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Keywords: Procedural Sedation and Analgesia (PSA), Disclosure of Complications

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Target Learners

- Residents
- Emergency Medicine
 - Anesthesia/Critical care
 - Orthopedic
- Students
- Medical
 - Pharmacy

THE CASE

A 62 year old female bent over to tie her shoe and felt her left hip "pop out." She had a total left hip arthroplasty 4 months ago for progressive arthritis and dislocated it in a similar fashion 2 months ago. It was reduced successfully at that time and it now feels the same. She had significant pain initially but now rates it 3/10 and calls it "more of a discomfort." She has no other complaints and wants the physician to "put the gosh-darn thing back" so she can get back to her grandchildren. Her last meal was 6 hours ago and she drank water 4 hours ago. Your emergency physician colleague has asked for your assistance in sedating the patient so that he can reduce the dislocated joint.

Critical Actions

1. Complete an appropriate airway assessment.
2. Ensure appropriate cardiorespiratory monitoring prior, during, and post procedure.
3. Identify and intervene to prevent complications as needed specific for agents administered.

Objectives

Medical	<ul style="list-style-type: none"> • Understand the characteristics of sedation agents and select appropriate medication • Perform focused pre-PSA physical exam • Ensure cardiorespiratory monitoring during and following PSA • Recognize and treat common PSA complications
Communication	<ul style="list-style-type: none"> • Acquire informed consent for the PSA • Respond to nursing challenge regarding the selection of PSA medication • Communicate effectively as an interdisciplinary team

Requirements

Patient	62 year old female
Location	ED resuscitation bay
Moulage	Manikin with street clothing
Equipment	Advanced airway equipment Airway adjuncts (if requested) Cardiac monitor EtCO ₂ monitor (if requested) IV fluid Sedation agents Syringes
Other Participants	Emergency physician colleague – Gives the patient's history and requests sedation. Attempts to reduce the hip.
	ED nurse – Completes and executes all orders provided. Raises concerns regarding choice of PSA agent with learner.
	Orthopedics attending (voice) – Requests that EP sedate and reduce the hip and call if they have trouble. Agrees to follow-up as an outpatient.
	Anesthesia attending (voice) – Suggests that patient is appropriate for an ED PSA. Unavailable to assist as there is an urgent case in the OR.
Supporting Files	Hip x-ray – attached
Index of Abbreviations	BP = blood pressure ED = emergency department EP = emergency physician HR = heart rate IV = intravenous LOC = loss of consciousness RR = respiratory rate PSA = procedural sedation & analgesia



Usage

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ABEM/ACGME Emergency Medicine Milestones

This page lists the pertinent Joint ABEM/ACGME Emergency Medicine milestones. Each specific behavior mentioned during this case as a critical step or action has been mapped to a particular milestone & achievement level.

Listing of milestones assessed in this simulated case:

Patient Care (PC)

PC4: Diagnosis

Based on all of the available data, narrows and prioritizes the list of weighted differential diagnoses to determine appropriate management. (Level 4)

PC5: Pharmacotherapy

Selects and prescribes, appropriate pharmaceutical agents based upon relevant considerations such as mechanism of action, intended effect, financial considerations, possible adverse effects, patient preferences, allergies, potential drug-food and drug-drug interactions, institutional policies, and clinical guidelines; and effectively combines agents and monitors and intervenes in the advent of adverse effects in the ED. (Level 4)

PC9: General Approach to Procedures

Performs the indicated procedure on all appropriate patients (including those who are uncooperative, at the extremes of age, hemodynamically unstable and those who have multiple co-morbidities, poorly defined anatomy, high risk for pain or procedural complications, sedation requirement), takes steps to avoid potential complications, and recognizes the outcome and/or complications resulting from the procedure. (Levels 2,4)

