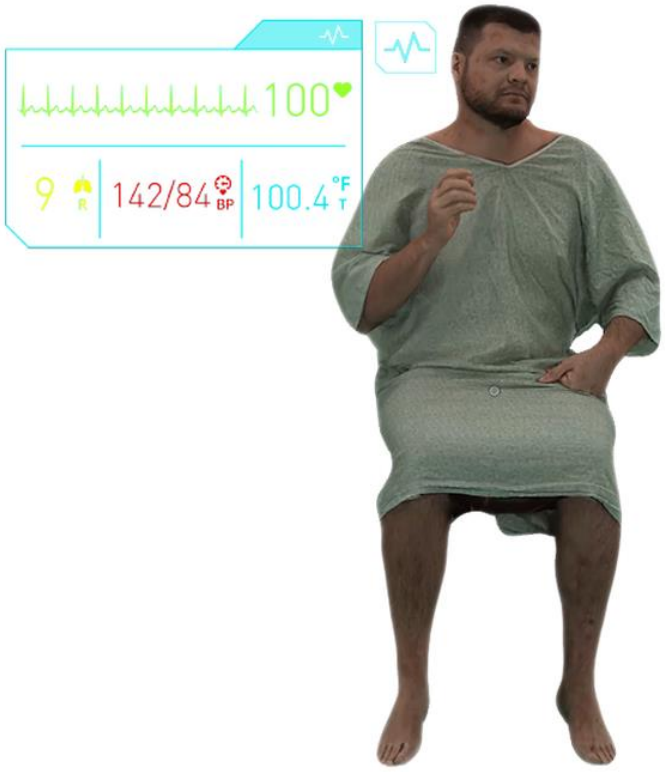
GigXR



HoloPatient

HoloPatient Facilitator Guide

Patient descriptions, vitals, and customizable case study scenarios for 17 essential pathologies.

support@gigxr.com

HoloPatient Facilitator Guide for Instructors

GigXR expands the scope of traditional teaching and learning by bringing extended reality (XR) into your classroom or clinical training setting. **HoloPatient** provides a versatile library of 3D holographic simulated patients across a range of pathologies for healthcare training.

Patient pathology case studies in HoloPatient were developed under the guidance of experts:

- Dr. Sharon Decker, RN, PhD, ANEF, FAAN, Associate Dean for Simulation and Executive Director of the F. Marie Hall SimLife Center at the Texas Tech University Health Sciences Center.
- Dr. Linda L Herrmann, RN, PhD, ACHPN, AGACNP-BC, FAANP, GNP-BC.
- Dr. Carman Turkelson, DNP, RN, CCRN-K, CHSE-A, University of Michigan-Flint School of Nursing.

Scenarios and questions in this Guide are designed to assist in promoting learners' clinical reasoning by integrating Socratic questioning into the cases presented through HoloPatient. Examples of questions with corresponding potential answers are provided for facilitators. Questioning may be implemented throughout the simulation or as part of a debrief session following a less structured exploration of the scenarios.

Most of the provided cases are presented in a linear fashion. However, HoloPatient allows instructors the option to modify the sequence, customize vital signs, or even select isolated scenes which illustrate alternative pathologies. Some cases are presented with a branching format, so that alternative outcomes or consequential decisions may be explored.

The questions here are only a starting place. Facilitators will likely identify other appropriate questioning to meet their specific learning outcomes. Questioning related to safety, professionalism, cultural sensitivity, and professional development could be integrated into all case studies. For example, "what if" questions could be interjected such as: "What if the healthcare provider did not wash his/her hands prior to…?" or "What are the legal responsibilities related to healthcare providers introducing themselves and asking permission prior to providing care?"

To make using this guide as easy as possible, all information or questions to be conveyed to the learner are in shaded areas. You will find a summary of the default vital signs at the end of each scenario, as well as a list of references which may be helpful. We are always open to your suggestions!

Adopters of the toolset provided in HoloPatient are encouraged to build and customize case study scenarios, including the material in this Guide, appropriate to their own institution's curriculum. However, GigXR does not extend authorization for any reproduction or reuse for commercial purposes without specific written permission. Contact **support@gigxr.com** with any questions.

