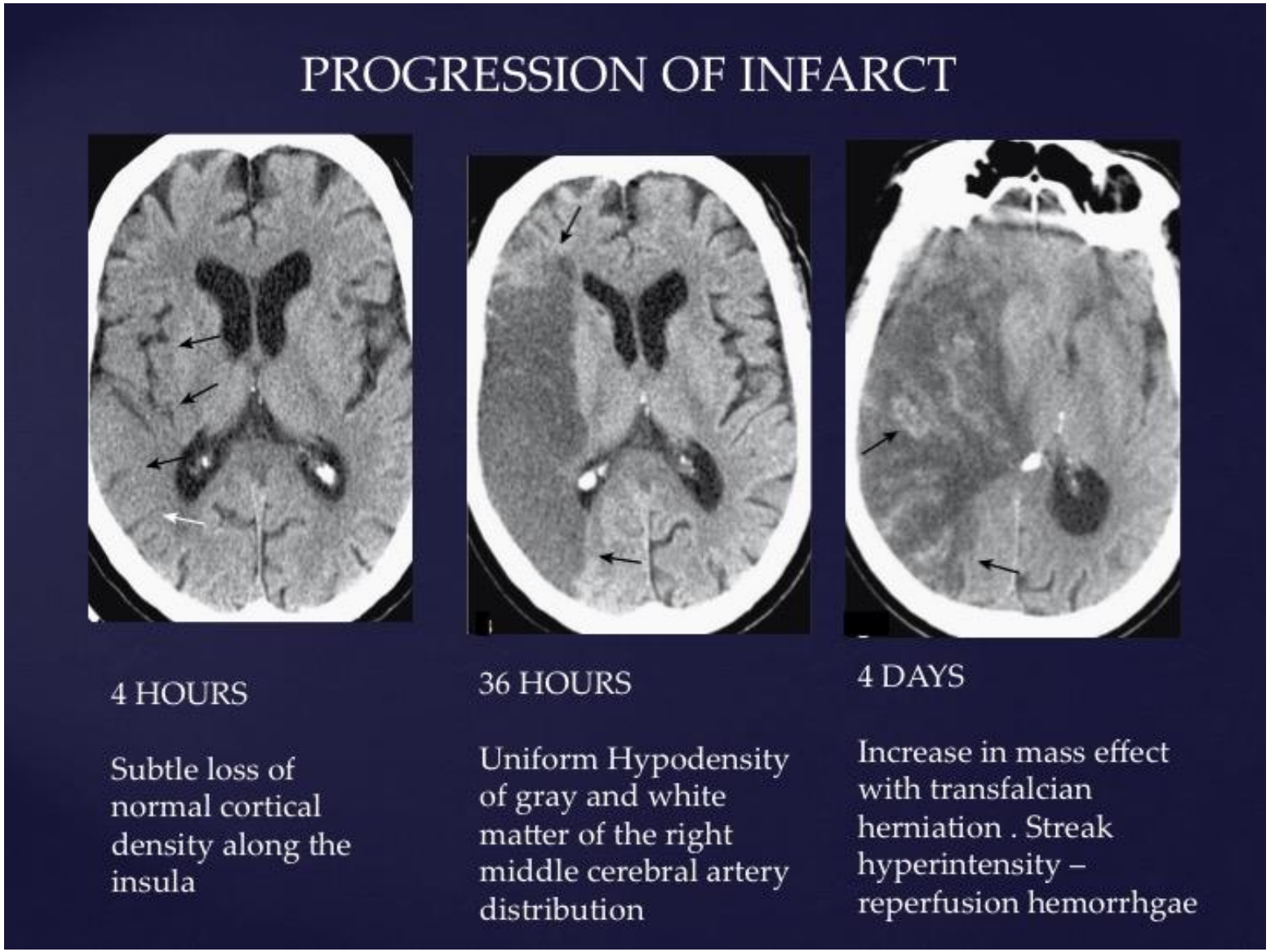
Boston Medical Center
HEALTH SYSTEM

Time is Brain!

- This is the most important thing to remember when it comes to suspected stroke!
- Every minute that passes causes significant damage to the patient and reduces their chance for recovery and a good outcome!
- Early recognition of stroke signs and symptoms are imperative

	Brain Cells Lost	Number of Years the Brain Ages
Per Stroke	1.2 billion	36 yrs
Per Hour	120 million	3.6 yrs
Per Minute	1.9 million	3.1 weeks
Per Second	32,000	8.7 hrs

Progression of an Infarct



Safe Medication Practices

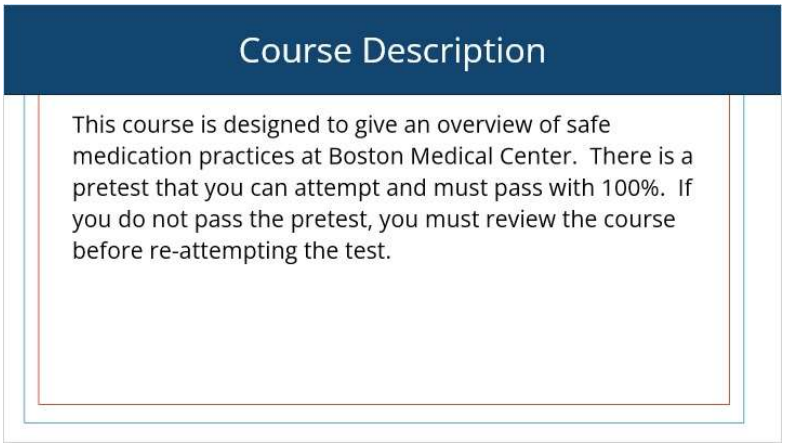
1. Home

1.1 Home



Notes:

1.2 Course Description

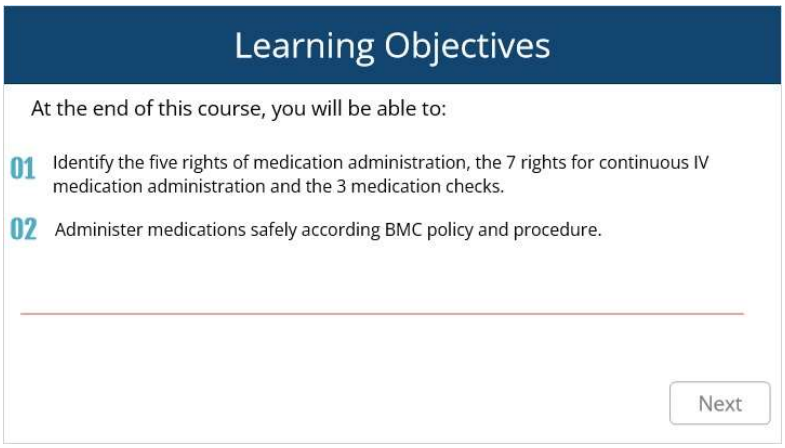


Notes:

1.3 Learning Objectives



Hidepretestlayer (Slide Layer)



1.4 Introduction



1.5 Nursing Practice and Medication Errors

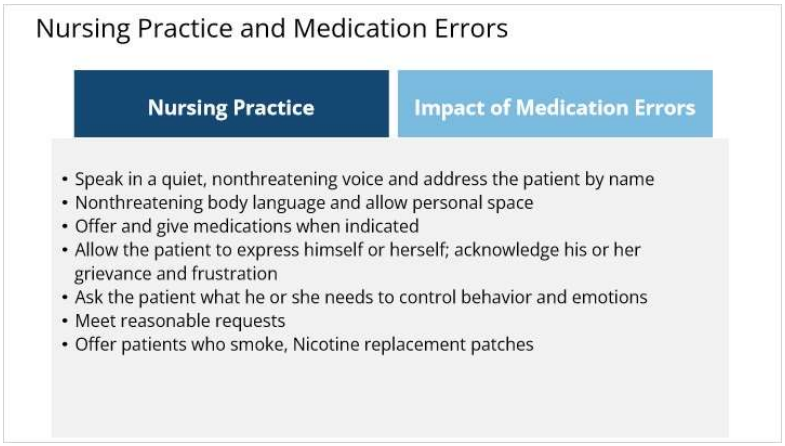


Notes:

Early Signs (Slide Layer)



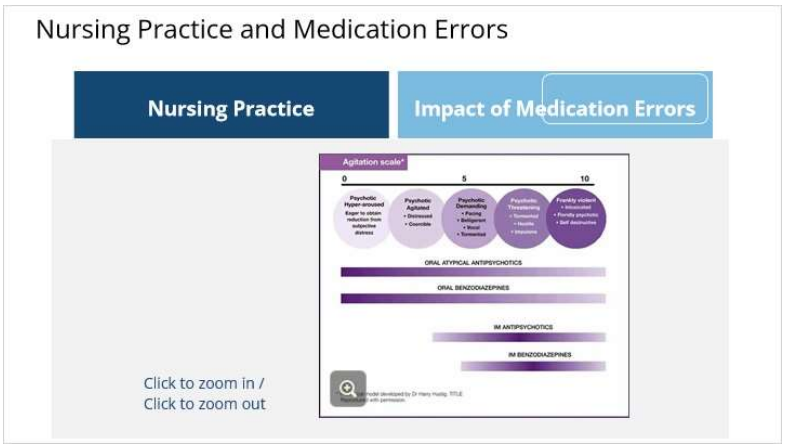
Interventions (Slide Layer)



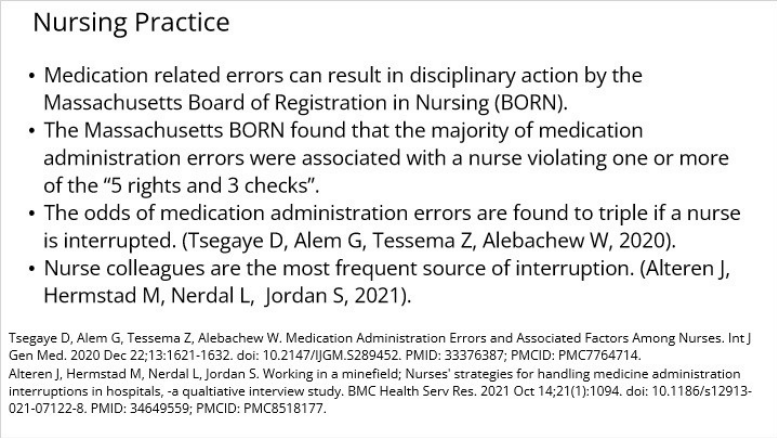
Reminder (Slide Layer)



Agitation Scale (Slide Layer)

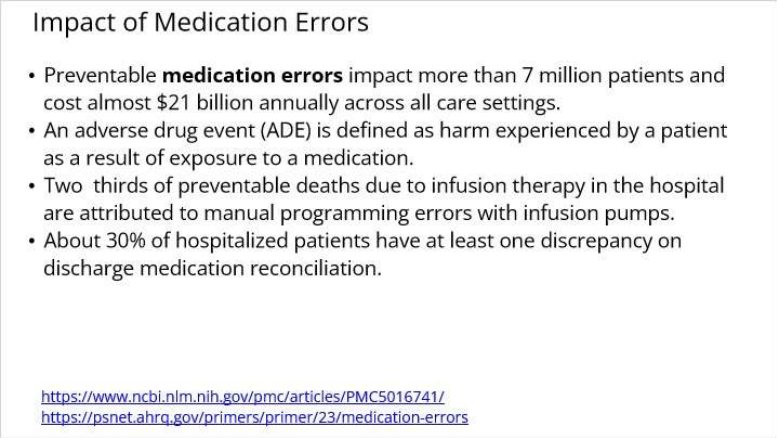


1.6 Nursing Practice



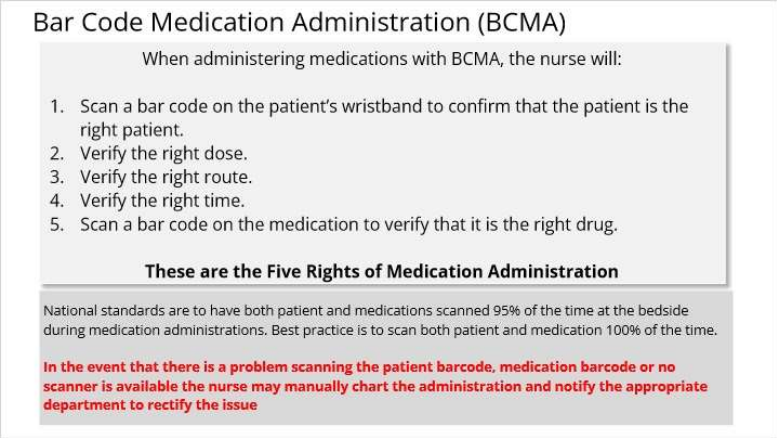
Notes:

1.7 Impact of Medication Errors



Notes:

1.8 Bar Code Medication Administration (BCMA)

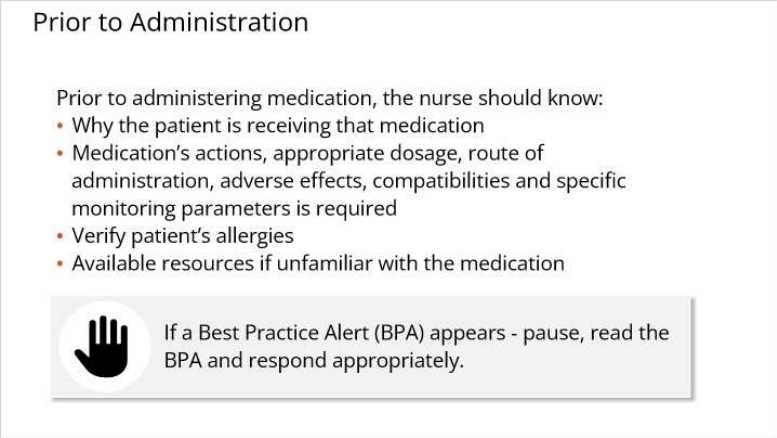


Notes:

1.9 Medication Administration

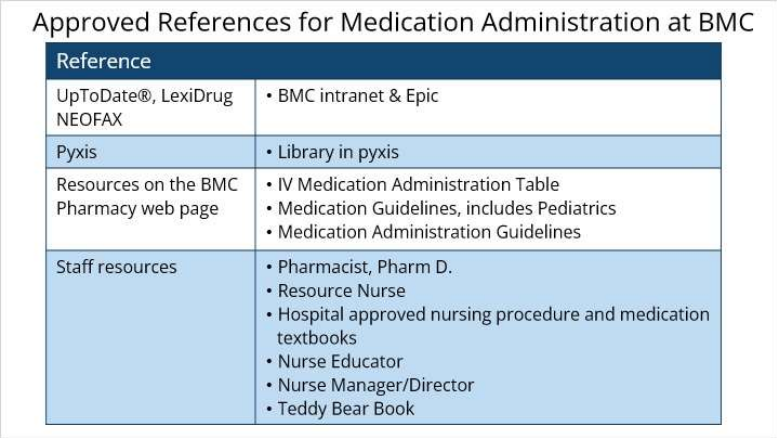


1.10 Prior to Administration



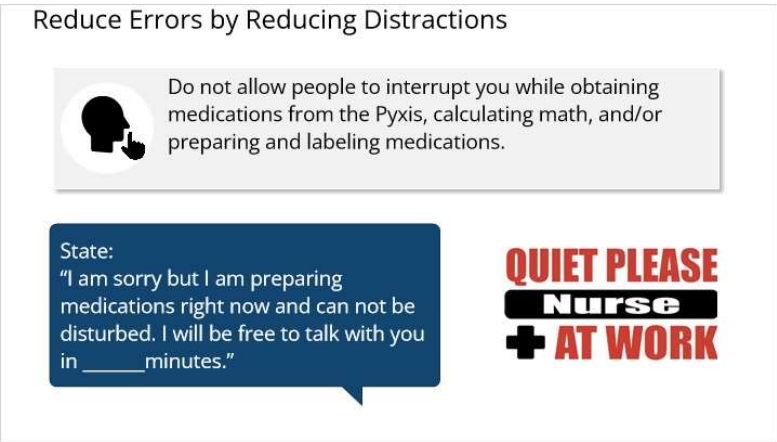
Notes:

1.11 Approved References for Medication Administration at BMC



Notes:

1.12 Reduce Errors by Reducing Distractions



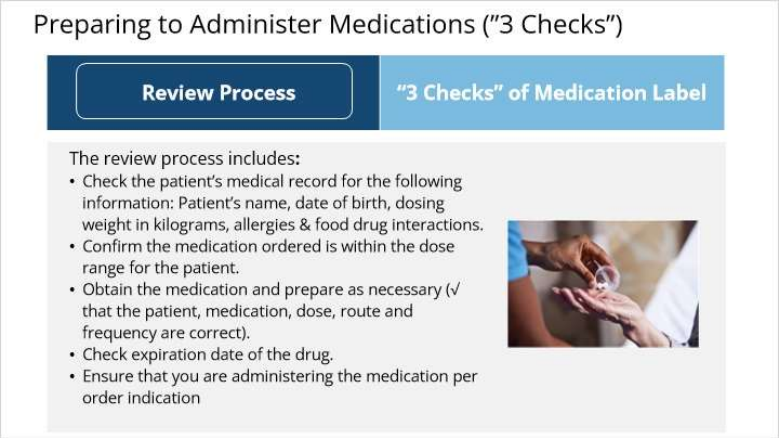
Notes:

1.13 Preparing to Administer Medications ("3 Checks")

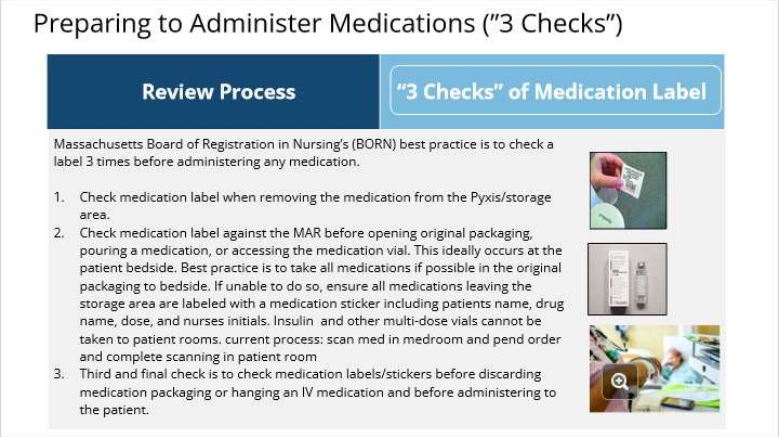


Notes:

Review Process (Slide Layer)



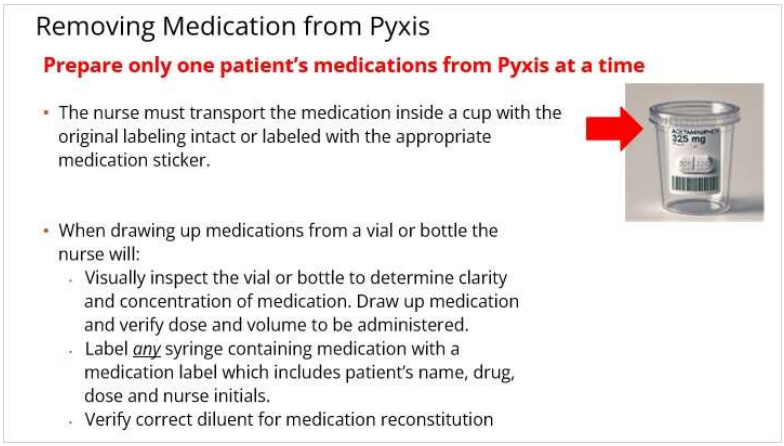
3 Checks (Slide Layer)



Reminder (Slide Layer)

