Adult Moderate Sedation Analgesia Policy Competency

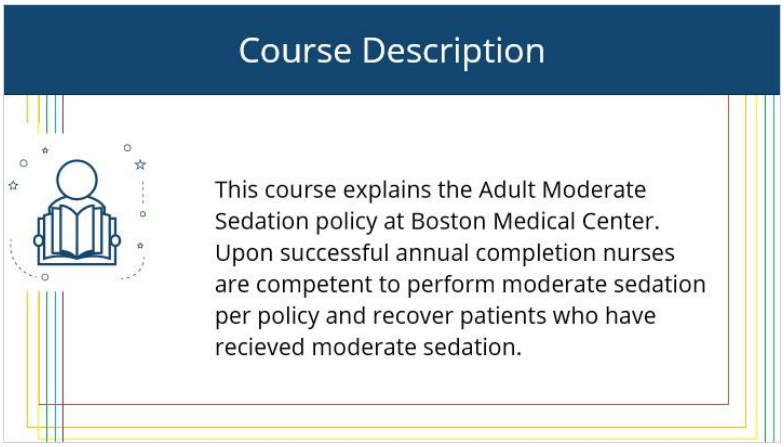
1. Home

1.1 Home

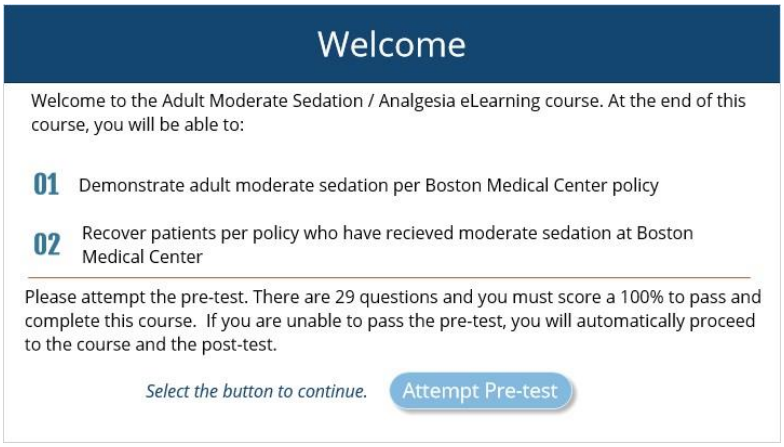


Notes:

1.2 Course Description

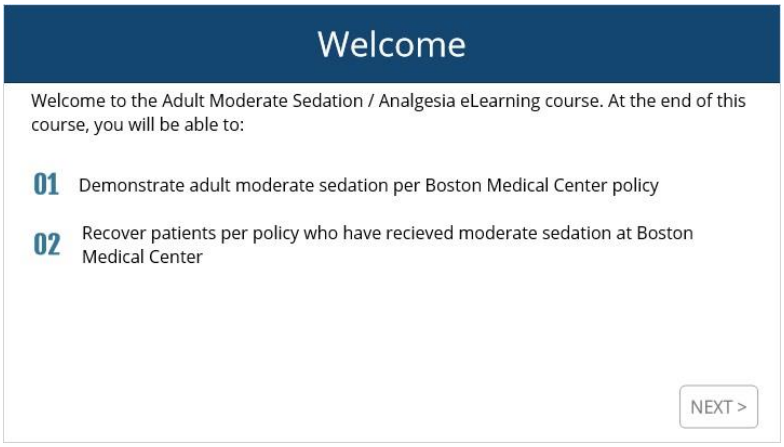


1.3 Learning Objectives



Notes:

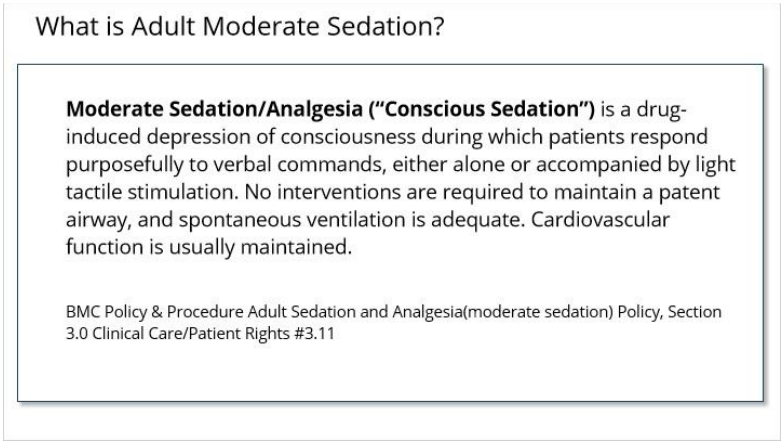
hidepretest (Slide Layer)



1.4 Introduction

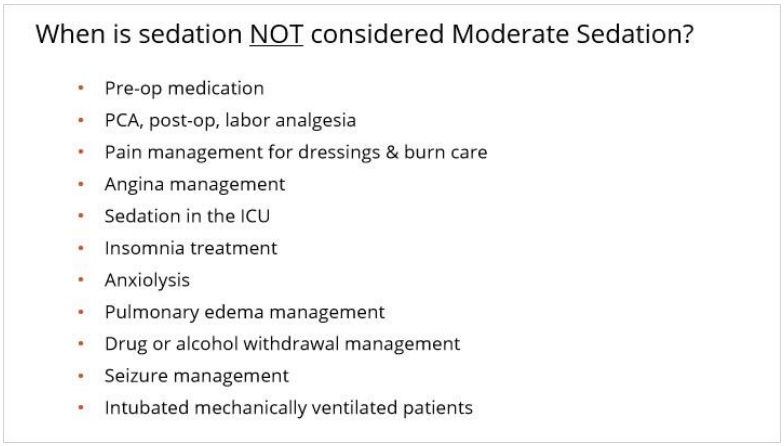


1.5 What is Adult Moderate Sedation?

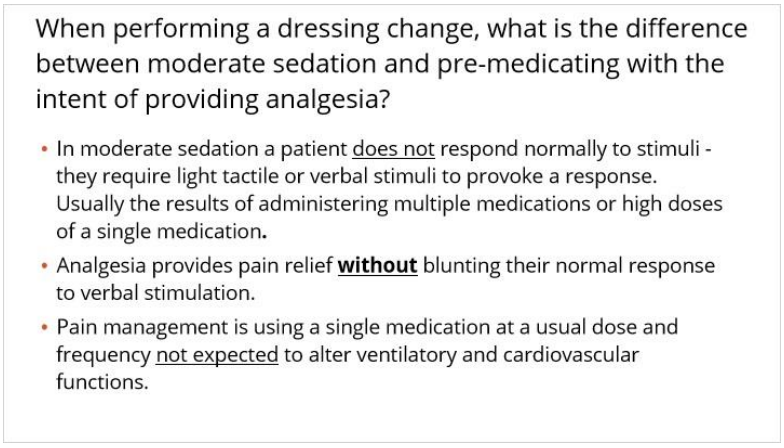


Notes:

1.6 When is sedation NOT considered Moderate Sedation?

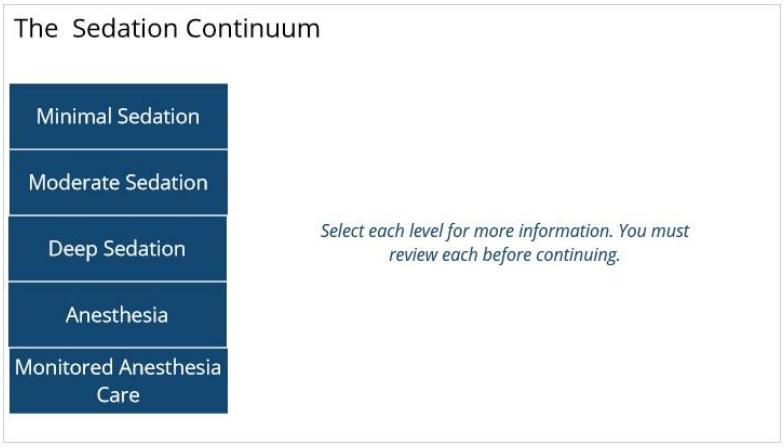


1.7 When performing a dressing change - What is the difference between moderate sedation and pre-medicating with the intent of providing analgesia?

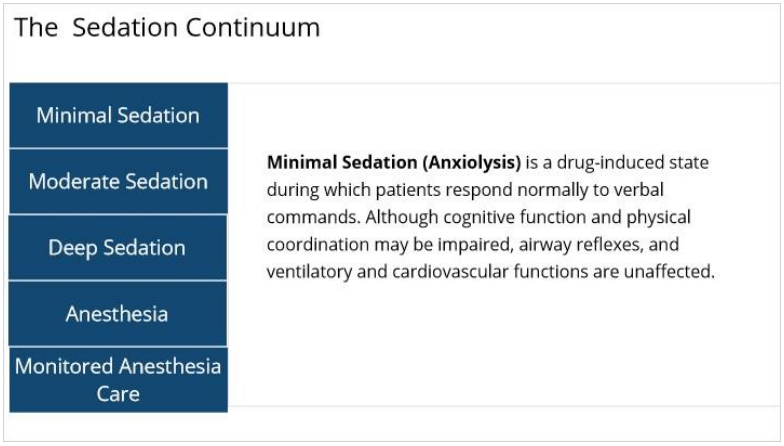


Notes:

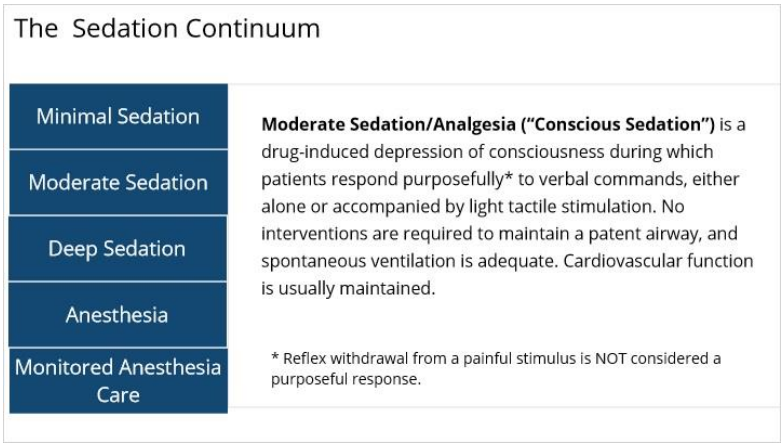
1.8 The Sedation Continuum



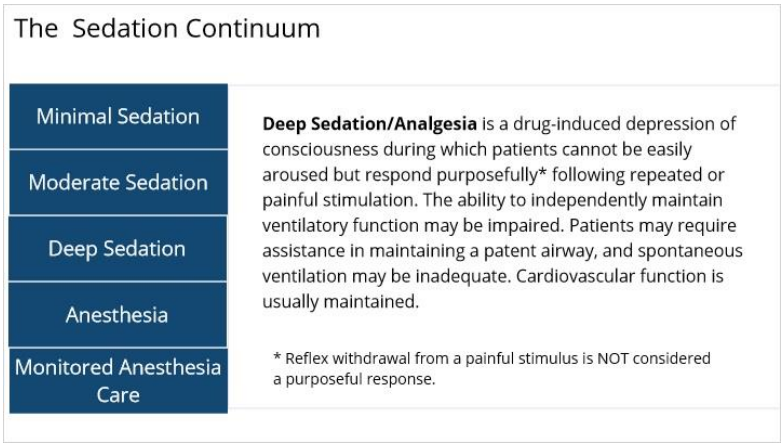
Step 01 (Slide Layer)



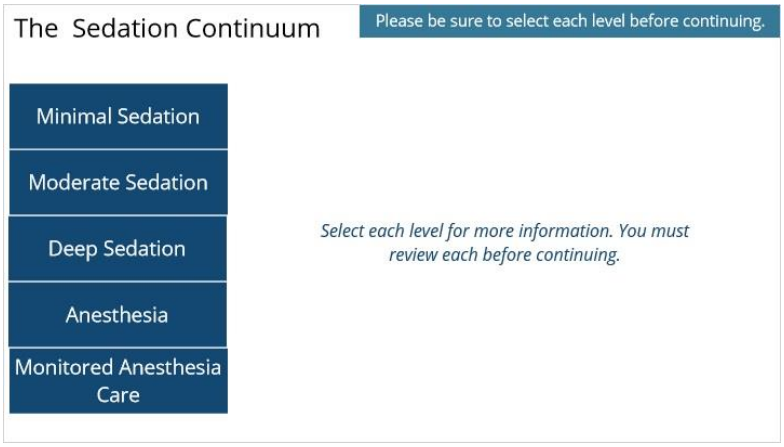
Step 02 (Slide Layer)



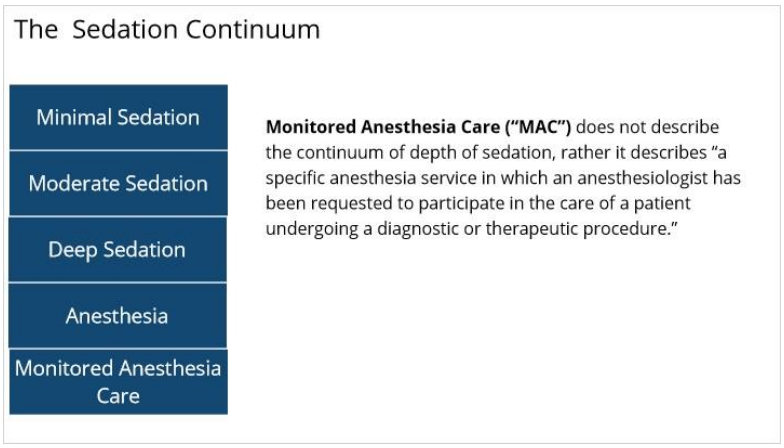
Step 03 (Slide Layer)