HoloPatient Facilitator Guide

Table of Contents

Patient Name	Pathology	Page
Jerry Reeves	Anaphylaxis	3
Sandra Burke	Asthma	11
Susan Ferguson	Burn	16
Darrell Jones	COPD	19
Harry Benson	COVID-19	26
Jenny Li	Sexual Assault (SANE training)	33
Maya Roberts	Dementia/Delirium	45
Katie Livingston	Diabetes	52
Lydia Johnson	Domestic Violence	59
Samuel Lee	Heart Failure	63
Doreen Siegel	Hip Fracture	68
Marjory Anders	Myocardial Infarction	74
Marc Snyder	Parkinson's Disease	78
Millie Taylor	Preeclampsia	83
Rose Kamaka	Sepsis	90
Isobel Smith	Stroke	97
Todd Mansfield	Trauma	101
Appendix A – MMFER Protocol & Forms	(SANE Training)	107

Patient: Jerry Reeves

Pathology: Anaphylactic Shock

Overview: The case scenario presents a reaction to an antibiotic as the trigger for the anaphylactic shock sequence. The Facilitator might consider altering this trigger to other agents depending on placement of the activity in their curriculum (such as, blood reaction or vector sting).

This scenario can be delivered using several options. For example:

- **Option 1** allows the learner to progress through the stages of anaphylactic shock.
- **Option 2** provides "what if" scenarios which rearranges the Socratic questioning, but still allows the learner to visualize the various stages of progression to anaphylactic shock.

Objectives: After completing this facilitated scenario the learner will be able to:

- Correlate assessment findings to the physiological responses due to anaphylactic shock.
- Discuss actions to be implemented during various phases of anaphylactic shock.

Case Scenario (Brief) to be presented to the learner:

Jerry Reeves, 32-year-old male, was admitted to the emergency room due to an injury sustained from an accident while riding his mountain bike on a trail over 4 hours ago. Jerry has a 22-year history of asthma controlled with Cromolyn and Methylprednisolone. Jerry sustained multiple small lacerations and abrasions on his arms and legs. An 8 cm contaminated laceration on his right shoulder has been irrigated with saline, cleaned, and sutured.

He has NKA. Tetanus prophylaxis and Penicillin G IM were administered 10 minutes ago. He is to be discharged with Cephalexin 500 mg orally four times a day for 5 days and to follow-up with his care provider in one week.

<u>Option 1</u>

Question for the learner prior to viewing Clip 1

Q 1. After clustering the data provided in the brief, identify two potential problems that might be encountered and actions to implement?

Potential Answer

Clustering of Data	Potential Problem	Action to Implement
Asthmatic No data provided related to pain or anxiety	Respiratory impairment	Assess for pain and anxiety Monitor respirations, lung sounds, and oxygen saturation

Currently on Methylprednisolone Injury occurred 4 hours ago Multiple open lacerations	High risk for infection*	Assess lacerations Initiate teaching related to proper handwashing and wound care

* NOTE: Facilitator may probe learner for understanding of infection risk here. Methylprednisolone is a glucocorticoid used to suppress inflammation and immune responses. Adverse effects of glucocorticoids include increased vulnerability to infection, fluid and electrolyte imbalance, and glucose intolerance.

Inform the Learner: *Jerry has just turned on his nurse call light. When you enter his room Jerry states, "I feel funny." Complete a focused assessment.*

Have the learner view Clip 1

Inform the Learner: *In addition to what you observe, the following are noted. Capillary refill < 2 seconds. Lung sounds clear all lobes; heart sounds S1 & S2.*

Question for the learner immediately after viewing Clip 1

Q 2. What could the data obtained in the focused assessment indicate and what actions should be implemented?

Potential Answer

Clustering of data	**Potential Problem**	**Action to Initiate**
Restless Itching; skin redness over face and trunk	Altered histamine response	Notify healthcare provider with a request for an antihistamine.
Vital Signs: (P 86, BP 142/84, R 20, SpO2 92%)	Slight elevation of pulse and blood pressure due to histamine response and stress. Oxygen saturation low; possible allergic reaction.	

Have the learner view Clip 2

Question for the learner immediately after viewing Clip 2:

Q 3. What assessment changes were noted and what could have caused these?