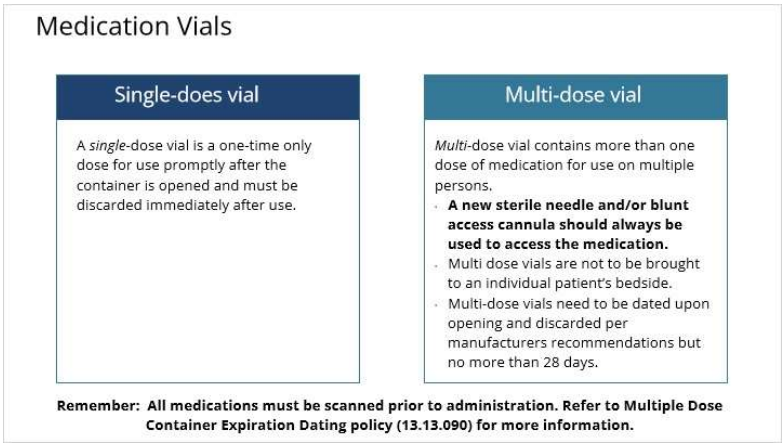


1.14 Removing Medication from Pyxis



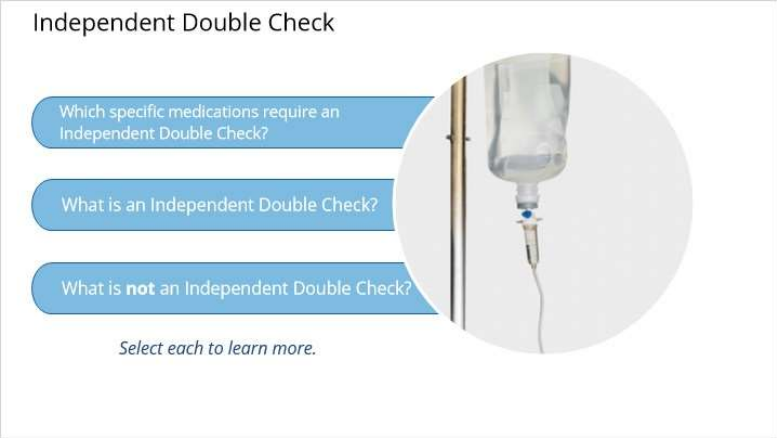
Notes:

1.15 Medication Vials

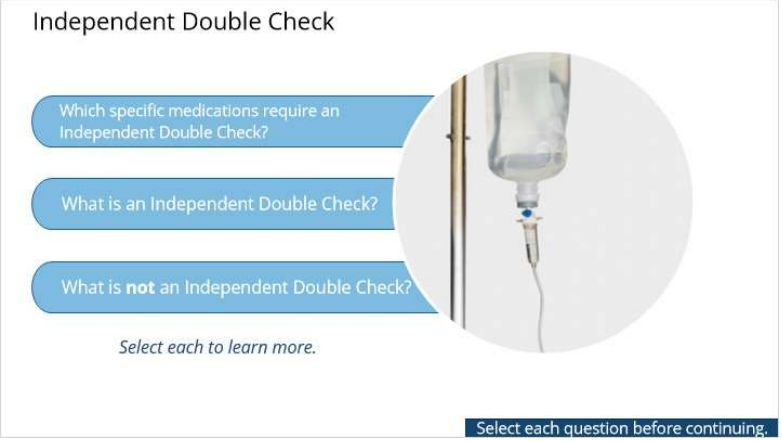


Notes:

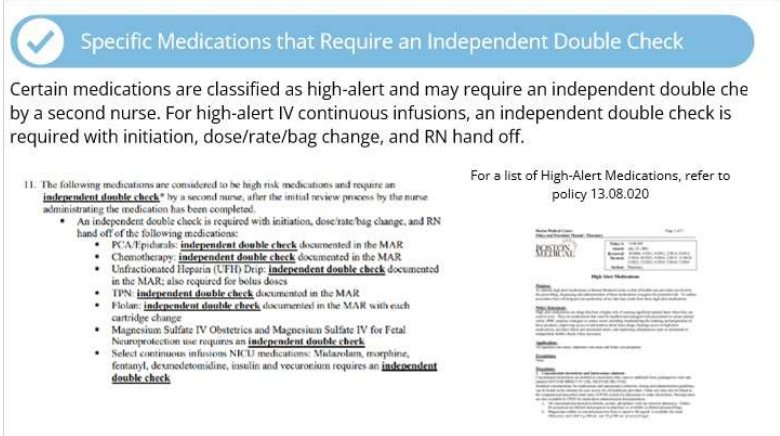
1.16 Independent Double Check



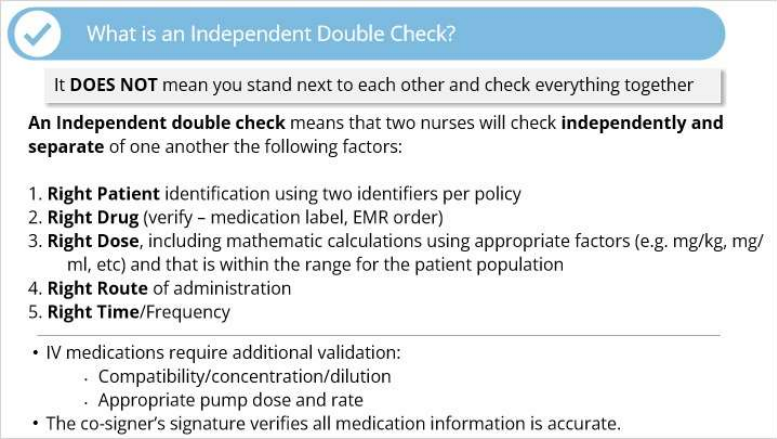
reminder (Slide Layer)



1.17 Specific Medications that Require an Independent Double Check



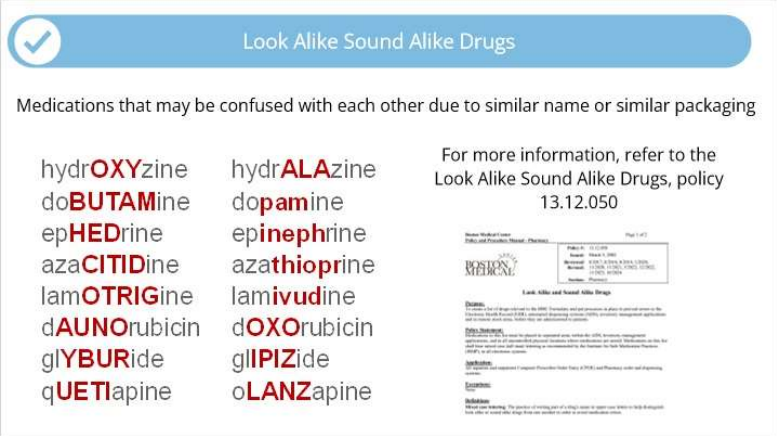
1.18 What is an Independent Double Check?



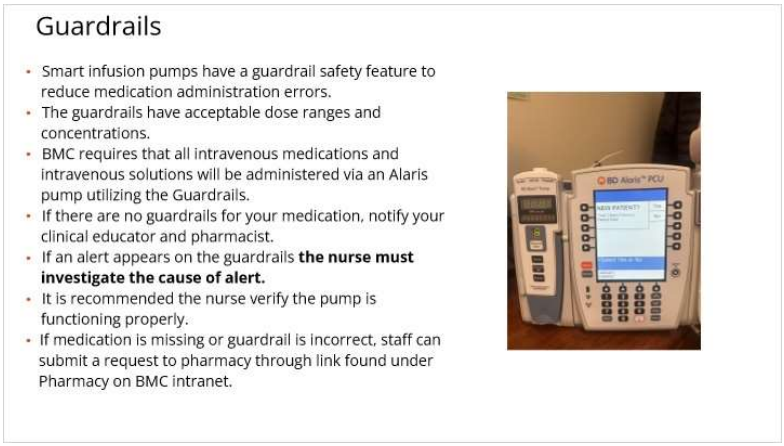
1.19 What is NOT an Independent Double Check?



1.20 Look Alike Sound Alike

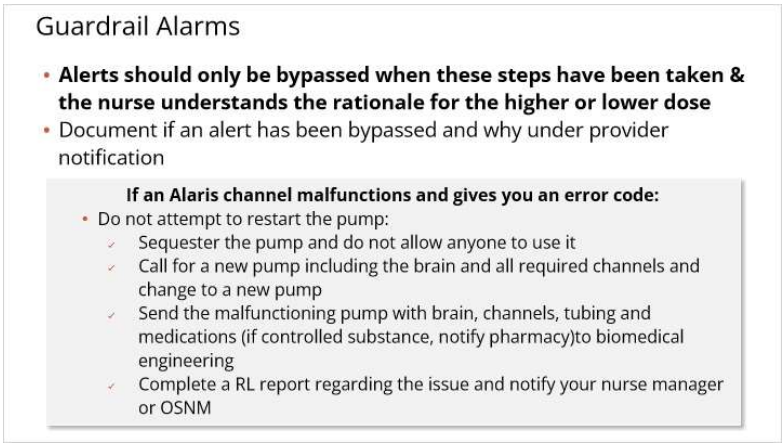


1.21 Guardrails



Notes:

1.22 Guardrail Alarms



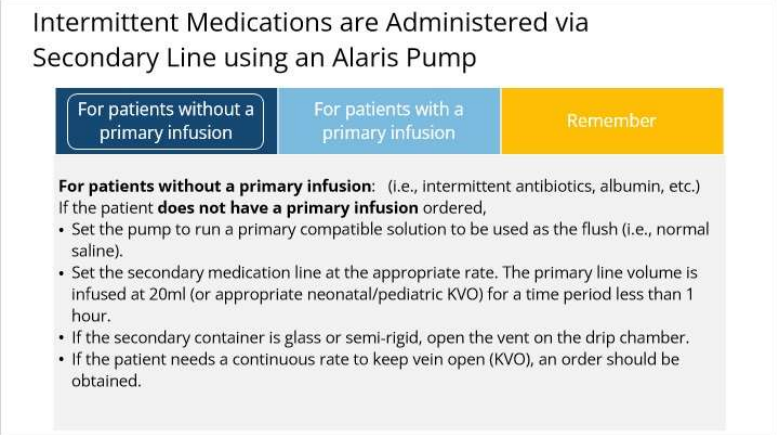
Notes:

1.23 Intermittent Medications are Administered via Secondary Line using an Alaris Pump

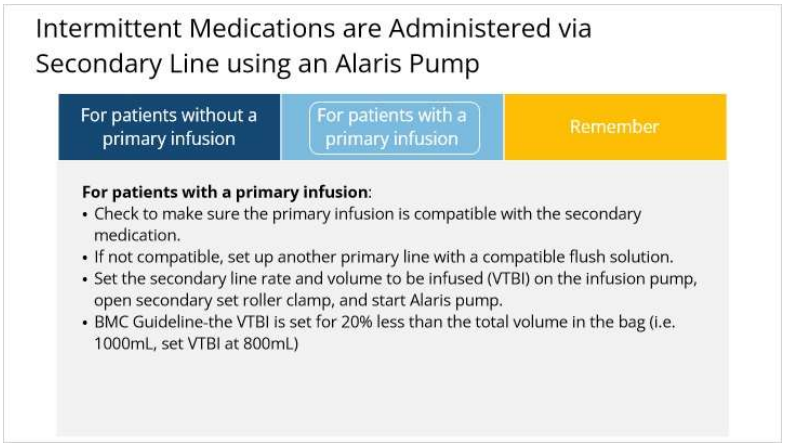


Notes:

For patients w/o (Slide Layer)



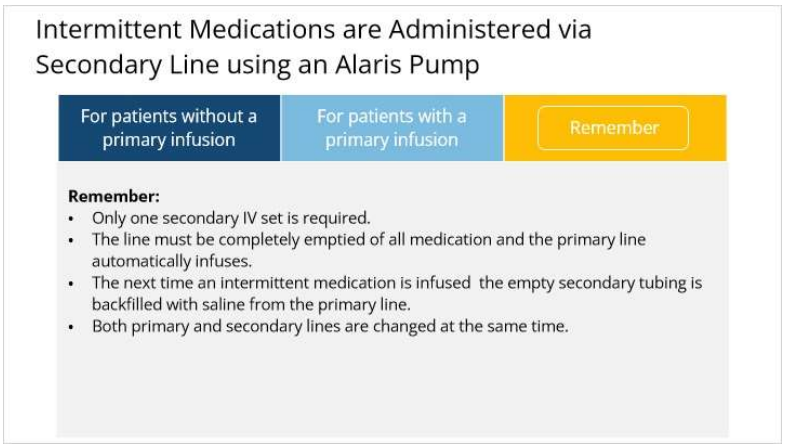
For patients with (Slide Layer)



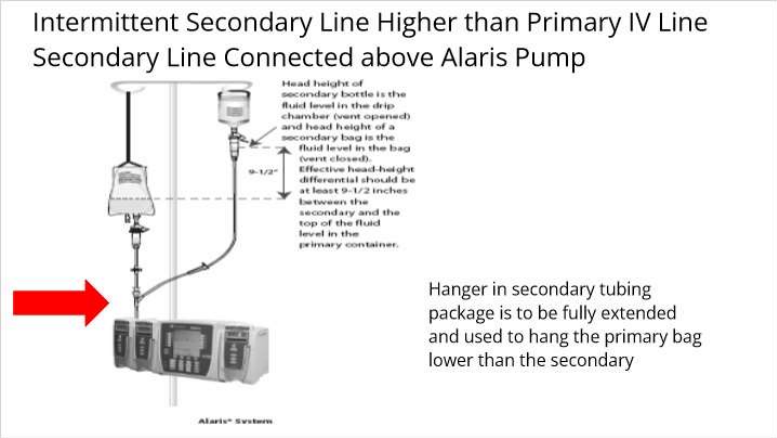
Reminder (Slide Layer)



Remember (Slide Layer)

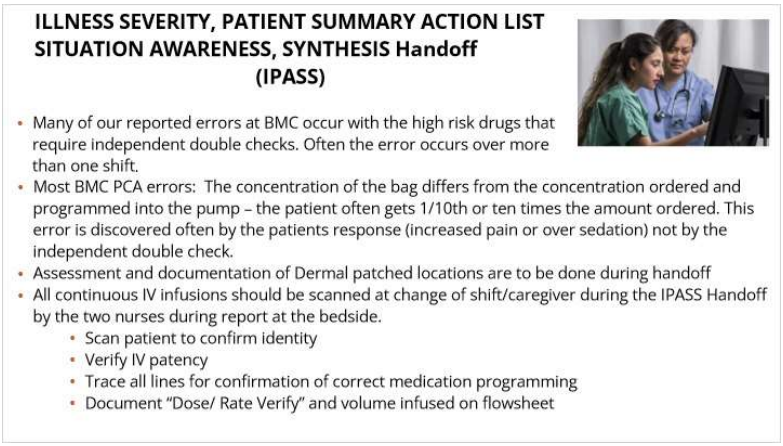


1.24 Intermittent Secondary Line Higher than Primary IV Line



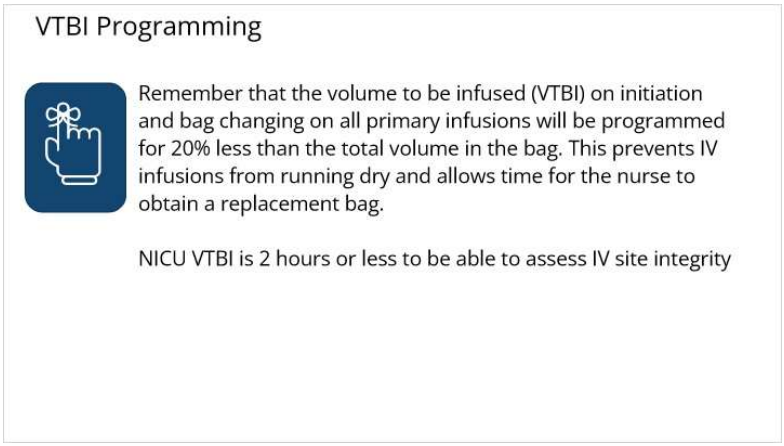
Notes:

1.25 ILLNESS SEVERITY, PATIENT SUMMARY ACTION LIST SITUATION AWARENESS, SYNTHESIS Handoff (IPASS)



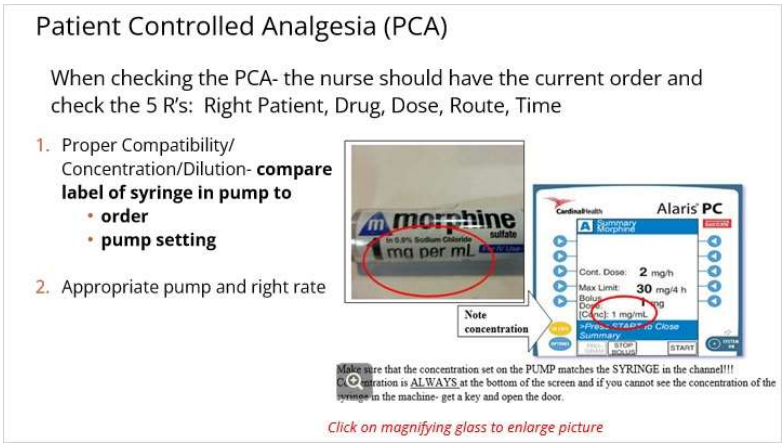
Notes:

1.26 VTBI Programming



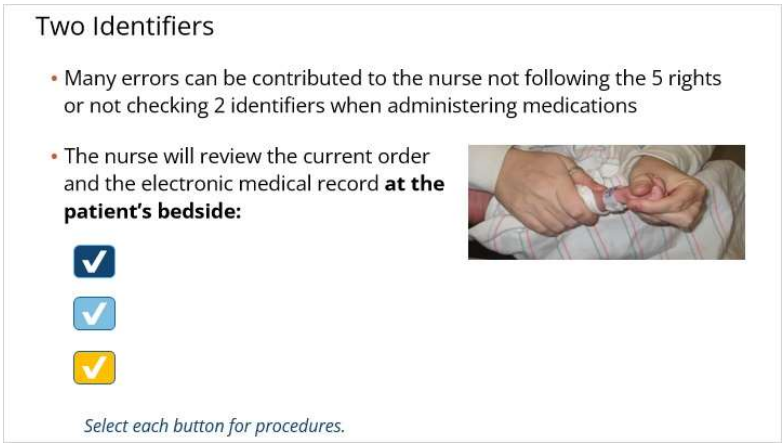
Notes:

1.27 Patient Controlled Analgesia (PCA)



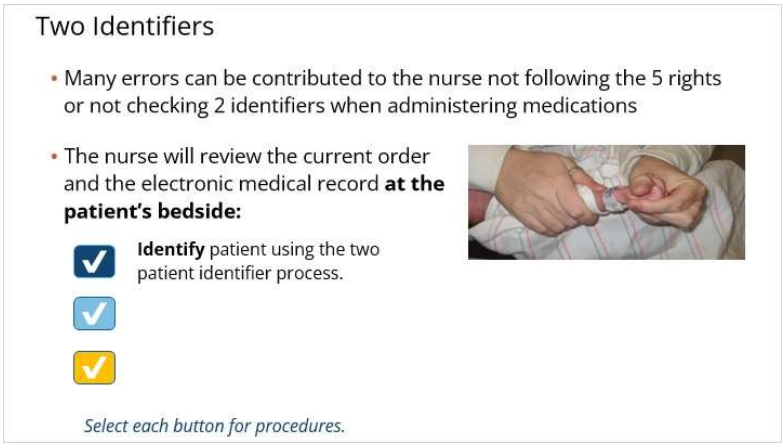
Notes:

1.28 Two Identifiers

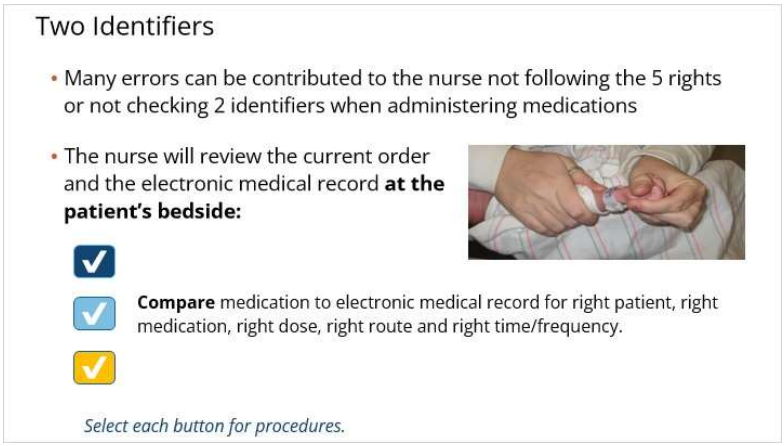


Notes:

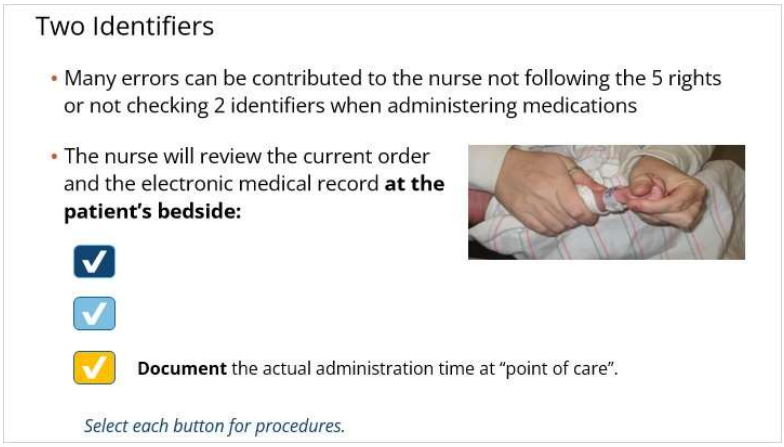
1. identify (Slide Layer)



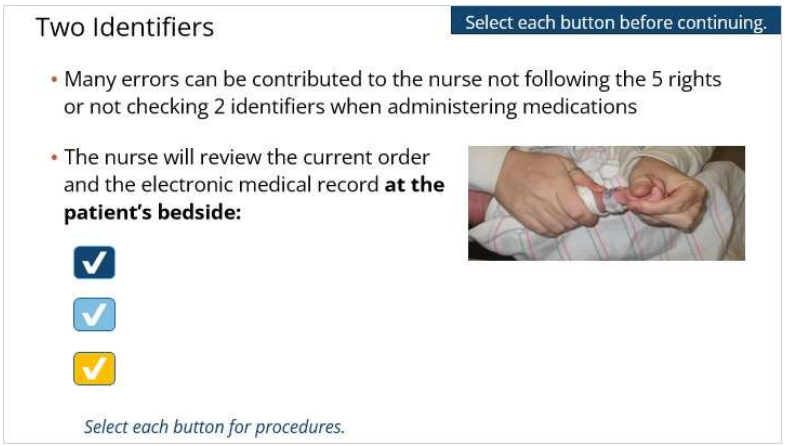
2.Compare (Slide Layer)



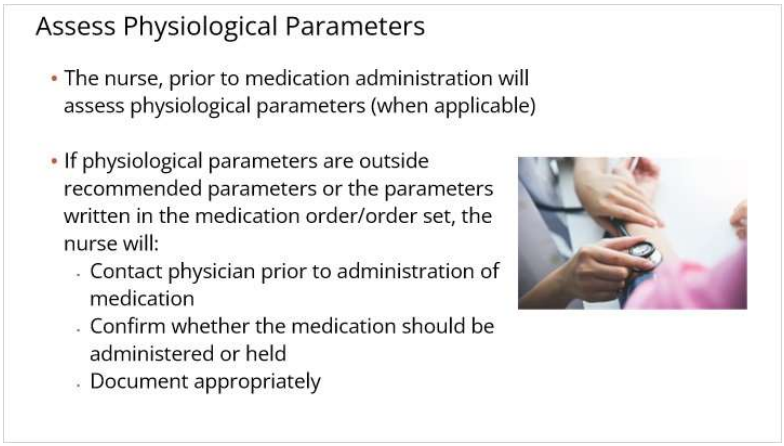
3 document (Slide Layer)



reminder (Slide Layer)

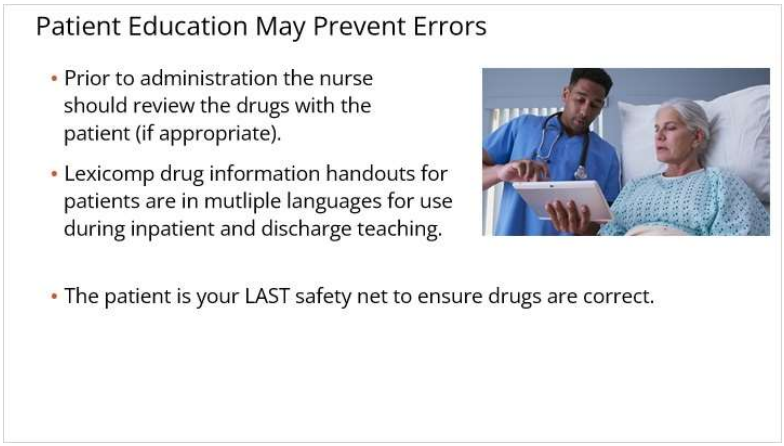


1.29 Assess Physiological Parameters



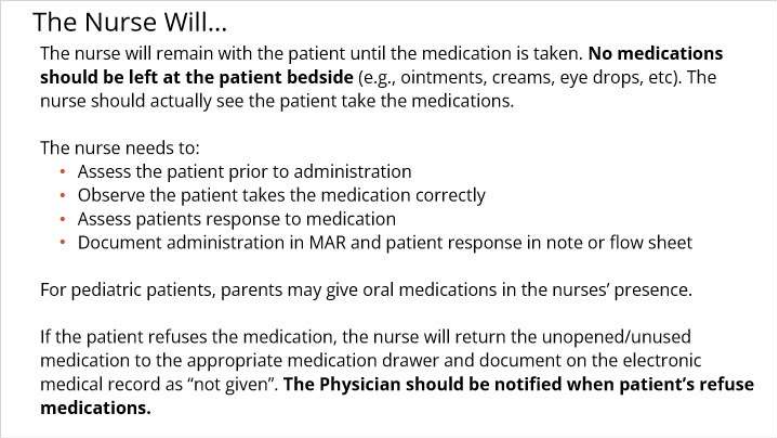
Notes:

1.30 Patient Education May Prevent Errors



Notes:

1.31 The Nurse Will...



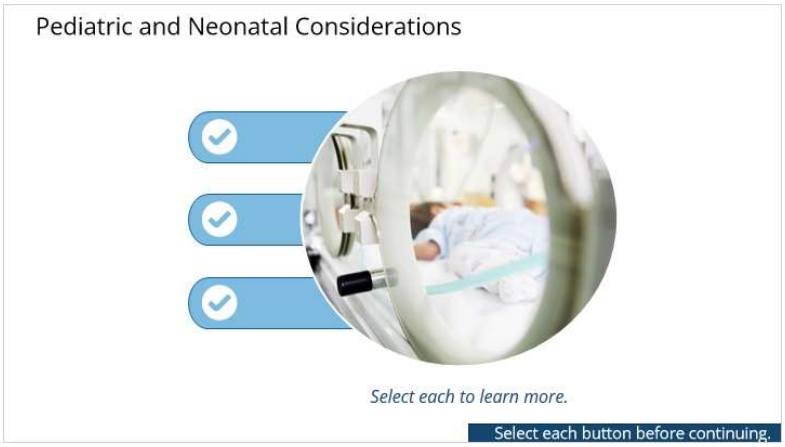
Notes:

1.32 Pediatric and Neonatal Considerations

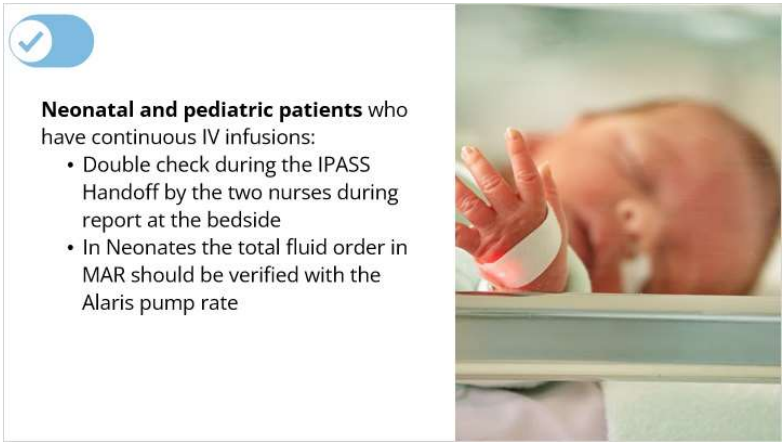


Notes:

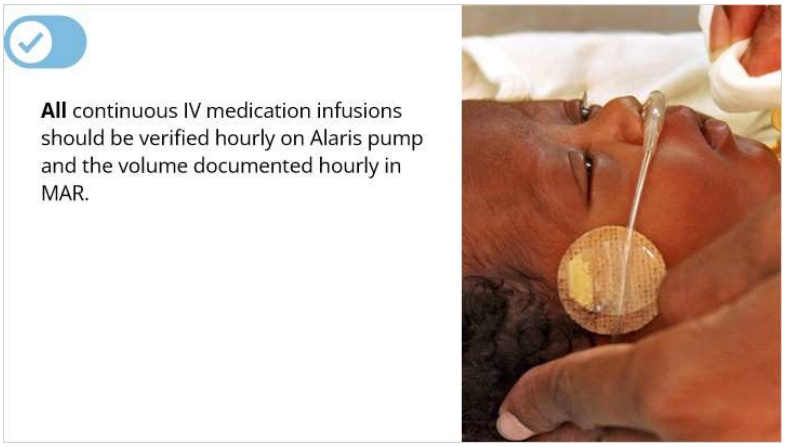
reminder (Slide Layer)



1.33 Neonatal 2



1.34 All continous IV



1.35 Unused Narcotics, Waste, and Disposal of Medications

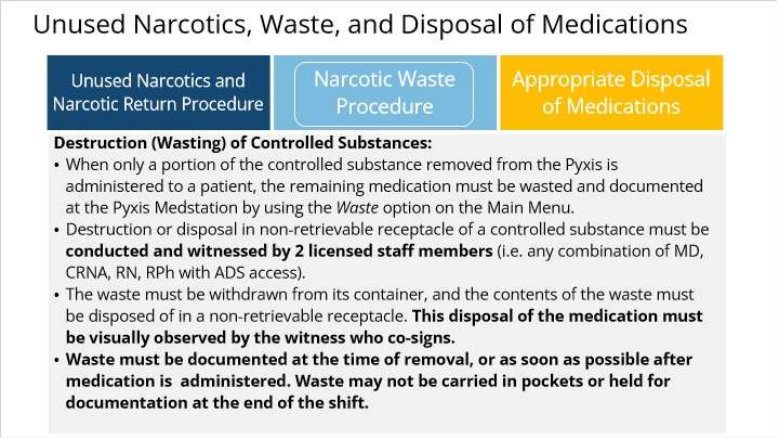


Notes:

Unused (Slide Layer)



Narcotic Waste (Slide Layer)



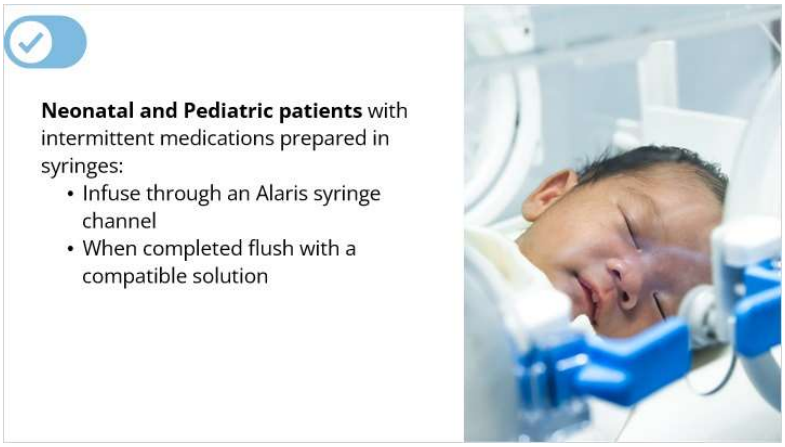
Reminder (Slide Layer)



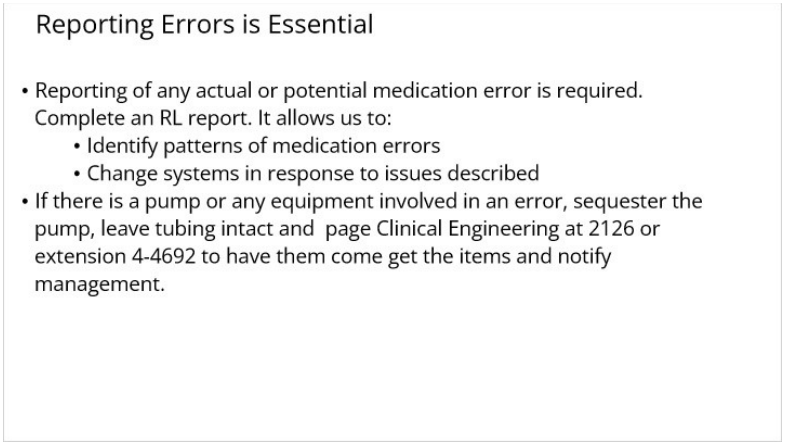
Appropriate Disposal (Slide Layer)



1.36 Neonatal 1



1.37 Reporting Errors is Essential



1.38 Our Patients Thank You



Notes:

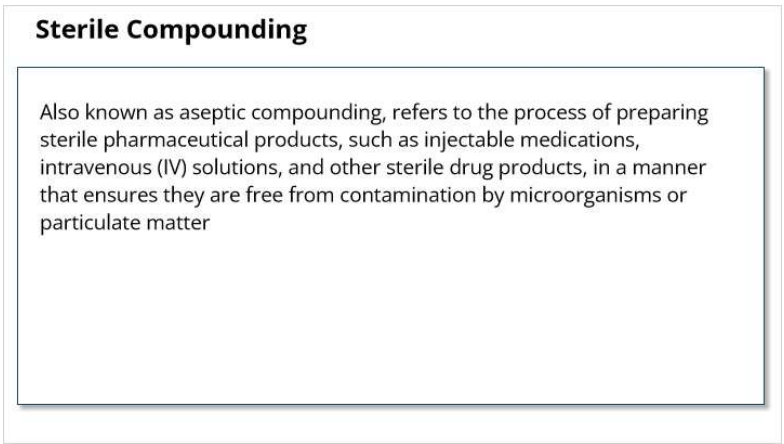
2. IV Sterile Compounding

2.1 IV Sterile Compounding



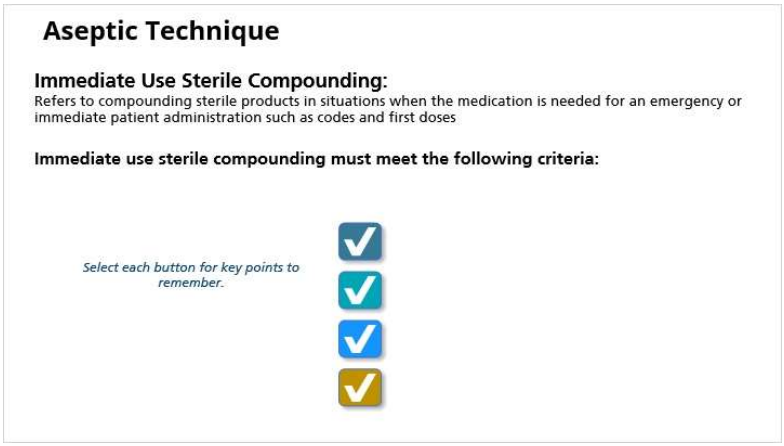
Notes:

2.2 Sterile Compounding



Notes:

2.3 Asptic Technique



Criteria 1 (Slide Layer)

Aseptic technique is followed

Next

Criteria 2 (Slide Layer)

Labeling with all required information

Next

Criteria 3 (Slide Layer)

Administration must begin no later than 4 hours following the start of the preparation of the compounding

- If administration has not begun within 4 hours following the start of preparation, the compounded product ***must*** be discarded

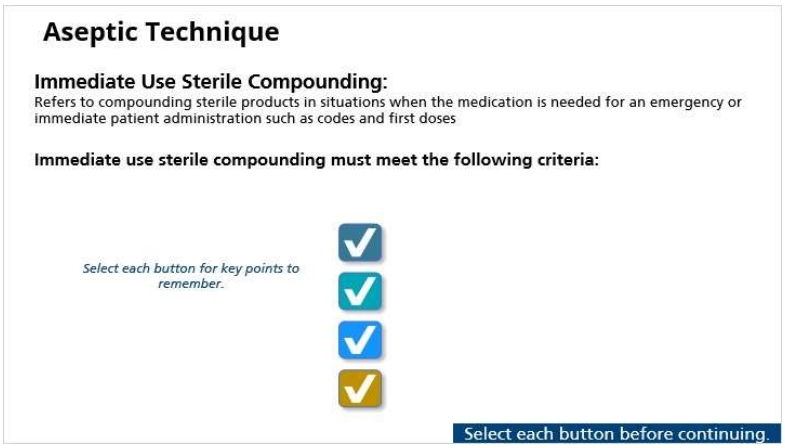
Next

Criteria 4 (Slide Layer)

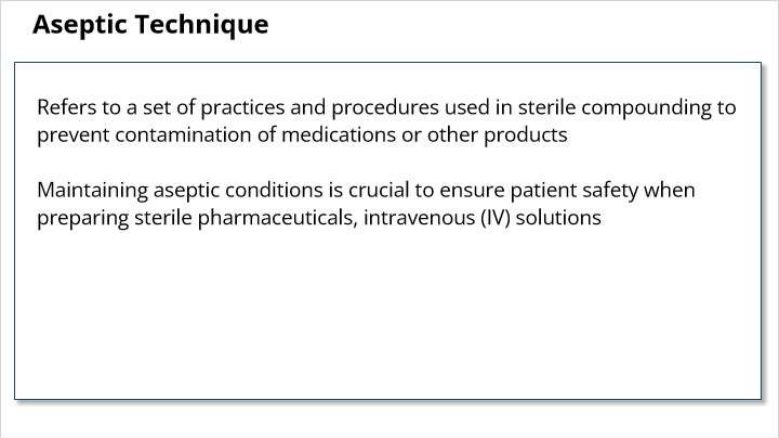
Vials used in preparation must be discarded after use

Next

Reminder (Slide Layer)



2.4 Sterile Compounding



Notes:

2.5 Take Aways

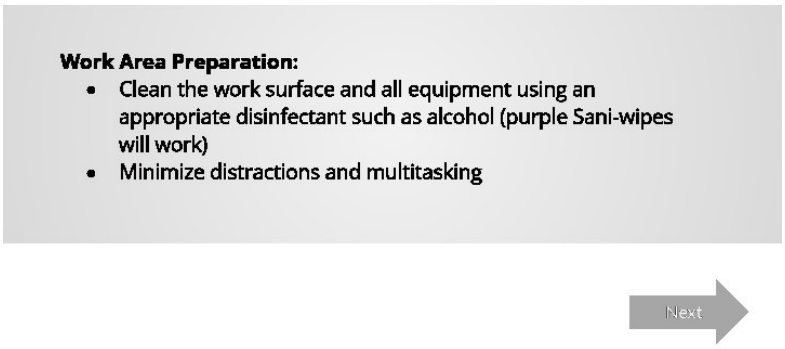


Notes:

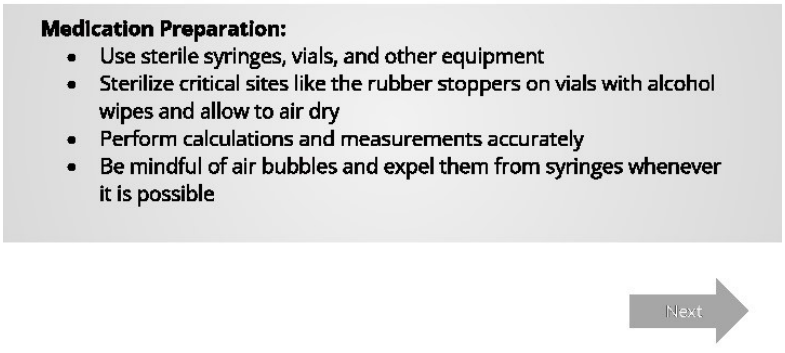
Tab 01 (Slide Layer)



