Cross Training for COVID-19

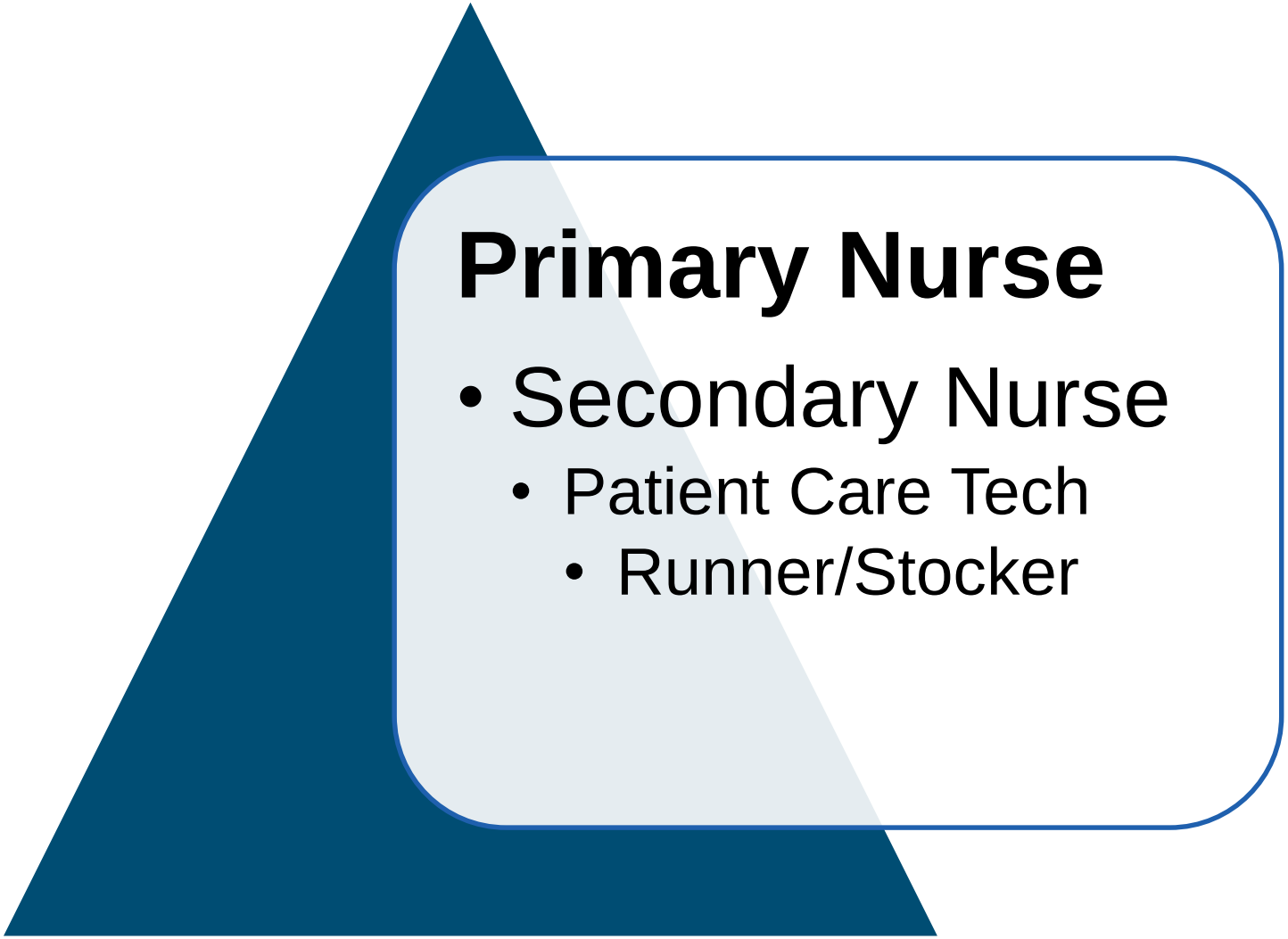
PAH Clinical Nurse Education Specialists

Penn Medicine

Thank you for your dedication to our patients!

Team Nursing

You will always be supported by your team!



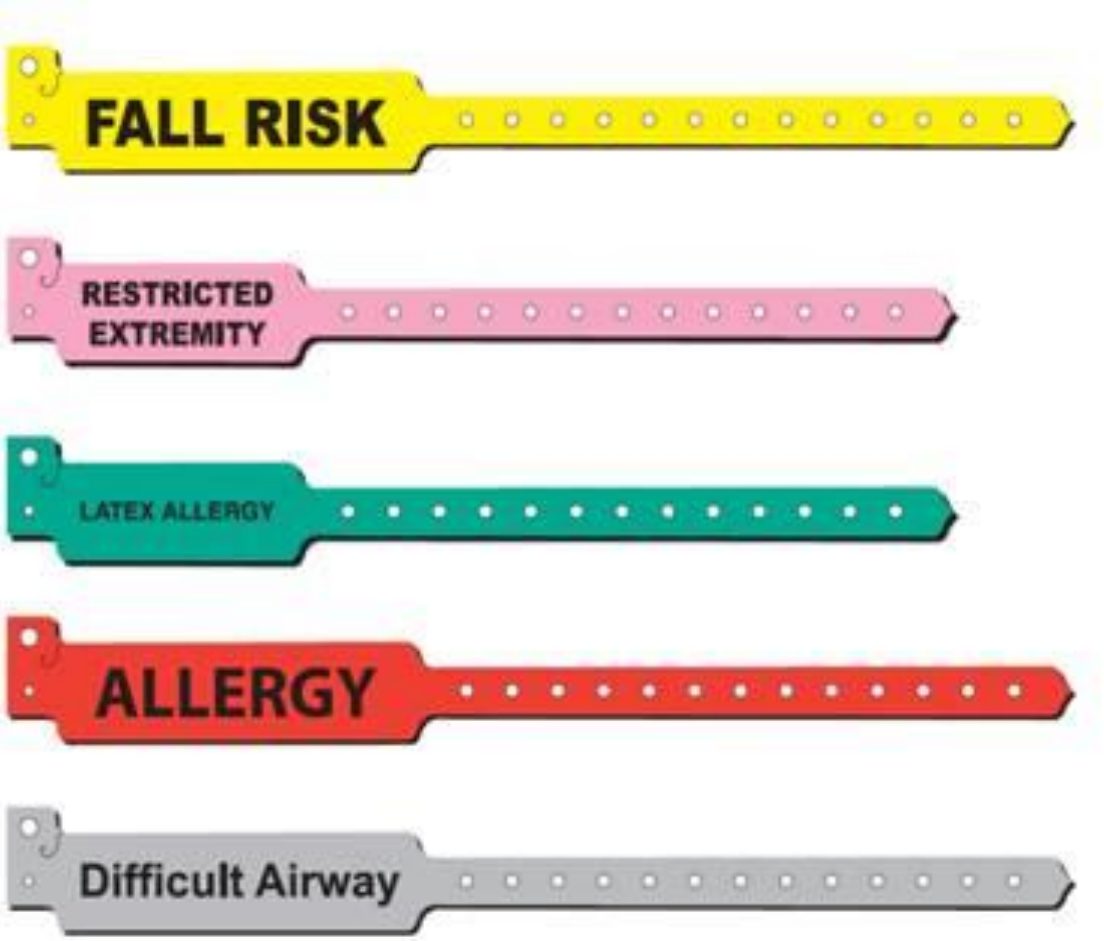
Nurse Leaders

- **4 Cathcart (6 Schiedt)**
  - CNES: Amanda Pfaff
    - 267-591-2627
  - Manager: Tony Zapisek
    - 215-605-3586
- **5 Cathcart**
  - CNES: Angela Ross
    - 215-531-0113
  - Manager: Ruth Dileo
    - 267-650-9306
- **6 Cathcart (moved)**
  - CNES: Tami Proctor
    - 267-591-2630
  - Manager: Tony Giorgio
    - 215-767-2448
- **7 Cathcart (moved)**
  - CNES: Ali Shapiro
    - 267-591-2626
  - Manager: George Shafer
    - 215-800-6933
- **7 Schiedt**
  - CNES: Angela Ross
    - 215-531-0113
  - Manager: Carrie Marvill
    - 267-591-2621
- **ICCU**
  - CNES: Amanda Pfaff
    - 267-591-2627
  - Manager: Bonita Ball
    - 267-716-8890
- **ICU**
  - CNES: Diane Angelos
    - 267-591-2616
  - Manager: Chris Huot
    - 215-828-3143
- **Mother Baby**
  - CNES: Aida Schumacher
    - 267-591-2628
  - Manager: Beth Anne Pyle
    - 267-593-1873
- **L&D**
  - CNES: Raluca Anca
    - 267-591-2622
  - Manager: Jamillah Washington
    - 267-804-2425
- **ICN**
  - CNES: Rebecca DeGraff
    - 609-617-6331
  - Manager: Betsie Quigley
    - 215-828-4695

Communication and Unit Expectations

- **Daily huddle**
  - Change of shift
  - Expectation that you attend
- **Documentation should be done in real time (vital signs, etc.)**
- **Each floor has specific patient populations and protocols**
- **Please check with the charge RN and/or CNES for additional resources**
- **Throughout your shift, keep the lines of communication open with:**
  - Primary RN
  - Charge nurse
  - CNES (when applicable)
- **Do not be afraid to speak up:**
  - If you are hesitant or unsure about something
  - We want you to feel safe, comfortable and supported!

Alert Bands


FALL RISK
RESTRICTED EXTREMITY
LATEX ALLERGY
ALLERGY
Difficult Airway

Clinical Alarms

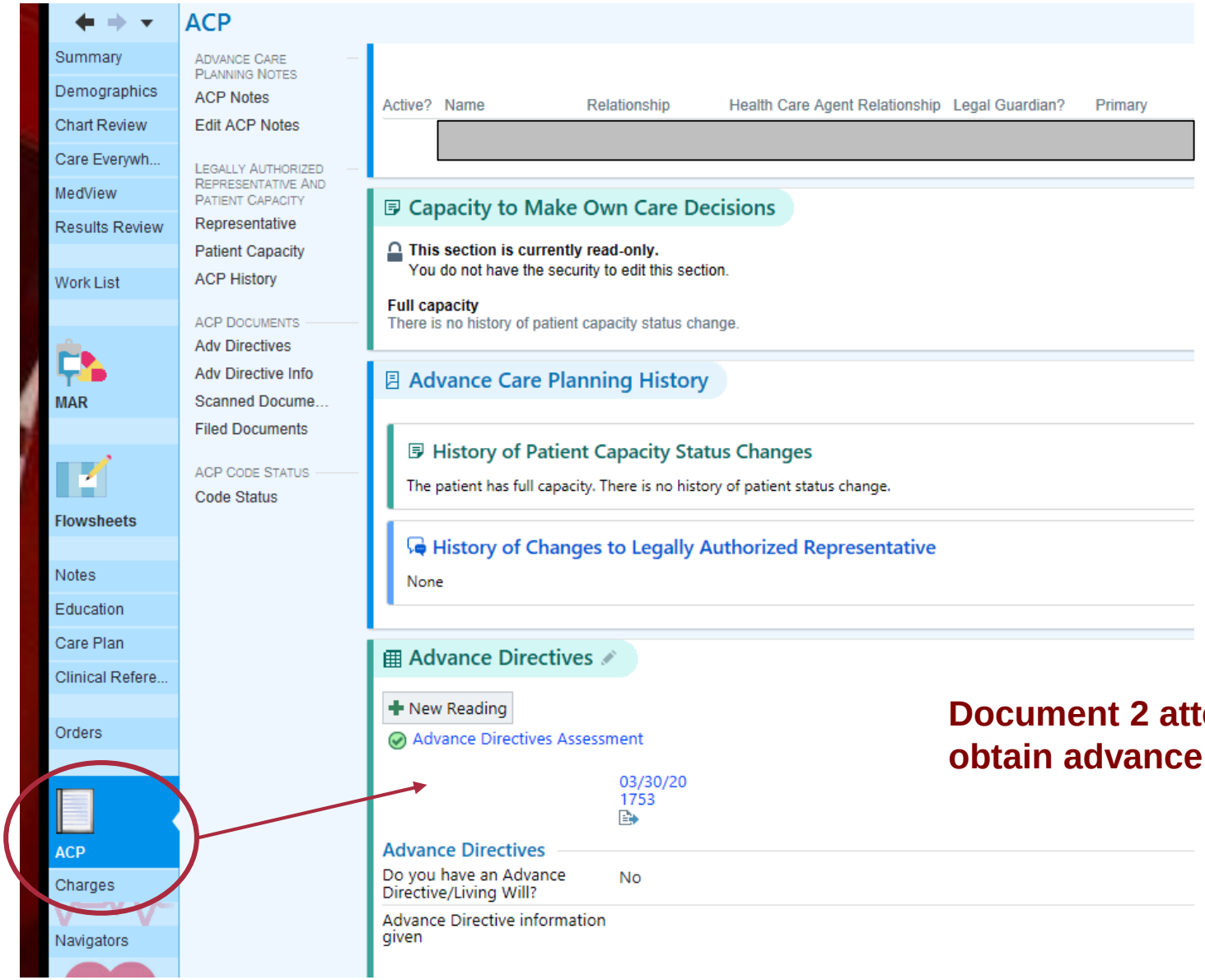
- Alarm volumes should be set at a level so that staff can hear them
- Anytime you hear an alarm you should go to room to assess the patient
- Alert the primary RN to the situation

Advanced Directives

- **Ask patient about their advanced directive and place a copy in their chart**

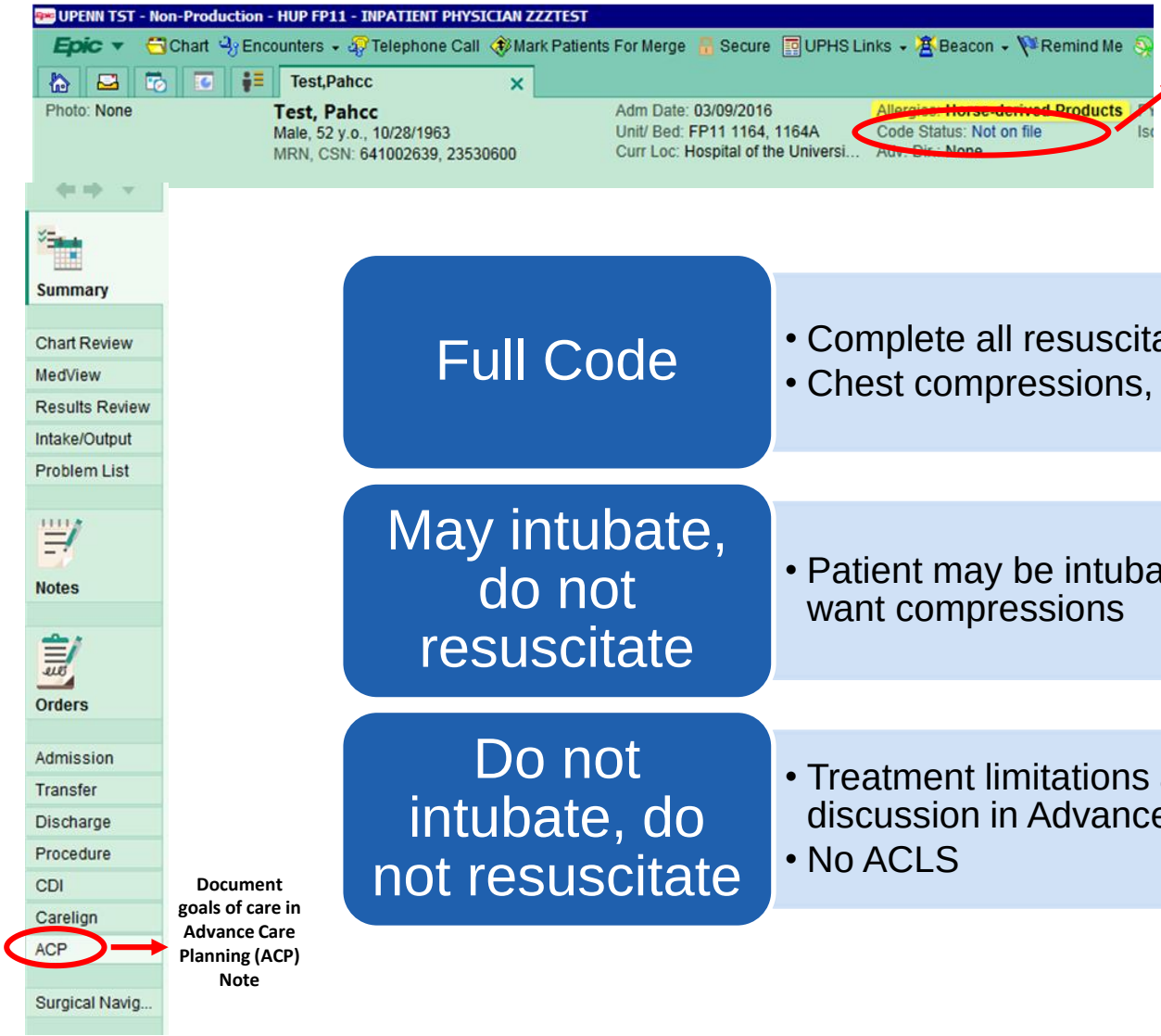
- **Patients or family members who request additional information about advance directives can be referred to**
  - Clinical Resource Management & Social Work
  - Patient and Guest Relations

Does My Patient Have an Advanced Directive?