Potential Answer

Increased restlessness and further itching and redness of the skin.
Changes in vital signs: P 112, R 24, BP 156/90).

(Learner should indicate a potential of anaphylaxis. If anaphylaxis is not recognized, do not identify this possibility in the discussion prior to Clip 3.)

Have learner view Clip 3

Questions for the learner immediately after viewing Clip 3:

Q 4. What assessment changes were noted and identify the physiologic effects that could have caused these changes?

Potential Answer

Assessment Findings	Physiologic Effect
BP decrease to 86/60	Peripheral Vasodilation
P increase >140	Compensatory response – excretion of epinephrine
Increased flushing and itching	Activation of histamine response
Decreasing level of consciousness R decreased to 9	Impaired oxygenation Decreased consciousness

Q 5. What actions need to be initiated and discuss the rationale for these actions?

Potential Answer

Actions	Rationale	Comments
Call for help		
Position with head of bed elevated at 30	Due to respiratory difficulty	Assess frequently. If he goes unconscious place in supine position to improve venous return to the heart.
Give Adrenaline (epinephrine) IM using an auto-injector into the outer mid-thigh	Adrenaline is a bronchodilator (improves oxygenation) and a vasoconstrictor (decrease the vasodilation effect of shock, thereby improving venous return to the heart and increasing the blood pressure).	

Increase and/or initiate oxygen therapy with nonrebreather at 15 L (100%)	To improve oxygenation	
Initiate intravenous therapy with isotonic solution (NS at 20 mL/Kg)	Isotonic solution will remain in the venous system and improve venous return.	Use a large bore gauge intravenous access (18 gauge).
Monitor EKG	Potential for increased tachycardia and dysrhythmia due to impaired oxygenation.	

Q 6. What if the potential for anaphylaxis was identified during Clip 2, how might this have affected Jerry's care and outcome?

Potential Answer

Emergency measures would have been initiated earlier which could have prevented further complications and progression.

Q 7. What could have initiated the anaphylaxis in Jerry and what action needs to be initiated?

Potential Answer

Jerry received Penicillin G prophylactically due to the 4 hours between sustaining his injuries and obtaining treatment. The principal adverse effect of penicillin is an allergic reaction with can result in anaphylaxis. Jerry needs to be advised to wear a form of identification to alert energy healthcare personnel of his allergy.

<u>Option 2</u>

Question for the learner prior to viewing Clip 1

Q 1. After clustering the data provided in the brief, identify two potential problems that might be encountered and actions to implement?

Potential Answer

Clustering of data	Potential Problem	Action to Implement
Asthmatic	Respiratory complications	Monitor respirations, lung sounds, and oxygen saturation

Currently on Methylprednisolone Injury occurred 4 hours ago Multiple open lacerations	High risk for infection (Methylprednisolone is a glucocorticoid used to suppress inflammation and immune responses. Adverse effects of glucocorticoids include increased vulnerability to infection, fluid and electrolyte imbalance, and glucose intolerance.	Assess lacerations Initiate teaching related to proper handwashing and wound care
No data provided related to pain or anxiety		Assess for pain and anxiety

Inform the Learner: *Jerry has just turned on his nurse call light. Upon entering the room Jerry states, "I feel funny." Complete a focused assessment.*

Have the learner view Clip 1

Question for the learner immediately after viewing Clip 1:

Q 2. What could the data obtained in the focused assessment indicate and what actions should be implemented?

Potential Answer

Clustering of data	Potential Problem	Action to Initiate
Restless Itching Skin redness over face and trunk	Altered histamine response	Notify healthcare provider with a request for an antihistamine. (If the learner does not suggest the need for an antihistamine, do not discuss it at this time)
Vital Signs (P 86, BP 142/84, R 20, T 101.2 F)	Slight elevation of pulse and blood pressure due to histamine response and stress	

Inform the Learner: *Capillary refill < 2 seconds. Lung sounds clear all lobes; heart sounds S1 & S2.*

Have the learner view Clip 2

Question for the learner immediately after viewing Clip 2:

Q 3. What assessment changes were noted, and what could have caused these?