PC10: Airway Management

Performs airway management on all appropriate patients (including those who are uncooperative, at the extremes of age, hemodynamically unstable and those who have multiple co-morbidities, poorly defined anatomy, high risk for pain or procedural complications, sedation requirement), takes steps to avoid potential complications, and recognize the outcome and/or complications resulting from the procedure. (Level 1)

PC11: Analgesia and Pain Management

Provides safe acute pain management, anesthesia, and procedural sedation to patients of all ages regardless of the clinical situation. (Level 3)

Professional (PROF)

PROF2 : Accountability

Demonstrates accountability to patients, society, profession and self. (Level 4)

Interpersonal and Communication Skills (ICS)

ICS2: Team Management: Leads patient-centered care teams, ensuring effective communication and mutual respect among members of the team. (Level 3)

Observable Behaviour	Milestone Assessed	Level
Critical Step 1: Take an appropriate pre-sedation history (HPI, PMHx, PSHx, Medications, Allergies, Last Meal)	PC11: Performs patient assessment and discusses with the patient the most appropriate analgesic/sedative medication and administers in the most appropriate dose and route	3
Critical Step 2: Perform an appropriate pre-sedation physical exam and airway assessment	PC11: Performs pre-sedation assessment, obtains informed consent and orders appropriate choice and dose of medications for procedural sedation	3
Critical Step 3: Selects sedation strategy in consultation with the patient	PC5: Selects the appropriate agent based on mechanism of action, intended effect, possible adverse effects, patient preferences, allergies, potential drug-food and drug-drug interactions, financial considerations, institutional policies, and clinical guidelines, including patient's age, weight, and other modifying factors	4
	PC11: Knows the indications, contraindications, potential complications and appropriate doses of medications used for procedural sedation	3
Critical Step 4: Critical Step Obtains informed consent for PSA	PC9: Performs patient assessment, obtains informed consent and ensures monitoring equipment is in place in accordance with patient safety standards	4
Critical Step 5 & 9: Ensure monitoring equipment is available and working correctly (cardiorespiratory monitors +/-EtCO ₂)	PC9: Performs patient assessment, obtains informed consent and ensures monitoring equipment is in place in accordance with patient safety standards	2
Critical Step 6: Responds respectfully to nurse's concerns regarding the use of propofol or ketamine	ICS2: Ensures clear communication and respect among team members	3
Critical Step 7: Selects appropriate dosage of the selected analgesic / sedative medications based on indications, contraindications and complications	PC4: Synthesizes all of the available data and narrows and prioritizes the list of weighted differential diagnoses to determine appropriate management	4
	PC9: Knows indications, contraindications, anatomic landmarks, equipment, anesthetic and procedural technique, and potential complications for common ED procedures	2
	PC11: Knows the indications, contraindications, potential complications and appropriate doses of analgesic / sedative medications	3
Critical Step 8: Recognize and treats hypotension (propofol) or laryngospasm (ketamine) during PSA	PC9: Performs patient assessment, obtains informed consent and ensures monitoring equipment is in place in accordance with patient safety standards	4
	PC10: Performs basic airway maneuvers or adjuncts (jaw thrust/chin lift/oral airway/nasopharyngeal airway) and ventilates/oxygenates patient using BVM	1
Critical Step 10: Continues to monitor patient post-PSA	PC9: Performs patient assessment, obtains informed consent and ensures monitoring equipment is in place in accordance with patient safety standards	2
Critical Step 11: Recognizes and treats apnea (propofol) or emergence reaction (ketamine)	PC4: Synthesizes all of the available data and narrows and prioritizes the list of weighted differential diagnoses to determine appropriate management	4
Critical Step 12: Provides appropriate handover to nurse regarding anticipated post-sedation complications, length of monitoring and when the physician should be called back prior to leaving the bedside	ICS2: Ensures transitions of care are accurately and efficiently communicated	3
Critical Step 13: Discloses complications of sedation to patient	PROF2: Manages medical errors according to principles of responsibility and accountability in accordance with institutional policy	4



Usage

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I. Pre-Sedation

Emergency Physician
Colleague requests sedation
for hip reduction.