Document 2 attempts to obtain advance directive!

Code Status in Penn Chart



Full Code

- Complete all resuscitation efforts
- Chest compressions, intubation

May intubate, do not resuscitate

- Patient may be intubated, but does not want compressions

Do not intubate, do not resuscitate

- Treatment limitations and goals of care discussion in Advance Care Planning Note
- No ACLS

**In the event of an emergency, "Not on file" and "Prior" should be treated as full code*

CRT Activation Criteria

- **CRT**
  - Pulseless
  - Unresponsive
  - Not Breathing

- **What to do next**
  - Immediately call 5050
  - Begin CPR
  - Bring Code Cart to Hallway
  - Apply and use AED

- **Critical Care RN will document assessment and interventions**

RRT Activation Criteria

ANYTIME STAFF ARE CONCERNED ABOUT THE PATIENT

- **HR Less than 50**
- **SBP less than 80mmHg**
- **Respirations less than 8**
- **SpO2 less than 90%**
- **Change in Mental Status**
- **Chest Pain**
- **EKG Preliminary Dx**
  - Acute MI
  - Acute Pericarditis
  - Injury
  - Infarction, Possible Acute
- **HR greater than 120**
- **SBP greater than 180mmHg**
- **Respirations greater than 24/min**
- **Significant blood loss**
- **Seizure Activity**
- **Suspected Stroke (Facial Droop)**
- **SOB**

Stroke

Recognize S/S of Stroke

- Sudden weakness (one/both sides)
- Change in Vision (double, blurry, hemianopsia)
- Change in Speech (aphasia, slurred, garbled)
- Facial droop
- Drift, neglect, loss of sensation

Call

- Call RRT x5050
- RRT Team initiates stroke alert

Stroke alert notifies

- Neurologist
- CT Scan
- Transport
- Stroke Coordinator
- NAC

Rapid Response RRT RN Consultative Services

RRT DIRECT PHONE NUMBER: 267.253.3906

The Rapid Response Nurse will be rounding on your unit daily on both A and B shifts to check in and see if you have any concerns about any patients.

You can either speak to the RRT RN directly or report your concern to the Charge Nurse so they can make the RRT RN aware.

WHEN IN DOUBT, CALL IT OUT!

Don't hesitate to call! We are here to help!

Traditional RRT Call	vs.	RRT RN Consultative Call
●Requires **IMMEDIATE** response from all members of the RRT team (MD, RN, Respiratory and NAC)		● Concerns you would like assistance with but **are not** immediate in nature (ex. Questions about trachs, chest tubes.....)
●**Activate by calling x5050**		● **Call the RN directly at 267.253.3906**

Accu-chek® Glucometer Competency

- **Locate**
  - Power button
  - Scanner
  - Charger
  - Base unit
  - Carry case

Accu Check Inform II System Features

Strip Guide and Barcode scanner

Touch Screen

Power Button

Base/Charger

Data downloads wirelessly

Point of Care Blood Glucose Testing

- **Meter reading range:**

  10-600 mg/dL

  - "LO" or "HI" if outside range – also possible with an operator error
  - A serum glucose specimen MUST be sent to the Lab for a "LO" or "HI"

- **Critical patient values:**

  less than 40 and greater than 500

  - MUST be reported to RN/MD **immediately**
  - Must enter comment
  - A serum glucose specimen must be sent to the Lab

Point of Care Blood Glucose Testing

- **Test Strips**
  - Put cap back on vial – air affects strips (expiration date on label)
  - Yellow window must be filled in with blood
  - Store at room temperature

- **Controls**
  - Run once every 24 hours – Levels 1 and 2
  - "Pass" or "Fail" – if Fail, then repeat that level and enter appropriate comment
  - Solutions stable for 3 months, after opening mark vials:
    - Open date
    - Expiration date
    - Your initials

Point of Care Blood Glucose Testing

- **Scan your glucometer badge:**
  - Operator ID is your Penn ID number
- **Scan patient's ID band (if doing patient test)**
  - CSN # is located below patient's name on wristband
  - Only scan the patient's wristband- never scan a label that is not attached to the patient

Point of Care Blood Glucose Testing

- **Choose lateral side of finger for site**
- **Clean with alcohol and let air dry**
- **Wipe away 1st drop of blood – with GAUZE (not alcohol prep)**
  - 1st drop contains interstitial fluid
  - 1st drop may contain alcohol (from cleaning)
  - Helps more blood to flow
- **Apply sample to strip (top loading like a straw)**

- **Return meter to base unit when testing complete**
  - Recharges battery & automatically uploads the result to Epic

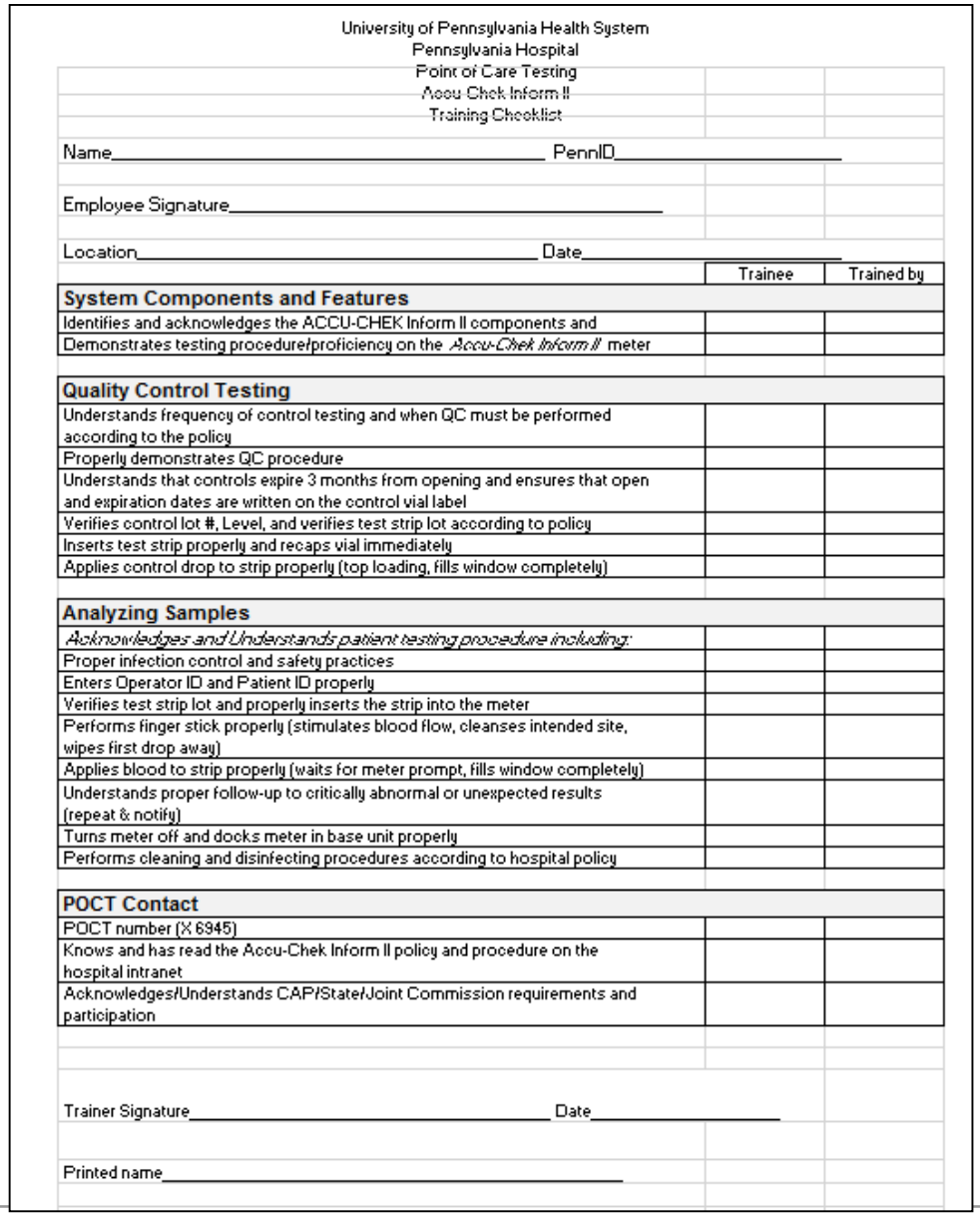
Point of Care Blood Glucose Testing

- **Clean / Disinfect the meter**
  - Must be done after every patient test
  - Use **Bleach** wipes
    - Allow to dry for recommended contact time per manufacturer's labeling
    - Be careful – do NOT get solution inside of meter (stay away from openings on meter)

REMEMBER: You must repeat quality control test in 6 months then annually

Glucometer Access Paperwork

- Complete top portion of checklist
  - Name
  - Penn ID
  - Employee signature
  - Location (home unit)
  - Date
- Place your initials in each box under TRAINEE
- Place your name on the top of the back page
- **Wait to answer quiz questions until content reviewed by CNES**



University of Pennsylvania Health System
Pennsylvania Hospital
Point of Care Testing
Accu Chek Inform II
Training Checklist

Name_____ PennID_____

Employee Signature_____

Location_____ Date_____

	Trainee	Trained by
System Components and Features		
Identifies and acknowledges the ACCU-CHEK Inform II components and		
Demonstrates testing procedure/proficiency on the *Accu-Chek Inform II* meter		
Quality Control Testing		
Understands frequency of control testing and when QC must be performed according to the policy		
Properly demonstrates QC procedure		
Understands that controls expire 3 months from opening and ensures that open and expiration dates are written on the control vial label		
Verifies control lot #, Level, and verifies test strip lot according to policy		
Inserts test strip properly and recaps vial immediately		
Applies control drop to strip properly (top loading, fills window completely)		
Analyzing Samples		
Acknowledges and Understands patient testing procedure including:		
Proper infection control and safety practices		
Enters Operator ID and Patient ID properly		
Verifies test strip lot and properly inserts the strip into the meter		
Performs finger stick properly (stimulates blood flow, cleanses intended site, wipes first drop away)		
Applies blood to strip properly (waits for meter prompt, fills window completely)		
Understands proper follow-up to critically abnormal or unexpected results (repeat & notify)		
Turns meter off and docks meter in base unit properly		
Performs cleaning and disinfecting procedures according to hospital policy		
POCT Contact		
POCT number (X 6945)		
Knows and has read the Accu-Chek Inform II policy and procedure on the hospital intranet		
Acknowledges/Understands CAP/State/Joint Commission requirements and participation		

Trainer Signature_____ Date_____

Printed name_____

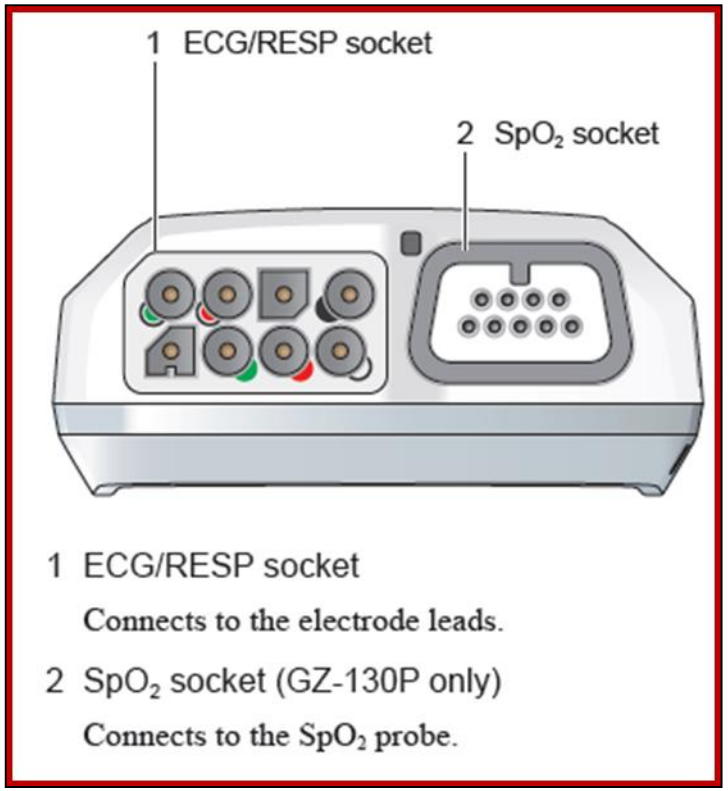
Telemetry Pack Front Panel

- ECG waveforms can be viewed from the front panel of the transmitter.
- On the side of the transmitter there is a display switch that should remain in the “off” position.
- If the switch is set to the “on” position, alarm and sync sounds are generated from the transmitter.
- Leaving the touch screen turned on significantly decreases the battery life.

RFID tag issued with telemetry box.

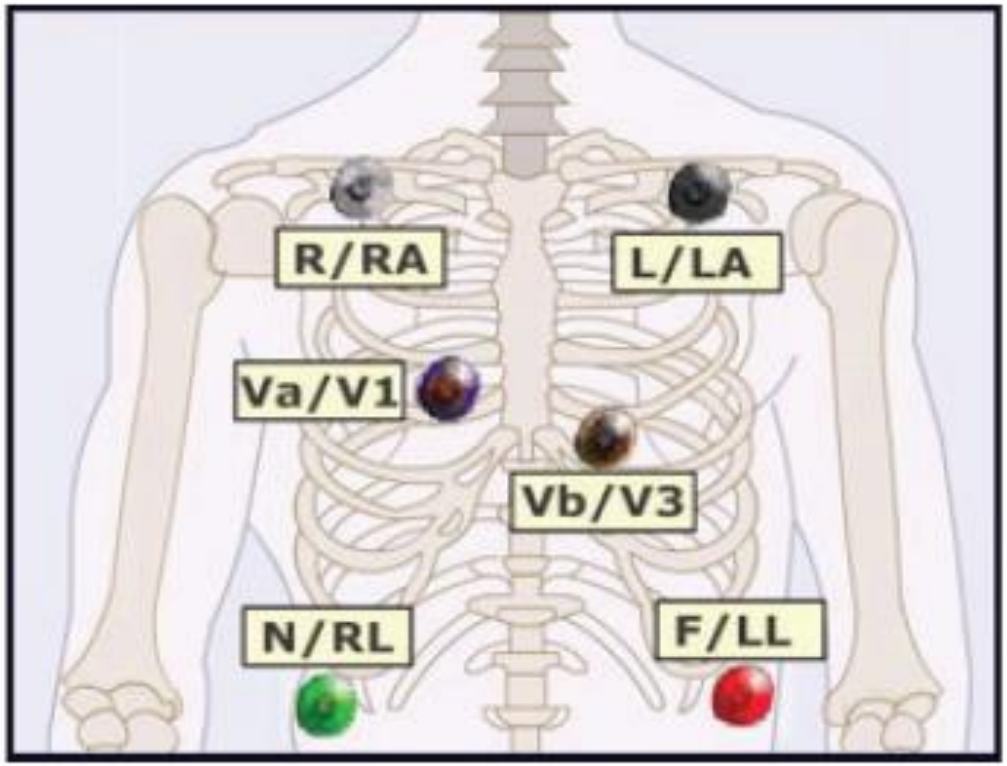
Telemetry w/ Continuous Pulse Oximetry Monitoring

- ECG wires connect to top panel of transmitter
- Certain transmitters are SpO2 capable



Entire probe and cable are disposable. When discontinuing telemetry from a patient, remove this cable and throw away in patient's room prior to returning box to telemetry.