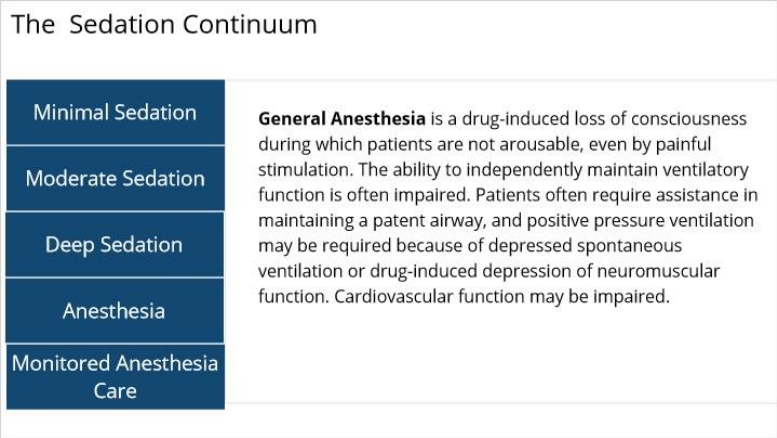
Reminder (Slide Layer)



Step05 (Slide Layer)



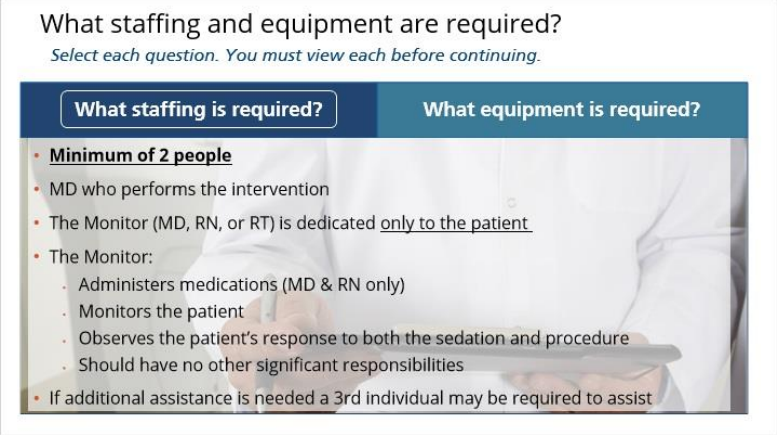
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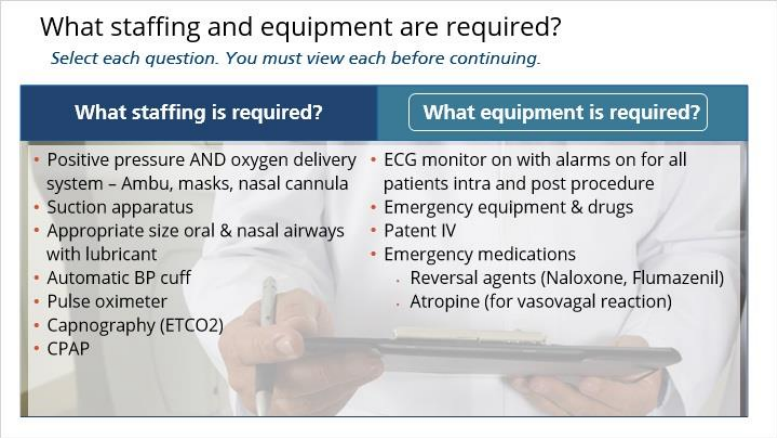
1.9 What staffing and equipment are required?



Staffing (Slide Layer)



Equipment (Slide Layer)



Reminder (Slide Layer)

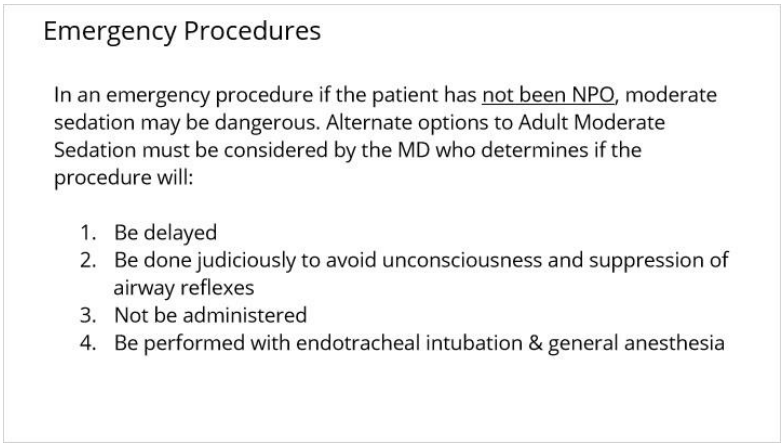


1.10 NPO Guidelines

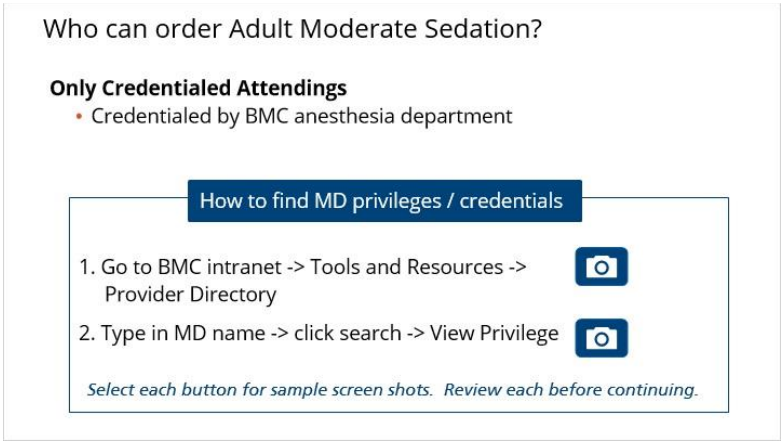
NPO Guidelines

Ingested Material	Minimum Fasting Period
Clear liquids	2 hours
Breast milk	4 hours
Infant formula	6 hours
Non-human milk	6 hours
Light meal	6 hours
High fat or protein content meal	Clinician may consider > 6 hours
MD may determine meds may be taken with a sip of water	

1.11 Emergency Procedures



1.12 Who can order Adult Moderate Sedation?

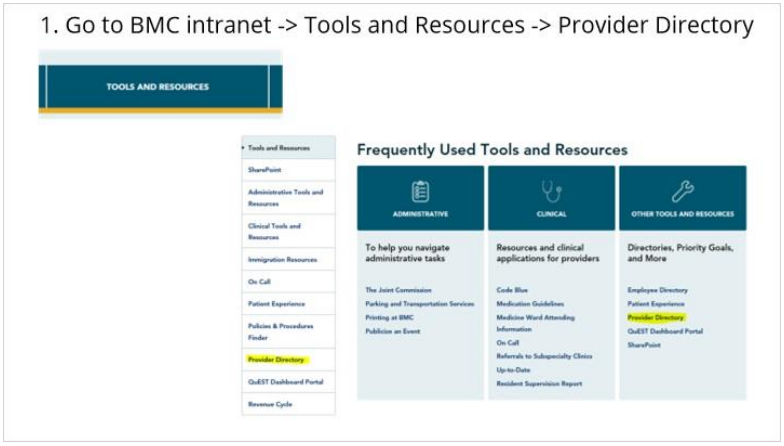


Notes:

Reminder (Slide Layer)



1.13 1. Go to BMC intranet



Notes:

1.14 2. Type in MD name

2. Type in MD name -> click search -> View Privilege and the following credential should be listed: Moderate sedation



PROVIDER

			Last Name	First Name	Middle Name	Department	Section	Degree	Status	NPI Number
Edit	View Profile	View Privilege	Pande	Ashvin	N	Medicine	Cardiology	MD	Staff	1194705087

PROVIDER PRIVS

Section Description	Detail Description	Release Date	Expire Date	Dept Name
INTERNAL MEDICINE	Internal Medicine with subspecialty-Cardiology	08/01/2019	07/31/2020	Medicine
PROCEDURES IN MEDICINE	Balloon Mitral Valvuloplasty (Setting 3)	08/01/2019	07/31/2020	Medicine
PROCEDURES IN MEDICINE	Carotid Artery Stenting (Setting 3)	08/01/2019	07/31/2020	Medicine
PROCEDURES IN MEDICINE	Diagnostic Cardiac Catheterization with coronary (and Cardiovascular) Angiography (Setting 3)	08/01/2019	07/31/2020	Medicine
PROCEDURES IN MEDICINE	Elective electric cardioversion (Setting 3)	08/01/2019	07/31/2020	Medicine
PROCEDURES IN MEDICINE	Fluoroscopy* (Setting 5)	08/01/2019	07/31/2020	Medicine
PROCEDURES IN MEDICINE	Moderate Sedation* (Setting 3)	08/01/2019	07/31/2020	Medicine
	Official electrocardiographic			

1.15 ASA Classification

ASA Classification

Class	Description
Class I	a normally healthy patient
Class II	a patient with mild systemic disease
Class III	a patient with severe systemic disease that limits but is not incapacitating
Class IV	a patient with severe systemic disease that is in a constant threat to life
Class V	a morbid patient who is not expected to survive with or without the operation/procedure

*BMC Policy & Procedure Adult Moderate Sedation (Conscious sedation) Policy, Section 3.0 Clinical Care/Patient Rights #3.11

1.16 Patient Selection for Adult Moderate Sedation/Analgesia

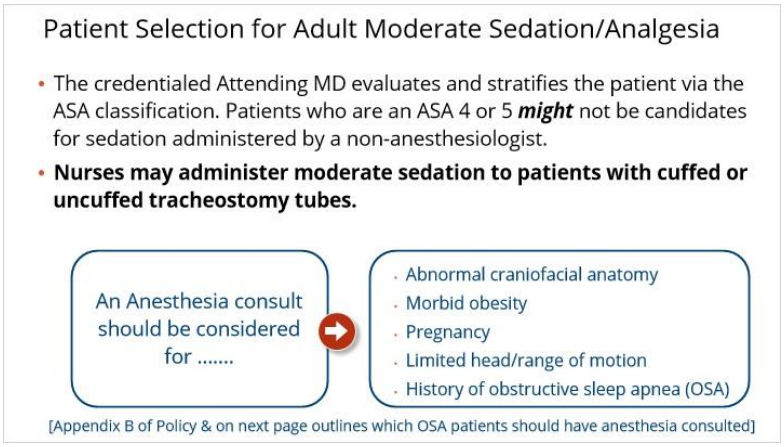
Patient Selection for Adult Moderate Sedation/Analgesia

- The credentialed Attending MD evaluates and stratifies the patient via the ASA classification. Patients who are an ASA 4 or 5 ***might*** not be candidates for sedation administered by a non-anesthesiologist.
- **Nurses may administer moderate sedation to patients with cuffed or uncuffed tracheostomy tubes.**

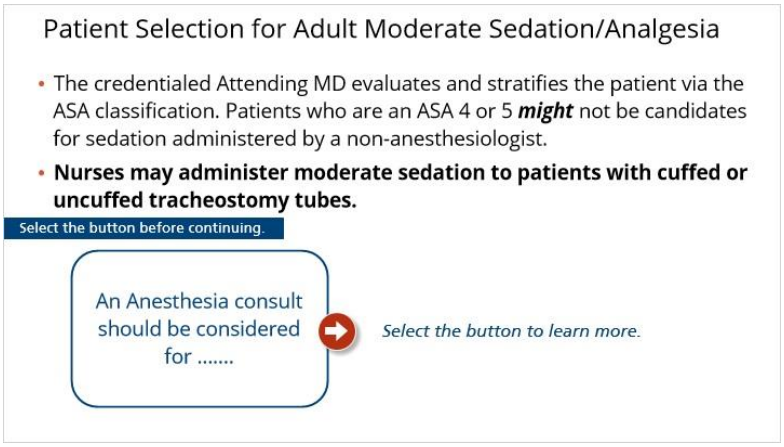
An Anesthesia consult should be considered for .....

Select the button to learn more.