Potential Answer

Assessment Changes	Possible Causes
P 112, BP 156/90, R 24, T 101.2 F	Increased restlessness, further itching, and redness of the skin - potential of anaphylaxis

---

- If the learner does not identify the potential of anaphylaxis do not discuss this potential and progress to Clip 3.
- If the learner mentions the potential of anaphylaxis proceed to Q 4 before viewing Clip 3.

Q 4. *What actions should be initiated and discuss the rationale for these actions?*

Potential Answer

Actions	Rationale	Comments
Call for help		
Position with head of bed elevated at 30	Due to respiratory difficulty	Assess frequently. If he goes unconscious place in supine position to improve venous return to the heart
Give Adrenaline (epinephrine) IM using an auto-injector into the outer mid-thigh	Adrenaline is a bronchodilator (improves oxygenation) and a vasoconstrictor (decrease this vasodilation effect of shock, thereby improving venous return to the heart and increasing the blood pressure.	
Increase and/or initiate oxygen therapy with nonrebreather at 15 L (100%)	To improve oxygenation	
Initiate intravenous therapy with isotonic solution (NS at 20 mL/Kg)	Isotonic solution will remain in the venous system and improve venous return	Use a large bore gauge intravenous access (18 gauge)

Monitor EKG	Potential for increased tachycardia and dysrhythmia due to impaired oxygenation	

Q 5. *What if these actions had not been implemented? What assessment finding would you expect to observe?*

Potential Answer

Increased sign of shock and potential death.

Have the learner view Clip 3

Questions for the learner immediately after viewing Clip 3:

Q 6. What assessment changes do you note, and what physiologic effects are related to those assessment findings?

Potential Answer

Assessment Findings	Physiologic Effect
R 10, SpO2 65%	Impaired oxygenation, bronchial constriction
BP decrease to 86/60	Peripheral Vasodilation
P increase >140	Compensatory response – excretion of epinephrine
Increased flushing and itching	Activation of histamine response
Decreasing level of consciousness	Impaired oxygenation

Additional Discussion Opportunity: *What would you hear on auscultation and what is the cause of the wheezing?*

Q 7. What could have initiated the anaphylaxis in Jerry and what action needs to be taken?

Potential Answer

Jerry received Penicillin G prophylactically due to the 4 hours between sustaining his injuries and obtaining treatment. The principal adverse effect of penicillin is an allergic reaction which can result in anaphylaxis. Jerry needs to be advised to wear a form of identification to alert emergency healthcare personnel of his allergy and understand the importance of carrying an EpiPen. Jerry, his family, and his friends should be instructed on administration of epinephrine auto-injector.

JERRY REEVES - ANAPHYLAXIS - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 86, BP 142/84, R 20, T 101.2F (38.4C), SpO2 94% on room air ECG: normal sinus rhythm	Restless, itching. Feeling unwell.
2	P 112, BP 156/90, R 24, T 101.2F (38.4C), SpO2 89% on room air ECG: sinus tachycardia	Increased restlessness, itching, and redness of skin.
3	P 140, BP 86/60, R 9, T 101.2F (38.4C), SpO2 65% on room air ECG: supraventricular tachycardia	Increasing weakness. Cyanosis around mouth. Loss of consciousness.

References

Campbell, R. L., Kelso. J. M. (2017, Dec. 5) *Anaphylaxis: Emergency treatment*. Retrieved from https://www.uptodate.com/contents/anaphylaxis-emergency-treatment

Helman, A. (2016, September 16). Understanding diagnostic criteria for anaphylaxis, anaphylactic shock, Kounis Syndrome critical the initiating lifesaving treatment. *ACEP Now*. Retrieved from https://www.acepnow.com/article/understanding-diagnostic-criteria-anaphylaxis-anaphylactic-shock-kounis-syndrome-critical-initiate-lifesaving-treatment/

Patient: Sandra Burke

Pathology: Asthma

Overview: A young woman who has a history of asthma and is experiencing labored breathing.