Telemetry Electrode Placement

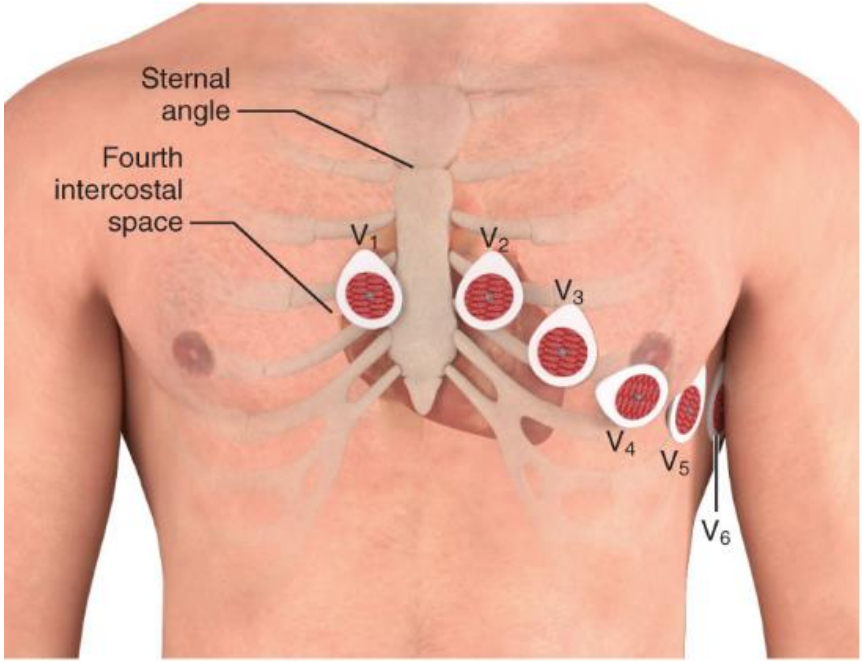


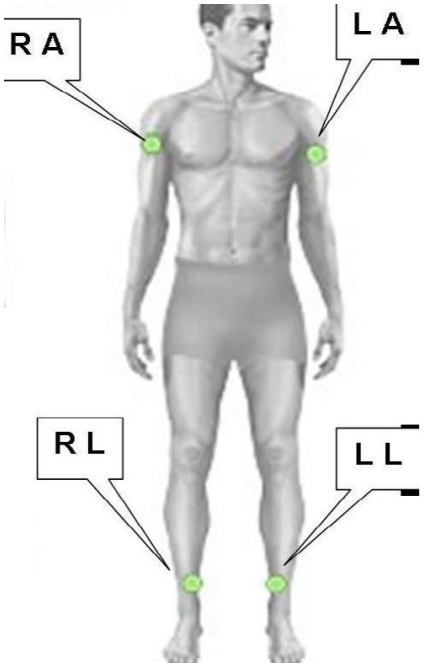
New six lead configuration for more sensitive arrhythmia and ischemia monitoring

- RA—Right Arm
- LA—Left Arm
- RL—Right leg
- LL—Left leg
- V1—4-5th intercostal space, right sternal border—Blue striped wire
- V3—5th intercostal space, left sternal border—Orange striped wire

- Proper skin preparation is important for accurate monitoring
- Batteries and electrodes are to be replaced every 24 hours

12 Lead EKG





V1-R	4th intercostal space, just to the **left** of the sternum.
V2-R	4th intercostal space, just to the **right** of the sternum
V3-R	Midway between V2 and V4
V4-R	**Right** Mid clavicular line, 5th intercostal space
V5-R	**Right** Anterior axillary line, between V4 & V6
V6-R	**Right** Mid axillary line, horizontal with V4

Obtaining an EKG

1. **Turn on EKG machine. Do not try to scan until wireless signal indicator is lit.**

2. ***Scan the patient's wristband label only!***

3. **The patient data screen will appear with all the information pre-populated. If it does not, type in the patient's information. Do not complete an EKG without patient identification information entered.**

4. **Verify the information on the screen matches the patient's wristband.**

5. **Any poor quality EKGs need to be deleted before transmitting.**

6. **After the EKG is obtained & printed, immediately transmit the EKG.**

What is Bar Code Medication Administration (BCMA)?

- **A process that uses the patient's clinical information and Pharmacy's dispensing information to validate the 'Five Rights' of medication administration for a patient at the point of care**
- **Designed to:**
  - prevent medication errors
  - improve the quality and safety of medication administration
  - generate online records of medication administration

BCMA and Patient Safety

- **BCMA is an *extra step* in the medication process that will check the medication you are administering to the most current order**
- **It ensures real-time documentation and timely communication to the care team**
- **BCMA *<u>does not</u>* replace the need to do your usual safety checks**
  - *Independent Double Checks*
  - *Med compatibility*
  - *Verbal patient identification (when able)*

Scanner

- **Equipment basics**

Optimal Distance is 4 inches

Press either top ***or*** bottom button to scan.

Charging Bases – docking station

BCMA Scanning

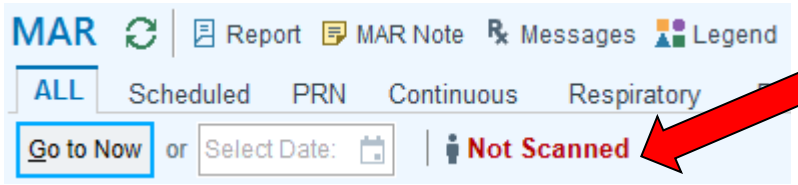
1. Pair the scanner to the computer by scanning the MODEM

   - This can be done at anytime/on any screen BEFORE scanning medications
   - The scanner will vibrate, beep, and "Good Read Indicator" will flash green to indicate a 'good read' has occurred

2. In the MAR Scan the patient's bracelet

BCMA Scanning

3. If you scanned the patient's bracelet while in the MAR it will say SCANNED



Patient's bracelet not scanned

- If you scanned medications without scanning the Pt's bracelet you will receive Administration Warning

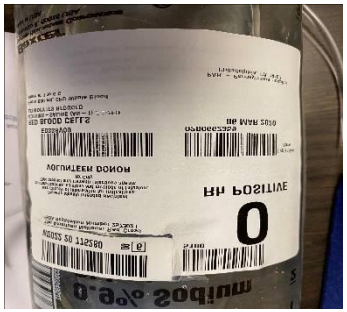
BCMA Scanning

4. Scan each medication package
    - You can scan as many meds as you want at a time, they will populate in a ‘queue’ list, for your review before med administration

5. Review administration details
    - Acknowledge any alerts, document site, rate/dose
    - Click <Accept> once you have completed your scanning

Manufacturer's Barcode vs Pharmacy Barcode

- **Pharmacy/Patient-specific barcode**
  - Patient specific labels are preferred for BCMA

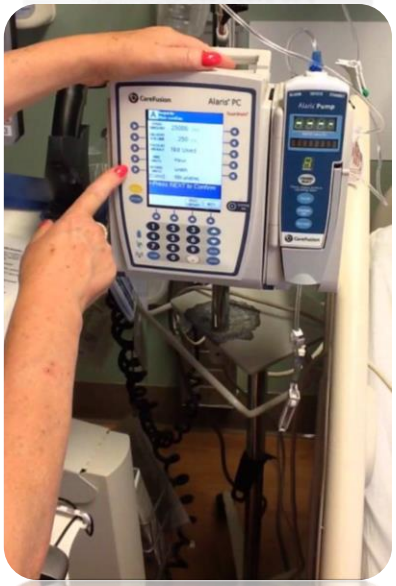


- **Manufacturer labels**
  - Occasionally only the pre-printed label is present and appropriate for your to scan. This is especially the case for items without additives (e.g. standard normal saline bag without any added medicine) you will scan the manufacturers label

High Level Overview of BCMA

1. Review and acknowledge orders
2. Scan the 'pairing' bar code/modem near the keyboard
3. Scan patient wristband
4. Scan medications – remember to scan each package if multiple tabs
5. Acknowledge any alerts, document site, rate/dose
6. If giving IV medication, ensure LDA linked to administration order.
7. Review Administration Details and click "Accept."
8. Administer Medications

General Considerations



- **Bring the medication's barcode to the bedside with you (do not throw it away!)**
  - Example: Hydromorphone from the Omnicell drawn up into a syringe.
- **Scan the package before opening**
  - Opening the package may damage the barcode
- **BCMA does not replace the need to do general safety checks or an <u>independent double check</u>!**
- **Near miss discoveries**
  - Safety Net!

Penn Medicine Safety Net

BCMA Workarounds

- **Each workaround done *counteracts* a safety component of BCMA**
- **Errors that occur when someone consciously ignores a required safety step are considered "Reckless Behavior" (AHRQ, 2012)**
  - Zero tolerance for reckless behavior
- **Take the time now to commit to avoiding these workarounds**

Agency for Healthcare Research and Quality (2012) Safety Culture. http://psnet.ahrq.gov/primer.aspx?primerID=5

The ONLY acceptable overrides

- **When do you NOT use BCMA?**

  - If the HCP administers medications;
    Select "**Given by Other**"

  - During an emergency/RRT/Code;
    Select "**Emergency/Code/Rapid Response**"

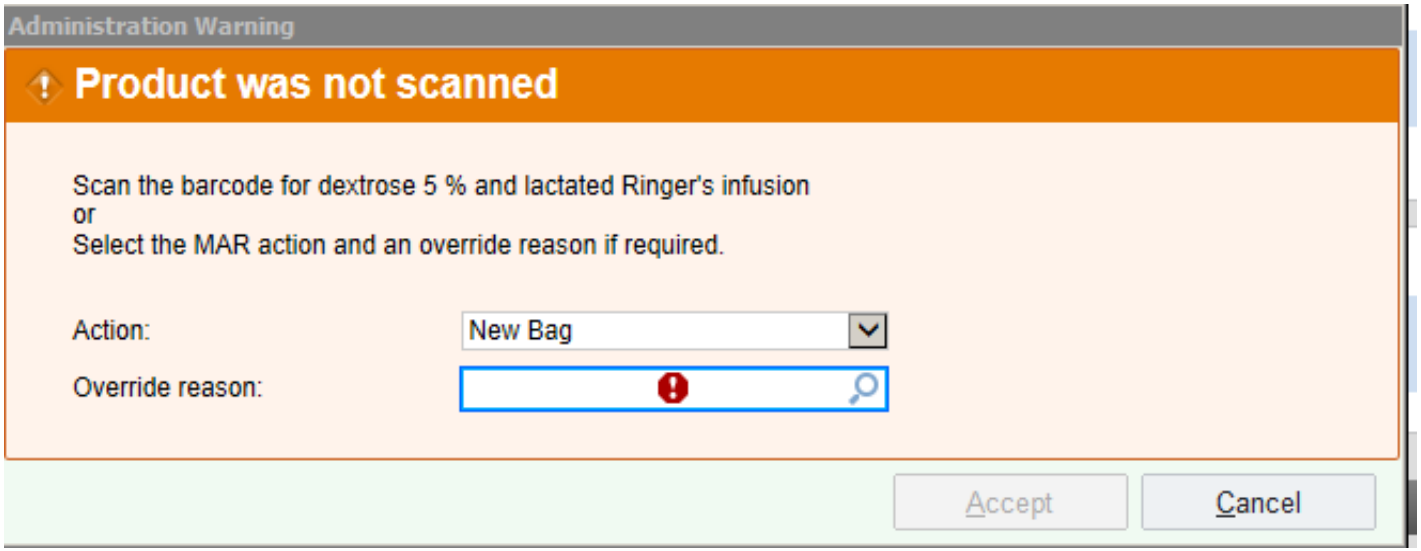
  - During short periods of downtime;
    Select **"System Downtime**"

No Scan

- **When do you use it?**
  1. If there is no barcode on the medication OR if the medication's barcode does not scan successfully
  2. The patient needs the medication before it is feasible for pharmacy to prepare another barcode

The medication order MUST still be active!

- **Steps**
  1. Select the medication from the MAR.
  2. Acknowledge Scan Override Warning and enter override reason.



Troubleshooting

- **The patient's wristband won't scan**
  - Place a new wristband on the patient per policy

- **The medication's bar code is not recognized**
  - Verify the patient's identity, that you have the correct medication and that the medication is scheduled to be given at this time
  - Expand the time frame for administration
  - Contact the pharmacy
  - Consider using the 'No Scan' process if medically necessary (next slide)
  - ***Note: If the medication is no longer active or the wrong medication has been scanned then the medication cannot be given.***

- **Scanner not working correctly**
  - Call Help Desk/Place Help Desk ticket
  - Alert CNES or Nurse Manager
  - Use scanner from another room (remember to pair w/ computer)

- **The medication has NO barcode**
  - Contact the pharmacy (Examples: non-formulary drugs, patient's personal medications)

Skills Session 1

Skills Session 1			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
A	B	C	D
Skills Session 2			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
D	A	B	C
Skills Session 3			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
B	C	D	A
Skills Session 4			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
C	D	A	B

Head to Toe Assessment

Perform for each system

- **Neurologic- LOC, orientation, eyes, behavior**
- **Cardiovascular- heart sounds, pulses, capillary refill, edema, SOB, CP, devices**
- **Respiratory- breath sounds, respiratory effort**
- **Gastrointestinal- inspect abdomen, auscultate, palpate, bowel movements, nausea, vomiting, diarrhea**
- **Genitorurinary- output, appliances**
- **Skin- wounds, rashes, incisions, turgor, IV and drain sites**

Reassessments

- **Based on patient needs, response to care, and care setting (unit protocol)**
- **Every shift, every change in caregiver, when there are significant changes in condition or diagnosis and upon change in level of care (Policy GN3)**

Document in PennChart

Documenting Care Plans

- Within 24 hours of admission
- Care Plan must be **individualized**
  - Each goal must include targeted end date
- **Assess** patient's progress towards goals and write shift summary note
  - Adjust intervention according to patient's progression
- At time of **discharge**:
  - Identify each goal as either COMPLETED or ADEQUATE FOR DISCHARGE

SBAR- Giving Report

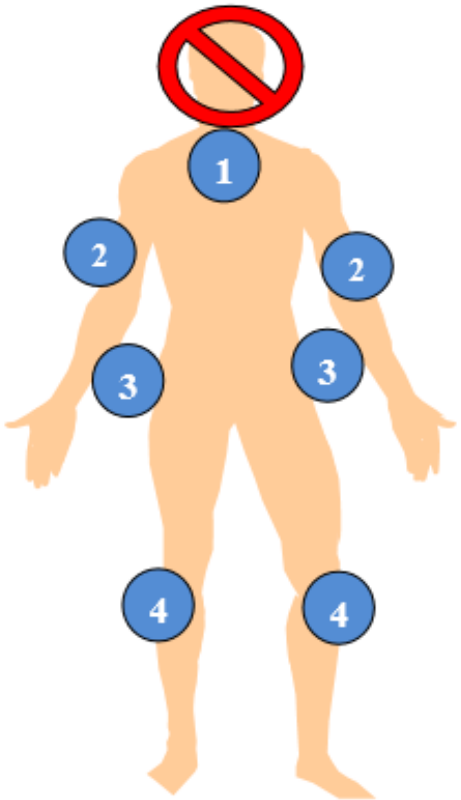
- Report Sheet (may include other information depending on unit)
  - Name and DOB
  - Allergies
  - PMH/PSH and reason for admission
  - What is the patient's service line or who is the care team
  - Isolation status
  - Head to toe assessment- reporting abnormalities

- Communication using SBAR
  - Situation: Identify yourself and the patient. Identify reason for communication, describe your concern concisely
  - Background: What is the relevant clinical background?
  - Assessment: What is the problem? Why are you concerned?
  - Recommendation: What do I recommend/request to be done?