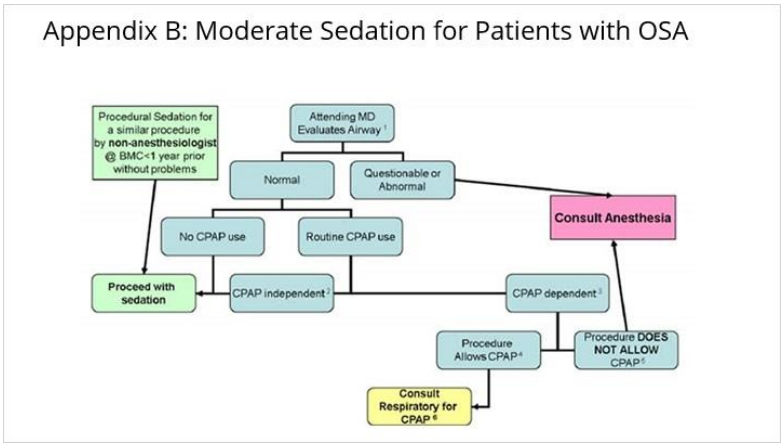
Consult (Slide Layer)



Reminder (Slide Layer)



1.17 Appendix B: Moderate Sedation for Patients with OSA



1.18 Documentation and Roles



1.19 Pre -Moderate Sedation Documentation

Pre -Moderate Sedation Documentation is required, located in either a **Moderate Sedation note or H&P**, and includes:

- Documentation of the patient's state of consciousness and medical condition
- A pre-procedure focused physical exam including an ASA classification
- Review of the medical patient's history and physical for:
  - Allergies & previous allergic reactions
  - Concurrent medications
  - Time of last oral intake
  - Pertinent medical history including history of tobacco, alcohol or substance abuse
  - History of sedation/anesthesia problems
  - History of obstructive sleep apnea
- A sedation plan of care & discharge plan

1.20 Pre -Moderate Sedation Documentation

Pre -Moderate Sedation Documentation is required, located in either a **Moderate Sedation note or H&P**, and includes:

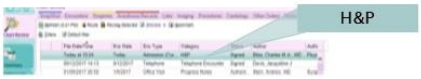
(continued)

- The initial dose of medication(s) to be administered is listed in this document NOT on the MAR
  - New TJC regulations do not allow initial doses to be a verbal order unless it's an emergency. MDs must identify the initial dose of medication(s) to be given in the documentation. Verbal orders are allowed during the procedure.
- Required before the procedure
- Must be signed by the Credentialed Physician prior to the procedure if completed by a Fellow, Resident, or PA

1.21 Required Physician/LIP pre-procedure documentation

Required Physician/LIP pre-procedure Documentation

- Located in the Chart's Note Section
  - GI (Endoscopy) doctors document in their H & P



- All other MDs will complete a note titled Moderate Sedation



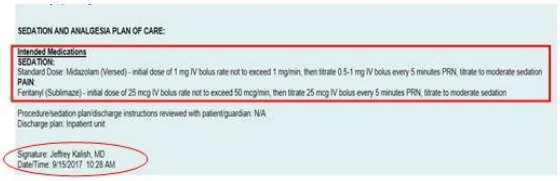
- Consent must be obtained & address both the procedure & moderate sedation – on paper

1.22 Nursing Workflow

Nursing Workflow

Review the note for 2 things:

1) The Credentialed Physician has signed the note
2) The Initial Medication orders


SEDATION AND ANALGESIA PLAN OF CARE:

Intended Medications
SEDATION:
Standard Dose: Midazolam (Versed) - initial dose of 1 mg IV bolus rate not to exceed 1 mg/min, then titrate 0.5-1 mg IV bolus every 5 minutes PRN, titrate to moderate sedation
PAIN
Fentanyl (Sublimaze) - initial dose of 25 mcg IV bolus rate not to exceed 50 mcg/min, then titrate 25 mcg IV bolus every 5 minutes PRN, titrate to moderate sedation

Procedure/sedation plan/discharge instructions reviewed with patient/guardian: N/A
Discharge plan: Inpatient unit

Signature: Jeffrey Kalish, MD
Date/Time: 9/15/2017 10:28 AM

Click image to zoom / Click image to unzoom

1.23 Role of the Credentialed Attending Physician

Role of the Credentialed Attending Physician

Prior to the initiation of moderate sedation:

Validates

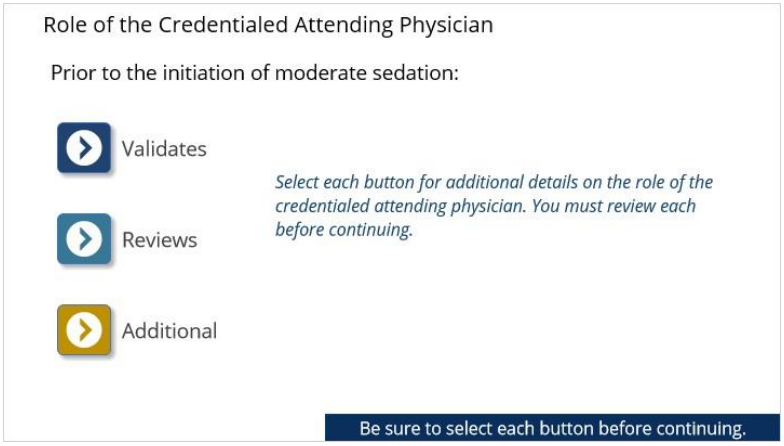
Reviews

Additional

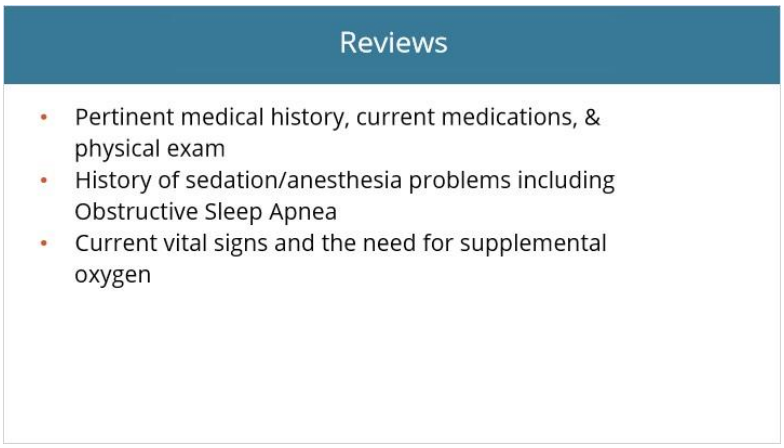
Select each button for additional details on the role of the credentialed attending physician. You must review each before continuing.

Notes:

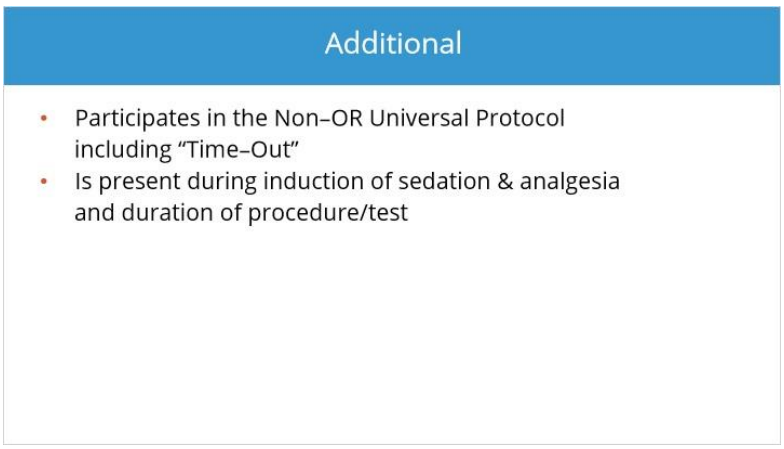
Reminder (Slide Layer)



1.24 Reviews



1.25 Additional



1.26 Role of the Monitor - Pre-procedure

Role of the Monitor - Pre-procedure

- Complete the below pre-procedure documentation:
  - Vital Signs, $ETCO_2$, and oxygen saturation
    - Outpatient areas document weight (Kg), obtain/review prior to Admission (PTA) medications, valuables, language barriers
  - Pain Assessment
  - Primary Physical Assessment
  - Pre-procedure Checklist
  - Care plan
  - Insure a functioning IV
- Participate in and documents the Non OR Universal Protocol (time out)

1.27 Validates

Validates

- The patient's state of consciousness & medical condition are appropriate for moderate sedation
- The pre-procedure focused physical exam
- ASA classification
- The individualized sedation plan (indicating medications to be used)
- Allergies and time of last oral intake
- A consent has been obtained addressing the procedure and the actual/possible need for moderate sedation

1.28 The Monitor Documents Moderate Sedation

The Monitor Documents Moderate Sedation

Inpatient areas	Non Epic areas or if Epic is down
Document in the sedation narrator in Epic or other outpatient Epic tools	Utilize paper Moderate Sedation Procedure Record





Click images to zoom / Click images to unzoom

1.29 Documentation of Timeout

Documentation of Timeout

ALL STAFF IN ROOM MUST PAUSE AND FULLY PARTICIPATE IN THE TIMEOUT

- Epic area- utilize the Non-OR Universal Protocol built into the Epic tools
- Non-Epic areas or if Epic is down - green timeout sticker or Non-OR Universal Protocol section in the Moderate Sedation Procedure Record (see below).





Click images to zoom / Click images to unzoom

1.30 Role of the Monitor - During the Procedure

Role of the Monitor - During the Procedure

- Administer/document medications (MD or RN only)
- Assess IV access
- Continually monitor the patient's response to medications and the procedure
  - Monitors response to verbal commands
  - When a verbal response is not possible the ability to give a thumbs up or respond to verbal or light tactile (light tap) stimulation suggests the patient will be able to maintain his airway and take deep breaths if necessary
- The monitor has no other significant responsibility from the initiation of sedation until the completion of recovery

1.31 Role of the Monitor - During the Procedure: Monitoring and Documentation

Role of the Monitor - During the Procedure: Monitoring and Documentation

Continuously Monitor	Document
• VS including oxygen saturation and $ETCO_2$ · Set the NBP to refresh at least every 5-10 minutes during the procedure (Recommendation from American Society of Anesthesiologists) • Cardiac rhythm • Sedation level • Pain level	Document at the Start of the procedure and every 5-10 MINUTES • BP • HR • Cardiac Rhythm • RR • O_2 SAT • $ETCO_2$ • Sedation Scale • Pain Scale

1.32 What does the Monitor assess during recovery?

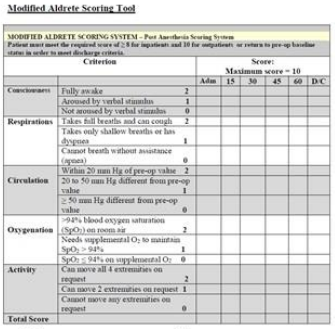
What does the Monitor assess during recovery?

Continuously Monitor	Document
Continuously monitor the patient for a minimum of 30 minutes since the last dose of sedation **AND** until the patient attains the target Recovery Score.	**Document** the following items at the end of the procedure and every 15 minutes until the target Recovery Score and discharge/recovery criteria are met to end the recovery period. • Heart rate • Blood pressure • Respiratory rate • Oxygen saturation • Cardiac rhythm • Pain level • Recovery Score

1.33 Modified Aldrete Score (MAS)

Modified Aldrete Score (MAS)

Boston Medical Center uses the MAS for adult recovery.



Modified Aldrete Scoring Tool

MODIFIED ALDRETE SCORING SYSTEM - Post Anesthesia Scoring System Patient must meet the required score of ≥ 8 for inpatient and 10 for outpatient or return to pre-op baseline status in order to meet discharge criteria.								
Criterion		Score: Maximum score = 10						
			Adm	15	30	45	60	D/C
Consciousness	Fully awake	2						
	Aroused by verbal stimulus	1						
	Not aroused by verbal stimulus	0						
Respirations	Takes full breaths and can cough	2						
	Takes only shallow breaths or has dyspnea	1						
	Cannot breath without assistance (apnea)	0						
Circulation	Within 20 mm Hg of pre-op value	2						
	20 to 50 mm Hg different from pre-op value	1						
	≥ 50 mm Hg different from pre-op value	0						
Oxygenation	>94% blood oxygen saturation (SpO_2) on room air	2						
	Needs supplemental O_2 to maintain SpO_2 > 94%	1						
	SpO_2 ≤ 94% on supplemental O_2	0						
Activity	Can move all 4 extremities on request	2						
	Can move 2 extremities on request	1						
	Cannot move any extremities on request	0						
Total Score								

Click image to zoom / Click image to unzoom

Notes:

1.34 How long is the Recovery phase?

How long is the Recovery phase?

- Patients must be recovered for a minimum of 30 minutes since the last dose of sedation **AND** until the patient attains the target Recovery Score
- **Patient's requiring reversal of narcotics or benzodiazepines will require a minimum recovery period of 2 hours following the administration of the reversal agent.**
- If patients are transferred for further recovery, they will be accompanied by a MD, PA, RT, or RN to a designated area with personnel performing recovery care/monitoring.