The Patient

62 year old female bent over to tie her shoe today, she felt her left hip "pop out."

She is lying comfortably on the stretcher awaiting PSA and reduction.

The Scene

Patient is status post total left hip arthroplasty, dislocation 2 months ago, successively reduced at that time.

She had some pain initially, but now "more of a discomfort." She has no other complaints. Her last meal was 6 hours ago and she last drank 4 hours ago.

Required Resources

- Pre-Sedation Cards
- 1) History: Patient Information Card
- 2) Physical: Vitals, Findings

1. Emergency physician:

Requests assistance for learner to provide PSA for reduction of the dislocated hip.

2. Nurse:

Requests drug selection. If a sedative other than ketamine or propofol is selected the nurse will note that they are out of that medication.

Legend	
Blue = EP action	Green = Ketamine Scenario
Pink = RN action	Orange = Propofol Scenario
Yellow = Learner action	

II. Sedation

Ist Complication

- a) Ketamine = Laryngospasm
- b) Propofol = Hypotension



3. Learner chooses sedation agent.

Can use one of following choices (see below for **Nurse action**):

- 1) Propofol
- 2) Ketamine

Learner instructs the nurse to give either ketamine or propofol +/- an analgesic. As per institutional policy, ketamine and propofol can not be used together and all other sedatives are out of stock.

Nurse:
If **ketamine** is selected the nurse will recall a bad emergence reaction that she saw and request that another drug be used.

Nurse:
If **propofol** is selected the nurse will mention the patient's low blood pressure and request that another drug be used.

4a. KETAMINE SEDATION

The patient will become:

- **partially dissociated** at a dose of 60-80 mg
- **completely dissociated** at a dose of 100 mg.

Nystagmus will be noted after 60mg have been given.

The **HR and BP will slowly rise** as ketamine is given to a HR of 105 and BP of 115/85.

After 100 mg of ketamine has been given the patient will **stop breathing suddenly** and **oxygen saturation will drop to 80%** over 2 minutes.

BMV will feel "very tight" representing **laryngospasm** that will break with appropriate head positioning and administration of 100% FiO2 and 20-30s of BVM ventilation.

4a. Emergency physician:

- Will feel the hip reduce immediately **after** laryngospasm is **noted** by the learner.
- If laryngospasm not noted will point out **dropping O2 sat**



III. Post Sedation

2nd Complication

- a) Ketamine=Emergence Reaction
- b) Propofol = Apnea

5a. EMERGENCE REACTION

The patient will begin to rouse, scream about monsters and flail their arms.

HR will rise to 120 and BP to 135/90.

This **will resolve within 2 minutes** of IV administration of a benzodiazepine (e.g. lorazepam, midazolam)

5a. Nurse:
Nurse gets panicked that the patient is freaking out "just like last time"



4b. PROPOFOL SEDATION

The patient will become:

- **Confused but combative** at a dose of 60 mg
- **Unresponsive** at a dose of 80 mg
- **Hypotensive (75/40)** at a dose of 80 mg

The **BP will drop slowly**.

The BP will correct if **pt is given:**

- **A vasopressor** (such as *phenylephrine, ephedrine, epinephrine, norepinephrine*)
- **Or an IVF bolus.**

4b. Emergency physician:

- Will feel the hip reduce immediately **after** the hypotension is addressed.
- Will point out hypotension, if it is **not noted**

5b. APNEA

The patient will become apneic. RR will trend to 0 and oxygen saturation to 80% by 2 minutes after the hip is reduced.

5b. Nurse:
Nurse notes the dropping oxygen saturation when it hits 85% if not already noted by the learner.