Chlorhexidine (CHG) Bathing

- **Daily for patients with a central line**
  - If an order exists, but the central line has been removed, contact the provider
- **Pre-operatively before certain surgical or invasive procedures**
  - See Policy GN-28
- **Two types of CHG wipes:**
  - **Bactoshield**: this is a solution that is squeezed directly onto a damp wash cloth. Use the smallest amount of CHG needed to cover all of the patient's skin. After cleansing the skin with CHG is completed, rinse again thoroughly.
  - **Sage Cloth:** this is a package of CHG impregnated washcloths. They may be warmed in the warmer prior to use, but this is not required (do not microwave). After cleansing the skin with CHG, allow the area to air dry completely. Do not rinse.
- **Refer to specific unit practices and Policy GN-2**

CHG locations



FRONT

1 NECK CHEST AND ABDOMEN

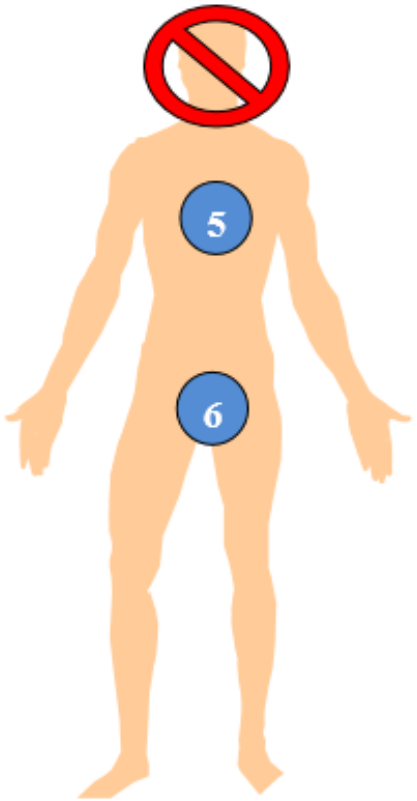
2 BOTH ARMS – SHOULDER TO FINGERTIPS

3 RIGHT & LEFT HIP / THEN GROIN

4 BOTH LEGS – THIGH TO TOES

5 BACK – NECK TO WAIST LINE

6 BUTTOCKS



BACK

CHG solutions should only be applied from the chin down. Avoid the

- face, eyes, ears, mouth
- genital area
- open wounds
- any mucous membranes

Oral Hygiene

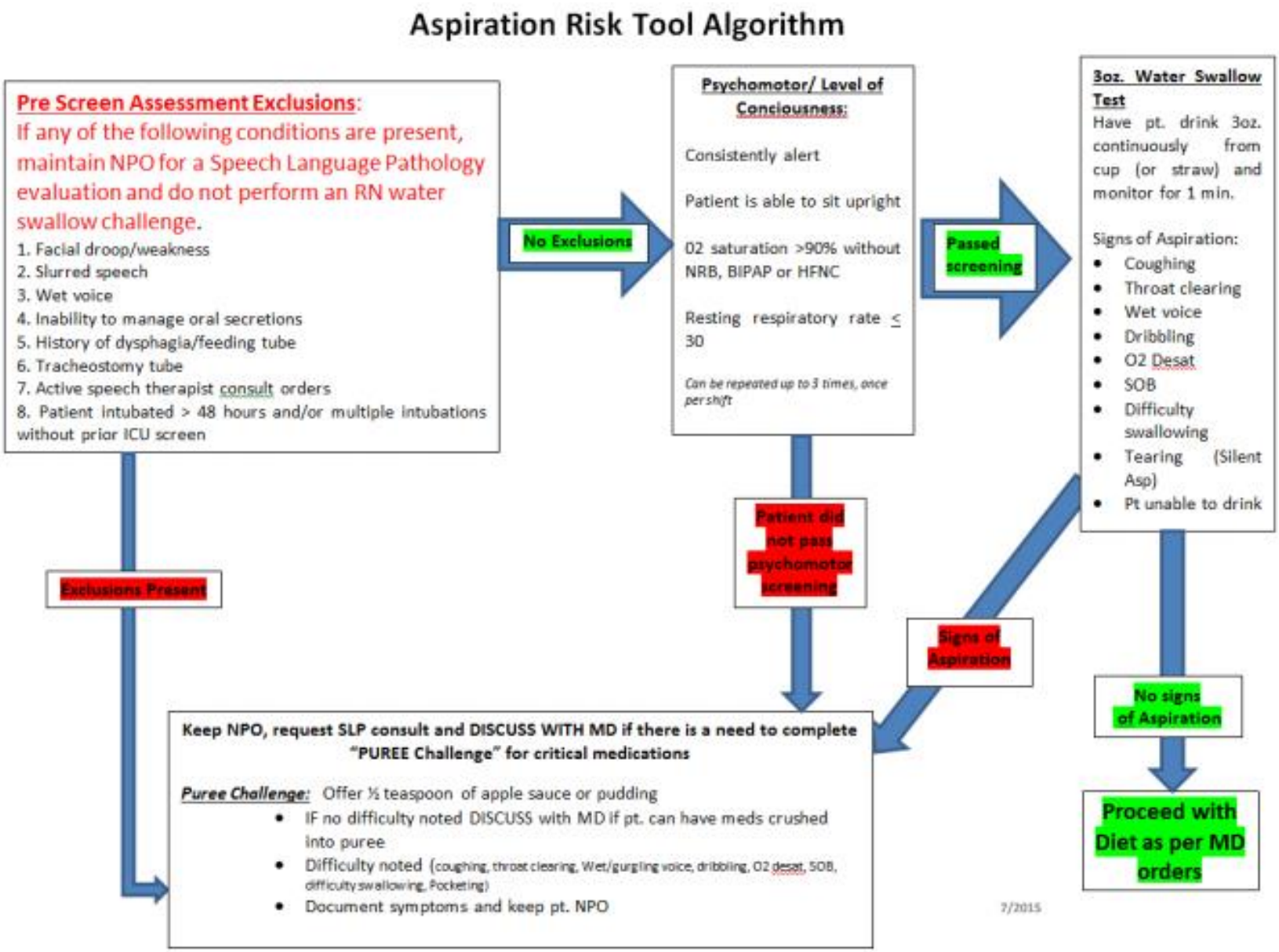
- **Patients, already sick, are at a higher risk of pneumonia from aspiration of mouth germs**
  - Regular oral care decreases this risk
- **Frequency:**
  - After each meal and before bedtime
  - If patient NPO, then in morning, mid-day, evening and bedtime
- **Independent set up patient to brush teeth/patient performs on own**
- **Dependent unable to perform own self-care**
  - Moisten suction toothbrush in alcohol-free mouthwash
  - Brush teeth for > 1 minute
  - Suction debris from oral cavity
  - Apply moisturizer to interior oral cavity and lips using swabs
- **Don’t forget about dentures**

Feeding

- **Before meal time have assistive devices ready:**
  - Glasses
  - Dentures
  - Hearing aides
- **Patients should be (if possible):**
  - Out of bed in a chair, sitting upright at 90 degrees
- **If patient has difficulty swallowing**
  - **Follow posted “Swallowing Guidelines” on green sign at head of bed**
  - **If ordered Thickeners:**
    - Nectar thick- soup like
    - Honey thick- honey like

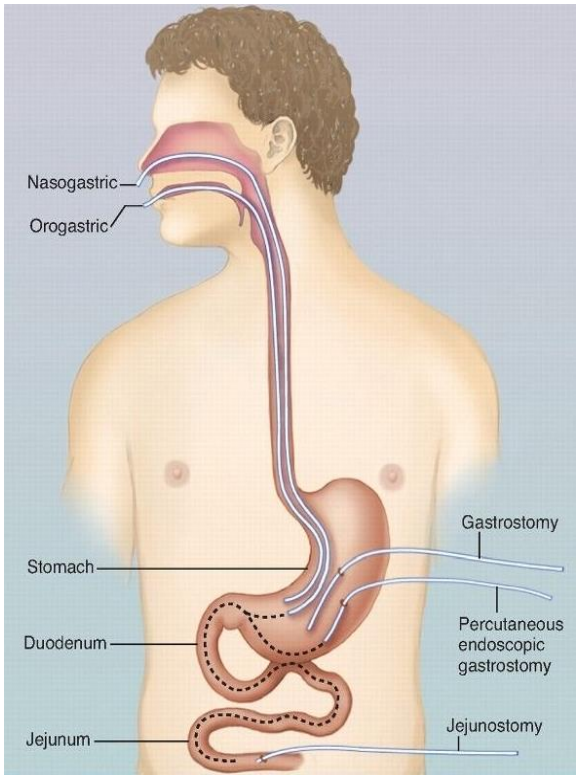
- **STOP FEEDING if any sign of aspiration** – wet sounding voice, coughing, choking, throat clearing, or if patient begins holding food in mouth

Aspiration Risk Tool (ART screen)

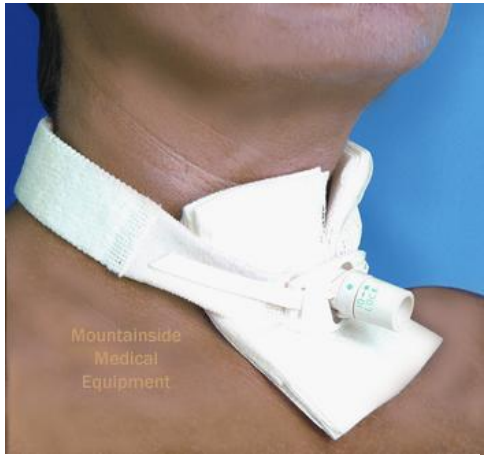


Enteral Nutrition

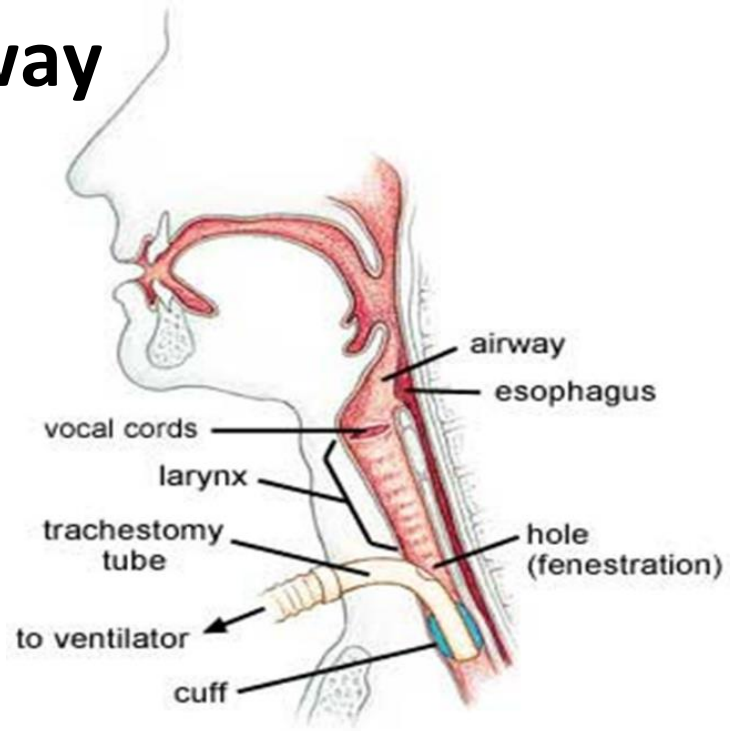
- Verify order for formula type and route and rate of delivery; verify patient name, MRN
- Keep head of bed 30 degrees or greater, unless contradicted
- Deliver via pump as intermittent or continuous feeding
- Glycemic Control – check blood glucose every 6 hours
- Enteral Nutrition – monitoring and checking residuals



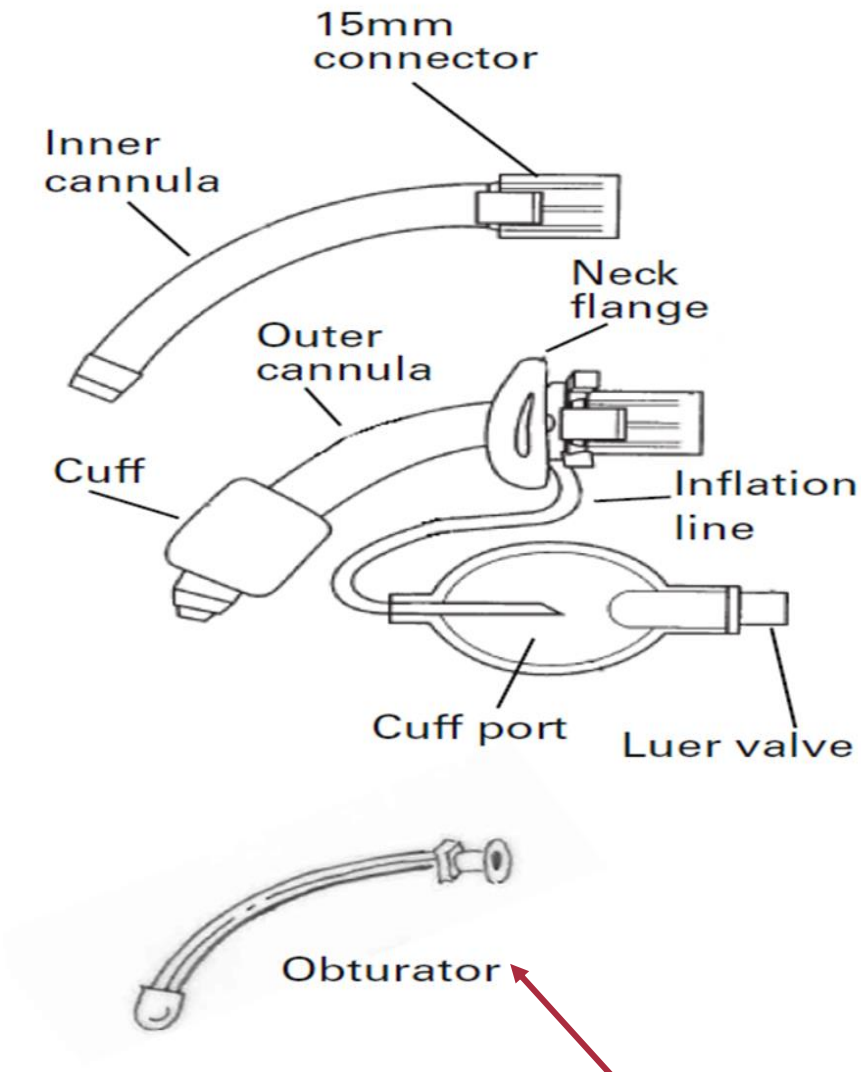
Tracheostomy



- Surgical opening in the anterior wall of the trachea
- Provides an alternative airway
- Temporary or permanent