Objectives: After completing this facilitated scenario the learner will be able to:

- Discuss importance of age considerations specific to the treatment of asthma
- Discuss the priorities of care for a patient experiencing respiratory difficulty

Case Scenario (Brief) to be presented to the learner:

Ms. Sandra Burke, 19 years old, with a history of asthma for the past 11 years. She has had a cold for the past 2 weeks. Sandra is brought to the neighborhood urgent care clinic by her mother when her breathing became labored. (Her mother could not find the rescue inhaler.) Sandra's asthma has been controlled with Symbicort 80/4.5 two inhalations twice a day.

Question for the learner prior to viewing Clip 1:

Q 1. Discuss the focused assessment you need to complete on Ms. Burke.

Potential Answer

The following need to be obtained:

- Vital signs
- Lung sounds
- Oxygen saturation
- History related to asthma and use of Symbicort
- EKG Monitor

Have the learner view Clip 1

Question for the learner immediately after viewing Clip 1

Q 2. What did you note in your assessment and what are the potential causes and actions to initiate related to the various findings?

Potential Answer

Assessment	Potential Cause	Actions to Initiate
Pulse 148; Respiration 26; EKG: SVT use of accessory muscles to breathe	Increase in pulse and respirations as the body attempts to deliver more oxygen to the cells, compounded by the stress response.	Place in high Fowler's position Communicate using a soothing tone

Assessment	Potential Cause	Actions to Initiate
Oxygenation saturation 82% Non-productive cough **Inform the learner:** *Lung Sounds: wheeze on expiration*	Exacerbation of asthma causes mucosal edema and inflammatory infiltrates leading to airway narrowing and resistance to air flow, impaired expiration causing air trapping causing alveolar hyperinflation, ventilation-perfusion mismatch, increased work of breathing which ultimately leads to hypoxemia, hypercapnia and potential respiratory failure.	Assist the patient in taking deep slow breaths Initiate oxygen therapy to maintain O2 Sat > 92% Initiate intravenous access
Skin Coloration – cyanosis around mouth	Difficulty in breathing – anxiousness which would also initiate the stress response. Decreased oxygen saturation and cyanosis. A lack of oxygen attached to hemoglobin and being delivered to the cells.	Notify healthcare providers Expect the following medications to be ordered: rapid-acting bronchodilator

Additional Discussion Opportunity: *Describe the physiological stress response at work here and how it is affecting Ms. Burke.*

Q 3. Arterial Blood Gases (ABGs) are obtained, based on your assessment findings what do you expect these to reveal?

Potential Answer

Respiratory Acidosis reflected by: PaCO2 elevated (> 45 mm Hg), PaO2 decreased (<75mm Hg) and pH low (< 7.4)

Inform the learner: *Sandra was started on Oxygen at 4 L by nasal cannula and Albuterol nebulizer inhalation 2.5 mg over 15 minutes. She is now ready to be discharged.*

Have the learner view Clip 2

Q 4. What changes are noted in the assessment and what could have caused these changes?

Potential Answer

Assessment Changes	Potential Cause
Pulse decreased to 112	Decrease in pain
Respirations decreased to 18, decreased use of accessory muscles	Increased delivery of oxygen to tissue Decreased work related to breathing
Cough and wheeze have decreased; Oxygen saturation increased to 92%	Dilation of the bronchioles
No cyanosis	Increased delivery of oxygen to the tissue

Inform the learner: *The patient is to be discharged on inhaled Symbicort 80/4.5 2 inhalations 2 times/day.*

Q 5. Based on Sandra's developmental level, what should be included in the discharge teaching?

Potential Answer

The goal of asthma management includes reducing symptoms, improving lung function, improving quality of life, and decreasing the long-term side effects of medication therapy. Strategies for asthma self-management could include:

- Peer-led asthma self-management programs
- Use of a daily electronic reminder related to use of inhaled medication
- Proper use of her inhaler and rinsing her mouth after administering the Symbicort
- Use of a peak flow meter
- Care related to exposure to cold which is the major trigger for acute asthma attacks in adults and older children

If learner does not discuss teaching measures to be initiated related to the drug therapy Facilitator should ask:

Q 7. What if Sandra is not taught the appropriate administration and preventive care related to her medication?