Tab 02 (Slide Layer)



Tab 03 (Slide Layer)



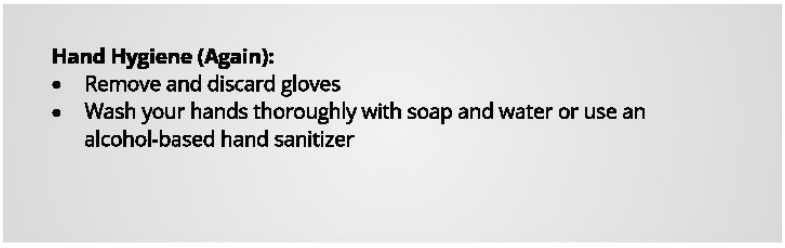
Tab 04 (Slide Layer)



Tab 05 (Slide Layer)



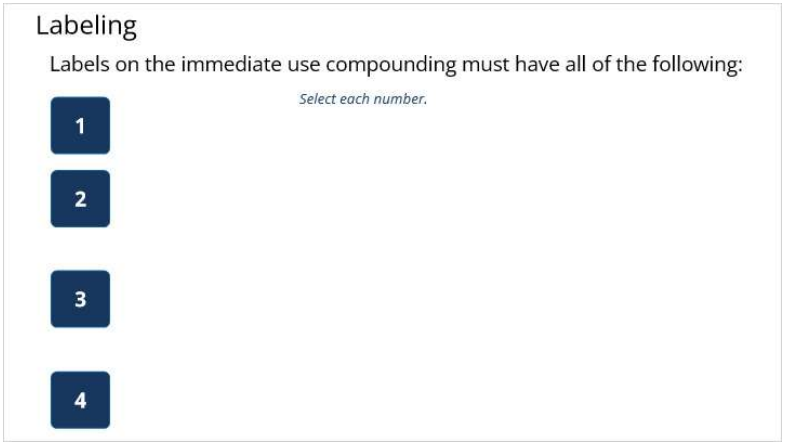
Tab 06 (Slide Layer)



Reminder (Slide Layer)

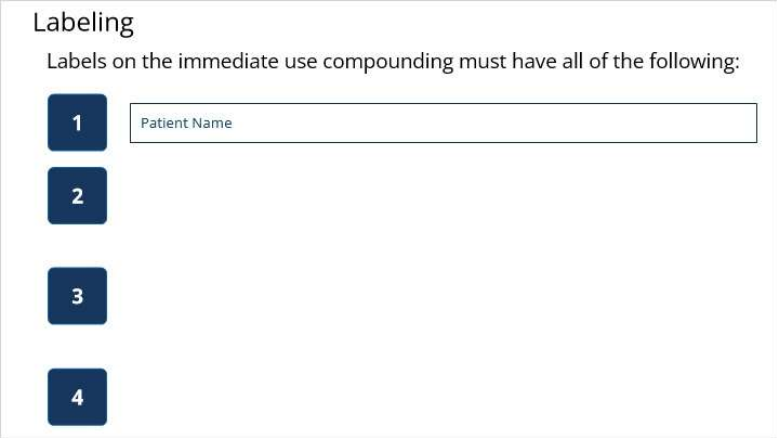


2.6 Labeling

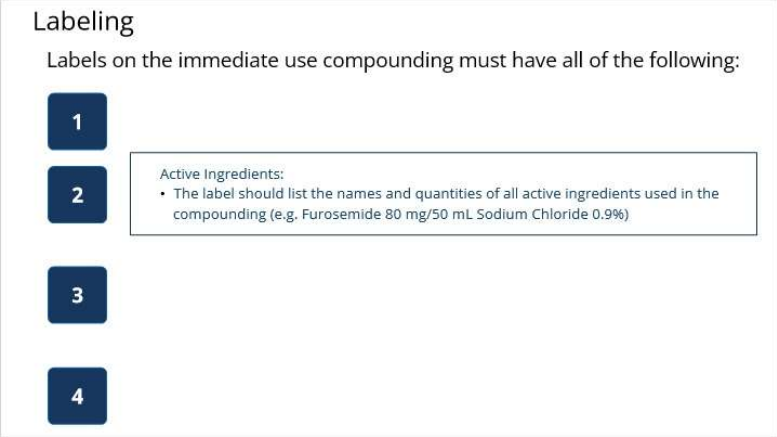


Notes:

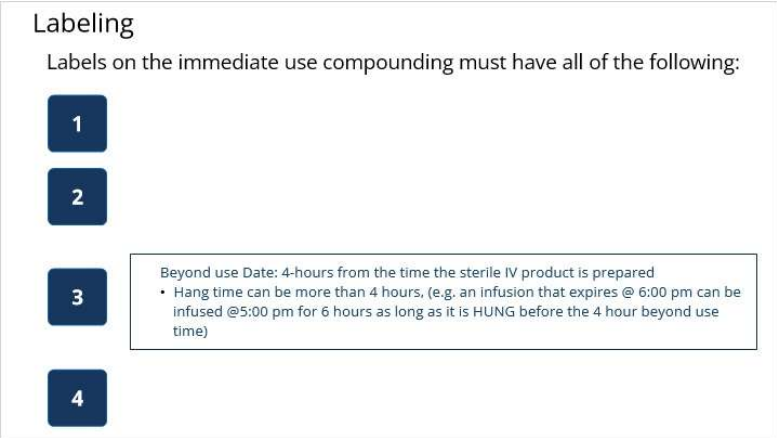
1 (Slide Layer)



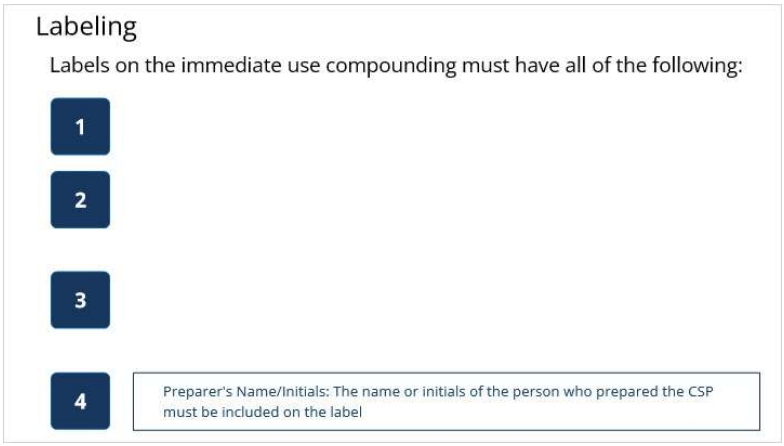
2 (Slide Layer)



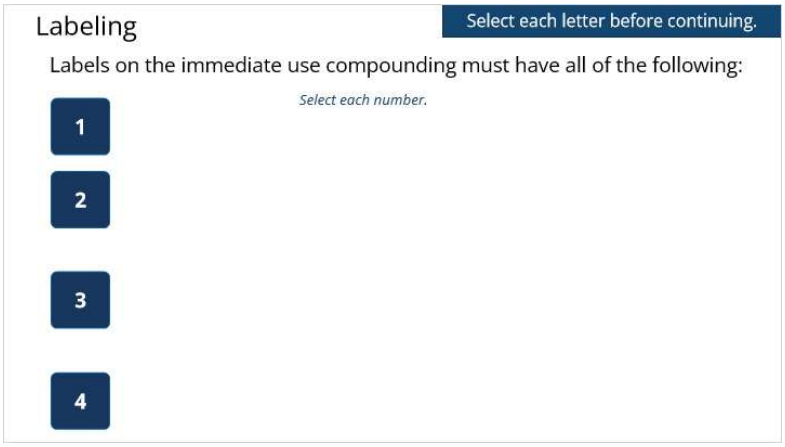
3 (Slide Layer)



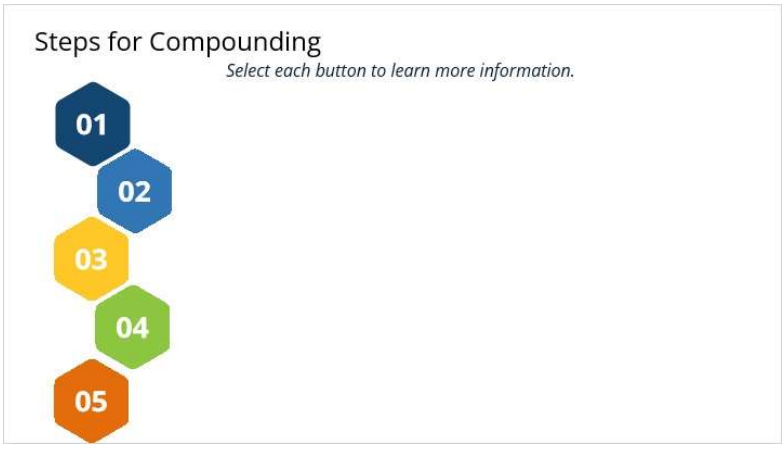
4 (Slide Layer)



reminder (Slide Layer)

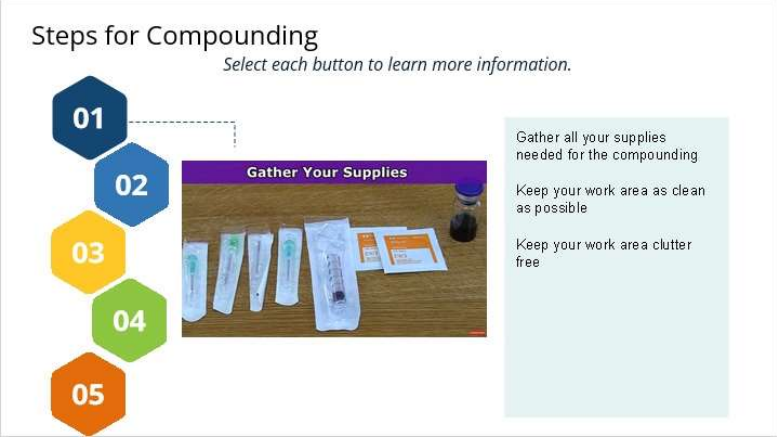


2.7 Steps for Compounding



Notes:

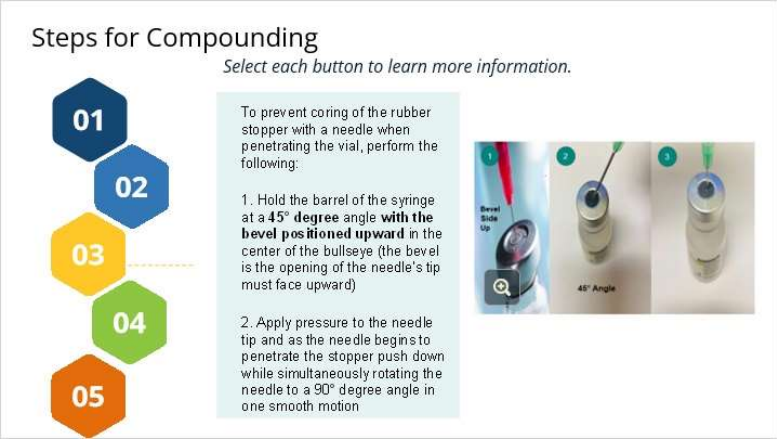
Layer 01 (Slide Layer)



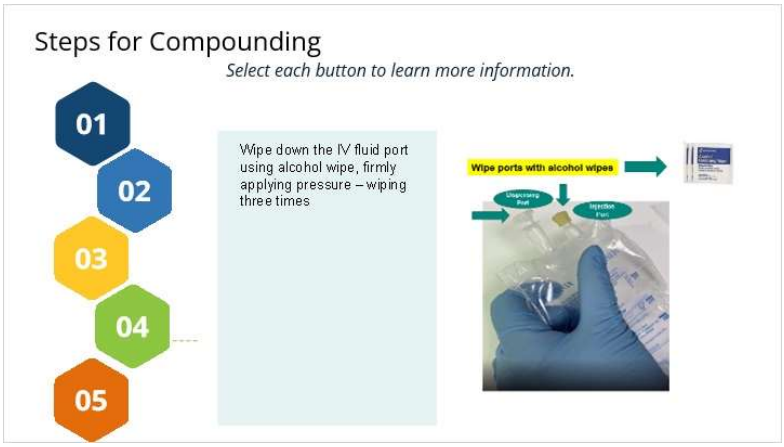
Layer 02 (Slide Layer)



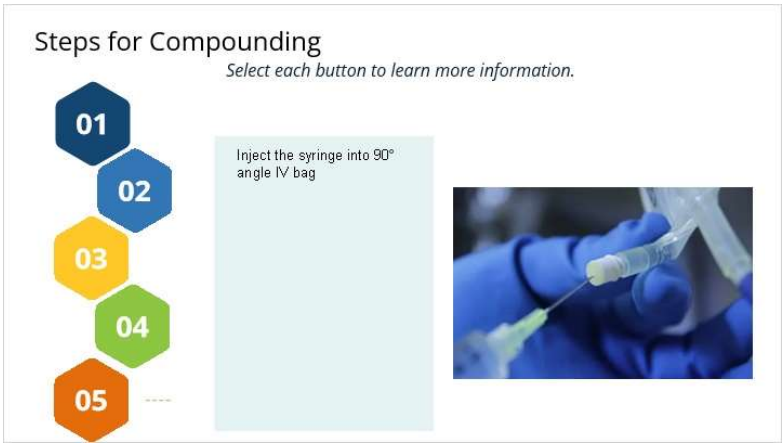
Layer 03 (Slide Layer)



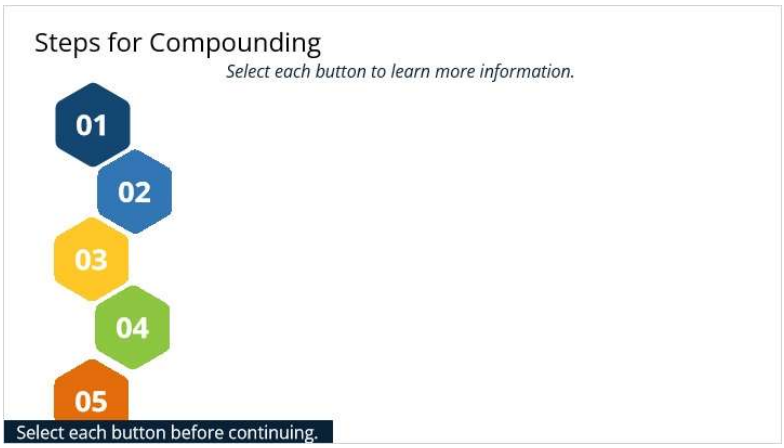
Layer 04 (Slide Layer)



Layer 05 (Slide Layer)

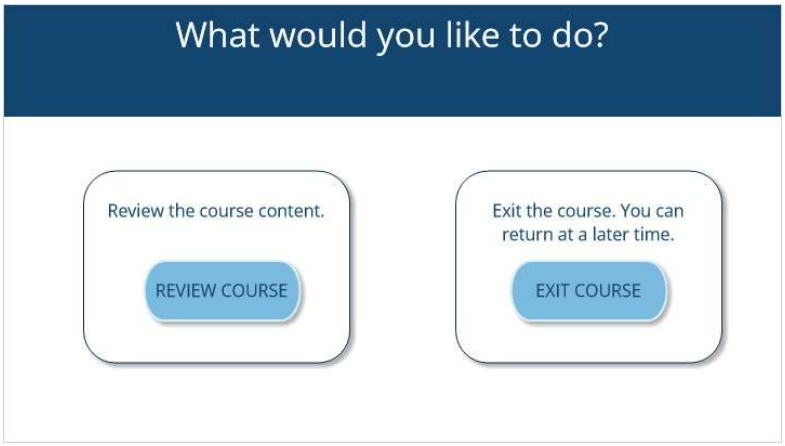


Reminder (Slide Layer)



3. Untitled Scene

3.1 Thank you



Notes:

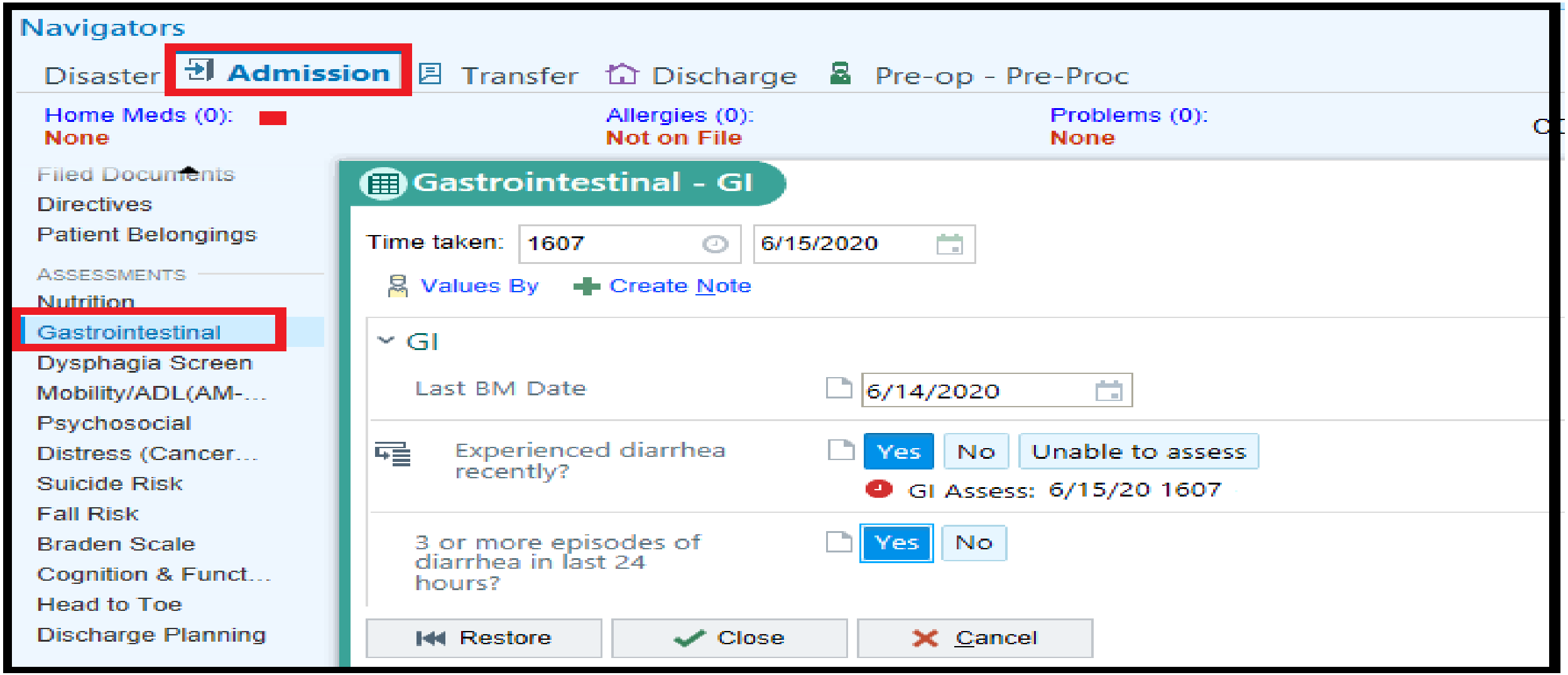
Infection Prevention RN Orientation

Your Commitment to Infection Prevention Protects You, Your Patients, and Your Team