IV. Conclusion

Handover to RN

Disclosure of Complications

6a. PATIENT TREATED

Patient calms with benzodiazepine and vitals return to baseline

Learner should disclose PSA complications to patient

6a. Nurse:
Nurse states that she will continue to monitor the patient and asks the learner: **What should she watch for? (Handover)**

6b. APNEA RESOLVES

After a short course of BVM support, the patient begins to breathe spontaneously and vitals return to baseline

Learner should disclose PSA complications to patient

6b. Nurse:
Nurse states that she will continue to monitor the patient and asks the learner: **What should she watch for? (Handover)**



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Pre-Sedation | History

Your emergency physician colleague has asked for your assistance in sedating the patient so that he can reduce the dislocation. **THE PATIENT** is a 62 year old female bent over to tie her shoe today she felt her left hip "pop out." She is lying comfortably on the stretcher awaiting PSA and reduction. Pt status post total left hip arthroplasty, dislocation 2 months ago, successively reduced at that time. She had some pain initially, but now "more of a discomfort." She has no other complaints. Her last meal was 6 hours ago and she last drank 4 hours ago.

Additional Patient Information

This document should be provided to the patient information provider (Sim. mannequin technician or Simulated Patient).

* Only provide this information IF ASKED by the learner.

PMHx: Osteoarthritis (hips and knees); Hypercholesterolemia

MEDS: Atorvastatin, Acetaminophen, Ibuprofen

Allergies: NKDA

PSHx: Bilateral total hip replacement under general anesthetic at another hospital. Surgical records unavailable.

SOCIAL Hx: Retired secretary. Denies EtOH/drugs.

Additional: Married, lives with spouse

FAMILY Hx: Unremarkable

ROS: Negative



Pre-Sedation | Physical

HR	BP	Temp (C)	RR	O ₂ Sat (RA)
85	105/70	37	16	97%

GENERAL: Weight = 100 kg

ACCESS: 18 gauge IV above left wrist

AIRWAY

MO₂ANS Predictors of difficult Bag Valve Mask	Mask seal: Normal Obstruction: None Obesity: BMI 36 Age/Dentition: No teeth; has upper and lower dentures Stiff lungs: No
RODS Predictors of difficult Laryngeal Mask Airway (LMA)	Restricted mouth opening: Only 2 cm Obstruction: None Distorted or Disrupted airway: None Stiff lungs: No
LEMON Predictors for difficult Endotracheal Intubation	Look: Normal Evaluate 2,3,2: Decreased mouth opening Mallampati Classification: II (Two) Obstruction: None Neck: Decreased secondary to Rheumatoid Arthritis

LEFT LEG: Shortened,externally rotated
Neurovascularly intact

OTHER: Physical Exam is **otherwise normal**



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R

07

Image credit to Dr. Ian Erskine via GMEP



I. Pre-Sedation

Emergency Physician Colleague requests sedation for hip reduction.

The Patient

62 year old female bent over to tie her shoe today she felt her left hip "pop out." She is lying comfortably on the stretcher awaiting PSA and reduction.

The Scene

Patient is status post total left hip arthroplasty, dislocation 2 months ago, successively reduced at that time. She had some pain initially, but now "more of a discomfort." She has no other complaints. Her last meal was 6 hours ago and she last drank 4 hours ago.

Required Resources:

Pre-Sedation Cards for Hx/Px (See vitals there)

1. Emergency physician:

Requests assistance that learner provide PSA for reduction of the patient's dislocated hip.

2. Nurse: Requests drug selection.

Learner instructs the nurse to give either ketamine or propofol +/- an analgesic. As per institutional policy, ketamine and propofol can not be used together and all other sedatives are out of stock. **If ketamine is selected** the nurse will recall a bad emergence reaction that she saw and request that another drug be used.