Tracheostomy Parts



Obturator must remain at bedside at all times

Considerations for Trach Suctioning

- **Any signs and symptoms of respiratory distress**
- **Grunting, noisy breathing**
- **Difficulty breathing**
  - Changed rate of breathing
  - Flaring nostrils
  - Cyanotic
- **Restlessness**
  - Anxious, frightened look
  - Patient's request
- **Sweating or clammy skin**
- **Large amounts of secretions**

How to Suction

- **Oxygenate patient prior to suctioning ~30 seconds**
- **Ensure suction 100-120mmHg**
  - Higher pressures can cause catheter to collapse or adhere to trachea and cause damage
- **Maintain sterile technique**
- **Insert cannula until resistance is felt**
- **No suction going IN to the trach**
- **Suction coming OUT of the trach**
  - Should be no more than10-15 seconds
  - Avoid vigorous suctioning

Suctioning Hints

- Can use Yankauer around a stoma
- Can use Yankauer in the mouth
- CANNOT use Yankauer inside the cannula

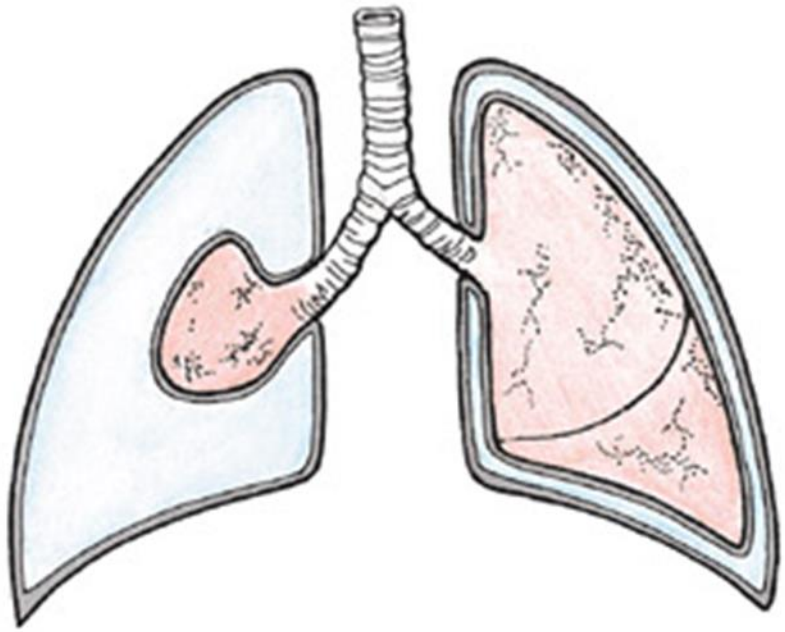
Trach Suctioning Video

- https://www.youtube.com/watch?v=R6hMV4kYd48

Conditions Requiring Chest Drainage

Air between the pleurae is a pneumothorax

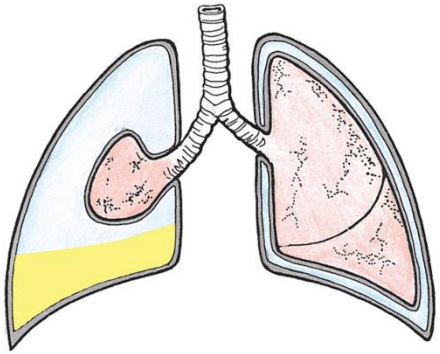
- **Occurs when there is an opening on the surface of the lung or in the airways, in the chest wall — or both**
- **The opening allows air to enter the pleural space between the pleurae, creating an actual space**



Conditions Requiring Chest Drainage

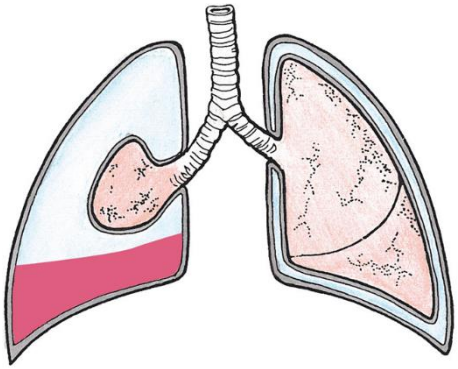
Pleural Effusion

- Transudate
- Exudate
- Empyema



Hemothorax

Blood in the pleural space



PLEUR-EVAC CHEST DRAINAGE SYSTEM

Disposable chest drainage unit that has a collection, water seal, and suction control chamber within one single drainage system.

Chest Tube Management

- **Make sure connections are tight and taped**
  - Never tape to linens or gowns
- **Keep drainage system below chest level at all times**
- **Monitor for signs/symptoms of respiratory distress**
- **Encourage the patient to cough and deep breathe**
- **Monitor for subcutaneous emphysema**
- **No dependent loops or clamping**
- **Do not milk or strip tubing as this can increase negative pressure and damage lung tissue**

Transporting a Patient With a Chest Tube

- Keep the drainage system lower than the patients chest
- Remove suction tubing from pleura-vac
- DO NOT cap or clamp tubing
- An RN or provider must accompany the patient to his/her destination and stay with the patient unless an RN is present in the patient area
- Hemostats, occlusive dressing and 4x4 gauze must be with patients at all times.

Wound Care

- **Wound/Ostomy Consult Guidelines (WHEN)**
  - All pressure injuries and all situations that require support or a consult
- **Wound/Ostomy Consult Submission (HOW)**
  - EPIC nursing order:
    - "IP CONSULT TO WOUND CARE" or "WOUND/OSTOMY CONSULT"
  - Telephone, Cureatr, Curbside
- **Nursing Documentation**
  - Department of Health
    - Present on Admission (POA), Hospital-Acquired Pressure Injury (HAPI)
      - ALL RNs must stage PI (use staging resource in Skin Toolbox)
      - Worsening in condition (e.g., stage 2 worsens to stage 4)
  - LDA- Use an existing LDA whenever available
  - Wound Measuring- On admission, discovery, discharge, Mondays
  - Photos- use Haiku on hospital-issued iPhones
  - If patient refuses repositioning
- **Resources**
  - Skin Toolbox- http://uphsxnet.uphs.upenn.edu/pahhome/ptcare/skin_care_toolbox/index.htm
  - Support Surfaces- Algorithm, Waffle bed, Waffle chair, Regular repositioning required
  - We have *Skin Champions* and *Wound Treatment Associates* on many units

Reminder: We are diaper-free!

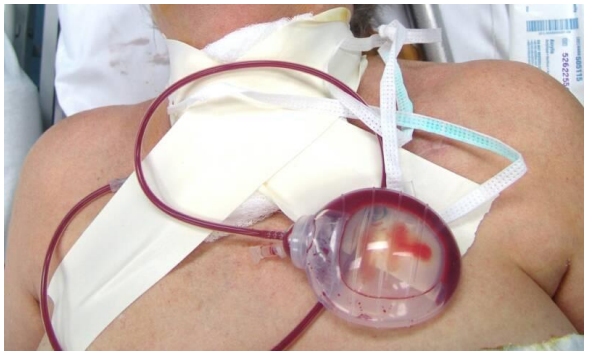
Ostomy Care

- **Primary RN will change the ostomy device as needed**

- **Emptying an ostomy:**
  - It's best to empty the ostomy pouch when it's about 1/3 to ½ full. If it gets too full, the pouch's weight may cause it to pull away from the skin, resulting in leaks, skin irritation and odor.
  - Empty into a measuring device and be sure to record output in flowsheet
    1. Hold up the bottom of the ostomy pouch and open the closure. Direct the pouch opening into the measuring device and empty the pouch. If the stool is thick you may need to squeeze the outside of the pouch.
    2. Wipe the inside bottom of the pouch with toilet paper, then securely close the pouch.
    3. Clean up any spills or splashes and throw away trash.

Care of Surgical Drains

- The most common surgical drains are JP drains and Hemovac drains



- Start with donning appropriate PPE
- To assess drain site, remove old dressings
- Empty the drain, assess quality of drainage, record output in I & O flowsheet in EMR
- https://point-of-care.elsevierperformancemanager.com/skills/414/videos

Skills Session 2

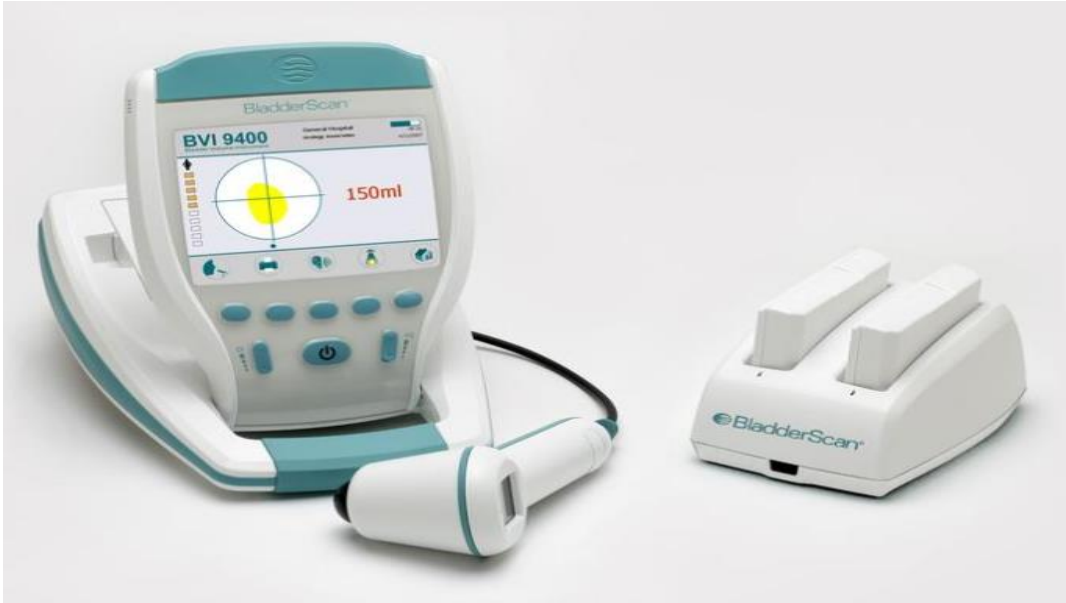
Skills Session 1			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
A	B	C	D
Skills Session 2			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
D	A	B	C
Skills Session 3			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
B	C	D	A
Skills Session 4			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
C	D	A	B

Bladder Scanning

- **Indications:**
  - Acute Dysfunction – e.g. postoperative urinary retention
  - Chronic Dysfunction – e.g. urinary obstruction related to stricture, mass, BPH, hematuria

- **Identify the patient, perform hand hygiene and explain the procedure to the patient/family**

- **Instructional Video**



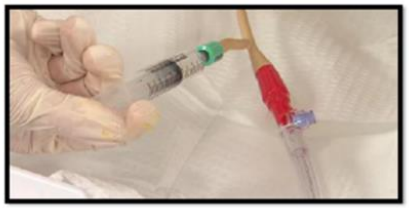
IUC Insertion and Management

- A physician order needed for nurse driven protocol
- Allergies: **iodine** (used other soap), **latex** (use latex free)
- Perform peri-care with catheter kit wipes, remove gloves and perform hand hygiene
- Open sterile catheter kit and apply sterile gloves

- Follow numbered catheter tray instructions:
  1. Open iodine
  2. Pour over swabs
  3. Attach water syringe to catheter (<u>do not test balloon</u>)
  4. Squirt lubricant in tray, remove catheter from blue wrap and lubricate catheter
- Clean anatomy: use all three swabs, each swab stick for one swipe only
  - Female: far labia, near labia, down the middle (front to back)
  - Male: circular motion from center of penis outward

IUC Management & Maintenance

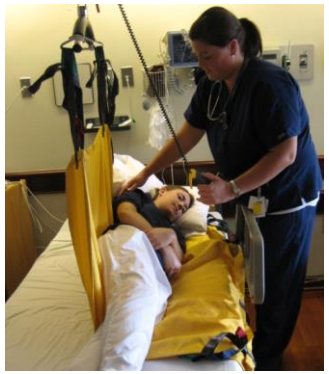
- Inadvertently catheterized vagina: leave catheter in to identify the landmark
- **Insertion**
  - Female: 1.5 inches- until you see urine, advance 2” more
  - Male: 7-10 inches- until you see urine, advance 2” more
- **Inflate balloon:** 10 mL (cc) of sterile water & pull back until tug
- **Specimen port:** purple, clean prior to withdrawing



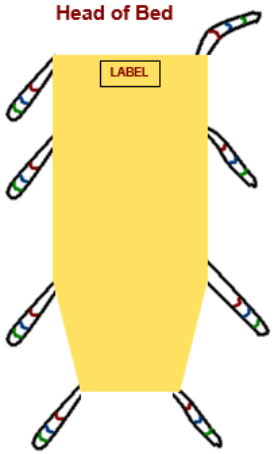
- **Secure catheter:** STATLOCK® device
  - Apply to medial thigh, not inside lateral thigh, to prevent skin breakdown
- **Position bag below bladder (never on bed or stretcher)**
  - Position hanger at the foot of the bed
  - Exercise care to keep bag off the floor
  - Use green sheeting clip to secure drainage tube to the sheet
- **Peri-Care** every shift
- **Catheter Removal**
  - Withdraw 10 mL, empty syringe and withdraw again

Safe Patient Handling: Ceiling Lifts

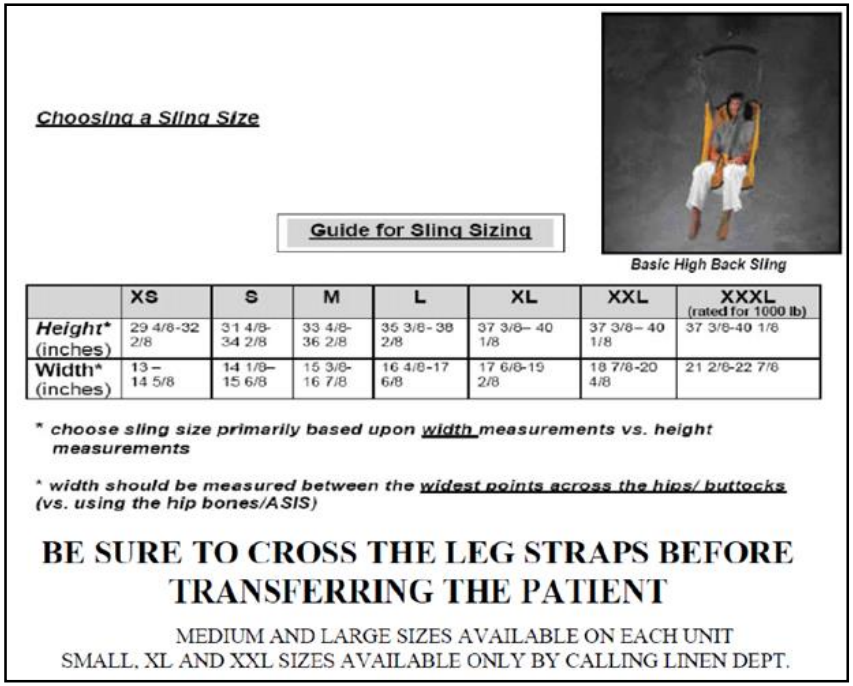
- Recommended 35 weight limit, then need an assistive device
- Ceiling mounted lifts are very useful in moving patients safely
  - Check lift weight limit 700-1000 pounds
- Slings can be used for repositioning, for getting the patient to and from bed and there are even limb lifter slings
  - Choose sling according to chart
  - When soiled, put sling in soiled linen
  - Take damaged slings out of use



Ceiling Lifts



Sling



Choosing a Sling Size

Basic High Back Sling

Guide for Sling Sizing

	XS	S	M	L	XL	XXL	XXXL (rated for 1000 lb)
*Height** (inches)	29 4/8-32 2/8	31 4/8-34 2/8	33 4/8-36 2/8	35 3/8-38 2/8	37 3/8-40 1/8	37 3/8-40 1/8	37 3/8-40 1/8
Width* (inches)	13 – 14 5/8	14 1/8–15 6/8	15 3/8-16 7/8	16 4/8-17 6/8	17 6/8-19 2/8	18 7/8-20 4/8	21 2/8-22 7/8

** choose sling size primarily based upon width measurements vs. height measurements*

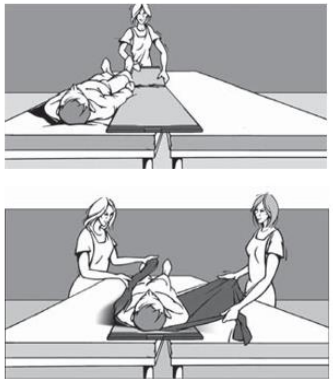
** width should be measured between the widest points across the hips/ buttocks (vs. using the hip bones/ASIS)*

BE SURE TO CROSS THE LEG STRAPS BEFORE TRANSFERRING THE PATIENT

MEDIUM AND LARGE SIZES AVAILABLE ON EACH UNIT
SMALL, XL AND XXL SIZES AVAILABLE ONLY BY CALLING LINEN DEPT.