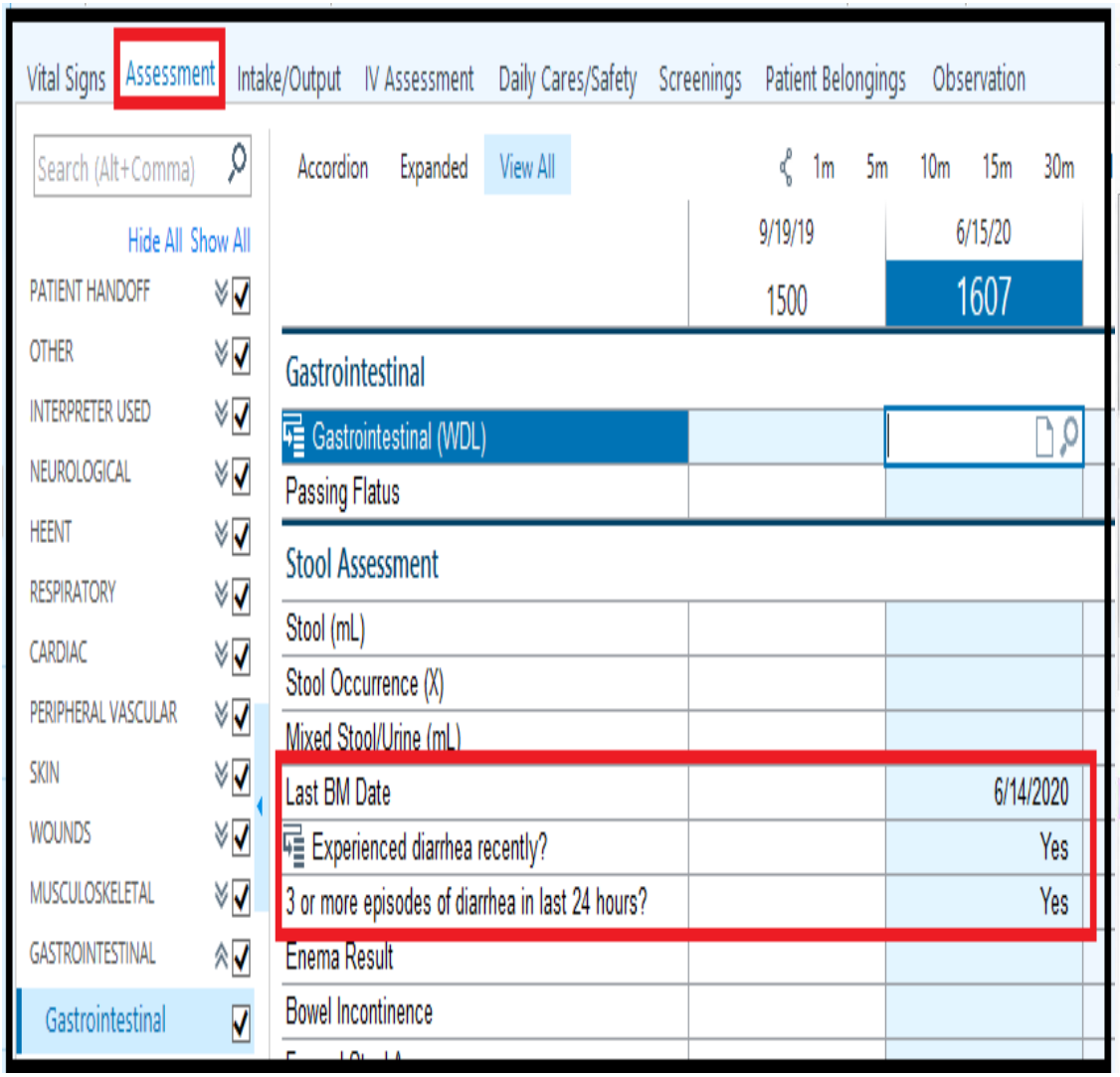
BOSTON MEDICAL CENTER

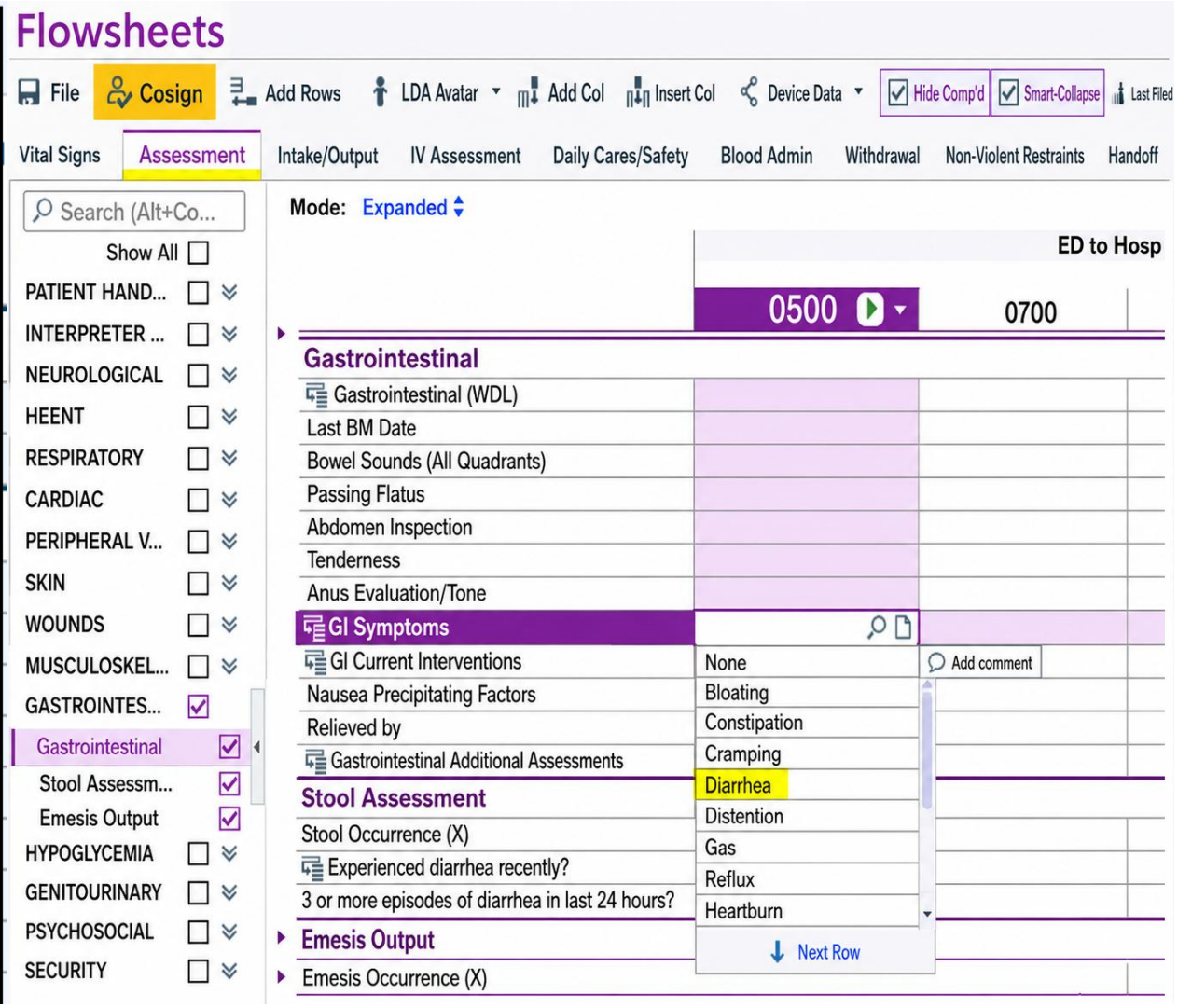
RN Driven Protocol/BPA for C Diff Order for Days 1-3 of admission

Make sure to document on flowsheet. Three or more episodes of diarrhea/loose/watery in 24 hours. BPA will pop up to allow the RN to place order without cosign.

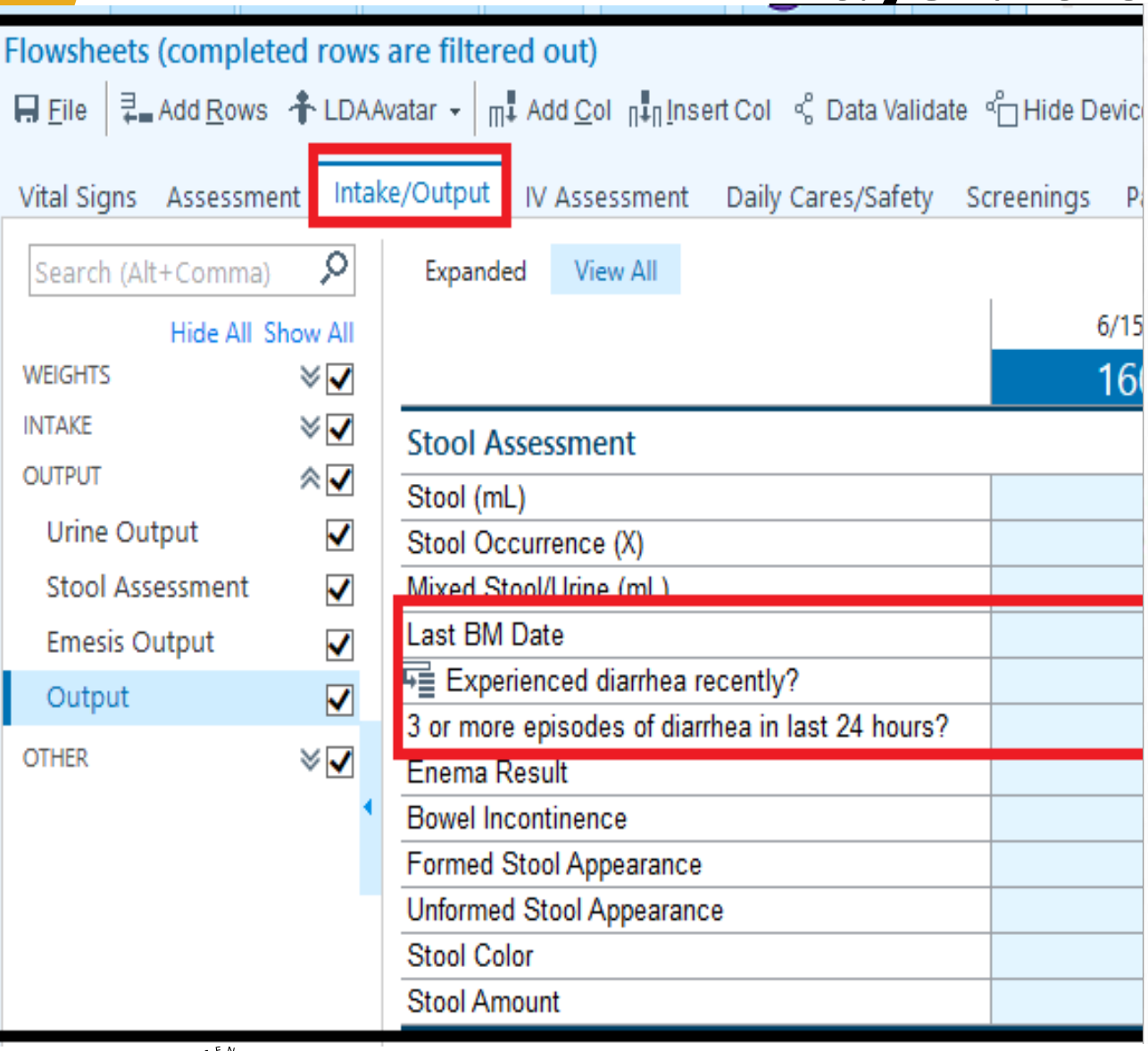


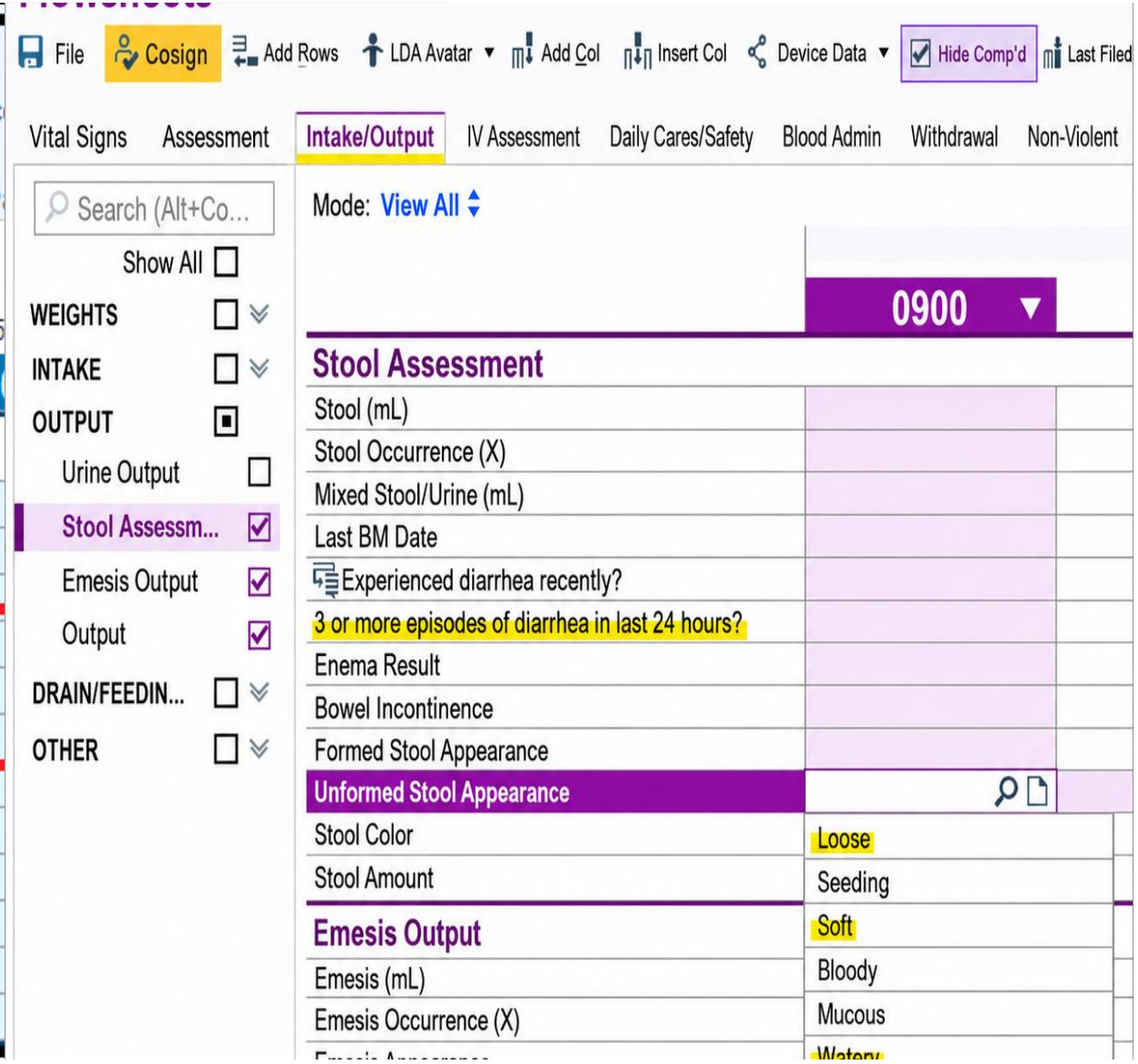
RN Driven Protocol/BPA for C Diff Order
Days 1-3 of admission





RN Driven Protocol/BPA for C Diff Order
Days 1-3 of admission





BOSTON MEDICAL CENTER

HAI Surveillance – NHSN Definitions

- **CAUTI:** foley for >2 calendar days (day of insertion is day 1) and has at least 1 qualifying symptoms (fever, suprapubic tenderness…) AND a urinary culture >100,000 colonies
  - UA with reflex to UC protocol



- Only send cultures on UA with **WBC>10**
- If UA is positive and foley has been in more than 24 hours → **change Foley catheter prior to obtain urine culture**(foleys get colonized and does not accurately represent a true infection
- Do not send UCs on patients who are asymptomatic
- Urine samples from foley should only be obtained via port using vacutainer

BOSTON MEDICAL CENTER

BMC Perineal Care (peri-care) Protocol for Patients with Urinary Catheters

- Cleanse visible soiling from perineal and inguinal areas with soap and water.
- Always wipe catheter away from urethral meatus
- Females: wipe from front to back
- Males with foreskin: remember to pull back foreskin gently, clean glans, then return foreskin to normal position

Peri-Care (Med/Surg)

- CASTILLE SOAP TOWELETTES
- FEMALE- 5-6 WIPES
- MALE- 3 WIPES



Peri-Care STEPDOWN/ICU

- USE chlorhexidine gluconate (CHG) WIPES for cleansing catheter



Best Practices for Maintaining Indwelling Catheters

Assess IC necessity daily; must meet BMC criteria, consider using alternatives

√ Provide daily catheter (peri) care with wipes or soap & water

√ Always use Foley securing device to secure catheter

√ Use flexiseal (if appropriate) to manage stool incontinence

√ Keep bag below level of bladder to prevent backflow

√ Keep tubing unobstructed and drainage bag off the floor

√ Empty collection bag prior to patient transport to another department, testing or procedural area

√ Use separate collecting container for each patient

√ Do not allow the draining spigot to touch collecting container

BOSTON MEDICAL CENTER

HAI Surveillance – NHSN Definitions

- **CLABSI:** central line in >2 calendar days (day of insertion is day 1) and positive blood culture with no other recognized source (ex: UTI, GI Infection, pneumonia)
  - Some cases meet NHSN definition but are not *true* CLABSIs. Unfortunately, we still need to report if we cannot attribute the bloodstream infection to another source.
  - How can we prevent false-positive CLABSIs? Do *not draw BCs from central line!*
  - Good specimen collection technique!!!
  - Dressing changes and site assessment

BOSTON MEDICAL CENTER

Protect your Lines



SwabCaps (Orange)

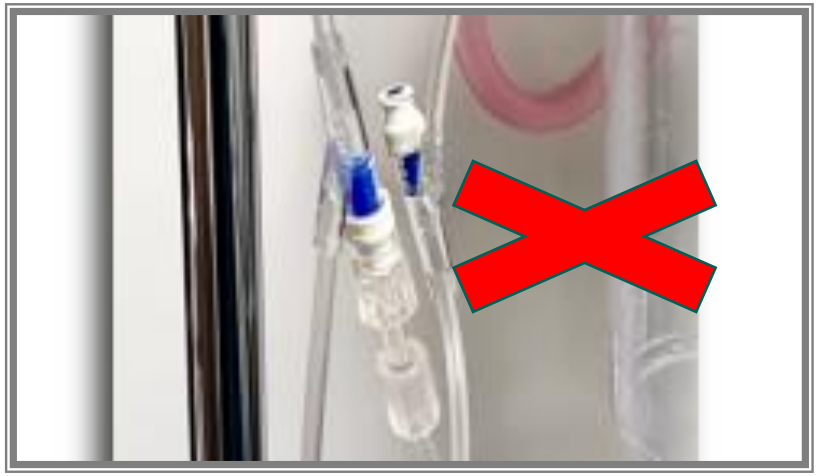
Disinfecting caps for all needle-free connectors and ports



SwabTips(Red)



- Use antiseptic caps on all saline/heparin locked
- Cap all IV tubing
- and line ports when not in use.
- Caps help reduce infection risk.
- **Still scrub the hub** before each access — caps do not replace this step.