1.35

The Discharge Criteria listed below is required on all patients & must be met to end the recovery period

- The patient must have achieved an MAS of ≥ 8 for inpatient, 10 for outpatients, or baseline pre-procedure state
- A note should document the reason for a score less than 10
- Patient is alert
- Stable vital signs and O_2 saturation
- Swallow, cough, gag reflexes present
- Nausea-dizziness minimal
- Dressing/procedure site checked
- Able to sit unaided if appropriate to baseline & procedure
- Minimal pain - managed by appropriate analgesics



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1.36 Outpatient Discharge Criteria also includes:

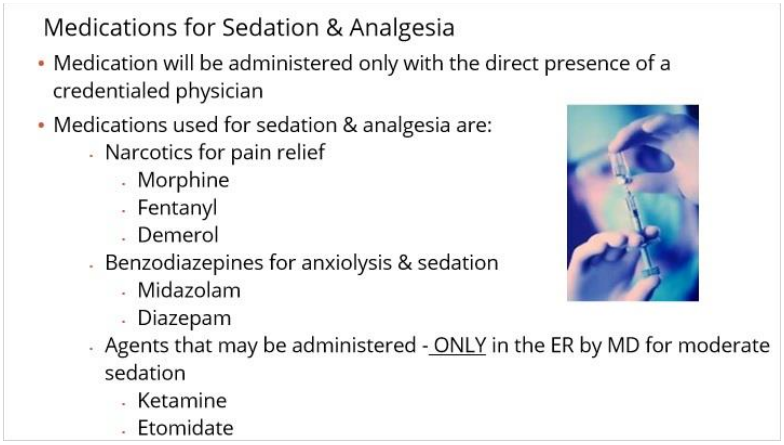
Outpatient Discharge Criteria also includes:

- MAS of 10 or pre-procedure state
- Hydration adequate (able to drink fluids)
- Voided or unable to void but comfortable
- A written D/C order
- Discharge instructions explaining anticipated activity limitations are documented and given to patient, caregiver or family
- A 24 hour emergency contact
- Patients may not leave the hospital unless accompanied by a responsible designated adult
- Follow up phone call is recommended within 24 hours post procedure

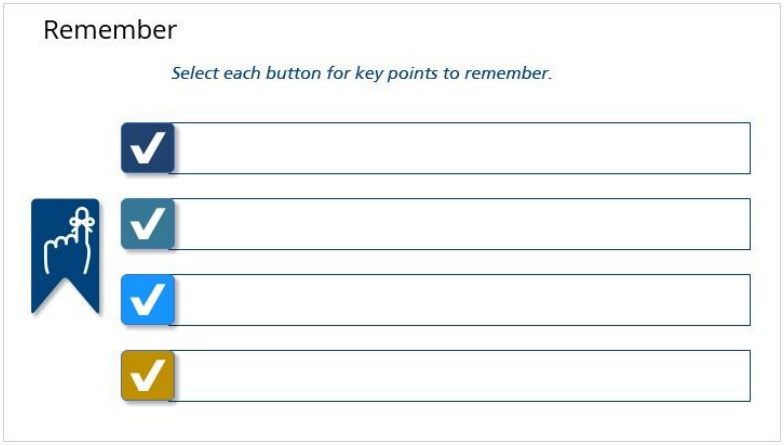
1.37 Medications



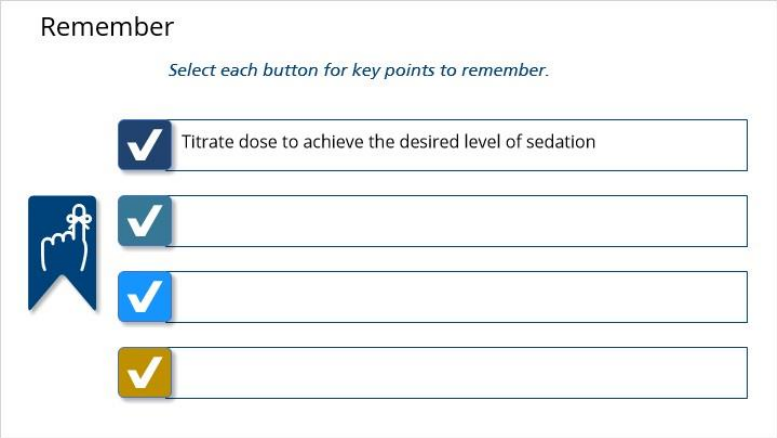
1.38 Medications for Sedation & Analgesia



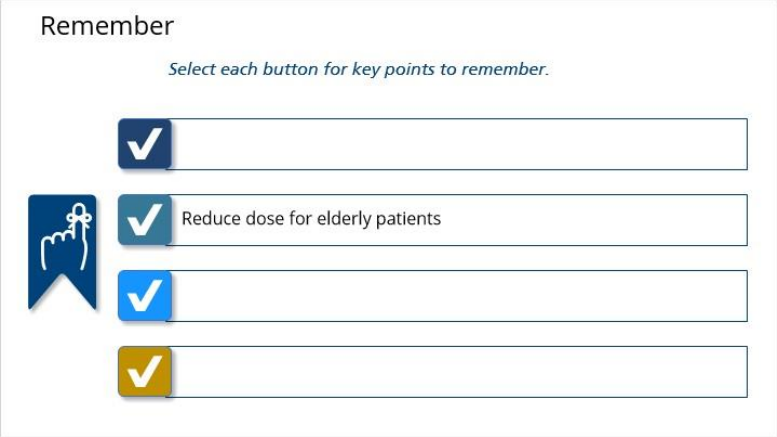
1.39 Remember



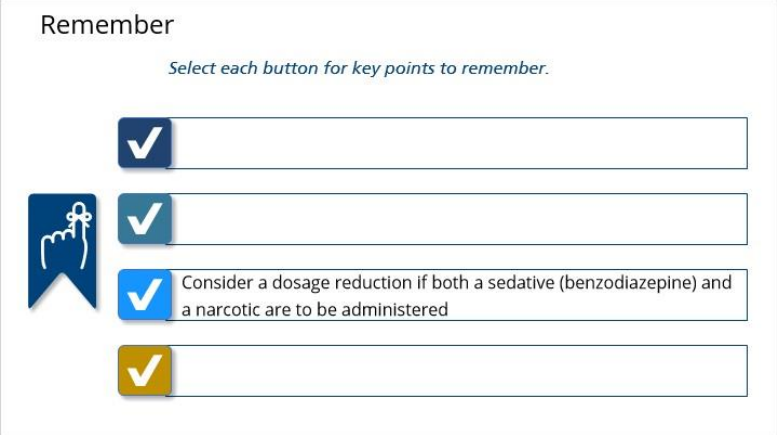
Titrate (Slide Layer)



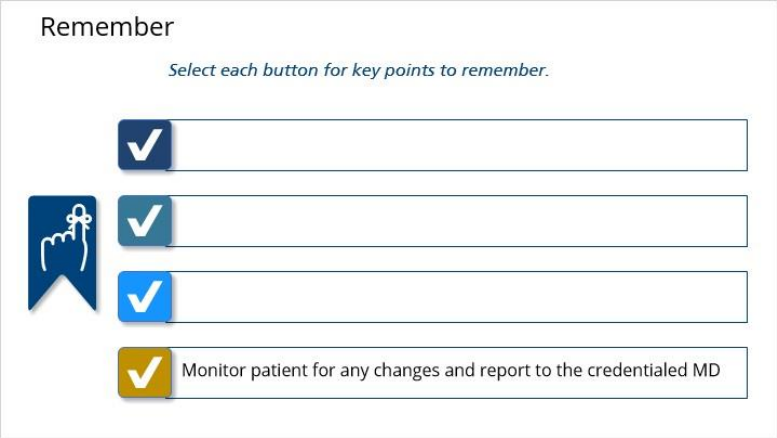
Reduce (Slide Layer)



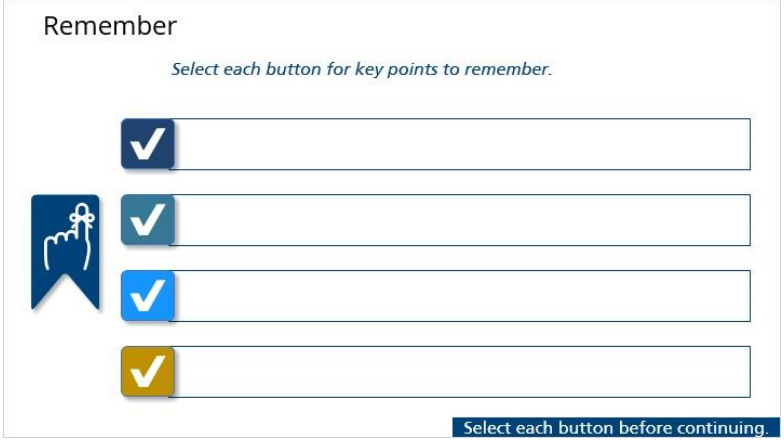
Consider (Slide Layer)



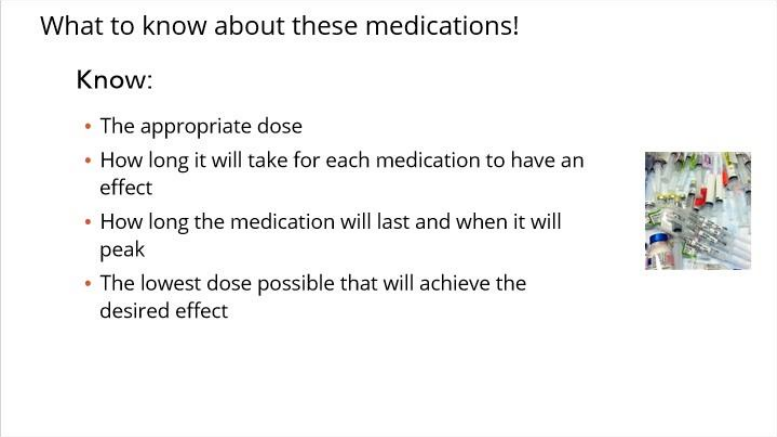
Monitor (Slide Layer)



Reminder (Slide Layer)



1.40 What to know about these medications !

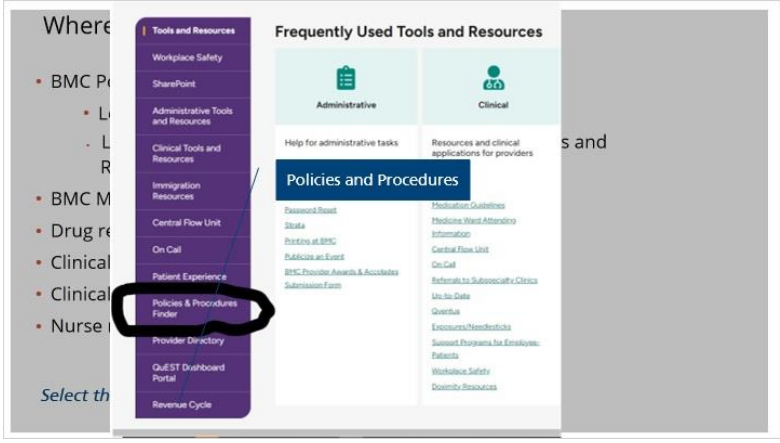


1.41 Where are your resources?

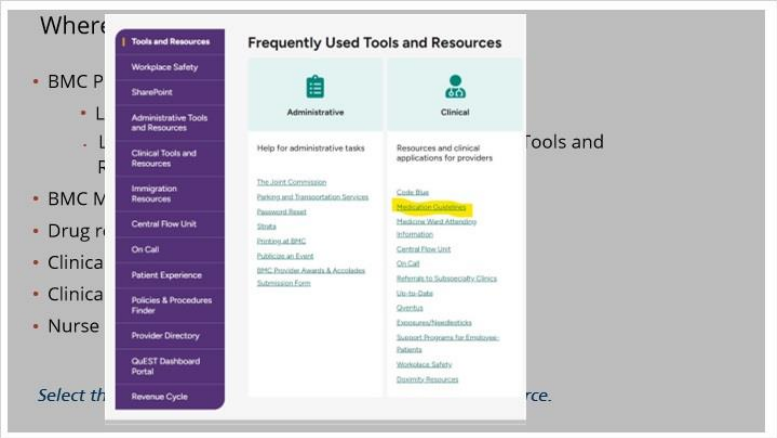


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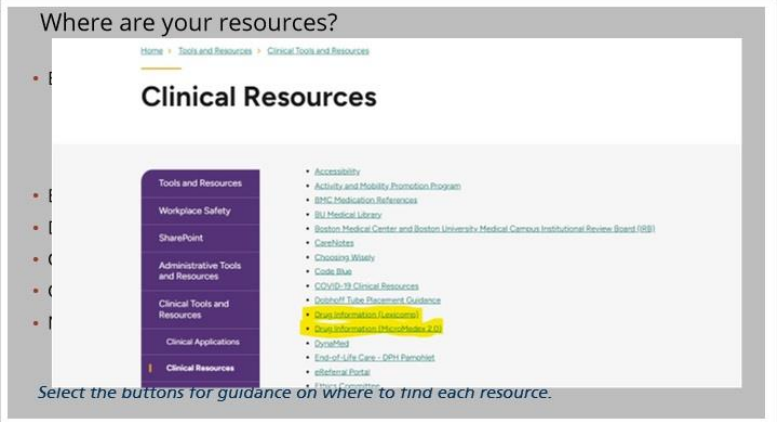
BMC policies (Slide Layer)



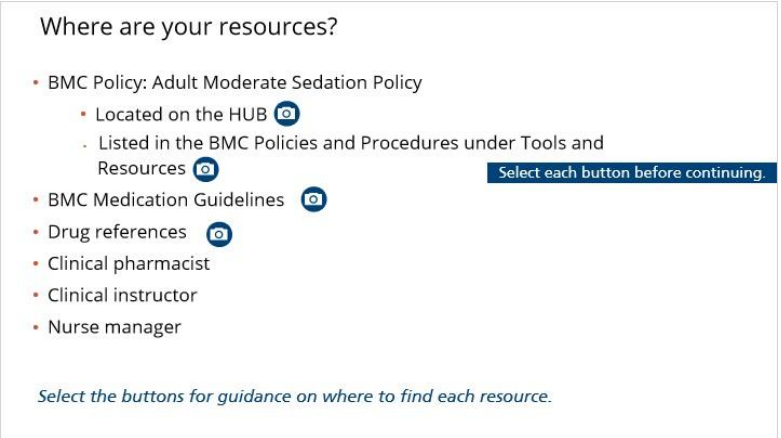
Med Guidelines (Slide Layer)



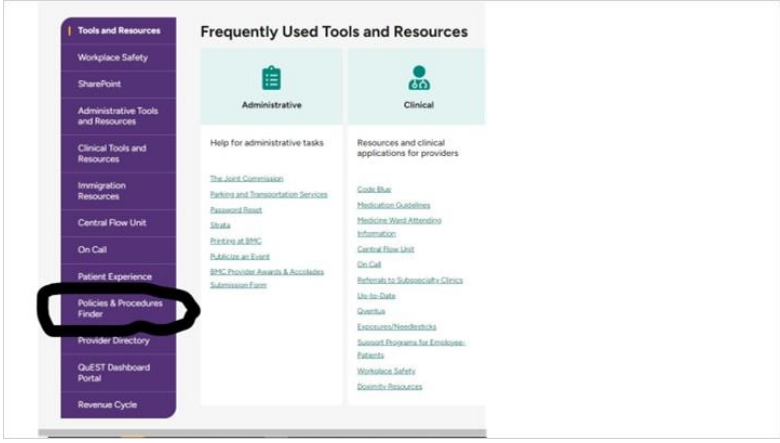
Drug references (Slide Layer)