Additional Assistive Devices

- For ALL lateral transfers if the patient cannot transfer independently



Rollboard

- Transfer a Patient from floor to bed after a fall

- Transfer a Patient from bed to chair

Portable Lifts

Hovermat

Hoverjack

- Alex Rella, PT, DPT
  UPHS Employee Injury Specialist
  Office 215-615-5106
  Cell 267- 238- 7098
- Resources on PAH Safe Patient Handling intranet page

Seated Transfer Sling

Sitting Transfer - Placing Sling on a Patient in a Chair – Basic High Sling - Guldmann™

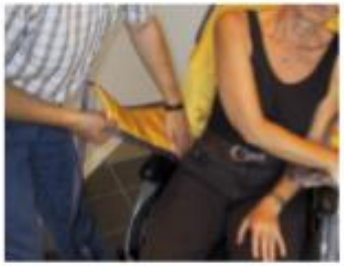
Let the sling rest on the patient's shoulders, . Line up the green stripes w the pt's scapulae Next, stand to the side of the chair.

Have the pt lean forward, or assist. Then w your hand the bottom sling pocket, slide down pt's back maintain alignment.

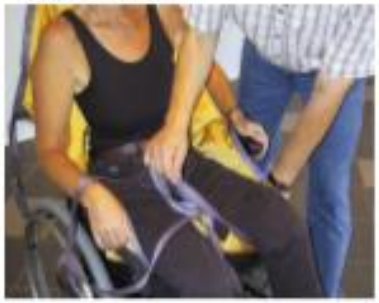
Place the leg straps at right angles under the patient's thigh. Remember to keep your back straight and bend your knees Remember to keep your back straight and bend your knees.

Pull the leg strap into position.
Do not lift the patient's leg too high or they may slide forward in their seat. Ask them to lift their leg if possible

Press the sling down to the top of the seat cushion. Be sure your fingers have met the seat surface.



Ask or have pt lean away and tuck sling down around hip and bring thigh support forward to knee



If the patient's legs are too heavy to lift, slide the straps under the patient's legs by compressing the seat cushion instead of lifting the patient's legs. As you slid the strap under the patient's leg, use your other hand to help pull it through. If space is limited, remove arm rests of chair if able.

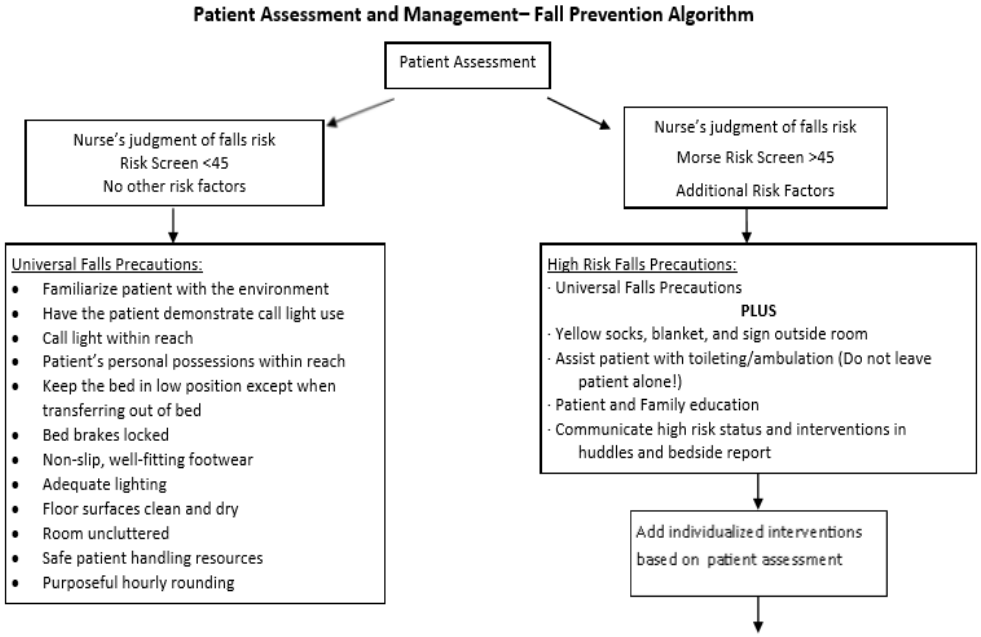
Make sure that the top straps and leg straps are of equal length to ensure that lifting occurs simultaneously on all four straps.
If the straps are equal, you are ready to attach them to the hanger bar.

Repeat on pt's other side. Take care to place your hand between sling and pt's skin.

Check that the leg straps are symmetrical before placing them under pt's leg

Fall Prevention

- **Fall Risk Assessment – MORSE; perform on admission and every shift**
- **Staying Within Arm's Reach**
- **Purposeful Hourly Rounding**
- **Yellow supplies**
- **Hi Lo Bed – if indicated, order from Craig Therapeutics and place patient on bed promptly after arrival**



Individualized Interventions	
If patient has…	**Interventions**
History of falling	Document and communicate circumstances
Secondary diagnosis	Consider factors that increase risk (e.g. dizziness, frequent urination, visual impairments)
Ambulatory aid	PT/OT Consult Ambulatory aid at bedside if appropriate Assist with out of bed
IV Therapy/ Heparin Lock	Implement toileting schedule Instruct patient to call for help when toileting Review side effects of IV medications
Gait (includes gait instability from medications/anesthesia)	Assist patient out of bed PT/OT consult
Mental Status (includes overestimating ability)	Bed alarm/ Chair alarm Ensure patient visibility Encourage family presence More frequent rounding High/Low bed

Fall Prevention

Patient Assessment and Management After a Fall

Initial RN Assessment:

- Ask patient for an account of what happened
  IMPORTANT: ***If any of the following conditions apply***, *treat the patient as if they have a spinal cord injury until you can prove otherwise.*
  - *the patient was found on the floor and is unable to provide an account of the incident, and/or*
  - *the patient was found face-down, and/or*
  - *you note loss of consciousness or acute changes in mental status*

  If any of the above applies, do not move the patient. Call a Rapid Response (5050) *as spinal precautions are indicated –* ***Rapid Response Team will implement spinal precautions when indicated.***
- Check vital signs, including pain
- Perform neurologic assessment: level of consciousness, cognitive changes (can be subtle), orientation, sensation and movement of extremities. Be sure to assess for any changes from the patients baseline mental cognition.
  - If you are not the primary RN, please find a care provider who is familiar with the patient's baseline.
- Assess for leg rotation, hip pain, shortening of extremity, and pelvic, or spinal pain (including cervical spine)
- Assess skin: pallor, trauma, circulation, abrasion, bruising, and sensation
- Be aware of these warning signs: numbness or tingling in extremities, back/neck pain, rib pain, or externally rotated or shortened leg, altered mental state
- Consider RRT based on findings *(do not move patient if YES to any of the above questions – the RRT will transfer patient)*
- Assess medication use: is patient on anticoagulants? If YES, notify provider
- Perform ongoing assessments as indicated by patient condition/provider order
- Call Nurse Manager (day shift) or NAC (off shift) for post fall debrief

Have you answered YES to one or more of the questions above?

No

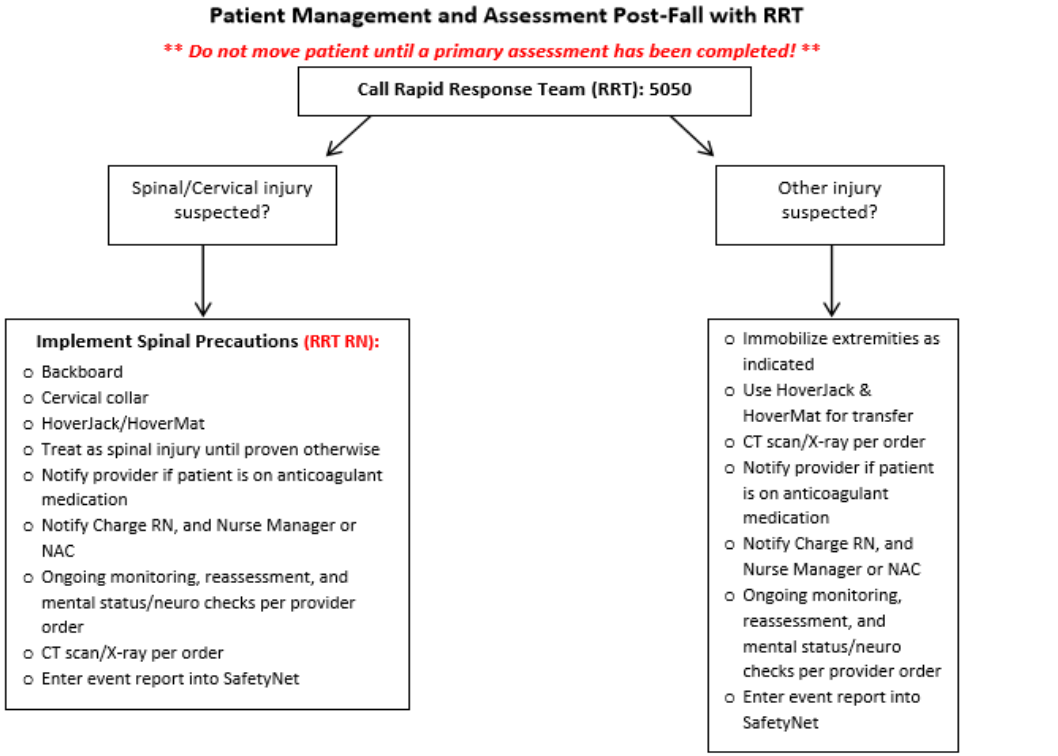
- If patient is unable to move self to bed, utilize assistive equipment to transfer patient from floor to bed. Assist with comfort on floor while obtaining the HoverJack and HoverMat.
- Contact covering provider for secondary assessment.
- Ongoing monitoring, reassessment, and change in level of care should be determined by patient condition in collaboration with the interdisciplinary team.
- Consider RRT for any acute change in baseline.
- Enter event report into SafetyNet.

Yes

Call Rapid Response Team (RRT): 5050

Follow Guideline C (next page) for Post Fall with RRT Assessment

Fall Prevention



RRT RN Assessment *(when indicated)*:

- Receive SBAR report from RN
  - **If the patient was found on the floor and you are unable to determine the cause of the fall, if the patient was found face-down, &/or if you note neurological deficits/loss of consciousness, treat the patient as if they have a spinal cord injury until you can prove otherwise (spinal precautions indicated: back board, cervical collar, ongoing assessments; ensure rapid assessment by provider)*
- Perform neurologic assessment
- Assess for injury: leg rotation, hip pain, shortening of extremity, and pelvic, spinal pain (including cervical spine), trauma, circulation, abrasion, bruising, and sensation
- Be aware of these warning signs: numbness or tingling in extremities, back/neck pain, rib pain, or externally rotated or shortened leg, altered mental state
- Assess medication use: is patient on anticoagulants?
- Spinal injury suspected? Implement spinal precautions and use assistive equipment to transfer patient to bed
- Other injury suspected? Immobilize extremity/injury and use assistive equipment to transfer patient to bed

Continuous Observation (non-suicidal)

- **Reasons for Continuous Observation (non-suicidal):**
  - Delirium / dementia
  - High fall risk

- **Requirements:**
  - Must keep eyes on patient at all times (including on bathroom)
  - Must patient going off unit must be accompanied by both a transporter and the observer
  - NO barrier between observer and the patient
  - NO electronic device use
    - Bluetooth device, cell phones, laptops, E-readers
  - NO eating in room
  - NO hoop earrings
  - NO sleeping

Continuous Observation (non-suicidal)

- Try alternative strategies:
  - Moving closer to the nursing station
  - Diversional activities
  - Low beds should be used
- Receive report and discuss plan of care with Patient Observer/Sitter
- Establish a way to summon help in an emergency
- Utilize appropriate personal protective equipment (PPE)
- Assist with vital signs, bathing, toileting, and comfort measures and any other patient needs that fall within their scope of service
- Reference: Inpatient Continuous Observation Policy and Forms

Continuous Observation (non-suicidal)

- Engage patient in activities that are calming and promote improved cognitive functioning. For acutely confused, agitated, and/or disoriented patients:
  - Decrease room stimulation (TV off, lower lights)
  - Reassure and reorient frequently
  - Use sensory aids as appropriate (eyeglasses, hearing aid)
  - Speak slowly and clearly, using calm voice
  - Provide explanations/short, simple direction
  - Ensure patient does not dislodge tubes, IV sites
  - Be alert for, and inform nurse of objects in the room that could potentially harm patient.

Continuous Observation (non-suicidal)

- Document appropriately in EMR
- Patient behavior should be reported to the RN on regular basis or immediately if warranted
- Ensure that fall and other precautions have been successfully implemented and all risks and interventions have been communicated between all caregivers.