NO LOOPING

- A practice of attaching the exposed end of IV Tubing to a port on the same tubing

BOSTON MEDICAL CENTER

CLABSI PREVENTION











CHG WASH

- CHG bath/shower pre-insertion
- Daily CHG baths to every patient with central line and midline
- ICU/stepdown-CHG wipes twice a day

CHG PREP PADS

- **Scrub perimeter** (2-3 cm) of central line dressing for **30 seconds**
- **Scrub** catheter hub & tubing -for **15 seconds**

CATHETER MAINTENANCE

- Scrub the hub with alcohol before each port entry
- Flush each lumen every shift
- Change Dressing every 7 days
- Change IV tubing every 96 hours
- Disinfectant IV caps after use

BOSTON MEDICAL CENTER

DO NOT FLUSH WIPES

Help protect our plumbing and

prevent costly backups

- **Only toilet paper should flushed**
- **All wipes-even those labeled “flushable”- must be disposed of in the trash**

Flushing wipes can cause

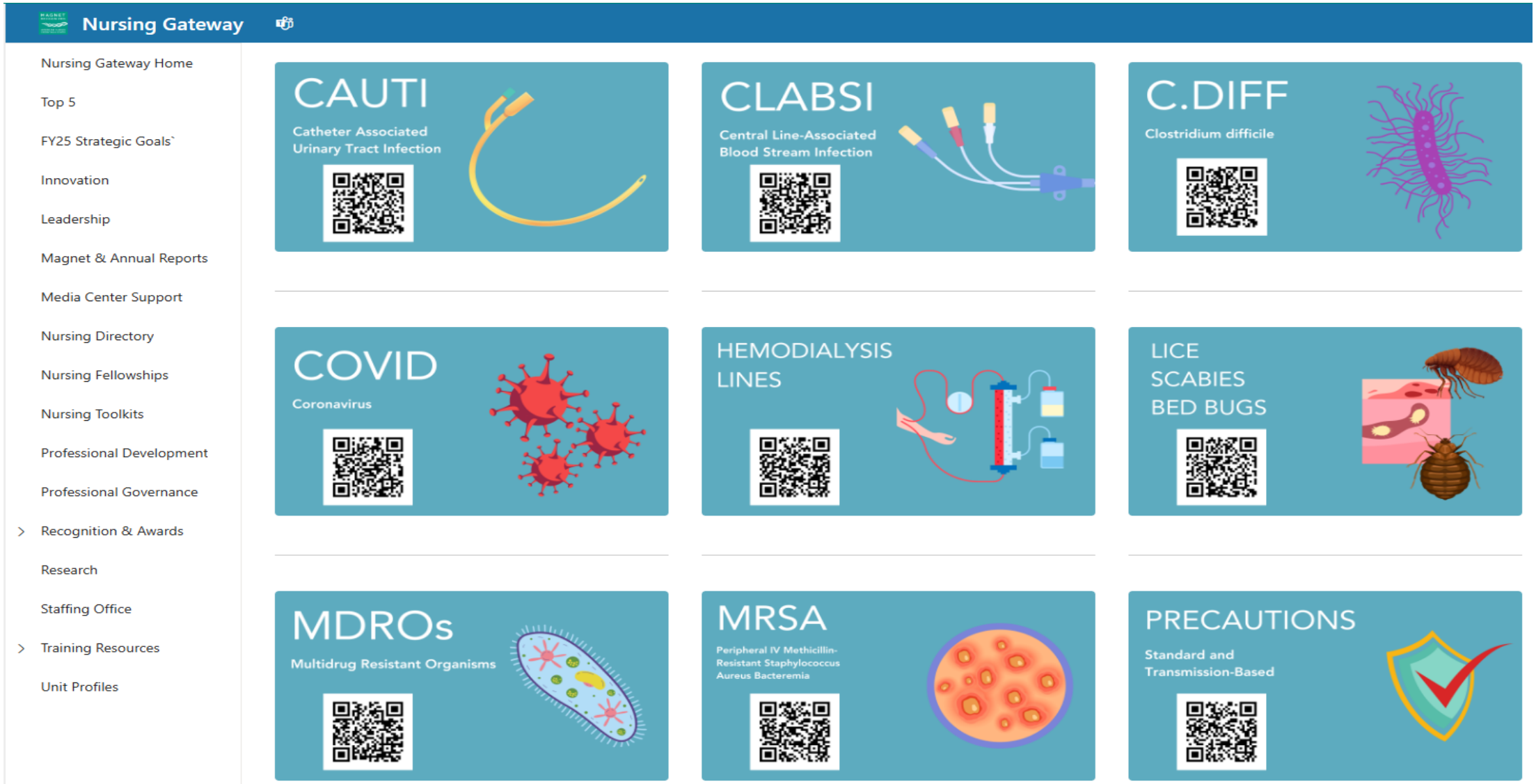
- **Clogged toilets and pipes**
- **Flooding and water damage**
- **Increased repair costs**

Please use the waste bin

Together we can keep our facilities safe, clean and functional

BOSTON MEDICAL CENTER

ONE PAGER TIP SHEET- QR CODES



BOSTON MEDICAL CENTER

Central Line Management:
Management, Blood Sampling and Troubleshooting

Policy #:	10.04.070
Issued:	July 1, 1997
Reviewed/Revised:	10/08, 05/10, 09/2010, 3/2012, 9/2012, 4/2013, 5/2016, 1/2017, 8/2017, 9/2018, 6/2020, 2/2021, 1/2022, 4/2022, 7/2023, 10/2023, 2/2025
Section:	Nursing

Introduction

This policy discusses the following: Central Line Care, Blood Drawing, Central Line Troubleshooting and PICC Line. The policy addresses both equipment and procedures for the following 6 topics:

A. Dressing change: page 4
B. Chlorhexidine Gluconate and Isopropyl Alcohol Cleanse: page 5
C. Connector/cap change: page 5
D. Heparin flush/SASH technique: page 6
E. Saline flush/SAS technique for PICC lines: page 6
F. Blood Sampling page 7
G. Troubleshooting: page 9

PLEASE refer to the policies for Apheresis (#10.04.020), Implanted Infusion Ports (#10.04.100), and Dialysis Catheter (#10.04.110) for specific management of these lines. For specific clinical management of hemodynamic lines please see related Critical Care Policy #14.09.000.

Definitions:

Central lines (CL), central venous access devices (CVAD) or central venous catheters (CVC) include, but are not limited to: single lumen, multi-lumen, tunneled, and total parenteral nutrition (TPN) catheters; implanted infusion ports (Port a Cath); peripherally inserted central catheters (PICC); umbilical artery/vein catheters; cuffed catheters; dialysis and apheresis catheters.

Purpose:

1. To provide clinicians with the necessary information needed to care for a patient with a central venous access device (CVADs).
2. To ensure that all patients with CVADs receive site and line care according to the Center for Disease Control (CDC) Guidelines for the Prevention of Intravascular Catheter-Related Infections.

Policy Statement:

- A chest x-ray (CXR) is required for the following:
    a. To confirm that the central line terminates in the superior vena cava prior to its first use and if concern for tip position. This requirement for CXR is different in

Peripherally Inserted Central Catheters (PICC); please refer to Policy 10.04.14 Insertion and Removal of Peripherally Inserted Central Catheter (PICC) or Midline for when CXR required.
    b. An x-ray is required to confirm placement of an internal jugular vein or subclavian catheter.
    c. X-ray confirmation is not required for femoral vein catheters on adult patients.
- The RN will assess the catheter site central line dressing and will document the findings with each change in caregiver.
- If the central line dressing is soiled, no longer intact, or wet, it needs to be replaced by the RN or the IV Team if available.
    a. The IV team trained Patient care technician (PCT) may change the PICC/ midline dressing as scheduled and PRN if they are available.
- The RN will change all IV tubing, IV solution, hospital approved connector, disinfectant cap according to the Nursing *Policy #10.04.060 - Intravenous Therapy* and document.
- The RN will assess function **of each lumen** by aspirating for a blood return prior to each use (if no blood return or sluggish return is found, follow steps outlined under Troubleshooting, Section F). In pediatric patients check blood return in catheters 3 French or greater.
- BMC *Policy #13.03.013 Hazardous Drug Handling* identifies hazardous medications that must be administered via a Closed System Transfer Device (CSTD), in accordance with USP 800 standards.
- The RN will flush all unused lumens every 12 hours, before and after intermittent medication administration and blood draws, and prn as needed. For pediatric and neonatal patients refer to Appendix B.
- Flushing information:
    a. **Adults:** Flush with 10 mLs of NaCl 0.9% (NS) using pulsatile technique.
    b. All IV tubing luer lock injection ports must have an alcohol impregnated cap applied when not in use.
    c. All saline and Heparin locked IVs must have an alcohol impregnated cap applied when not in use.
    d. **Pediatric PICC Lines (always use a 10 mL syringe):**
        i. Check blood return in catheters 3 French and greater
        ii. 2 Fr catheters, or smaller, must be maintained with a continuous heparinized NS infusion.
        iii. 2.4 Fr and larger, with pulsatile technique, flush with 3-5 mLs NS, followed by 2 mLs heparin 10units/mL minimum of every 12 hours when not in use, or after each intermittent use.
    e. **Pediatrics Tunnel/ Non-tunneled lines:** (see also Pediatric Table; Appendix B)
        i. NS: 3 - 5mLs followed by Heparin 2 mLs (10units/1mL) every 24 hour when not in use, or after each intermittent use.
- When administrating intermittent IV medications, the RN will:
    a. Use the “Saline, Administer Medication, Saline” (SAS) for all CVADs, (followed by heparinized NS (SASH) as appropriate for Pediatrics/Neonatal and implanted ports)
    b. Scrub hospital approved connecter vigorously with alcohol before each entry into the connector.
- Routine blood cultures should not be drawn through an indwelling central line. Two sets of peripheral blood cultures should be drawn.
    a. Exceptions:

i. If peripheral blood cultures are positive and the central line cannot be removed *and no other source can be identified*, one blood culture should be drawn from the CVC to evaluate the possibility of a central line associated blood stream infection with approval from the physician attending of record.
ii. In all febrile neutropenic oncology patients, blood cultures should be drawn from each lumen of a central line and from a peripheral site. This requires a LIP order, not an attending order.
iii. All blood culture samples from a central line will be labeled with the lumen (color or position-distal, medial, proximal) from which it was drawn.

- The RN will dedicate one lumen (if possible the smaller lumen) for TPN administration when appropriate (exception, NICU and PICU when access is limited).
- The RN will notify the physician immediately if there is a change in the length of the external portion of the catheter, as this indicates malposition. Malpositioned catheters can be repositioned by a physician in interventional radiology (IR).
- In the event that a patient is discharged home with a central line, the RN will document a plan of care in patient's chart and on the appropriate discharge form and a transfer of care is communicated to an appropriate care agency.
- At the time of transfer from one level of care to another, an assessment of continuation of central access should occur by the care team
- **PICC line specific:**
    a. The nurse will administer all intermittent or continuous IV fluids via a volumetric pump.
    b. The nurse will flush the PICC line with each intermittent use or at least every 12 hours with NS (heparinized NS as appropriate for pediatrics/neonatal) and PRN as needed.
    c. PICC lines, 4 Fr or greater, may be used for blood sampling if no other option is available. After obtaining a sample, the PICC line must be flushed with appropriate volume (adult/pediatric) of NS to minimize platelet aggregation following blood drawing.
    d. In rare instances, Heparin may be needed to flush the lumen to keep the vein open. In other instances, an infusion of an appropriate fluid may be needed to keep the vein open.
    e. In the event a patient is admitted with a PICC line, the intake RN is responsible for assessing the catheter site, documenting status at time of intake and communicating the status of the PICC to the infusion specialist. If unable to aspirate a blood return or if suspected catheter migration and /or infiltration, a CXR must be obtained to assess for tip placement. An order for the PICC line care and maintenance must be placed in the electronic health record (EHR).

Application:

All patients with central lines

Exceptions:

None

Equipment

See procedure section

Procedure:

A. Dressing Change:

Performed every 7 days and PRN (if damp soiled or non-occlusive), except in those pediatric patients for whom the risk of dislodgement outweighs the benefits of a change in dressing.

Equipment:

- Central line dressing kit
- Extra masks as needed
- Hospital approved connectors and disinfectant caps (if the central line is being intermittently accessed rather than connected to continuous infusions)
- Addition PICC - catheter stabilization device (e.g. Statlock) kit and 3-5 additional alcohol pads

Procedure:

1. Sanitize hands, open central line dressing kit; add appropriate size dressing for pediatric patients.
2. Put mask on self and any observers. Turn patient's head away from the insertion site. If feasible, place mask over patient's nose and mouth.
3. With clean gloves, remove old dressing.
4. Inspect exit site for signs of infection, displacement, and presence of sutures.
5. Addition PICC - Disengage the old stabilization device (e.g., Statlock) by grasping the edge of one of the plastic doors and lifting open. Repeat the other side. Gently lift the catheter out of the device. Anchor catheter with the adhesive strip found in the stabiliziation device kit if desired. Using alcohol pads, rub alcohol pad under the adhesive holder until a corner lifts. Continue to stroke undersurface of anchor pad with generous amounts of alcohol until it pulls from the arm(do not pull or force pad off skin, allow the alcohol to dissolve the adhesive)
6. Remove clean gloves, sanitize hands, and put on sterile gloves.
7. **Adult and Pediatric Units:** Clean site with chlorhexidine applicator using firm friction with back and forth strokes with applicator for 30 seconds (2 minutes for wet sites, i.e., groin). Clean an area beyond the final dressing area and allow to dry completely. Do not blot or wipe away. Additional PICC - prep skin with skin protectant and allow to dry
8. Apply Chlorhexidine Gluconate impregnated dressing around catheter insertion site.
9. For implanted infusion ports use Chlorhexidine Gluconate gel pad around insertion site and Tegaderm clear transparent dressing over port a cath needle (found in port a cath dressing change kit)
10. **Exception NICU:**
    - *For patients <28 weeks or allergic to Chlorhexidine:*
      (a) Thoroughly cleanse the site with Betadine, 3 swabs in circular motion from insertion to outside.
      (b) Allow the Betadine to dry for 2 minutes. Rinse or dab off Betadine using sterile gauze and sterile saline. Pat dry with sterile gauze.
      (c) Apply StatSeal, which should then be removed with the first dressing change at 7 days.
      (d) Apply transparent tegaderm dressing to the site.

    - *For patients > 28 weeks gestational age or neonates < 28 weeks once they are > 14 days old, use Chlorhexidine applicator:*

(a) Clean site with chlorhexidine applicator using firm friction with back-and-forth strokes with applicator for 30 seconds (2 minutes for wet sites, i.e., groin). Clean an area beyond the final dressing area and allow to dry completely. Do not blot or wipe away. Allow the skin to dry completely.
(b) Apply StatSeal, which should then be removed with the first dressing change at 7 days.
(c) Apply transparent tegaderm dressing to the site.

11. Change the connector(s) and disinfectant cap(s) at the time of the dressing change if the CVAD is being intermittently accessed.
12. Document on flow sheet.
13. Notify the physician with any unusual findings and document in a nursing note.
14. If patient has suspected or confirmed allergy to Chlorhexidine, use 10% Povidone-iodine or 70% alcohol.

B. Chlorhexidene Gluconate and Isopropyl Alcohol Cleanse

- When the provider places an order for insertion of a Central Line, the order set will include a Pre-line insertion Chlorhexidine Gluconate Bath/shower prior to the insertion of all central lines (including hemodialysis (HD), PICCs, ports, apheresis, tunneled, subclavian, femoral and IJ lines). The Central Line order set will generate a nurse worklist task that should be completed prior to the line insertion.

  The pre-line Chlorhexidine Gluconate bath is excluded in the following circumstances: under emergent conditions, if the pre-line Chlorhexidine Gluconate bath impedes patient care, and in the ICUs where patients are already receiving Chlorhexidine Gluconate baths twice daily. On Medical/Surgical units, Chlorhexidine Gluconate baths are performed daily on all patients with a central line in place.

  In addition to pre-line insertion Chlorhexidine Gluconate baths, the RN should use Chlorhexidine Gluconate wipes once a shift in critical care settings and daily in medical/surgical settings to cleanse around the 2-3 inch perimeter of the central line, implanted port, midline and/or hemodialysis line dressing, as well as each lumen of the catheter (tubing) and including the catheter hub. Chlorhexidine Gluconate 3.15% and Isopropyl Alcohol 70% wipes will be stocked on all units for the cleanse procedure performed by the staff RN. In the event of a Chlorhexidine Gluconate wipe shortage Isopropyl alcohol 70% wipes may be used as a substitute. If SWAB cap is in place or IV is in use, please scrub around the hub of each lumen. Please be sure to document your care on the new section of your Central Line, Implanted Port, Midline and Hemodialysis catheter flowsheets each shift. On the flowsheet Nurses can choose from the following options for documentation: “Around dressing”, “tubing”, “catheter hub”, or an option to select all.

  NICU patients do not require Chlorhexidine Gluconate baths.

C. Hospital approved connector & disinfectant cap changes

Hospital approved connectors are changed with IV tubing changes every 96 hours and no later than every 7 days at the time of the dressing change, unless otherwise indicated to be changed sooner (i.e. transfusions, Propofol, lipids).

Disinfectant caps are changed after each use of the connector is complete or within 7 days at time of dressing change.

Equipment

Hospital approved connector & disinfectant cap
Alcohol pads
Adult: NS 10 mLs flush solution
Pediatric: NS 3-5 mLs flush solution
Heparin 10units/mL or Heparin 100units/mL (implanted ports only) per Appendix B - Central Line Care in pediatrics and neonates
NICU: Heparin flush solution (1unit/mL)
Luer lock syringe

Procedure

1. Sanitize hands and don clean gloves
2. Scrub the entire connector cap vigorously prior to removal with a new alcohol pad
3. Clamp catheter or have patient perform Valsalva maneuver as the old hospital approved connector with cap is removed.
4. Always handle catheter hubs aseptically. Disinfect the hub - "scrub the hub" (end of the catheter and side threads) vigorously with a new 70% alcohol pad. Once disinfected, do not allow the catheter hubs to touch non-sterile surfaces.
5. Aseptically attach new hospital approved connector. Scrub hospital approved connector end with a new alcohol pad vigorously prior to each entry into the connector and vigorously flush with NS using a pulsatile technique
6. Attach the new disinfectant cap.
7. Document on appropriate form.

D. Heparin Flush / SASH Technique (Saline, Administer Medication, Saline, Heparin) for *Pediatric Patients*

For catheters 3 French and greater check for a blood return prior to the administration of every intravenous medication.

Equipment

Alcohol pads
1-3 mLs heparin flush solution (10 units/mL) or Implanted Ports 3 mLs heparin solution (100units/mL) or
0.5-2 mLs heparin solution (1unit/mL) for the **NICU**
3-5 mL NS flush if the patient has history of Heparin Induced Thrombocytopenia
Appropriate volume for NS flush, using 10 mL or greater syringes
Needleless blunt cannula or Lever Lock Cannula
Disinfectant cap

Procedure

1. Sanitize hands and don clean gloves
2. Remove the disinfectant cap. If no cap in place, scrub hospital approved connector end with a new alcohol pad vigorously prior to each entry into the connector.

3. Aseptically attach the flushing syringe to the hospital approved connector, vigorously flush with NS using a pulsatile technique
   Use a 10 mL or greater syringe and flush 1-10 mLs of NS as outlined in Appendix B
4. Administer Medication, Repeat step 2 and 3
5. Disinfect the connector hub again with a new alcohol pad prior to accessing for heparin flush.
6. Inject appropriate Heparin solution (1unit/mL or 10unit/mL), Use a 10 mL or greater syringe as outlined in Appendix B
7. Disinfect the connector hub again with a new alcohol pad prior to capping.
8. Place disinfectant cap on the connector.
9. Document flush on MAR.

E. Saline Flush / SAS Technique (Saline, Administer Medication, Saline)

In catheters 3 French or greater check for a blood return prior to the administration of every intravenous medication.

Equipment
Alcohol pads
Appropriate NS flush
Luer Lock syringe
Disinfectant cap

Procedure
1. Sanitize hands and don clean gloves
2. Remove cap. If no cap in place, scrub hospital approved connector with alcohol pad vigorously prior to accessing the connector.
3. Aseptically attach the flushing syringe to the connector, vigorously flush with NS using a pulsatile technique
   Adult: Use a 10mL syringe and flush 10 mLs of NS
   Pediatric: Use a 10 mL or greater syringe and flush 3-5 mLs of NS as outlined in Appendix B
4. Administer Medication and Repeat step 2 and 3
5. Disinfect the connector hub again with a new alcohol pad prior to capping.
6. Place disinfectant cap on the connector
7. Document flush on EHR.

F. Blood Sampling

Only perform if the patient has no other peripheral access as determined by the phlebotomy team and/or IV team and as ordered by the physician.