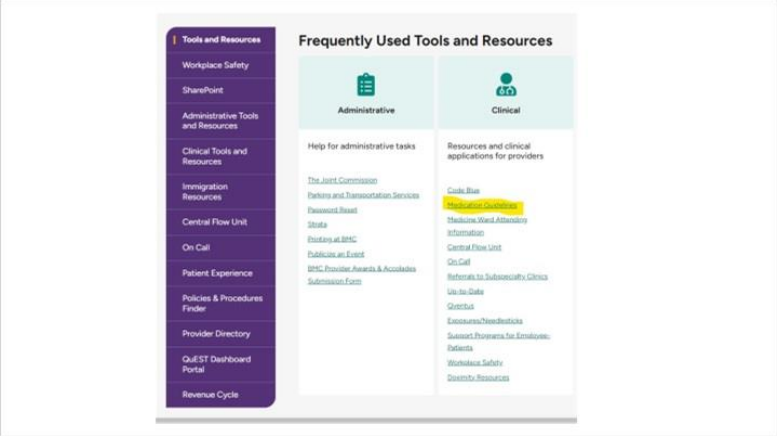
reminder (Slide Layer)



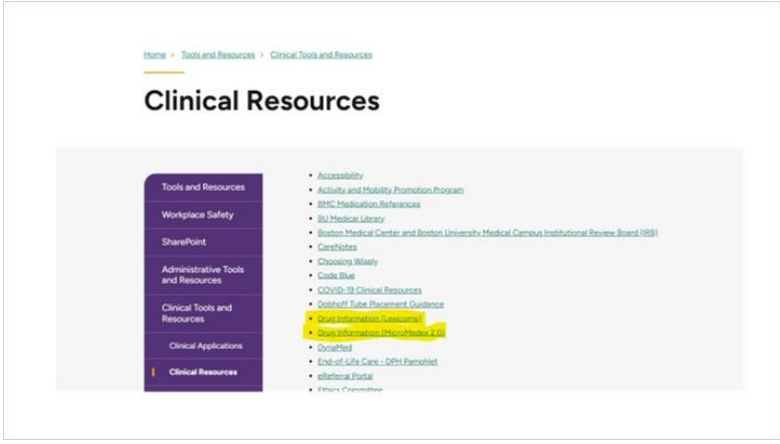
1.42 Policies Screen Shot



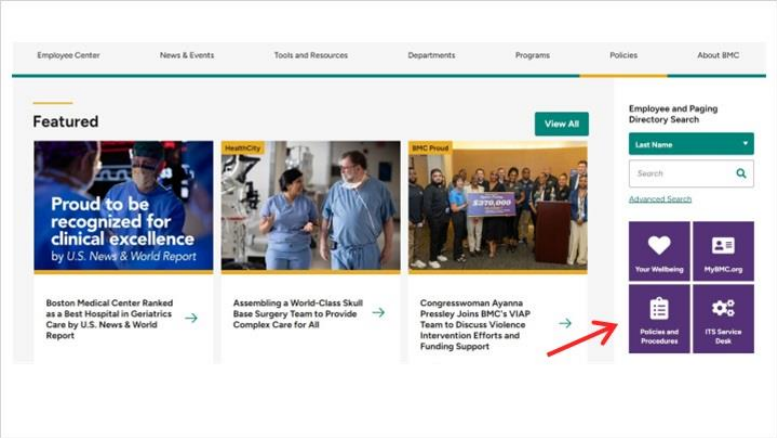
1.43 Meds Screen Shot



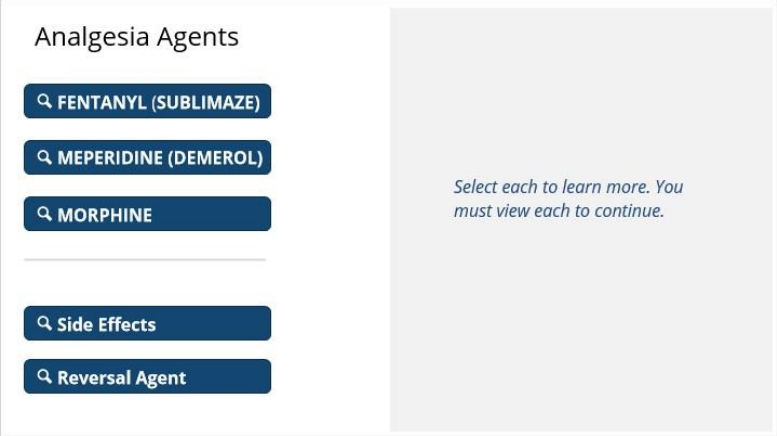
1.44 Clinical Resources Screen Shot



1.45 HUB

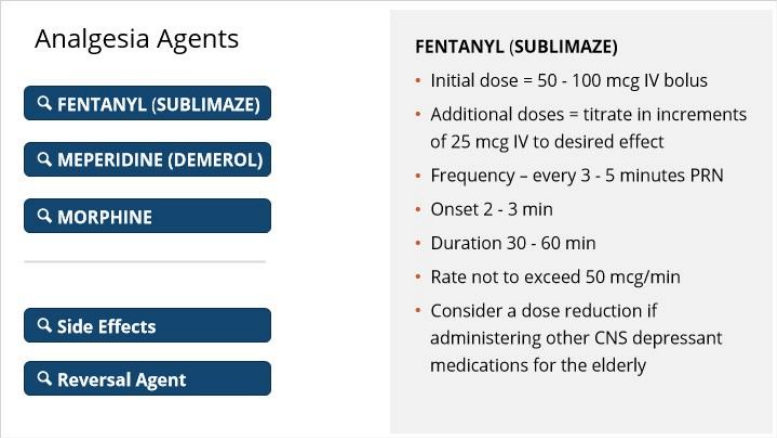


1.46 Analgesia Agents

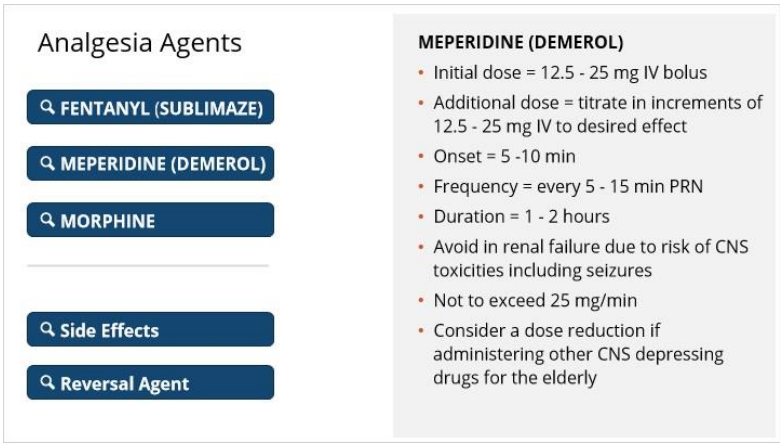


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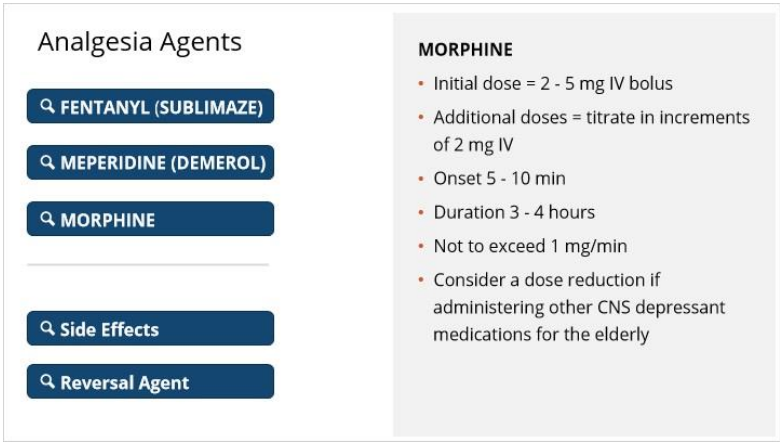
Fentanyl (Slide Layer)



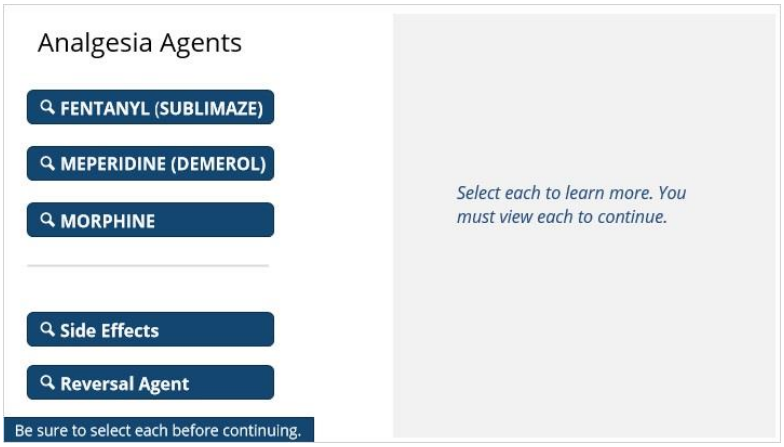
Meperidine (Slide Layer)



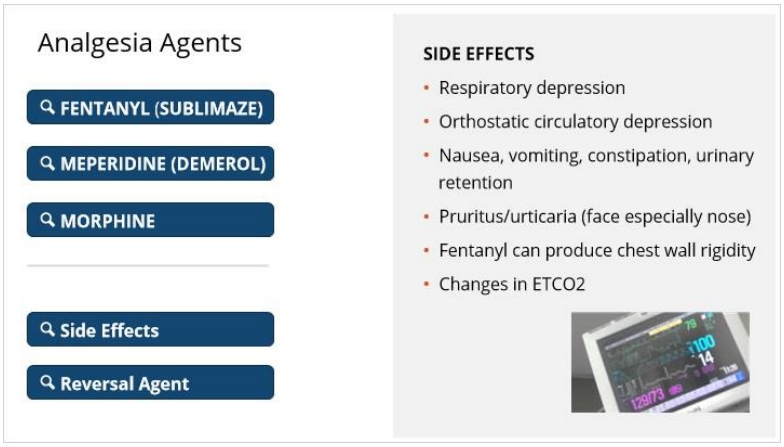
Morphine (Slide Layer)



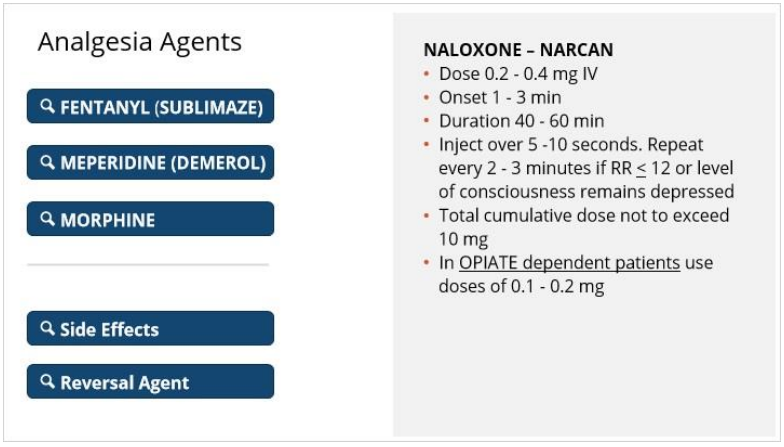
Reminder (Slide Layer)



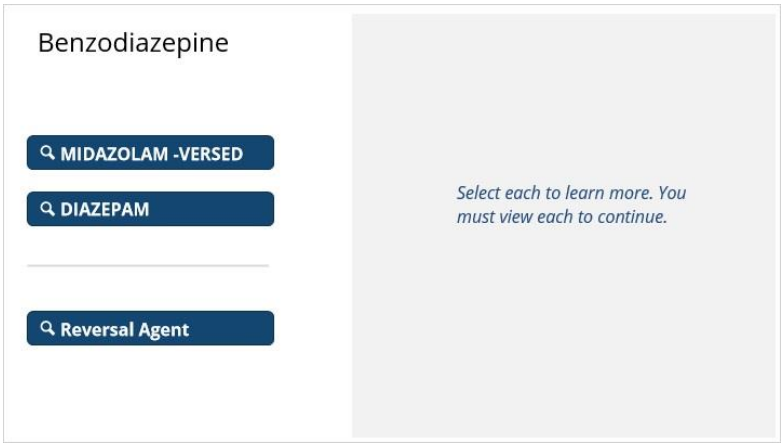
Side Effects (Slide Layer)



Reversal Agents (Slide Layer)