Critical Steps

- Takes an appropriate pre-PSA history
- Performs an appropriate pre-PSA physical exam
- Selects sedation strategy in consultation with the patient
- Obtains informed consent for PSA
- Ensures monitoring equipment is available and working
- Responds respectfully to nurse's concerns regarding the use of propofol or ketamine

Actions to Move onto the Next Stage

3. Sedation Agent Selected:

Learner instructs the nurse to give the selected sedative agent per 'institutional policy' must choose one or the other, cannot mix

II. Ketamine Sedation LARYNGOSPASM

4a. KETAMINE SEDATION

The **HR and BP will slowly rise** as ketamine is given to a **HR of 105 and BP of 115/85.**

60 mg Ketamine: Nystagmus will be noted

60-80 mg Ketamine: Patient is **partially dissociated**

100 mg Ketamine: Patient is **completely dissociated**

100 mg Ketamine: Patient **stops breathing suddenly** and **oxygen saturation will drop to 80%** over 2 minutes.

BMV will feel "very tight" representing **laryngospasm** that will break with appropriate head positioning and administration of 100% FiO₂ and 20-30s of BVM ventilation.

4a. Emergency physician:

- Will feel hip reduce immediately **after** laryngospasm is **noted** by the learner
- points out **dropping O₂ sat** if laryngospasm not noted.

4a. Nurse: Supportive role

Critical Steps

- Recognizes and treats the laryngospasm

Actions to Move onto the Next Stage

Treat laryngospasm

III. Post Sedation EMERGENCE REACTION

The patient will begin to rouse, scream about monsters and flail their arms.

HR will rise to 120 and BP to 135/90.

This will resolve within **2 minutes** of IV administration of a benzodiazepine

5a. Emergency physician: Supportive role

5a. Nurse:

Becomes panicked that the patient is freaking out "This is just like last time!"

Critical Steps

- Continues to monitor the patient after the procedure.
- Recognizes and treats emergence reaction by speaking to patient calmly and/or giving a benzodiazepine

Actions to Move onto the Next Stage

Address emergence reaction

IV. Conclusion Handover to RN Disclosure of Complications

The patient calms with benzodiazepine and vitals return to baseline

6a. Emergency physician: Supportive role

6a. Nurse:

Nurse states that she will continue to monitor the patient and asks the learner: **"What I should watch for?"**

Critical Steps

- Provide appropriate instructions to the nurse including what to watch for, how long the patient needs monitoring, and when the physician should be called back
- Discloses PSA complications to patient

Actions to Move onto the Next Stage

Handover anticipated late complications of PSA
Disclosure of PSA complications to patient
Communication with nurse

Legend

Blue = EP action

Pink = RN action

Yellow = Learner action

Green = Ketamine Scenario

Orange = Propofol Scenario

Usage

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I. Pre-Sedation

Emergency Physician Colleague requests sedation for hip reduction.

The Patient

62 year old female bent over to tie her shoe today she felt her left hip "pop out." She is lying comfortably on the stretcher awaiting PSA and reduction.

The Scene

Patient is status post total left hip arthroplasty, dislocation 2 months ago, successively reduced at that time. She had some pain initially, but now "more of a discomfort." She has no other complaints. Her last meal was 6 hours ago and she last drank 4 hours ago.

Required Resources:

Pre-Sedation Cards for Hx/Px (See vitals there)

1. Emergency physician:

Requests assistance that learner provide PSA for reduction of the patient's dislocated hip.

2. Nurse: Requests drug selection.

Learner instructs the nurse to give either ketamine or propofol +/- an analgesic. As per institutional policy, ketamine and propofol can not be used together and all other sedatives are out of stock.

If propofol is selected the nurse will mention the patient's low blood pressure and request that another drug be used.

Critical Steps

- Take an appropriate pre-PSA history
- Perform an appropriate pre-PSA physical exam
- Selects sedation strategy in consultation with the patient
- Obtain informed consent for PSA
- Ensure monitoring equipment is available and working
- Responds respectfully to nurse's concerns regarding the use of propofol or ketamine

Actions to Move onto the Next Stage

3. Sedation Agent Selected:

Learner instructs the nurse to give the selected sedative agent per 'institutional policy' must choose one or the other, cannot mix

II. Propofol Sedation HYPOTENSION

4b. PROPOFOL SEDATION

The BP will drop slowly.