Equipment
Specimen tubes
Labels
NS (2 10mL flush)
Heparin flush if appropriate (see 10.04.07a or 10.04.07b)
Alcohol pads

Syringes, if needed
Biohazard bag
4x4 sterile gauze
Vacutainer sleeve and adapter (needleless) if appropriate
Unsterile gloves
Requisition slip if appropriate
Needleless transfer device
Three way stopcock (for pediatric patients - if returning blood)
Disinfecting cap

Procedure

1. A patient must have a physician order for a central line blood draw. Limit blood draws by collaborating with the physician prior to the blood draw to ensure all necessary tests have been ordered.
2. Blood should be drawn through the hospital approved connector only after scrubbing the hub vigorously with an alcohol pad.
3. In order to draw blood from a catheter with multilumen lines, all IV infusions should be turned off for at least 1 minute, catheter infusion ports should be clamped to prevent contamination with IV fluids and blood should be drawn from the distal port.
4. If an adult patient is on a continuous medication infusion via central line and clinically appropriate to pause infusion for lab draw, turn off medication infusion. Attach empty syringe, Aspirate at least 2-3 mLs from the catheter to clear the medication and discard. Obtain sample.
5. For patients receiving TPN hold the infusion for at least 1 minute, clamp other ports, withdraw and discard 2-3 mLs of blood and flush with 20 mLs of NS before drawing blood to clear TPN from the catheter and avoid altered lab results.
6. For pediatric patients use the appropriate flush volume (see Appendix B).
7. See Laboratory Medicine website for specific test information or minimum blood volume needed.
8. Assemble equipment.
9. Sanitize hands and don clean gloves.
10. Check patient's ID band (right patient, right test).
11. Stop infusions to all lumens of the line. Aseptically disconnect IV tubing from the hospital approved connector of the lumen from which specimens are being obtained. Or remove cap from the connector on the lumen from which specimens are being obtained. Place a sterile cap on the IV tubing to insure sterility.
12. Scrub hospital approved connector vigorously with a new alcohol pad. Do not allow the catheter hub to contact non-sterile surfaces.

SYRINGE METHOD (Adult and Pediatric):

- If the line contains saline, aseptically attach a 10 mL prefilled NS syringe to prepped hospital approved connector, check for a blood return and then flush line with appropriate volume of NS. Using the empty flush syringe, withdraw 2-3 mLs of blood and discard syringe in needle disposal box.
- Disinfect the connector end with a new alcohol pad.
- Using appropriate size syringes, withdraw amount of blood required for tests. Disinfect the connector end with new alcohol pad between each entry into the connector.
- Transfer blood into appropriate tubes using needleless transfer device.

- ***Proceed to step 13.***

SYRINGE METHOD with a three way stopcock for pediatric and NICU patients who need to have waste/discard blood returned:

- Aseptically attach a three-way stopcock, closed to the connector, attach waste syringe to one port and blood specimen syringe to the other port.
- Open the stopcock to the waste syringe and withdraw 1-3mLs of blood (dependent on size of patient) into the syringe that has been dedicated as the waste/discard syringe, clamp off waste port.
- Open blood specimen port and withdraw volume of blood needed.
- Clamp off blood specimen port.
- Open waste/discard port and return non medication contaminated waste blood.
- ***Proceed to step 13.***

VACUTAINER METHOD (NOT USED IN INFANTS or when drawing blood from a PICC lines)

- Connect Vacutainer device to disinfected hospital approved connector.
- Slide red top tube into sleeve and fill to approximately ½ full. Discard this tube in needle disposal box.
- Slide desired specimen tubes into sleeve and allow to fill.
- Remove Vacutainer.
- ***Proceed to step 13*.**

13. Disinfect the end of the connector again, vigorously scrubbing with a new alcohol pad. Attach syringe of flush solution:
    - **Adult:** Aseptically attach a 10mL syringe and flush 10mLs of NS using pulsatile technique
    - **Pediatric:** Aseptically Use a 10mL syringe and flush 2-5 mLs of NS using pulsatile technique followed by heparinized NS as appropriate as outlined in 10.04.07b.
14. Disinfect the end of the connector with a new alcohol pad again if reattaching IV infusion. Unclamp ports. Restart infusions.
15. If no continuous infusions, attach new disinfectant cap to the port.
16. At bedside, attach labels to tubes, after comparing label to patient's wristband.
17. Place specimens and requisition in biohazard bag.
18. Remove gloves and sanitize hands.

G. Troubleshooting (inability to flush or obtain a blood return)

Risk factor considerations for complications with central lines include but are not limited to traumatic insertion, rigid catheter, frequent use; multiple infusions, malignancy impairing SVC circulation, hypercoagulability, dehydration, history of thrombosis, inactivity, sepsis.

ALL UNUSED LUMENS SHOULD FLUSH AND HAVE BLOOD RETURN

Equipment

Alteplase (An order for Alteplase must be obtained). For dosing please refer to BMC medication guidelines, #1.50 Alteplase)
Chlorhexidine applicator
Alcohol pads
3-4 10 mL Luer Lock syringes
NS for injection (10 mLs)
Hospital approved connector and disinfectant cap
D5 ½ NS or NS (250 mLs) and tubing

Procedure

Preliminary Assessment of each unused lumen

1. Check tubing and clamps to ensure there is no kinking.
2. Replace connector if any evidence of back flow of blood.
3. Note the time elapsed since last flush.
4. Note whether there was a recent usage for blood, TPN, or multiple drugs.
5. Determine if there is a patient history of complications related to central lines or hypercoagulability.
6. Note whether the onset of obstruction or blood return loss was sudden, precipitates tend to occur quickly.
7. Note any discomfort at the insertion site, or along the catheter, especially while flushing the line.

Initial Steps of Intervention

- Reposition patient.
- Turn from side to side.
- Elevate clavicle.
- Raise ipsilateral or both arms.
- Lean forward/back.
- Hold breath/deep breath/cough.
- Place patient in Trendelenburg position.

  NOTE: If the catheter is against the vessel wall or the patient is slightly dehydrated; these interventions can be sufficient.
- Verify proper needle placement (ports).
- Check sutures: Is the suture too tight? Consult Surgery to re-suture if the suture appears too tight or if the catheter seems to have migrated outward.

8. Attempt to aspirate clot: sanitize hands, don clean gloves, clamp lumen, Remove connector and disinfectant cap. Disinfect the hub (end and side threads) by scrubbing vigorously with a new alcohol pad. Do not allow the hub to touch non-sterile surfaces. Attach an empty10 mL syringe using aseptic technique, unclamp lumen, and aspirate.
9. Clamp, then discard syringe.
10. Disinfect the hub with a new alcohol pad and place a new connector. Flush the central line with appropriate volume as in Part C or D.
11. Attach a new disinfectant cap.

For a patient undergoing stem cell pheresis, after a preliminary assessment and taking the initial steps of intervention: Consult Oncology Nurse Educator –pager # 5007 if not available then consult Hematology/Oncology Fellow/ Attending

For a patient with a CVC occlusion, after a preliminary assessment and taking the initial steps of intervention contact the Infusion Nurse Specialist or Resource Nurse (if the Infusion Nurse Specialist is not available) who will assess the line, consult with the physician to discuss if line will need to be declotted. Only ICU, ED, IR, Cardiac Cath lab, Resource, IV team and Oncology - (6 East Menino) and Cancer Infusion clinic nurses can administer Alteplase to declot a central venous catheter.

Catheter Withdrawal Occlusion (Flushes easily but has no blood return, sluggish blood return (less than 3 mL in 3 seconds), flushes with NS but with discomfort, or flushes sluggishly with slight blood return).

- If line intermittently infuses (pump alarm goes off repeatedly when patient turns head) assess whether fluid infuses using gravity (not infusion pump). If fluid does not infuse, go to section V. If fluid infuses, repeat "Repositioning Steps" outlined in "Secondary Assessment."
- For sluggish infusions, those that do not free flow but require an infusion pump or flushes with NS but with difficulty, instill Altepase (Section V).

Complete Catheter Occlusion (unable to flush or aspirate)

There are various agents that can clear a suspect drug or lipid precipitation depending upon the specific drug's pH or chemical make-up. For suspected precipitates, either mineral or lipid-related, consult the Clinical Nutrition Support Team, Pharmacy, and the Attending Physician.

- Instill Altepase (Section V). Instillation into a completely occluded line can be difficult. Consult an IV team member or clinical instructor for assistance if needed.

Alteplase instillation

An order for Alteplase must be obtained. For dosing please refer to BMC medication guidelines, #1.50 Alteplase

- Obtain Alteplase from pharmacy.
- Remove disinfectant cap. Scrub port with alcohol pad. Attach syringe to hospital approved connector. Slowly inject ordered dose of Alteplase. **DO NOT USE EXCESSIVE FORCE.**
- Clamp catheter using positive pressure, vigorously scrub the end of the connector with a new alcohol pad.
- Recap the connector. Allow to dwell in catheter per the medication guideline.
- Remove the cap, attach a 10 mL syringe, unclamp the catheter and attempt to aspirate, using a gentle pull/pause method.
- When blood return is obtained, withdraw 5mL and discard. Clamp the line. Vigorously scrub the end of the connector with a new alcohol pad, remover old connector, then attach new hospital approved connector, flush vigorously using a pulsatile technique, and attach disinfectant cap.
    - **Adult:** using 10mL syringe, flush with 10 mLs NS and Heparin if appropriate (see 10.04.07a).

- **Pediatric:** using a 10 mL syringe flush with 3-5 mLs NS and Heparin if appropriate (see 10.04.07b).
- If unable to aspirate blood, consult Physician for an order for a second instillation of Alteplase and follow the steps above.
- In the absence of an established blood return after two instillations of Alteplase, consult with MD/DO and consider removal of CVC
- If the same lumen subsequently reclots, consult with MD/DO.
- If the noted interventions fail to clear any CVC, consult IR or the surgical service.

NOTE:

- **The rationale for using Alteplase when the line flushes but there is no blood return** is to decrease the chance of the fibrin tail/sheath getting bigger and causing trouble with flushing and withdrawing or clotting and to prevent the risk of catheter related blood stream infection by preventing the formation of biofilm.
- Avoid flushing Alteplase or residual clot into the patient. However, clinical data reveal that the minute amount of Alteplase being used does not significantly alter hemostasis (Alteplase is activated when it binds to fibrin), and that 2 attempts with Alteplase are safe.

Responsibility:

RN,

Clinical Information:

1. Definition: CVAD refers to venous access devices, which includes all central line devices. Subcutaneous Infusion ports refer only to implanted ports (see Care of Implanted Ports #10.04.199).
2. If a central line with no clamp is being used for blood sampling, a luer lock extension set with a clamp may be used.
3. On insertion a central line is either flushed with NS then capped (adults and pediatric) or flushed with Heparin solution (NICU) until placement of the catheter is confirmed by CXR.
4. When a line is changed over a wire, the physician will determine if a CXR is needed to confirm placement prior to re-infusing solutions.
5. If the patient is receiving TPN and a line is changed, D10W should be infused after placement is confirmed (either by CXR or physician decision) and until new TPN bag is available.
6. Once line placement is confirmed, unused lumens are flushed every 12 hours and PRN, (refer to Appendix B for flushing practice in Pediatric and Neonatal patients)
7. When a central line is not being used for a continuous medication infusion, consider changing from KVO to a saline lock with every 12 hour flushes (For pediatrics/neonatal and implanted ports, add heparinized NS as appropriate).
8. The recommended KVO rates:
    - **Adults** set KVO rate at 20mL/hr per lumen.
        - If continuous infusion is less than 20 mL/hr. consider a carrier infusion to total 20 mL per hour per port/lumen unless clinically contraindicated
    - **Pediatrics** set KVO rate at 5mL/hr. per lumen
9. **Syringe Size:**
    - **Adults**: use only a 10 mL syringe to instill or flush line.

The catheter is able to tolerate only 20 psi of pressure. Smaller syringes exert much more pressure (25-100 psi) on the catheters and could cause rupture. Power ports, PICCs and Hickman catheters are able to tolerate up to 300 psi of pressure, but are still managed with a minimum size of 10 mL syringe.

- **Pediatrics:** use only a 10 mL syringe or greater to instill or flush a line. Smaller syringes exert more pressure on the catheters and could cause the catheter to rupture.

10. In the case of tunnel catheter rupture, needle puncture or breakage, the following step should be taken:
    - Clamp catheter proximal to break (between patient and catheter break).
    - Clean catheter break with Povidone-iodine solution or Chlorhexidine and wrap in sterile gauze.
    - Notify the LIP/MD/DO and the IV Nurse to assure catheter repair within 24 hours. (If catheter is not repaired within 24 hours, it should be removed.)
11. The terms subclavian and internal jugular refer to the route of access to the central venous system. CVCs terminate in the superior vena cava just proximal to the right atrium.
12. Tunneling of a catheter theoretically decreases the risk of infection by increasing the distance of the catheter exit site from the central venous system. A cuff further reduces the incidence of infection.
13. A multilumen catheter should ideally be replaced if an affected lumen cannot be declotted despite complete function of the remaining lumens. The clotted lumen will act as a medium for bacterial growth.
14. In cases where a tunneled catheter is infected but it is not practical or feasible to remove, the physician in consultation with the infectious disease specialist may order an Antibiotic Catheter Lock. Please refer to the pharmacy Medication Guideline 1.57, Antibiotic Catheter Lock.
15. The physician usually inserts central venous catheters at the bedside, or the IV team in the case of a PICC line. Pediatric PICCs may be placed by the IV team, Neonatal PICC team or IR. NICU PICCs will be placed by the Neonatal PICC team.
    - When possible, confer with the physician prior to insertion for optimal line position, and number of lumens required for IV therapy.
    - Certain lab tests may be ordered by the physician prior to insertion.
    - All staff members should follow the Infection Control Central Venous Access Policy and document the procedure per the Central Line Insertion note in the EHR.
    - Monitor the patient for any complications.
16. Two types of silastic central venous catheters are commonly used at Boston Medical Center.
    - A **cuffed silastic central venous catheter** is inserted via the internal jugular or subclavian vein either at the bedside or in the OR. The cuff acts as an anchoring device in the subcutaneous tissue. After one month, no stitches are needed to hold the catheter in place.
    - An **uncuffed silastic central venous ("Fitz")** catheter may be inserted at the bedside. Catheter dislodgment and catheter contamination are potential problems of the "Fitz" catheter since it is uncuffed. The catheter must be sutured in place. If a patient is discharged with an uncuffed catheter, the Visiting Nurse Association (VNA) needs to be informed that the catheter must remain sutured.
    - The principles of care are the same for each type of catheter. Strict, aseptic technique should be maintained to avoid catheter contamination.
17. Appendix A is a chart that indicates the names of the various lines, their intended and approved uses at BMC and special considerations specific to each type of catheter.
18. Appendix B is a chart that outlines specific care for neonatal and pediatric patients.

Appendices:

A. Central Line Management – Adult
B. Central Line Management – Neonatal and Pediatric

Related Policies:

05.02.025 Central Venous Access Protocol
05.02.040 Event Related Sterility
05.02.050 Hand Hygiene
10.03.010 Medication Administration
10.04.060 Intravenous Therapy
10.04.100 Implanted Infusion Ports: Access and Maintenance
10.04.110 Hemodialysis Catheter
10.04.120 Apheresis Catheters
10.04.140 Insertion and Removal of Peripherally Inserted Central Line Catheter (PICC)
14.09.000 Hemodynamic Lines: Arterial Line, Central Venous Line, Pulmonary Arterial Line, and Cardiac Output
16.7.090 Insertion, Care of and Removal of Peripherally Inserted Central Line Catheter (PICC) for the Neonate and Infant
Pharmacy Medication Guidelines
1.50 Alteplase
1.57 Antibiotic Catheter Lock

Initiated by:

Nursing P and P

Reviewed by:

Infection Prevention, Nursing, Pharmacy
Central Line Associated Blood Stream Infection (CLABSI) Prevention Committee

References:

Moreau, NL, Flynn, J. (2015). Disinfection of needleless connection hubs: Clinical evidence Systematic review. Nursing Research and Practice, 2015: 1-20

Gorski LA, et al. Infusion Therapy Standards of Practice, 8th Edition. *J Infus Nurs*. 2021;44(Supplement 1):S1-S224.Centers for Disease Control and Prevention (2011). Guidelines for the prevention of intravascular catheter-related infections. http://www.cdc.gov/hicpac/pdf/guidelines/bsi-guidelines-2011.pdf

Darcy Doellman et al; (2015). Best Practice guidelines in the Care and Maintenance of Pediatric Central Venous Catheters. Pedivan. Downloaded 6-2017

FDA Indications for Use of Power PICC http://www.fda.gov/cdrh/pdf3/k033389.pdf, Retrieved 7.12.05

FDA Indications for Use of PICC http://www.fda.gov/cdrh/pdf3/k031129.pdf, Retrieved 7.12.05

Guthrie, D. Dreher, D. & Munson, M. (2007). What you need to know about PICCs, part 1, *Nursing 2007;* August p. 18.

Guthrie, D. Dreher, D. & Munson, M. (2007). What you need to know about PICCs, part 2, *Nursing 2007;* September, pp.14-15.

Hadaway, L. (2008). Central Venous Access Devices, *Nursing 2008*, June pp 35-40.

Intravenous Nurse's Society (2011). Intravenous nursing standards of practice. *Journal of Intravenous Nursing 34* (1s).

Kienle, P. C. (2020). The Chapter <800> Answer Book. Bethesda, MD: American Society of Health-System Pharmacists

Krue, M., Doellman, D., Rabin, K., and Jacobs, B. (2005) *J Infusion Nurse* 28(1): 30-35.

Mermel LA, Farr, BM, Sherertz RJ, Etal. Guidelines for the Management of Intravascular Catheter-Related Infections: Clinical Infectious Diseases, 2001; 32: 1249-1272

Patel V.B., Snyder J., and Shopnick RI., (1999). Successful use of low dose r-hirudin (Refludan) for recurrent dialysis catheter thrombosis in a patient with heparin induced thrombocytopenia *Thromb Haemost* 82: 1205-1206.

Richardson, D. (2007). Vascular access nursing standards of care and strategies in the prevention of infection: A primer on central venous catheters (part 2 or a 3 part series). *JAVA* 12:19-27.

Sutureless Securement Device Reduces Complications of Peripherally Inserted Central Venous Catheters. *Journal of Vascular & Interventional Radiology.* 13(1):77

Central Line Management - Adult

TYPE OF LINE	INFORMATION	FLUSH FREQUENCY AND AMOUNT	DRESSING CHANGE	TUBING CHANGE	BLOOD DRAW
	"Power" means catheter can be used for increased PSI infusions. We have Power PICCs, Power Ports, and Power Hickman's. They are managed the same way as regular central lines, ports, PICCS and Hickman's. *BMC Policy #13.03.013 Hazardous Drug Handling identifies hazardous medications that must be administered via a Closed System Transfer Device (CSTD), in accordance with USP 800 standards.*	*Scrub the hub vigorously with alcohol swab prior to EVERY access.* *Allow to dry.* *Check for blood return prior to administration of any IV medication* *IF no continuous infusion running, flush with 10 mL NS with pulsatile technique* ***EVERY 12 hours*** *and PRN before and after intermittent infusions and blood draws.* *All IV tubing luer lock injection ports must have an alcohol impregnated cap applied when not in use.* *All saline and Heparin locked IVs must have an alcohol impregnated cap applied when not in use.* *Recommended KVO rate is 20 mL/hour. IF infusion is less than 20mL/hour consider a carrier KVO infusion to maintain port patency. Unless clinically contraindicated*	**Every 7 days and PRN if non-occlusive or soiled** **CONNECTOR** **Every 7 days and PRN and if occluded** EXCEPTIONS: Change connectors After administrating blood Propofol every 12 hours Lipids every 24 hrs	**Every 4 days and PRN if soiled** EXCEPTIONS: Blood every 4 hrs or 4 units whichever is sooner Propofol every 12 hours Lipids every 24 hrs	*Scrub the hub vigorously with alcohol swab prior to EVERY access.* *Allow to dry.* *Stop infusions* *Withdraw 2-3 mL blood and discard prior to blood draw* *Routinely blood cultures should not be drawn from a central line unless ordered from ONE port by attending physician.* *EXCEPTION: For febrile neutropenic oncology patients' blood cultures may be drawn from each lumen and peripherally with a LIP order* When a blood culture is drawn from a CL the specimen will be labeled with the lumen.
SINGLE/ DOUBLE/ TRIPLE LUMEN		As above	As above	As above	▪ May draw routine bloods ▪ Use largest lumen ▪ Do not use TPN line for blood draws
PICC LINES	If admitted with PICC, CXR needed to check for line migration.	As above	As Above Consult IV Nurse with concerns and questions	As above	▪ **NO BLOOD DRAWS from PICCs except if no other option available and patient is assessed by the IV nurse** ▪ Catheter used for blood draws must be equal to or greater than a 4 Fr catheter ▪ Flush with 10mL NS using pulsatile technique after each blood draw ▪ Unit collect order nurse to draw if no vacutainer available use syringe method.