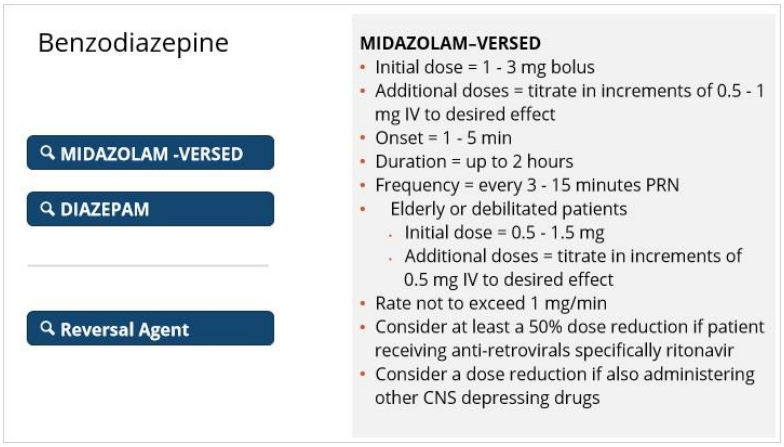


1.47 Benzodiazepine

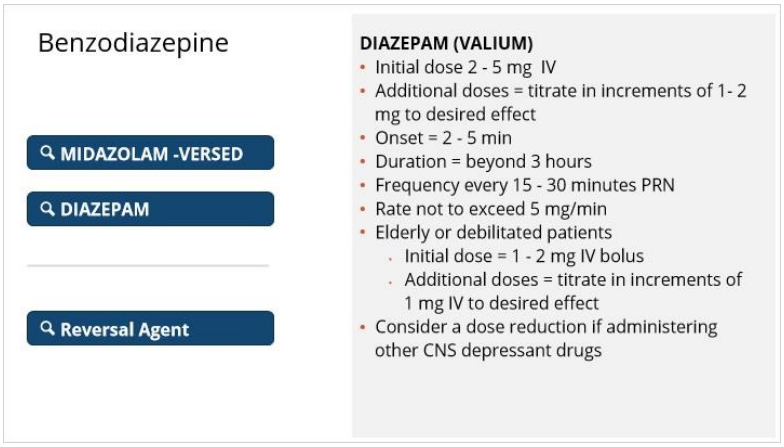


Notes:

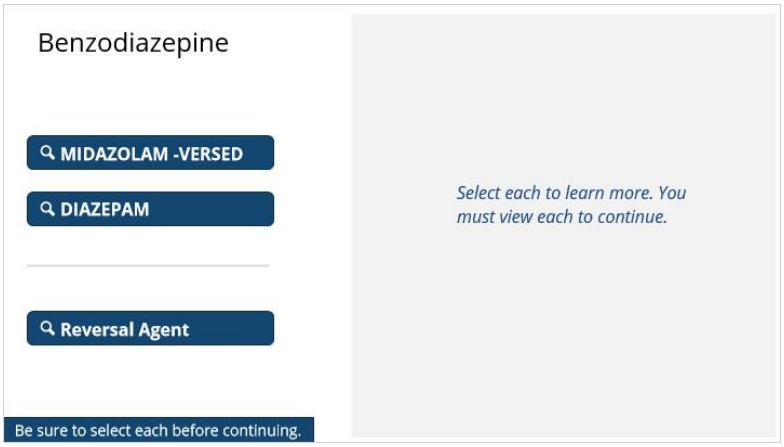
MIDAZOLAM (Slide Layer)



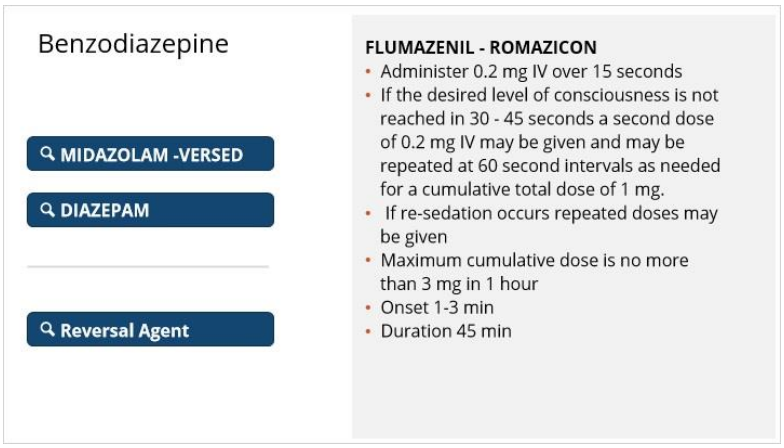
DIAZEPAM (Slide Layer)



Reminder (Slide Layer)



Reversal Agents (Slide Layer)



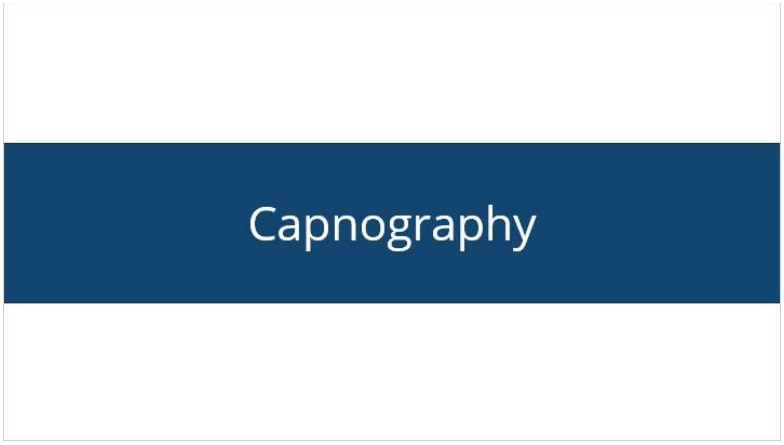
1.48 Reminder about Propofol (Diprivan)

Reminder about Propofol (Diprivan)

PROPOFOL

- Refer to Pharmacy guideline "Pain, Agitation and Delirium in the ICU/ IMCU"
- Propofol is a highly lipophilic compound with general anesthetic properties
- RNs do **NOT bolus propofol EVER!**
- RNs do **NOT administer propofol to NON-intubated patients**
- Onset of Action: within 1 minute
- Duration of Action: 20 - 30 minutes

1.49 Capnography



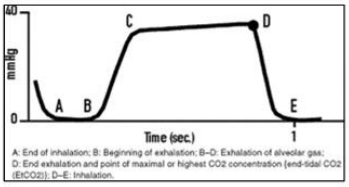
1.50 Capnography

Capnography

- The measurement of the Carbon Dioxide (CO_2) concentration in the airway throughout ventilation
- Displays numerically or via a waveform
- $PACO_2$ – partial pressure of alveolar CO_2
- $PETCO_2$ – partial pressure of CO_2 measured at end expiration

1.51 Analysis of ETCO2 Waveforms

Analysis of $ETCO_2$ Waveforms



Click image to zoom / Click image to unzoom

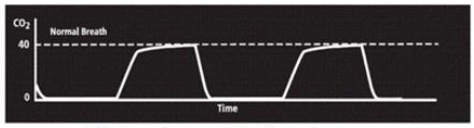
- **Phase 1 (AB)** – Dead space ventilation
- **Phase 2 (BC)** – Rapid rise in CO_2 as air from alveolar region of lungs is exhaled
- **Phase 3 (CD)** – CO_2 concentration equalizes in the exhaled breath – Point D = $ETCO_2$
- **Phase 4 (DE)** – Inspiratory cycle

ICON

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1.52 Normal Capnography Wave

Normal Capnography Wave



Click image to zoom / Click image to unzoom

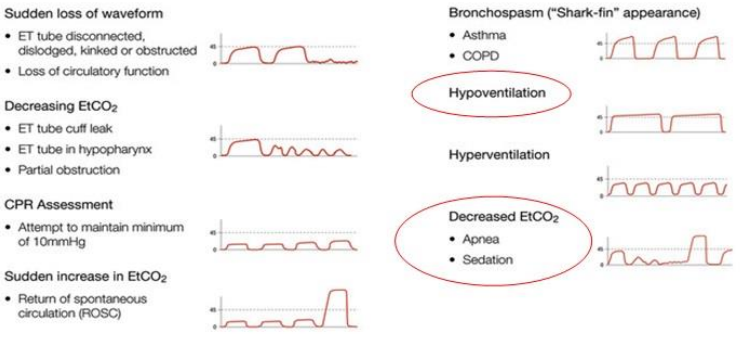
The exhaled CO_2 in the normal individual will have a pattern as shown above. Notice the square and boxlike trend.

ICON

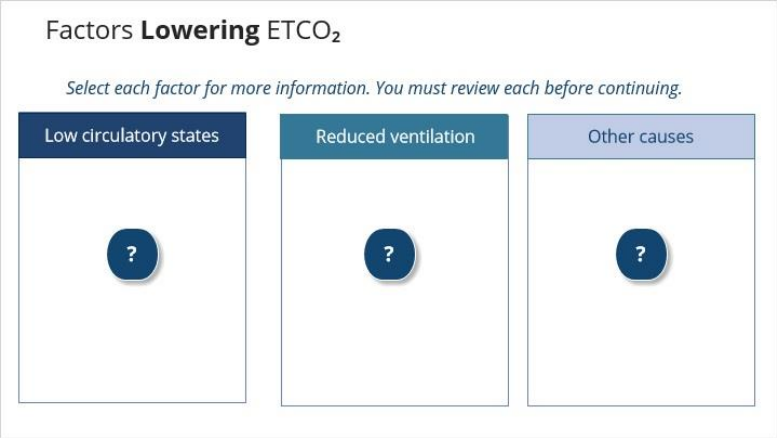
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1.53 Capnography Waveform Examples

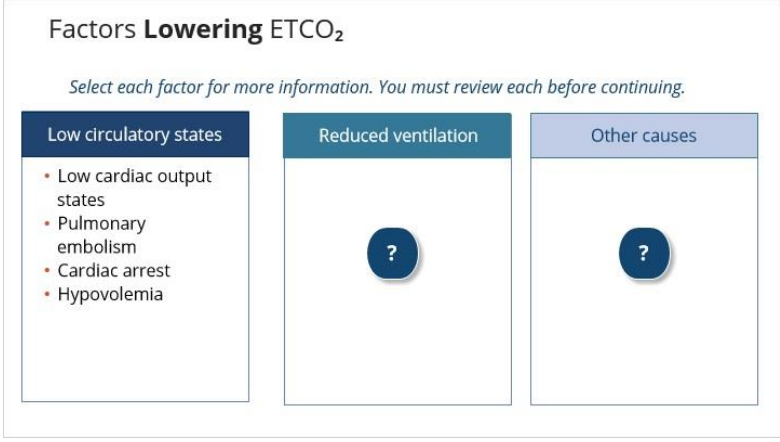
Capnography Waveform Examples



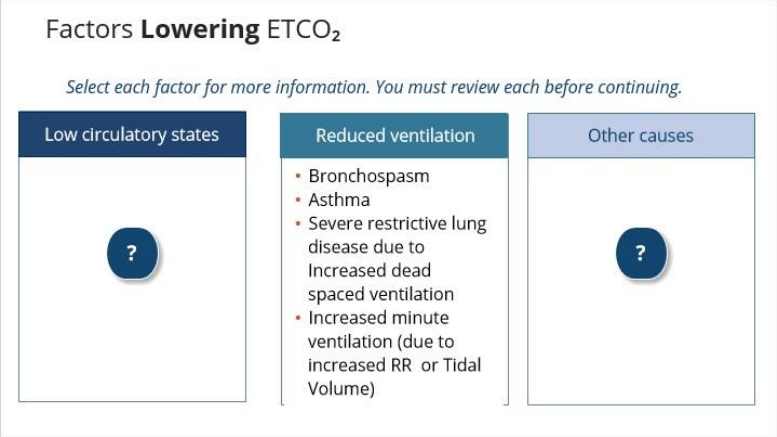
1.54 Factors Lowering ETCO2



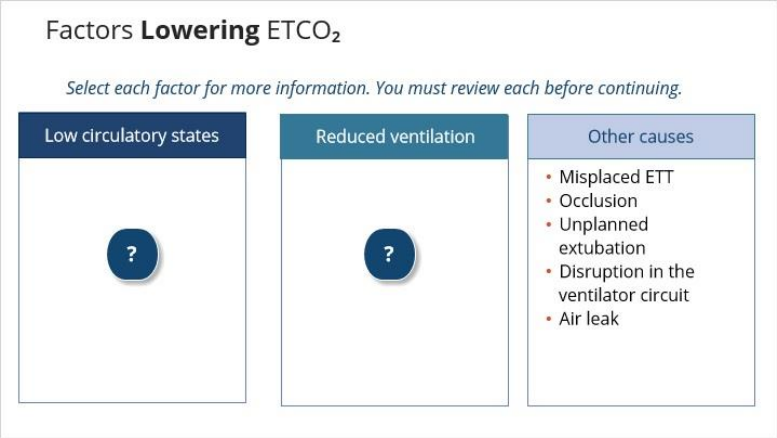
Low Circ (Slide Layer)



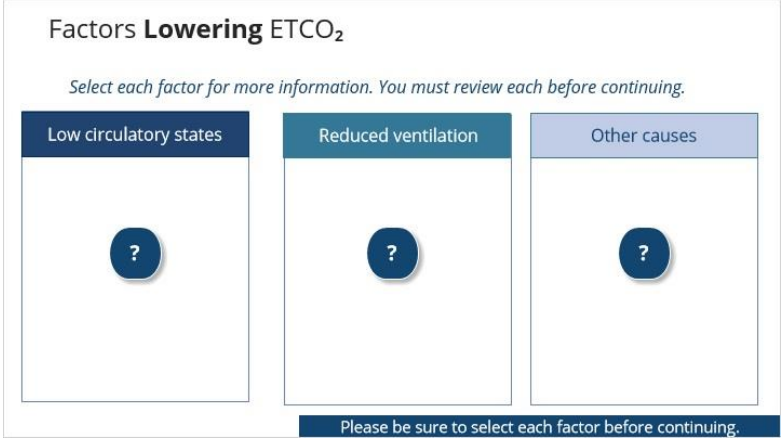
Reduced Vent (Slide Layer)



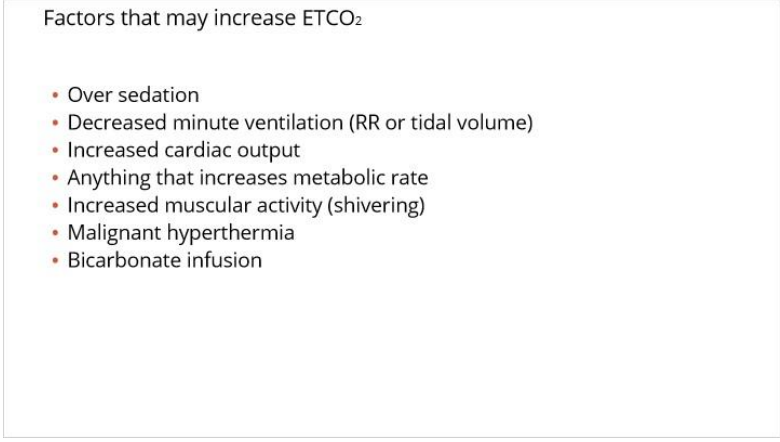
Other (Slide Layer)



Reminder (Slide Layer)



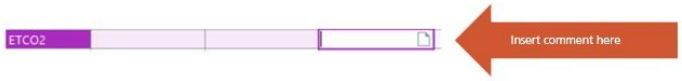
1.55 Factors that may increase ETCO2



1.56 How do I use Capnography monitoring with adult moderate sedation?

How do I use Capnography monitoring with adult moderate sedation?