60 mg of Propofol: confused but combative

80 mg of Propofol: unresponsive & hypotensive (75/40)

The BP will correct if **pt is given:**

- **A vasopressor** (such as *phenylephrine, ephedrine, epinephrine, norepinephrine*)
- **Or an IVF bolus.**

4b. Emergency physician:

- will feel the hip reduce immediately **after** the hypotension is addressed.

- will point out hypotension, if it is **not noted**

4b. Nurse: Supportive Role

Critical Steps

- Recognizes and treats the hypotension

Actions to Move onto the Next Stage

Treats hypotension

III. Post Sedation APNEA

5b. APNEA

The patient will become apneic.

RR will trend to 0 and oxygen saturation to 80% by 2 minutes after the hip is reduced.

5b. Emergency physician: Supportive role

5b. Nurse:

Nurse notes the dropping oxygen saturation when it hits 85% if not already noted by the learner.

Critical Steps

- Continues to monitor the patient after the procedure.
- Recognize and treat apnea with jaw thrust and BVM ventilation

Actions to Move onto the Next Stage

Addresses apnea

IV. Conclusion Handover to RN Disclosure of Complications

The patient begins to breathe spontaneously and vitals return to baseline.

6b. Emergency physician: Supportive role

6b. Nurse:

Nurse states that she will continue to monitor the patient and asks the learner: **"What I should watch for?"**

Critical Steps

- Provide appropriate instructions to the nurse including what to watch for, how long the patient needs monitoring, and when the physician should be called back
- Discloses PSA complications to patient

Actions to Move onto the Next Stage

Handover anticipated late complications of PSA
Disclosure of PSA complications to patient
Communication with nurse

Legend

Blue = EP action

Pink = RN action

Yellow = Learner action

Green = Ketamine

Orange = Propofol Scenario

Usage

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ACHIEVEMENT CHECKLIST INSTRUCTIONS

This form is meant to serve as an achievement checklist for the ALiEM Sim Case Series Procedural Sedation & Analgesia case. This checklist has been developed to diagnose critical misses, and also to help facilitate a debrief and/or discussion around all the important steps within this case.

THE CASE

Your emergency physician colleague has asked for your assistance in sedating the patient so that he can reduce the dislocation. **THE PATIENT** is a 62 year old female bent over to tie her shoe today she felt her left hip “pop out.” She is lying comfortably on the stretcher awaiting PSA and reduction. The patient is status post total left hip arthroplasty, with a dislocation 2 months ago that was successively reduced at that time. She had some pain initially, but now “more of a discomfort.” She has no other complaints. Her last meal was 6 hours ago and she last drank water 4 hours ago.

I. Pre-Sedation

Emergency Physician Colleague requests sedation for hip reduction.

- Critical Step 1: Takes an appropriate pre-PSA history** [PC11, Level 3]
Suggested Debrief for Misses: I did not hear you ask about (component of history) during your pre-sedation history and am concerned that you did not have enough information to sedate the patient safely. What are your thoughts?
Take Home Point: It is essential to get a complete history prior to sedations.
- Critical Step 2: Performs an appropriate pre-PSA physical exam** [PC11, Level 3]
Suggested Debrief for Misses: I did not see you examine the patient prior to the sedation and am concerned that an airway problem could have been missed. What your thoughts?
Take Home Point: It is essential to examine the patient and her airway prior to the sedation.
- Critical Step 3: Selects sedation strategy in consultation with patient** [PC5, Level 4; PC11, Level 3]
Suggested Debrief for Misses: I noticed that you didn't discuss the sedation strategy with the patient and am concerned that they did not feel involved in their care. What do you think?
Take Home Point: Patients should be involved in their care decisions whenever possible.
- Critical Step 4: Obtains informed consent for PSA** [PC9, Level 2]
Suggested Debrief for Misses: I did not hear you obtain informed consent and am concerned that the patient did not understand the risks of the procedure. What your thoughts?
Take Home Point: It is essential to obtain informed consent.
- Critical Step 5: Ensures monitoring equipment is available and working** [PC9, Level 2]
Suggested Debrief for Misses: I did not see you check your equipment before the PSA and am worried that there could be a bad outcome if it did not work. What your thoughts?
Take Home Point: It is essential to ensure that all PSA equipment is working prior to the sedation.
- Critical Step 6: Responds respectfully to nurses concerns regarding the use of propofol or ketamine** [ICS2, Level 3]
Suggested Debrief for Misses: You seemed upset when the nurse questioned your choice of medication. I'm concerned that response might affect your working relationships negatively. What do you think?
Take Home Point: Effective communication with other Health Care Providers is essential for maintaining healthy work environments.