Central Line Management - Adult

TYPE OF LINE	INFORMATION	FLUSH FREQUENCY/AMOUNT	DRESSING CHANGE/CONNECTOR CAP	TUBING CHANGE	BLOOD DRAW
APHERESIS CATHETER (DOUBLE-LUMEN) Non-cuffed, NON-Tunneled **APHERESIS CATHETER (DOUBLE-LUMEN) Tunneled** **TEMPORARY DIALYSIS CATHETER**	▪ Lines will be capped with TEGO® connector and hospital approved disinfectant cap ▪ Apheresis catheter is a large bore catheter, between 9-14.5 fr. ▪ If a femoral line, patient is on bedrest with HOB elevated no more than 30°	▪ When APHERESIS not in use, the lumens must be flushed at least twice a week. ▪ For DIALYSIS line that is not in use: refer to policy ▪ Line access-withdraw 3mL blood first and discard, then flush with 10mL NS ▪ If lumen to be clamped, flush with **1**0mLs of NS. ▪ Yellow (Tego®) connectors and hospital approved disinfectant caps are used on each lumen and changed per policy. NEVER Collect or Infusion Stem Cell through a Yellow (Tego®) connector, remove connector first	• ONLY use TEGO® connector. • Only use SwabPack alcohol cap with Tego connector • May be changed by the RN or the Dialysis RN • Never collect or infuse Stem Cell through the Tego® connector. Remove connector first • May remove Tego® connector if troubleshooting poor access during CRRT	As above	▪ May draw bloods in an emergency ▪ Stem cell transplant patients can have bloods drawn from Apheresis lines.
IMPLANTED INFUSION PORTS	▪ For intermittent access use NS, Administer Medication, Saline and Heparin method (SASH)	▪ Port access: (draw back to √ blood return) and Flush with 20mL of NS followed by 3mL of 100units/mL heparin if no continuous infusion ▪ Access and flush once a month when not in use ▪ De-accessing: prior to de-accessing flush with 20mL of NS followed by 3mL of 100units/mL heparin	• Non-coring needle with extension tubing, cap and dressing weekly & PRN. • Please use Chlorhexidine Gluconate gel pad and tegaderm dressing. • Please remove white gripper clip from port needle before applying dressing.	Every 96 hrs	▪ May draw bloods ▪ Port can be accessed for blood draws ▪ Flush with 20 mL NS after blood draw followed by 3mL of 100u/mL heparin ▪ If line has a continuous infusion then no heparin needed. ▪ If line has an intermittent medication, flush with 20mL NS pre and post medication, and lock with heparin.

Central Line Management – Neonatal and Pediatric

Catheter Type	Duration/Information	Frequency of Flushing Scrub hub vigorously with alcohol prior to EVERY access, allow to dry	Flushing Solution and Amount	Syringe Size 10 mls or greater (smaller syringes ↑ PSI)	Frequency of Dressing Changes	Caps and Tubing Change (Exception: Lipids, TPN, Blood and Propofol)	Blood Draw Scrub hub vigorously with alcohol prior to EVERY access, allow to dry
Peripheral IV	• Until IV therapy is completed or unless complication occurs	• **Neonate & Pediatric:** 24 gauge catheters: Every 6 hours and after each use Larger than 24 gauge: Every 8 hours and after each use • **Pediatric:** Same as above	• **Neonate** 1 ml-2ml NS • **Pediatric** 1ml-2ml NS		• As Needed	• Every 96 hours Unless a solution dictates more frequent changes (ie TPN, Lipids)	• Routine use of line to draw blood increases the risk of line loss. Use clinical judgment
Peripheral Long Line (Midline)	• Until IV therapy is completed or unless complication occurs	• <u>For neonate not a recommended line, always attempt PICC first</u> **See recommendations for PICCS below**	**Neonate:** Preservative free Heparin (1unit/ml): 0.5ml-1ml NS: 1ml-3ml **Pediatric:** 2 French or greater: 3-5 ml NS pulsatile method followed by 2 ml Heparin (10 units/1 ml) Check blood return in catheters 3 French or greater when flushing Also see Appendix A Central Line Management Adult	10 ml or greater	• As Needed	• Every 96 hours	• No
Peripheral A-line	• Should be removed as soon as possible when no longer needed or unless complication occurs • Do not routinely replace to prevent catheter-related infections • No medications should be infused via a radial line because the direction of flow is to the hand. Gangrene and loss of hand has occurred	**Neonate:** Continuous heparinized infusion **Pediatric:** Continuous heparinized infusion	**Neonate:** Heparinized NS solution (0.5unit/ml or 1 unit/ml) **Pediatric:** Heparinized NS solution (1 unit/ml) Follow appropriate Vamp guidelines	10 ml or greater	• Replace when it becomes damp, loosened, or soiled or when inspection of the site becomes necessary	• Every 96 Hours • Replace disposable or reusable transducers at 96 hr interval	• Yes NICU: Use syringe method with three way stopcock for blood sampling PICU: Follow Jr Vamp or Adult Vamp guidelines when applicable

Central Line Management – Neonatal and Pediatric

Catheter Type	Duration/Information	Frequency of Flushing Scrub hub vigorously with alcohol prior to EVERY access, allow to dry	Flushing Solution and Amount	Syringe Size 10 mls or greater (smaller syringes ↑ PSI)	Frequency of Dressing Changes	Caps and Tubing Change (Exception: Lipids, TPN, Blood and Propofol)	Blood Draw Scrub hub vigorously with alcohol prior to EVERY access, allow to dry
Peripherally Inserted Central Catheters (PICC)	• Until IV therapy is completed or unless complication occurs • Do not routinely replace to prevent catheter-related infections • Do not remove on the bases of fever alone. Use clinical judgment • Use the SASH method when administering medications • Recommended to flush line with NS before and after giving incompatible solutions • Use a pulsatile method for flushing (short bursts or start-stop) • Use the SASH method when administering medications • Depending on age of child may be placed by Neonatal PICC RN, Adult PICC RN or as IRprocedure • No blood pressures in extremity where PICC line is located • Neonate: Blood transfusion not recommended via PICC line	• **Neonate:** Recommend to infuse continuous fluids • **Pediatric:** 2 French or smaller, infuse continuous heparinized solution Greater than 2 French: **SASH** with each intermittent use and minimum every 12 hrs **Check blood return in catheters 3 French or greater when flushing**	• **Neonate** 2 French or smaller: continuous fluids @0.5 - 1ml/hour with 0.45%NS with heparin 0.5 Units/ml solution • **Pediatric:** 2 French or greater: 3-5 ml NS pulsatile method followed by 2 ml Heparin (10 units/1 ml) Check blood return in catheters 3 French or greater when flushing Adult sized Patient: see Adult Addendum A	• **Neonate** 10 ml or greater • **Pediatric** 10 ml or greater	**Neonate** • Replace when it becomes damp, loosened, or soiled or when inspection of the site becomes necessary • If gauze used with dressing change after 24 hours **Pediatric** • Routine change every 7 days or if transparent dressing becomes non-occlusive. Do not change if dressing intact and risk of dislodgement outweighs benefits of changing dressing. • Use biopatch for Pedi patients	• Every 96 hours Unless a solution dictates more frequent changes (ie TPN, Lipids) <u>Pediatric</u> Unless a solution dictates more frequent changes (ie TPN, Lipids,) • Blood: every 4 hours or 4 units, whichever is sooner • Change connector with visible blood Place disinfectant cap over connector when not in use	• NO BLOOD DRAWS from PICC unless no other option. Consult IV team and physician In Pediatrics Also see 10.04.07a Adult Central Line Management Appendix A
Single/Double and Triple Lumen Central Lines	• Do not routinely replace to prevent catheter-related infections • Do not remove on the bases of fever alone. Use clinical judgment	• **Neonate**: Recommend continuous fluids but if heplocked flush every 8 hours and PRN using SASH method • **Pediatric:** After each intermittent use (SASH) and minimum every 24 hrs Check blood return for Catheters 3 French or greater prior to use or routine flush	• **Neonate** NS: 1ml -3ml Preservative Free Heparin (1unit/1 ml) 1ml every 8 hours if no IVF infusing • **Pediatric:** 3-5 ml NS pulsatile method followed by 2 ml Heparin (10 units/1ml)	10 ml or greater	• Same as above	• Same as above	<u>Pediatric/NICU:</u> • IF TPN in use: avoid drawing off TPN line • Via most distal Lumen

Central Line Management – Neonatal and Pediatric

Catheter Type	Duration/Information	Frequency of Flushing Scrub hub vigorously with alcohol prior to EVERY access, allow to dry	Flushing Solution and Amount	Syringe Size 10 mls or greater (smaller syringes ↑ PSI)	Frequency of Dressing Changes	Caps and Tubing Change (Exception: Lipids, TPN, Blood and Propofol)	Blood Draw Scrub hub vigorously with alcohol prior to EVERY access, allow to dry
Implanted Infusion Ports	• Internalized central venous catheter • Non-Coring Needle (Huber) only • Needle and extension tubing changed weekly. • Must be flushed with Heparin (100 units/ 1 ml) prior to de-accessing	**Pediatric:** • After each intermittent use (SASH) and minimum every 12 hrs • Prior to needle removal • Monthly when not accessed	**Pediatric:** While accessed: 5-10 ml NS pulsatile method followed by 5 ml Heparin (10 units/1ml) De-accessing: 5-10 ml NS pulsatile method followed by 3 mls Heparin (100 units/1 ml)	**Pediatric:** • 10 ml or greater	**Pediatric:** • Weekly • Use biopatch	**Pediatric:** • Needle and ext tubing changed every 7 days • IV tubing and cap every 96 hours	**Pediatric:** • Yes: • If continuously infusing flush with NS • If Hep locked use SASH technique
Umbilical Venous Catheter (UVC)	• Should be removed as soon as possible when no longer needed but can be used up to 14 days if managed aseptically • Remove when any signs of vascular insufficiency to lower extremities is observed	• **Neonate** Add low doses of heparin (0.25-1.0unit/ ml) to fluid	• Continuous fluids @ at least 0.5 to 1ml/hour	• Greater than 5ml	• N/A	• Every 96 hours **Unless a solution dictates more frequent changes (ie TPN, Lipids)**	• Yes • Use syringe method with three way stopcock for blood sampling
Umbilical Arterial Line **(UAC)**	• Should be removed as soon as possible when no longer needed • Optimal, umbilical artery catheters should not be left in place >5 days • In rare instances, medications and Parenteral Nutrition may be infused but should be the last choice • Remove when any signs of vascular insufficiency to lower extremities is observed	• **Neonate** Add low doses of heparin (0.25-1.0 ml) to fluid	• Continuous fluids @ at least 1ml/hour	• Greater than 5ml	• N/A	• Every 96 hours	• Yes • Use syringe method with three way stopcock for blood sampling
Intraosseous	• Rapid intravascular access in children during emergent circumstances when IV access fails • Catheter is placed into the medullary sinus of the bone marrow • Common sites: proximal tibia, distal femur • Use of EZ-IO driver in PICU & Pedi ED (*Pink*:3-39 Kg, *Blue*: > 40Kg) • Should be replaced with a venous lines asap, left in place no greater than 24 hrs	**Pediatric:** • Every 8 hours and after each use • Consider use of epinephrine free Lidocaine (intravenous lidocaine) (0.5 mg/Kg) for alert patients during flush and/or infusion	**Pediatric:** NS: 1.5-2.0 NS	10 ml or greater	EZ-IO: dressing if available, secure with tape	N/A-should be removed within 24 hours	Yes: Flush with NS after blood draw.

Peripherally Inserted Central Catheter (PICC): Potential Complications and Management

PICC (peripherally inserted central catheter) is a flexible tube that can be placed into an antecubital vein in the arm and threaded so the catheter tip is in the SVC.

COMPLICATIONS	CAUSES	SIGNS AND SYMPTOMS	MANAGEMENT
1. Phlebitis	• Injury to vein wall which can be a mechanical or chemical irritation. • Mechanical irritation can include movement of PICC under insecure dressing, skin irritation from dressing, tape or ointment. • Chemical irritation can include infusing of medication with an extreme pH and is very concentrated.	• Pain which travels along vein track. • A continuous or intermittent redstreak over the catheter path which could result into a venous cord. • Swelling.	• Encourage patient to limit use of arm and apply warm compresses for twenty minutes three to four times a day. • If signs and symptoms are not resolved after 48 to 72 hours, the line should be removed by infusion specialist (IV RN) or physician.
2. Thrombosis	• Poor blood flow around the catheter combined with fibrin accumulation or hypercoagulopathy.	• Decrease in flow rate of wide-open IV solutions. • Swelling of neck, face, and arms.	• Assess and report signs and symptoms to physician. • Physician may order venogram. and thrombolytic therapy prior to removal • Physician to remove PICC.
3. Infection	• Insertion technique. • Length of time catheter is in place. • Failure to use aseptic technique during dressing changes. • Immunosuppression from disease process.	• Redness, tenderness and exudate at insertion site.	• Assess and report signs and symptoms. • Obtain culture of insertion site and/ or catheter tip if ordered. • Obtain blood for culture from PICC and peripheral vein. • Physician may consider increase in frequency of dressing changes. • Physician may consider discontinuing PICC line.
4. Exit site bleeding	• Thrombocytopenia. • Introducer is too large.	• Continuous oozing or bleeding from exit site after pressure dressing with dry sterile dressing is applied.	• Contact infusion specialist to assess degree and amount of bleeding.

Peripherally Inserted Central Catheter (PICC): Potential Complications and Management

COMPLICATIONS	CAUSES	SIGNS AND SYMPTOMS	MANAGEMENT
5. Occlusion of Catheter	• Fibrin drug precipitate or sludge (blood and lipid deposits) can build up on wall of catheter.	• Decrease in flow rate of IV solution. • Increase resistance of flushing and leaking from insertion site. • PICC line should be flushed with firm, but gentle pressure using only a 10cc syringe.	• Contact infusion specialist or resource nurse. • Treatment will be determined when location and type of occlusion is identified. • Alteplase may be used if occlusion is fibrin. • Infusion specialists, resource nurses and staff nurses in the ICUs, ED, Moakley 3 and 6East may declot the line after order is placed and discussion occurs with infusion specialist (IV RN) or resource RN. In the event that the infusion specialist or resource nurse is not available the nurse and physician should use their clinical judgment in deciding whether to declot (The risk of delay in care should always be considered).
6. External Catheter Leakage/Breakage	• Excessive pressure used by small syringe. Flush only with 10cc or larger syringe. • PICC line catheter rupture caused by using a needle longer than one inch.	• Unexplained dampness of dressing. • Leakage of catheter during irrigation or infusion.	• Check all connections to PICC line. • Flush only with a 10ml or larger syringe. • If leak present, tape securely to prevent blood loss or air emboli and contact Infusion Specialist.
7. Catheter embolus (medical emergency) catheter fragments may move with blood flow and lodge in the heart of pulmonary vasculature.	• Rupture of catheter from excessive pressures within line.	• Shortness of breath, chest pain, or asymptomatic.	• Have patient remain quiet. • Apply direct pressure to accessed vein. • Notify physician for STAT radiology consult for catheter retrieval. • Assess symptoms and report changes.
8. Catheter Migration	• Coughing, vomiting, sneezing.	• Chest pain.	• Request chest X-ray of PICC line

Policy #:	03.37.00h
Issued:	8/2007
Reviewed/ Revised:	3/2015, 11/2018, 11/2020, 11/2021, 11/2023
Section:	Clinical Care

Rapid Response Team (RRT)

Purpose:

To provide skilled medical assistance to inpatients outside the critical care setting to intervene in the care of patients with unexpected clinical deterioration.

Policy Statement:

- The Rapid Response Team (RRT) will respond to actual or potentially worsening medical conditions of patients in adult and pediatric medical surgical and maternity units. A patient's worsening condition may be identified by staff members, patients themselves, or family members.
- Patients and family members who are concerned that the patient's condition is deteriorating may contact the patient's nurse or charge nurse to request an assessment and rapid response.
- This policy is compliant with Department of Public Health 105 CMR 130.1600 Rapid Response Method.
- The team consists of a critical care trained nurse and a respiratory therapist.
- An electronic medical record RRT screen will be completed by the nurse initiating the RRT in collaboration with the Rapid Response Team members.
- The RRT call will be activated through the page operator at x 4-7777

Application:

The RRT provides medical assistance to all inpatients on the adult and pediatric medical surgical, IPP and maternity units.

Exceptions:

- Patients requiring cardiopulmonary resuscitation. See *Policy 03.37.000 - Code Blue Cardiopulmonary Resuscitation*.
- Outpatients, employees and visitors. See *Policy 03.38.000 – Medical Emergencies*.

Procedure:

1. The nurse who requires the assistance of the RRT will call or designate a staff member to call the emergency contact number, x4-7777, and request either adult or pediatric RRT, building, floor and patient room number.
2. The RRT will respond within 10 minutes and provide medical assistance. The patient's covering physician/provider will be contacted. The covering providers will determine the appropriate interventions and level of care needed.
3. The medical surgical nurse will remain with the patient as part of the Rapid Response Team and will complete the electronic RRT form in collaboration with the Rapid Response Team members.
4. The responding respiratory therapist will assist in the assessment and treatment of airway and related cardiopulmonary issues.
5. The responding resource nurse/critical care nurse will assist in the assessment and medical care of the patient, initiate the transfer of the patient if necessary, and edit any appropriate sections of the electronic RRT form.

6. The covering physician or provider will assist in the care and treatment of the patient, and enter appropriate orders for care in EPIC.
7. Information technology will provide monthly data reports on the RRT calls to the Code Committee and the Critical Care Committee. The Code Committee will be responsible for measuring the utility and effectiveness of the RRT, including but not limited to: (1) documentation of rates and effectiveness of utilization of the RRT by staff, patients and family members (2) measurement of rates of cardiopulmonary arrest, respiratory arrest and mortality before and after implementation of the RRT and (3) documentation of actions taken to improve the RRT and to address underlying organizational issues.
8. The units will stock paper copies of the RRT forms to be used in the event of EPIC downtime.

Responsibility:
Nursing

Related Policies
03.37.000 - Code Blue Cardiopulmonary Resuscitation
03.38.000 – Medical Emergencies

Forms:
RRT form located on each medical surgical unit.

Initiated by: The Code Committee

Contributing Departments:
1. Respiratory Care
2. Nursing
3. Cardiology
4. Information Technology

References:

1. Massachusettes Department of Public Health 105 CMR 130.1600 Rapid Response Method. http://www.mass.gov/eohhs/docs/dph/regs/105cmr130.pdf
2. Jarman B, Nolan T, Resar R. Move Your Dot™: Measuring, Evaluating, and Reducing Hospital Mortality Rates (Part 1). IHI Innovation Series white paper. Boston, Massachusetts: Institute for Healthcare Improvement; 2003.
3. IHI. Institute of Healthcare Improvement (2006). Protecting 5 million lives. Accessed 11.25.07. http://www.ihi.org/IHI/Programs/Campaign.

CAMPUS WIDE RESPONSE
CODE BLUE RESPONSE

1. An **Inpatient Code Blue Team** will respond to all code situations identified below as **Code Team.**

   In addition, the **Inpatient Code Team** may be activated by the Medical Emergency Team at the scene for cardiac arrest in other locations **provided that a Crash Cart is immediately available** at the location.

   - Dial 4-7777 for **Inpatient Code Team**
   - State **Adult**, **Pediatric, Neonatal or Maternal Code Blue**, building, floor and room number of the Code Blue

Menino Pavilion Area	Code Coverage
Menino Pavilion Basement (Heart Station, Dialysis), 1, 2, 3, 4, 5, 6, 7 840 Harrison Ave	Code Team 4-7777
Yawkey 4,5,6 850 Harrison Ave	Code Team 4-7777
Moakley Lower Level, 1, 2, 3 830 Harrison Ave	Code Team 4-7777

Prepared & Issued by: Code Steering Committee 3/11/2003	**Approved by:** Nursing Leadership
Issue Date: 1/2008	
Reviewed/Revised: 1/2001, 3/2003, 1/2004, 10/2006, 2/2007, 11/2018, 11/2021, 3/2024, 7/2025	