- Ensure equipment is intact with alarms on
- Obtain a pre-sedation baseline $ETCO_2$ value
- Assess the pre-sedation baseline $ETCO_2$ waveform
- Monitor $ETCO_2$ value & waveform with VS and PRN
- Verify, report & intervene for any change in $ETCO_2$ value or waveform
- If $ETCO_2$ value or waveform does not reflect the clinical situation document with a comment



1.57 What change in the ETCO2 value will I see if my patient is over-sedated?

What change in the $ETCO_2$ value will I see if my patient is over-sedated?

- Initially the $ETCO_2$ may rise due to shallow breaths & hypoventilation due to an increase in dead space
- If the patient becomes apneic the $ETCO_2$ will fall
- Validate, Report & Intervene on any change from a patient's baseline $ETCO_2$
- If $ETCO_2$ value or waveform does not reflect the clinical situation document enter a comment

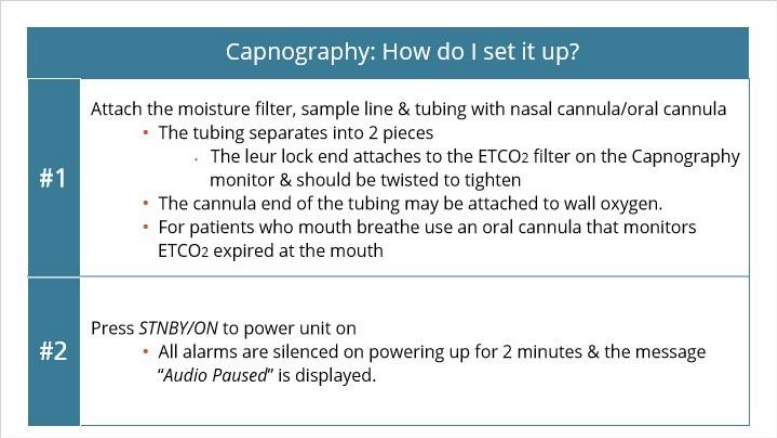
1.58 "Capnography Plus" Monitor

"Capnography Plus" Monitor

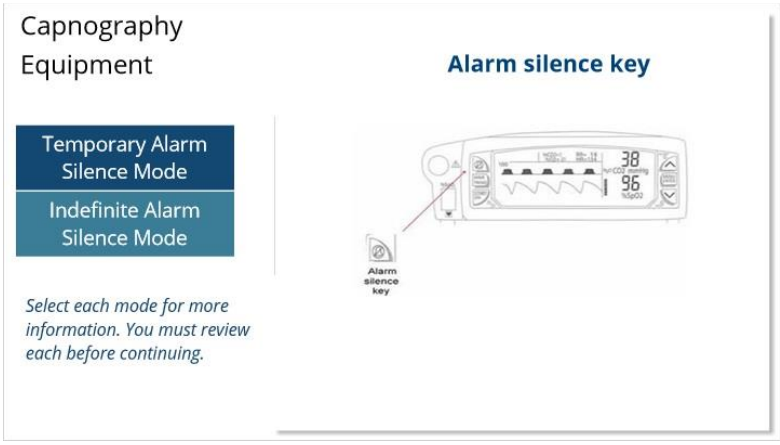


- Displays the following values:
  - $ETCO_2$ - numerical value & waveform
  - Respiratory rate
  - Messages & Alarm Limits
- BMC's Respiratory therapy has set the defaulted high & low $ETCO_2$ alarm limits.
- Battery lasts 2 hours - **PLEASE KEEP PLUGGED IN AT ALL TIMES**
- Disinfect monitor surfaces with isopropyl alcohol.

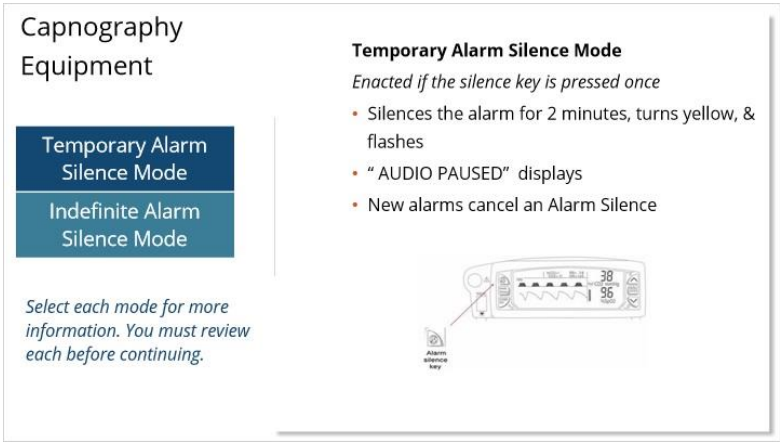
1.59 Capnography: How do I set it up?



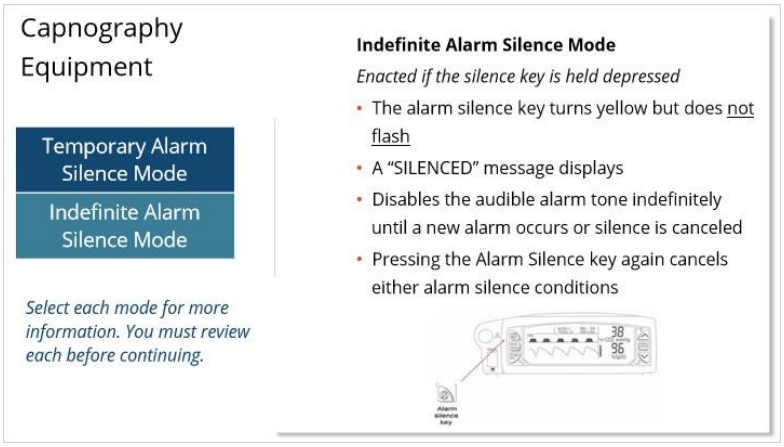
1.60 Capnography Equipment



Temp Alarm (Slide Layer)



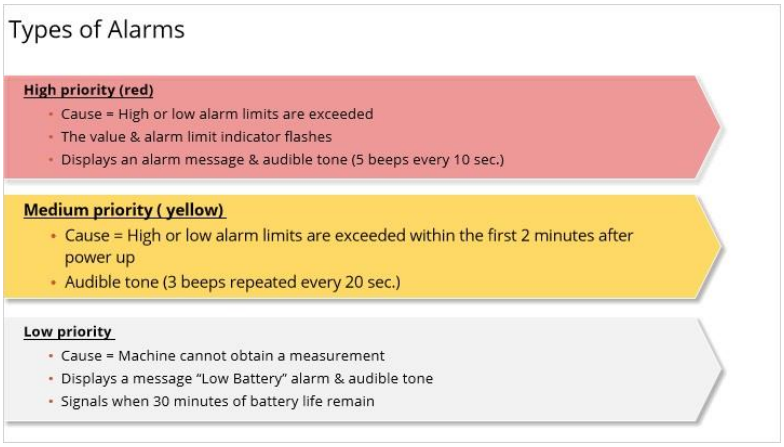
Indef Alarm (Slide Layer)



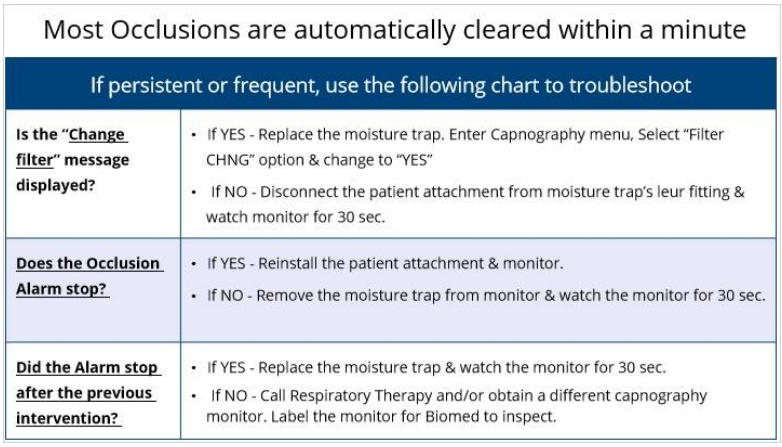
Reminder (Slide Layer)



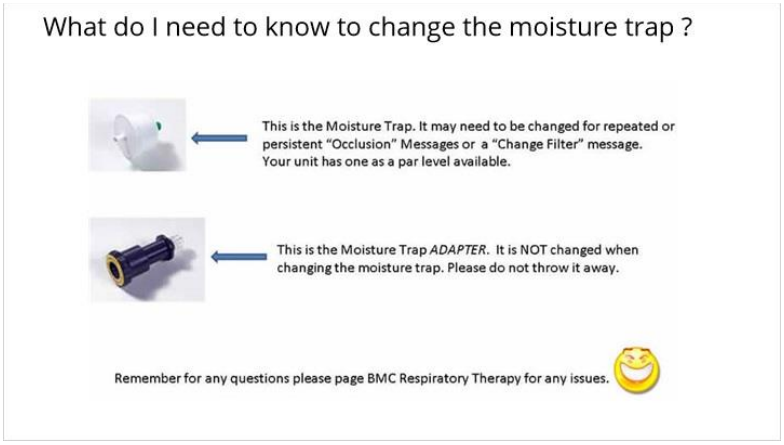
1.61 Types of Alarms



1.62 Most Occlusions are automatically cleared within a minute.

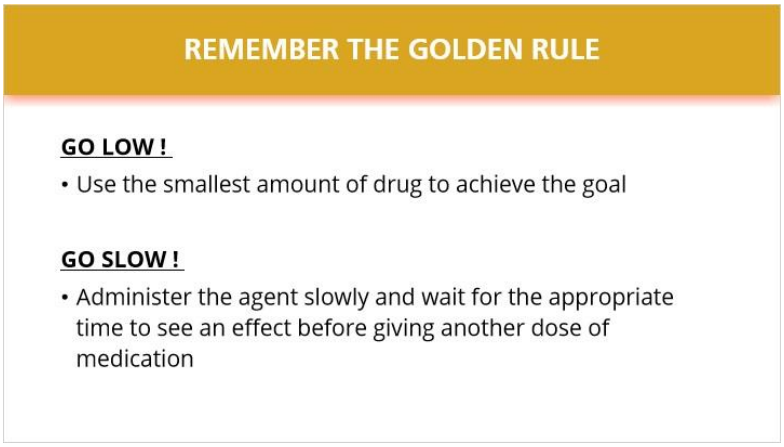


1.63 What do I need to know to change the moisture trap ?

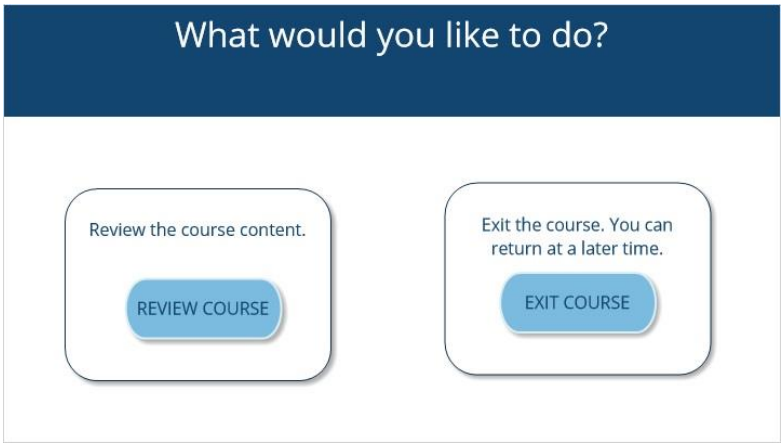


Notes:

1.64 Remember the Golden Rule



Notes:



Notes:

Policy #:	03.95.000
Issued:	May 2011
Reviewed/ Revised:	2/2013, 5/2016, 3/2020, 6/2020, 10/2023
Section:	Clinical Care

Massive Transfusion Protocol (MTP)

Purpose:
To define the guidelines for activation of a Massive Transfusion Protocol (MTP) in patients who are actively bleeding.