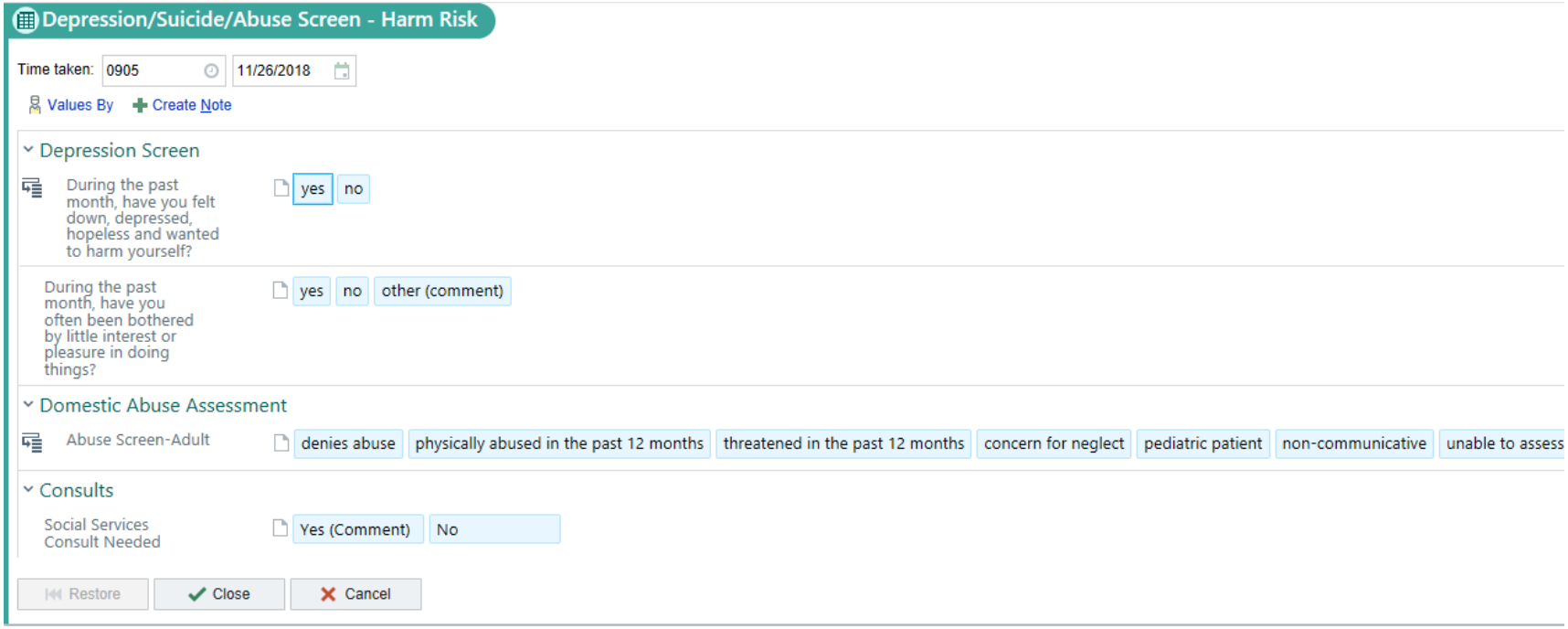
Suicide Precautions

- **Determined by clinical nurse, primary provider, or psych team**
- **Require a physician order**
- **Psych consult included**
- **Send home or secure patient belongings**
- **Place patient in grey ligature-free gown**
- **1:1 Continuous Observation required**
  - within arms reach at ALL times

- **Administrative Policy CA28**
- **Managing the Suicidal Patient**

- **Nursing Policy ES-3**
- **Inpatient Continuous Observation Policy & Forms**

Admission- Suicide Assessment



What is a ligature?

- *"A ligature risk is defined as anything which could be used to attach a cord, rope, or other material for the purpose of hanging or strangulation*." – CMS Manual System, Transmittal 176

- Examples:
  - Hand rails
  - Door knobs
  - Door hinges
  - Shower curtains
  - Exposed plumbing/pipes
  - Soap and paper towel dispensers on the wall
  - Power & phone cords
  - Call bell cords
  - Light fixtures or projections from the ceiling

- Remove any ligature risks that you are able to and be aware of those that cannot be removed

Environmental Safety Check

- **Environmental Checks**
  - Occur with EVERY change of caregiver
  - Knives, razors, scissors removed
  - Glassware removed (including mirrors)
  - Medication and toxic substances locked away
  - No matches or lighters
  - Ligature risks removed
  - No silverware (plastic tray & plastic ware for meals)
  - Patient observed for signs of injury/hidden objects
  - Lift device disabled and lift sling removed

Pennsylvania Hospital
Penn Medicine

For Reference: Environmental Risk Assessment Guide

When caring for patients at risk for suicide, their care environment will be assessed for risks and items will be removed if not required for the care of the patient. The items listed below are examples of objects that could be used for self-harm though not a comprehensive list.

Refer to the items listed below and sign this form upon initiation of one-to-one observation for suicide risk AND at each change of shift	
*Clinical Equipment	Cardiac monitor/cable/mount, pulse oximeter, blood pressure cuff, suction canister tubing, thermometer cord, IV tubing, EKG machine, ceiling-mounted lift and belts, blood tubes, regulator tips, breast pump/tubing, fetal monitor cord, ventilator cords, suction/oxygen/air regulators, computer mouse cord
*Personal Belongings	Belt, pants, shirt, undergarments, strings on clothing, cell phone and charging cord
*Environmental Objects	Carts (linen or IV), chair, trash can, stools, bedside table, overhead lights, telephone, cleaning solutions, linens (sheets, blankets, pillow cases, patient gowns), call bell (including in restroom)
*Nutrition-related Items	Metal utensils (replace with plastic), glass cups, ceramic plates (replace with paper/plastic/Styrofoam), aluminum cans
* = not an exhaustive list; risk is not limited to items listed in table	

*NOTE: Observers must remain within arm's reach of the patient at risk for suicide, including during toileting. Notify NAC if any obstacles are encountered.

Observers may not have any personal belongings in the patient's room, including backpacks, cell phones, chargers, etc.

Restraints: What are they?

- **Definition**
  - Any manual method, physical or mechanical device, material, or equipment that immobilizes or reduces the ability of the patient to move his or her arms, legs, body or head freely

- **Unnecessary restraint is false imprisonment**
  - 4 side rails is considered a restraint

Violent and Non-violent Restraints Policy

Non-violent and Violent Restraints

Requirements	Non-Violent, Non-Self-Destructive Behaviors	Violent or Self-Destructive Behaviors
Reason for Restraints	To control the disruption of acute medical or surgical therapy	To ensure the physical safety of patient, staff or others
Order	Written order prior to application if possible or as immediately (within a few minutes) after restraint applied	Written order prior to application if possible or as immediately (within a few minutes) after restraint applied
Examination	Within 24 hours & every 24 hours thereafter	Face to face evaluation within 1 hour & every 24 hours thereafter
Length of Order	Good for 1 calendar day Orders must be renewed on a daily basis	Each order is limited to: 4 hours >18 years old 2 hours age 9-17

Monitoring	**<u>Every 2 hours</u>** • Nutrition & Hydration • Circulation check • Sequential release of limbs & ROM • Toileting • RN evaluates for continued need or readiness for discontinuation **<u>Every 8 hours</u>** • Personal hygiene • Vital signs	**<u>Every 15 minutes</u>** • Observe for signs of injury associated with applying restraints • Observe physical/psychological comfort **<u>Every 2 hours</u>** • Nutrition & hydration • Circulation check • Sequential release of limbs & ROM • Toileting • RN evaluates for continued need or readiness for discontinuation • Vital signs • Nurse must assess the patient **<u>Every 8 hours</u>** • Personal hygiene
Documentation	Every 2 hours	Every 15 minutes
Important Guidelines	Remove jewelry/stethoscope, bed in low position, HOB at least 30 degrees, allow 2 fingers between limb/restraint, secure to bed frame not railing, Provide verbal/emotional support	
Discontinuation	**Complete Restraint Order in EMR when discontinued if patient can:** • Maintain control • Has decreased disorientation • No longer exhibits behavior	**Complete Restraint Order in EMR when discontinued if patient can:** • Communicate without aggression • Maintain control • No immediate danger to self/others

Mitts

- Typically used to restrain behavior that would interrupt medical/surgical care
- Any use of the mitt is a restraint, even if not secured

Locked Restraints for Violent Patients

- Kept in these units:
  - ED
  - Behavioral Health
- Brought to all other units by Security
- Need key to release lock
- Blue cuffs (wrists) and red cuffs (ankles)
  - Ankle cuffs may also be used on larger wrists

Skills Session 3

Skills Session 1			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
A	B	C	D
Skills Session 2			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
D	A	B	C
Skills Session 3			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
B	C	D	A
Skills Session 4			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
C	D	A	B

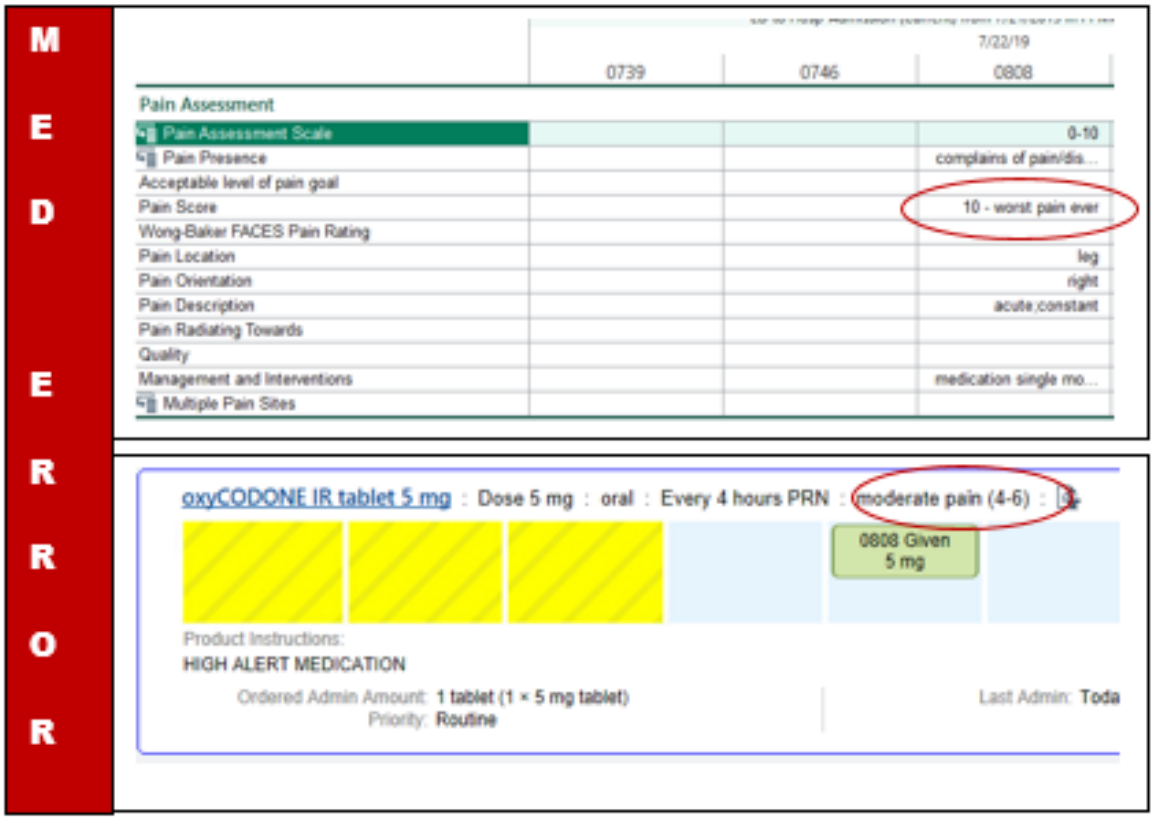
Pain Management: Non-pharmacological

Non-pharmacological pain control techniques include, but are not limited to:

- **Repositioning**
- **Ambulation**
- **Slow rhythmic breathing**
- **Therapeutic massage (i.e. back rub)**
- **Diversion techniques (i.e. music, TV, reading)**
- **Therapeutic communication**
- **Spiritual counseling**
- **Visitation from family/significant others**

Pain Management Orders: Scope of Practice

PRN Medication dose administered to patient MUST correspond with the pain-range in provider order



Medication was ordered for pain score of 4-6
Medication was given for pain score of 10
This is considered a medication error and Nurses working out of their Scope of Practice

- Contact provider if PRN order does not support patient reported level of pain
- Practice The 5 Rights of Medication Administration

Pain Assessment and Reassessment

The patient's pain level must be documented prior to administering PRN pain medication and reassessed after administration.

			7/22/19
	1432	1505	1532
Pain Assessment			
Pain Assessment Scale	0-10		0-10
Pain Presence	complains of pain/dis...		acceptable level of pai...
Acceptable level of pain goal	4		
Pain Score	8		4
Pain Location	leg		leg
Pain Orientation	right		right
Pain Description			
Pain Radiating Towards			
Quality			sore
Management and Interventions	medication single mo...		
Multiple Pain Sites			

Patient complained of 8/10 right leg pain
Patient reported an acceptable level of pain was a 4
Patient was given 5mg of PO oxycodone IR for severe pain (7-10)
Patient's pain level was reassessed within 2 hours
Patient reported an acceptable level of pain of 4 at the time of reassessment

- Patient reporting pain require an individualized care plan
- Complete a <u>comprehensive pain assessment</u> on patients who report pain on admission or have pre-existing pain prior to admission

High Alert Medications

- There are certain high alert medications that require an independent double check because they pose the greatest risk of injury if they are misused.
- Independent double-checks and thorough handoffs at the bedside using the EMR are valuable safety mechanisms to promote patient safety in the preparation and administration of high alert medications.
- The MAR indicates when a medication requires an independent double-check with this symbol: 
- Refer to MM-1 Administrative Policy for list of high alert medications
- Refer to PH-DL1 Formulary Intravenous Medications With Restricted Administration

Independent Double Checks

Independent double checks consist of two licensed practitioners independently verifying before drug is administered:

- **Patient**
- **Drug/solution**
- **Drug concentration**
- **Rate of infusion**
- **Line and pump attachment, channel selection**

Documentation of independent double check is completed in the electronic medication administration record.

Independent double checks should occur at the following times:

- **Initiation**
- **Dose or Rate change**
- **Syringe/Bag change**
- **Handoff/Transfer of care**

Your Role in Blood Product Transfusions

- **Prior to requesting blood product from blood bank:**
  1. **Verify provider order**
  2. **Verify consent for transfusion**
  3. **Confirm appropriate & patent IV access**
  4. **Obtain baseline vital signs**
- **If retrieving blood product, deliver it to transfusing RN immediately; transfusion must be initiated within 30 minutes of pick up from blood bank**
- **Follow Blood Transfusion & Blood Products policy regarding 2 RN bedside verification (LB-1)**
- **Stay with patient for first 5 minutes of transfusion and check patient frequently over next 10 minutes**
- **Obtain vital signs 15 minutes after start of transfusion, 45 minutes after start of transfusion, and at completion of transfusion**
- **Monitor for signs & symptoms of transfusion reaction- fever, chills/rigors, chest tightness, SOB, back or flank pain, hives, pruritus, hematuria, tachycardia, hypotension, hypoxemia**
- **Stop transfusion and notify provider and Blood Bank if reaction occurs**

Procedure for Controlled Substance Wasting

- **Waste: witnessed by 2 RNs &/or licensed personnel immediately after procuring medication.**
- **The witness must visualize the medication being discarded and verify:**
  - Product label
  - Volume being wasted matches the documentation
  - Medication being wasted matches the medication product in the documentation
  - Safe disposal occurs in a manner that makes the controlled substance irretrievable (i.e. discarded in sink)
- **Discard medications in the following fashion:**
  - Liquid medications must be wasted into a sink
  - Solid medications must be crushed and disposed of down sink
  - Transdermal patches: fold sticky side of patch together and place in sharps container
- **Dispose the empty vial/syringe the medication into the sharps container**
- **Document the waste in the Omnicell *(2 RNs)***

Hazardous Drug Handling

- **Healthcare providers may have frequent contact with hazardous drugs**
- **USP 800 is a standard that regulates the receipt, storage, transport, compounding, repackaging, dispensing, administering, and disposal of hazardous drugs**
- **Penn Medicine aligns with these principles for the safety of employees, patients and visitors**

Hazardous Drug Handling

Hazardous Drug Precautions

According to the National Institute for Occupational Safety and Health (NIOSH), acute and chronic health effects can occur due to occupational exposure to over 200 hazardous drugs used commonly in healthcare settings.

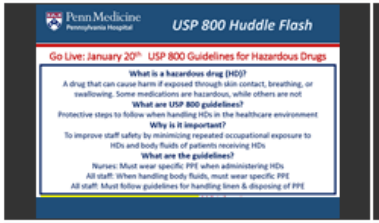
To protect healthcare workers from potential harm, U.S. Pharmacopeia (USP) 800 created a set of standards for all healthcare workers to follow to help ensure the safe handling of hazardous drugs (HD) throughout the healthcare system.

These standards apply to healthcare workers due to their risk of recurrent occupational exposure over time.