II. Sedation and 1st Complication (Laryngospasm or Hypotension)

- Critical Step 7: Selects appropriate dosage of the PSA medications** [PC4, Level 4; PC9, Level 2; PC11, Level 3]
Suggested Debrief for Misses: I noticed that the dosage of (drug) that you selected was higher/lower than the usual and I'm concerned that the patient was (too sedated)/(not sedated enough). What your thoughts?
Take Home Point: Medications should be dosed appropriately to maintain safety and efficacy.
- Critical Step 8: Recognizes & treats complication of sedation medication** [PC9, Level 4; PC10, Level 1]
Suggested Debrief for Misses: I noticed the patient (was hypotensive) / (had laryngospasm) for X minutes before you noticed. I'm concerned they might have had a bad outcome. What your thoughts?
Take Home Point: Early recognition of (hypotension) / (laryngospasm) is essential for effective treatment.
- Critical Step 9: Ensures monitoring equipment is available and working correctly (cardiorespiratory monitors +/- EtCO₂) throughout the procedure** [PC9, Level 2]
Suggested Debrief for Misses: I did not see you checking your equipment during the PSA and am worried that there could be a bad outcome if it stopped working. What do you think?
Take Home Point: Monitoring equipment needs to be watched closely during the procedure to maintain safety.

III. Post Sedation and 2nd Complication (Emergency Reaction, Apnea)

- Critical Step 10: Continues to monitor patient post-PSA** [PC9, Level 2]
Suggested Debrief for Misses: I noticed that you (discontinued the monitors) / (walked away) as soon as the procedure ended. I worry that this would lead to a real complication. What happened?
Take Home Point: Patients should be monitored after completion of the procedure since the drug effects may outlast their intended use.
- Critical Step 11: Recognizes and treats apnea (propofol) or emergence reaction (ketamine)** [PC4, Level 4]
Suggested Debrief for Misses: I noticed that the patient (was apneic) / (had an emergence reaction) for X minutes before you treated them and I'm concerned they might have had a bad outcome. What happened?
Take Home Point: Complications occur frequently in the post-sedation period. You should remain in the room and continue monitoring for a short duration after.

IV. Conclusion: Handover to RN

- Critical Step 12: Provides appropriate handover to nurse regarding anticipated post-sedation complications prior to leaving the bedside** [ICS2, Level 3]
Suggested Debrief for Misses: I noticed that you did not provide the nurse with detailed instructions about how the patient should be monitored following the sedation. I'm concerned because many complications occur during the immediate post-sedation period. What happened?
Take Home Point: Complications occur frequently in the post-sedation period and the risks need to be effectively communicated to other HCPs.
- Critical Step 13: Informs patient of complications and how it was resolved with no issue** [PROF2, Level 4]
Suggested Debrief for Misses: I noticed that you did not inform the patient of the complications? Do you feel that would be important for them to know? What happened?
Take Home Point: Disclosure of medical error and complications is an important part of patient care.