Policy Statement:
Anytime a patient is actively bleeding and their transfusion requirement exceeds 3 units of packed red blood cells (PRBCs) in one hour a MTP activation should be considered. This policy outlines the criteria and method for activation in the Emergency Department (ED), Labor and Delivery (L&D), Operating Room (OR), and Surgical Intensive Care Unit (SICU)/ Medical Intensive Care Unit (MICU), as well as the criteria for deactivation, the appropriate clinical tests to monitor, and the process for review of an MTP.

Application:
This policy applies to patients 15 years or older that meet clinical criteria.

Exceptions:
Pediatric patients younger than 15 years old.
Any adult patient who does not meet clinical criteria.

Procedure:
The MTP may only be activated by an attending physician.

The criteria for activation of the MTP is severe, active, uncontrolled, life threatening hemorrhage.

a. Examples of clinical scenarios that increase risk of need for massive transfusion include: uncontrolled trauma, axillary, neck, or groin bleeding, uncontrolled bleeding secondary to large soft tissue injuries, proximal amputation or mangled extremity, clinical signs of coagulopathy, and obstetrical hemorrhage.
b. A number of risk factors for massive transfusion upon hospital admission have been identified. In patient with serious injuries, these include:
    1) Systolic blood pressure <90mm Hg
    2) Heart rate > 120 bpm
    3) pH < 7.25
    4) INR level > 1.4

The MTP may only be deactivated by an attending physician by calling the Blood Bank (4-4141) and should be deactivated if the patient expires, physiological criteria normalize or there is no evidence of surgical bleeding.

During the MTP, the following should be monitored immediately upon activation and every hour until the MTP is deactivated:

1. CBC
2. INR/PTT
3. Fibrinogen
4. ABG
5. Ionized calcium

Activation: No Type and Cross Sample in Blood Bank
For ER use of Haemobank Refrigerator, see section 2

1. All non-ER areas and Haemobank Downtime

a) Activation of MTP by attending physician.
b) Designee/recording nurse records time of activation on chart and notifies Blood Bank at **4-4141.**
    (1) Include patient name, MRN, birth sex and attending physician name
c) Tranexamic acid (TXA) can be ordered for trauma patients > 15 years of age, > 40 kg and < 8 hours from injury, and the pharmacy will provide.
d) Blood Bank calls designee/recording nurse when Box 1 is ready for pickup.
e) Designee picks up Box 1 from Blood Bank and delivers Emergency Release form signed by MTP activating physician.
    (1) All Boxes consist of:
        i. 4 units PRBC's (type O)
        ii. 4 units thawed plasma (type A)
        iii. 1 unit of single donor platelets
f) Specimen is drawn in pink top tube and delivered to Blood Bank (**Station: 211**) in separate bag.
    (1) Include patient name, MRN and two signatures
g) Blood Bank performs type and cross on pink top tube specimen.
h) Designee picks up Box 2 from Blood Bank.
    (1) If type and cross is complete, Box 2 is type-specific
    (2) If type and cross is incomplete, Box 2 is type O PRBC and A thawed plasma
i) Specimen is drawn in white top tube.
j) Designee sends white top tube to Blood Bank (**Station: 211**).
k) Blood Bank performs type on white top tube specimen.
l) When 1 box leaves the Blood Bank, they will immediately set up the next box. Units will be type specific or type compatible as testing allows.
m) Communication between Blood Bank and designee/recording nurse continues until patient is moved or MTP is deactivated by attending physician. Call deactivation to Blood Bank ASAP

2. HaemoBank Use: (Emergency Room Use Only)

a) Retrieving units for use:
    (1) Person retrieving unit(s) of blood will scan in Point of Care ID card
    (2) Select a Product – **click** one: "Red Cells" or "Whole Blood"
    (3) **Scan** the patient's MRN (EPIC facesheet label)

(4) Verify the patient information. If correct **click** "Yes" button.
(5) Select the patient's age and birth sex.
(6) The HaemoBank door will unlock and the correct tray will backlight.
   i. **Open** the HaemoBank door,
   ii. **Slide** the tray forward,
   iii. **Remove** the unit,
   iv. **Close** the tray,
   v. **Close** the HaemoBank door.
(7) **Scan** the unit barcode label under the kiosk.
(8) BloodTrack label will print. Affix the label to the unit.
(9) Click the "Yes" button if the label printed, otherwise click the "No" button.
(10) At "Do you want more emergency Red Cells" select "Yes" then it repeats at step #6.
(11) If Red Cells were removed, repeat steps 1-10 to retrieve 2 Plasma.

b) Returning Units: Units must be returned within 20 minutes
(1) At the HaemoBank kiosk, **scan** your barcoded user ID card.
(2) Select Action – **click** the "Putting In" button.
(3) **Scan** the unit barcode label (upper left hand quadrant, identifier starts with "W").
(4) The HaemoBank door will unlock and the correct tray will backlight.
   i. **Open** the HaemoBank door,
   ii. **Slide** the tray forward,
   iii. **Place** the unit in the tray
   iv. **Close** the tray.
   v. **Close** the HaemoBank door.
(5) If another unit will be returned, repeat from step #3.

c) USE OF FRIDGE
(1) When the door is opened and units removed (or returned) the blood bank is automatically notified by the system.
(2) Maximum of 1 Trauma Pack (2 RBC & 2 FFP) or 2 Whole bloods may be used per patient. If further units are required the ER MUST call the Blood Bank and order Emergency Release as described in number 1 of the Downtime section.
(3) In all cases, the ER should consider the use of the fridge as the first box of blood for any patient. They must CALL the blood bank for more units and come pick them up as described below AND follow all specimen requirements as listed in sections D-G in section 1 above.
(4) Returned blood will automatically be quarantined and cannot be used by nursing until a member of the blood bank staff reviews the unit.
(5) It is not possible for the Haemobank refrigerator to be resupplied 24/7. If too many units are used (or removed and returned) the ER will need to call the blood bank as described in the Downtime section for ALL emergency release units.
(6) A physician's order for Emergency Release must be placed in EPIC. This will be the electronic signature for the emergency release.

(7) All steps in the process must be followed for regulatory purposes. Failure to finish the complete removal and documentation of units on a regular basis, will require the Blood Bank to pull refrigerator access from offending users

NOTE:
(1) If the location of the patient changes, ED staff is responsible for communicating MTP status during verbal report. If the patient is moved to the OR, OR staff must contact the Blood Bank. If the patient is moved to the ICU, ICU staff must contact the Blood Bank.
(2) Per Blood Bank protocol, until the white top tube is received for type verification, non-type specific blood products will be released.

Activation: Type and Cross Complete

1. Activation of MTP by attending physician.
2. Designee from requesting service calls the Blood Bank at **4-4141** and records activation time in record.
    a. Include patient name, MRN, sex and attending physician name
3. For adult (> 15 years of age, > 40 kg) trauma patients < 8 hours from injury, tranexamic acid (TXA) can be ordered and the pharmacy will provide.
4. Runner from requesting area picks up Box 1 from Blood Bank and delivers Emergency Release form to be signed by MTP activating physician.
    a. All boxes consist of:
        i. 4 units PRBC's (type specific)
        ii. 4 units thawed plasma (type specific)
        iii. 1 unit of single donor platelets
5. All subsequent boxes will have the same contents and will be set up as soon as the previous box has left the blood bank. .
6. Communication between Blood Bank and requesting area continues until patient is moved or MTP is deactivated by attending physician. Call deactivation to the Blood Bank ASAP.

NOTE:
If the location of the patient changes, requesting area staff is responsible for communicating MTP status during verbal report. If the patient is moved to the ICU, ICU staff must contact the Blood Bank.

Responsibility:
Attending Physician, Anesthesia, Nursing, Blood Bank, ED, L&D and OR staff

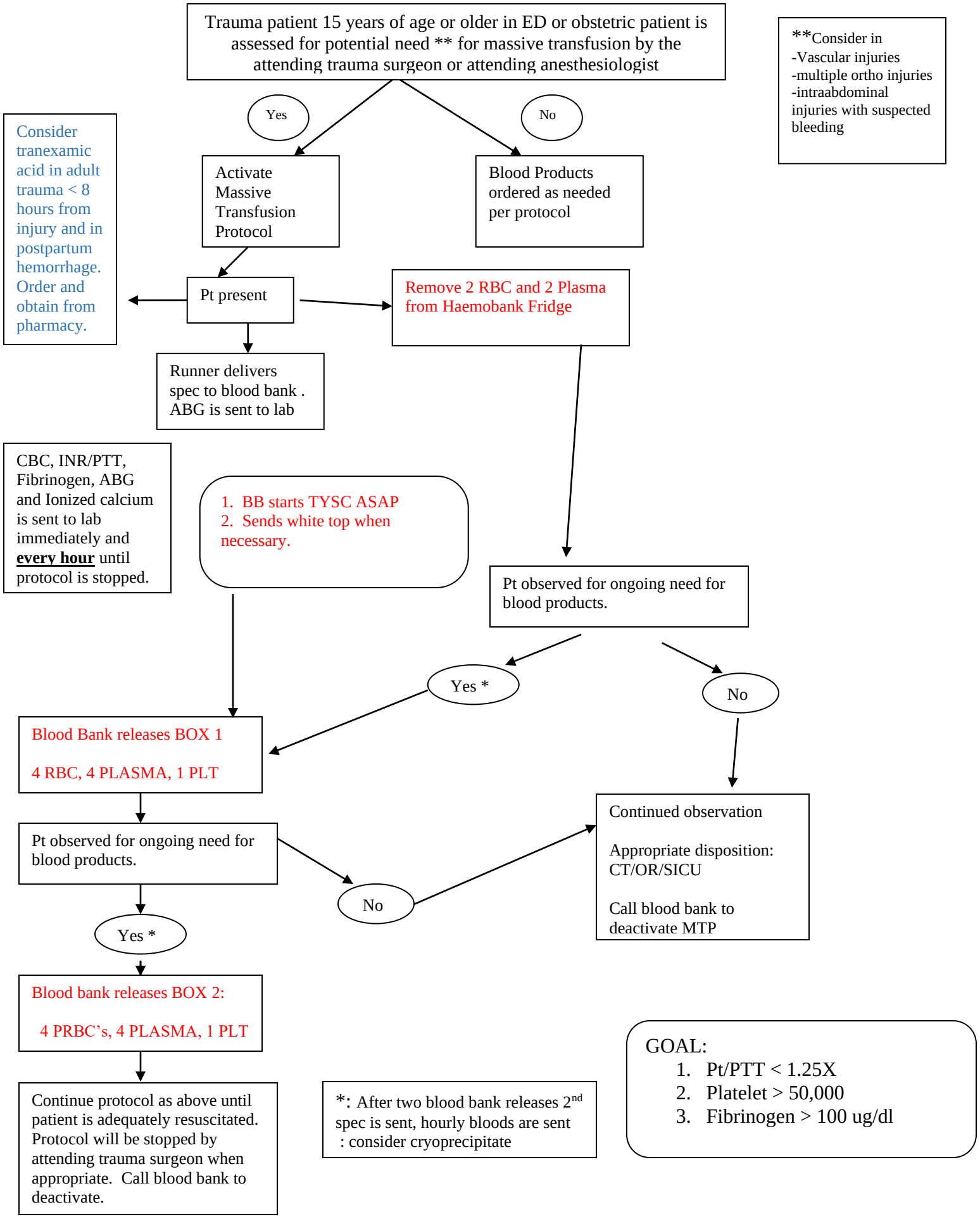
Other Related Policies:
None

References:
Relevant Contacts:
TRAUMA BAY 1: 4-4152 OR: 4-4116
TRAUMA BAY 2: 4-4148 **BLOOD BANK: 4-4141**
TRAUMA BAY 3 (PEDI): 4-7766 ED SATELLITE PHARMACY 4-5609
LABOR AND DELIVERY: 4-4364
MENINO PHARMACY 4-7687

Contributing Departments:

1. Anesthesiology
2. Operating Room
3. Surgical ICU
4. Obstetrics
5. Blood Bank
6. Nursing
7. Emergency Medicine
8. Pharmacy

Initiated by: Trauma Surgery, Obstetrics


Trauma patient 15 years of age or older in ED or obstetric patient is assessed for potential need ** for massive transfusion by the attending trauma surgeon or attending anesthesiologist
**Consider in -Vascular injuries -multiple ortho injuries -intraabdominal injuries with suspected bleeding
Yes
No
Activate Massive Transfusion Protocol
Blood Products ordered as needed per protocol
Consider tranexamic acid in adult trauma < 8 hours from injury and in postpartum hemorrhage. Order and obtain from pharmacy.
Pt present
Remove 2 RBC and 2 Plasma from Haemobank Fridge
Runner delivers spec to blood bank . ABG is sent to lab
CBC, INR/PTT, Fibrinogen, ABG and Ionized calcium is sent to lab immediately and every hour until protocol is stopped.
1. BB starts TYSC ASAP
2. Sends white top when necessary.
Pt observed for ongoing need for blood products.
Yes *
No
Blood Bank releases BOX 1
4 RBC, 4 PLASMA, 1 PLT
Pt observed for ongoing need for blood products.
No
Continued observation
Appropriate disposition: CT/OR/SICU
Call blood bank to deactivate MTP
Yes *
Blood bank releases BOX 2:
4 PRBC's, 4 PLASMA, 1 PLT
Continue protocol as above until patient is adequately resuscitated. Protocol will be stopped by attending trauma surgeon when appropriate. Call blood bank to deactivate.
*: After two blood bank releases 2nd spec is sent, hourly bloods are sent : consider cryoprecipitate
GOAL:
1. Pt/PTT < 1.25X
2. Platelet > 50,000
3. Fibrinogen > 100 ug/dl