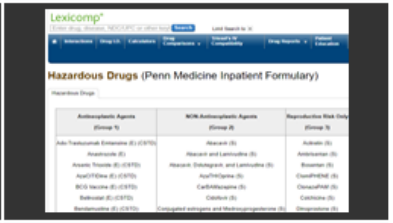
Quick References

Signage: Enhanced Hazardous Drug Precautions

Chart: Hazardous Medications Handling Precautions



Huddle Flash: USP 800



Lexi-Comp List of Standard & Enhanced Hazardous Drugs

Related PAH Policies

- Chemotherapeutic Waste Handling (EVS Policy 4-A)
- Chemotherapy Use Policy and Procedure (Admin Policy MM4)
- Hazardous Drug Handling Policy (Admin Policy EC46)
- Hazardous Drug Storage Handling Labeling and Transport (Pharmacy Policy #932)
- Inventory Storage Handling and Disposal (Pharmacy Policy #924)
- PAH Pharmacy Policy Manual (Section 900)

Patient Education

- What You Need to Know About Hazardous Drugs and USP 800 Guidelines

COVID-19

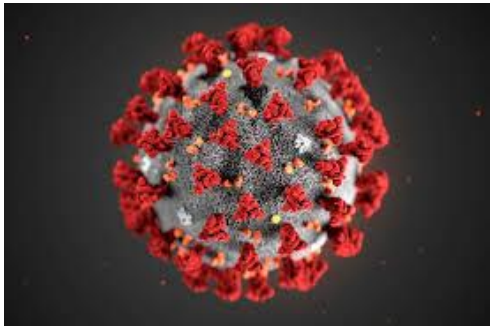
- **PAH intranet homepage has two sections to obtain information regarding Covid-19**
  - UPHS COVID-19 Update (Updated daily)
    - http://accesspoint.uphs.upenn.edu/sites/preparedness/coronavirus
  - PAH COVID-19 (yellow highlighted area including videos, tips sheets)

What is COVID-19

- A respiratory illness that can spread from person to person. The virus that causes COVID-19 is a novel coronavirus that was first identified during an investigation into an outbreak in Wuhan, China.

- The virus probably emerged from an animal source, but is now spreading from person to person who are in close contact with one another (within about 6 feet) through respiratory droplets produced when an infected person coughs or sneezes.

- It also may be possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes, but this is not thought to be the main way the virus spreads.



Symptoms

May appear 2-14 days after exposure:

- **Fever (83–99%)**
- **Cough (59–82%)**
- **Fatigue (44–70%)**
- **Anorexia (40–84%)**
- **Shortness of breath (31–40%)**
- **Sputum production (28–33%)**
- **Myalgias (11–35%)**
- **Headache, confusion, rhinorrhea, sore throat, hemoptysis, vomiting, and diarrhea less common (<10%).**

Risk Factors & Increased Illness Severity

Risk Factors

- Cardiovascular disease
- Diabetes
- Chronic respiratory disease
- Hypertension
- Cancer

Increased Illness Severity

- Heart disease
- Hypertension
- Prior Stroke
- Diabetes
- Chronic lung disease
- Chronic kidney disease

Clinical Progression

Among patients who developed severe disease:

- Median time to dyspnea ranged from 5 to 8 days
- Median time to acute respiratory distress syndrome (ARDS) ranged from 8 to 12 days
- Median time to ICU admission ranged from 10 to 12 days.[5,6,10,11]
- Clinicians should be aware of the potential for some patients to rapidly deteriorate one week after illness onset.
- Among all hospitalized patients, a range of 26% to 32% of patients were admitted to the ICU.[6,8,11]

Inpatient Management

Supportive management of the most common complications of severe COVID-19:

- **Pneumonia**
- **Hypoxemic respiratory failure/ARDS**
- **Sepsis and septic shock**
- **Cardiomyopathy and arrhythmia**
- **Acute kidney injury**
- **Complications from prolonged hospitalization including:**
  - Secondary bacterial infections
  - Thromboembolism
  - Gastrointestinal bleeding
  - Critical illness polyneuropathy/myopathy

Respiratory Decompensation

Change in Respiratory Status

- Decreased breath sounds
- Mild tachycardia
- Mild tachypnea
- Short of breath, especially on exertion

Decompensation

- Cool, clammy skin
- Dry cough, with thick frothy sputum
- Expiratory crackles
- Hyperventilation
- Hypocapnia
- Use of accessory muscles
- Increased blood pressure
- Tachycardia
- Increasing anxiety and agitation, restlessness, confusion

Benefits of High Flow Nasal Cannula = HFNC

- **Reduces**
  - Respiratory rate
  - Carbon Dioxide level
  - Breathing effort
- **Increases**
  - Tidal Volume
- **Improves**
  - Mucus clearance
  - Oxygenation

HFNC is an aerosolizing intervention: Must wear N95 when caring for these patients

Non-invasive Positive Pressure Ventilation

- **Bilevel Positive Airway Pressure = BiPAP**
  - Delivers different pressure depending on whether patient is taking a breath or exhaling
- **Continuous Positive Airway Pressure CPAP= CPAP**
  - Increases oxygen level
  - Decreases breathing workload
  - Increases intrathoracic pressure which will lower preload thereby lower cardiac workload

Both aerosolized interventions: Use N95 when caring for patients using BiPAP or CPAP

Awake Proning

Who, What, When, Where, Why

- Can be done for non-intubated patients
- Patient can prone self by lying on their abdomen, often at night to sleep
- Requires cooperative patient with intact mentation
- Physiology behind this; may recruit atelectatic lung tissue in the dependent lung basis (this seems to be a major issue in COVID-19 patients)

Critical Care proning: managed by the primary nurse

Nursing care

- Help patient lie on their abdomen in a prone position.
- Make sure nasal cannula is secure

Outcome

- Ideally an improvement in oxygenation

Pharmacologic Treatment Options

Remdesivir

- An investigational intravenous drug with broad antiviral activity
- Obtained through the compassionate use request process

Hydroxychloroquine

- Oral prescription drug used for treatment of malaria and certain inflammatory conditions
- Currently being treated as a “controlled substance” at Pennsylvania Hospital to better control inventory during this time of peak need and use
- This medication requires QTc monitoring to ensure patient safety
  - A baseline 12-lead EKG is recommended prior to initiating this medication
- Monitoring for hypoglycemia may be considered

Antibiotics

- Used for pneumonia and /or septic shock

References

- https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html
- https://emcrit.org/ibcc/COVID19/
- http://accesspoint.uphs.upenn.edu/sites/preparedness/coronavirus/Pages/coronavirus.aspx

Isolation Guidelines-Enhanced Droplet Precautions

Who is on Enhanced Droplet Precaution?

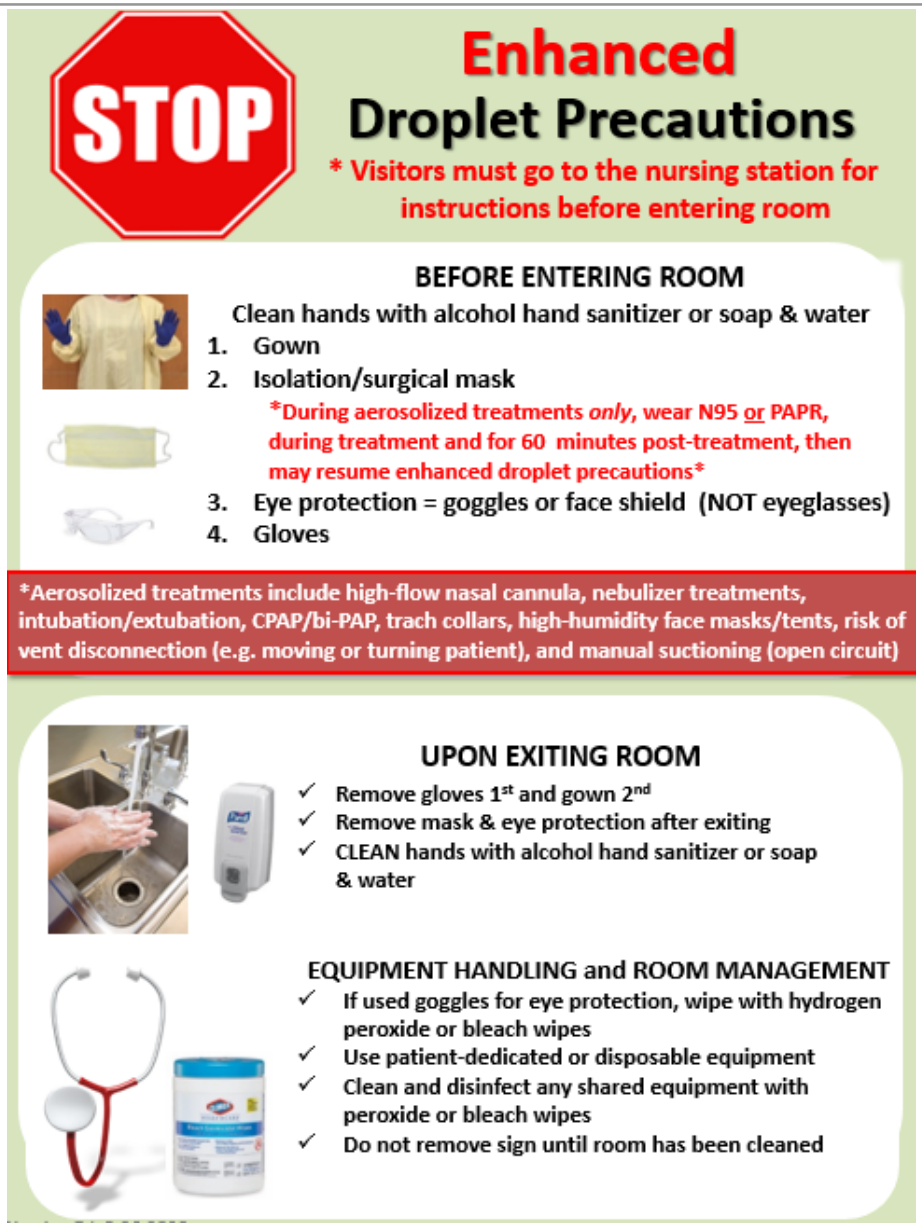
At this time, all patients who present to Pennsylvania Hospital with influenza-like illness (ILI) i.e. fever, cough, SOB, sore throat, will be placed on Enhanced Droplet Precautions.

Isolation Guidelines

Enhanced Droplet Precautions

- Clean hands with soap & water OR alcohol hand sanitizer before entering room
- Gown (put on 1st)
- Isolation/surgical mask (put on 2nd)
- Eye Protection (put on 3rd) = goggles or face shield – NOT eyeglasses
- Gloves (put on 4th)
- Limit number of staff going into room
- Visitors must go to nursing station before entering

Enhanced Droplet Sign



Aerosolized Treatments

For patients on Enhanced Droplet Precautions, a PAPR OR an N95 mask should be worn during aerosolized treatments and for **60 minutes** after completion of an aerosolized treatment.

High flow nasal cannula	Nebulizer treatment
Trach collars	Manual (open-circuit) suctioning *Does not include in-line (closed-circuit) suctioning*
High-humidity face masks/tents	CPAP/Bi-PAP
Intubating and extubating	**Time cleared to return to Enhanced Droplet Precautions:**
Risk of vent disconnection (e.g. moving or turning patient)	_____

Aerosolized Treatment Sign

Penn Medicine
Pennsylvania Hospital

For patients on Enhanced Droplet Precautions, a PAPR OR an N95 mask should be worn during aerosolized treatments and for **60 minutes** after completion of an aerosolized treatment.

For aerosolized treatments, please use a dry-erase marker to circle the reason below and indicate timeframe if needed.

High flow nasal cannula	Nebulizer treatment
Trach collars	Manual (open-circuit) suctioning *Does not include in-line (closed-circuit) suctioning*
High-humidity face masks/tents	CPAP/Bi-PAP
Intubating and extubating	**Time cleared to return to Enhanced Droplet Precautions:**
Risk of vent disconnection (e.g. moving or turning patient)	_____

PAPR Use – Review

- **Ensure all components are present before use:**
  - PAPR helmet with cord
  - Charged battery pack
  - Two Velcro straps
  - Depending on version
    - Cuff for “700”
    - Lens for “DCL”

“700”
CUFF

“DCL”
LENS

1. **Prepare PAPR**
2. **Don PAPR**
3. **Doff PAPR**
4. **Cleaning & Maintenance**

All products are latex free

Battery Use and LED Warning Lights

For current PAPRs:

⚠ Yellow LED- Low airflow, Do not use. Contact Safety

⚠ Red LED- low battery <25% charge remaining, the user has approximately 15 minutes left to change out battery

For new PAPRs:

⚠ Yellow LED- Low airflow, Do not use. Contact Safety

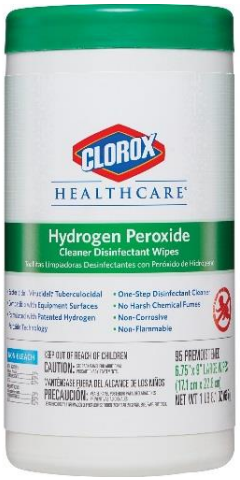
- Green LEDs-Battery Charge remaining
  - 3 Green lit = >75% charge remaining
  - 2 Green lit = >50% charge remaining
  - 1 Green lit = >25% charge remaining

⚠ Red LED- low battery <25% charge remaining, the user has approximately 15 minutes left to change out battery

2-7 Hr. Charge
8-10 Hr. Use

PAPR Cleaning and Storing

- **Clean PAPR with Hydrogen Peroxide**
  - Bleach may be used but hydrogen peroxide is preferred
- **Storage**
  - After thorough cleaning
    - Label cuff or lens with your name
  - Place in brown bag, store and reuse until one of the following occurs:
    - Soiled: blood, bodily fluid, or visibly stained
    - Damaged: ripped, torn, zipper broken, etc.



Brown bags will come with PAPR

PPE Subject Matter Experts

Skills Session 4

Skills Session 1			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
A	B	C	D
Skills Session 2			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
D	A	B	C
Skills Session 3			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
B	C	D	A
Skills Session 4			
Glucometer/Restraints	EKG	BCMA	Tele/Bladder Scan
C	D	A	B

Policy Resources

- **On the right side of the PAH Home Page you will find a quick link for Nursing Policies**

Clinical Resources

- **Elsevier**
  - Found on PAH intranet under Nursing Policies

Nursing Practice Manual

Please see the PAH Nursing Practice Manual *first* for current practice. If you do not find the skill or procedure in the PAH Nursing Practice Manual, refer to Elsevier's Clinical Skills.

click here → Elsevier's Clinical Skills

Nursing - Elsevier's Clinical Skills (previously Mosby's)

Elsevier's
Clinical Skills

Nurses at Pennsylvania Hospital have a tool to use in their quest to provide excellent care. Clinical Skills is an online skills and procedures reference system from Elsevier, a recognized leader in knowledge-based information. It incorporates state of the art procedures, evidence, and education management functionality in one easy-to-use package. Nurses can use Clinical Skills to refresh knowledge on a little-used skill, look for recent updates, or delve into the evidence that exists in order to inform committee decisions about nursing practice issues. It's also a great place to find high-quality patient and family education material in Spanish and English (click on the Patient Education tab). The tool can be used by an individual, or can be used by educators or managers to assign and track skills development.

Medication Resources

- **Lexi-Comp**
  - http://online.lexi.com/lco/action/home?siteid=954

- **Micromedex**
  - https://www.micromedexsolutions.com/micromedex2/librarian/ssl/true

Unit Code Cheat Sheets

- **There are two unit code sheets that you may grab for your reference**
- **They will be on the back table for you to grab**
- **Please note that there is one for**
  - Critical Care
  - Med Surg
- **Please grab the one that pertains to you**

Additional Items

- **Knowledge Link Modules**
  - Inpatient EPIC Tutorials
  - BCMA Scanning
  - PCOT (Blood Glucose)
  - Restraints
  - Medication Administration

- **COVID Cross Training Intranet Scavenger Hunt via Qualtrics**

PAPR Demonstration