Potential Answer

Symbicort is a combination drug (budesonide and formoterol). Budesonide is a steroid used to decrease inflammation. Formoterol is a bronchodilator used to relax the smooth muscles of the airway. Budesonide (a steroid) decreases the immune response and can cause irritation of the mouth and thrush. Sandra needs to be taught to use a spacer and rinse her mouth after each use.

Q 8. What if no discussion related to Sandra's developmental level is included in the discharge teaching how could this impact Sandra's self-care?

Potential Answer

Sandra is 19 years old, bordering between late adolescence and young adulthood. At this age, individuals are concerned about body image, appearing different from peers, and developing relationships with other people. Support should be provided to address her feelings and any threats to her body image. Individuals in this age group may be emotionally labile and subject to depression. (Which may be compounded by Sandra's asthma.)

Additional Discussion Opportunity: *Sandra mentions she will be attending college next year. What available resources could be provided?*

Potential Resource

Asthma and Allergy Foundation of America. Asthma and Allergies Go to College. Retrieved from http://asthmaandallergies.org/asthma-allergies/college-tips/

SANDRA BURKE - ASTHMA - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 148, BP 138/76, R 26, T 101.2F (38.4C), SpO2 82% on room air ECG: supraventricular tachycardia	Non-productive cough, wheeze on expiration. Cyanosis around mouth.
2	P 112, BP 122/76, R 18, T 101F (38.3C), SpO2 92% on room air ECG: sinus tachycardia	Cough and wheeze have subsided. No cyanosis.

References

Marcel, C. & Schub, T. (March 9, 2018). Asthma: effect of diet and supplements. *CINAHL Information Systems*. Retrieved from https://www.ebscohost.com/assets-sample-content/Asthmas_Effects_of_Diet_and_Supplements_-_EBCS.pdf

Pinnock H. (2015). Supported self-management for asthma. *Breathe (Sheffield, England)*, *11*(2), 98–109. https://doi.org/10.1183/20734735.015614 Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4487370/

Schiebel, D. A. & Ashley, T. J. (February 9, 2018). Asthma: Self-management. *CINAHL Information Systems.* Retrieved from http://web.a.ebscohost.com/nup/detail/detail?vid=2&sid=6c2d5184-64fe-4fb4-a0a7-a7ce1a4a2f1f%40sessionmgr4009&bdata=JnNpdGU9bnVwLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=T702847&db=nup

Schub, T. & Ashley, T. J. (January 5, 2018). Asthma, adult. *CINAHL Information Systems*. Retrieved from http://web.a.ebscohost.com/nup/detail/detail?vid=3&sid=6c2d5184-64fe-4fb4-a0a7-a7ce1a4a2f1f%40sessionmgr4009&bdata=JnNpdGU9bnVwLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=T700367&db=nup

Schub, T. & Schiebel, D. A. (February 2, 2018). Asthma: Treatment adherence. *CINAHL Information Systems.* Retrieved from http://web.a.ebscohost.com/nup/detail/detail?vid=2&sid=6c2d5184-64fe-4fb4-a0a7-a7ce1a4a2f1f%40sessionmgr4009&bdata=JnNpdGU9bnVwLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=T702847&db=nup

Patient: Susan Ferguson

Pathology: Partial Thickness Burn

Overview: Considerations in care for an individual who has sustained a partial thickness burn. Care to be discussed encompasses first aid at the time of the burn to rehabilitation.

Objectives: After completing this facilitated scenario the learner will be able to:

- Describe the first aid treatment for a partial thickness burn.
- Differentiate between the primary and secondary assessment for a burn patient.
- Demonstrate consideration of infection risk side-effects of anti-TNF therapy.

Case Scenario (Brief) to be provided in a nurse-to-nurse report format (SBAR):

- *Situation: I've just completed the primary assessment on Susan Ferguson, a 32-year-old, brought to the hospital by her husband. Susan spilled boiling water on her right anterior thigh when she slipped while transferring a large pot of pasta from the stove to the sink.*
- *Background: Her husband flushed the area with cool water for 20 minutes and covered the burn site with a clean towel prior to bring Susan to the hospital. Ms. Ferguson has NKA but has a history of Crohn's Disease that has been controlled by Humira (Adalimumab).*
- *Assessment: I've completed the primary assessment.*

  A – Airway is not compromised; lung sounds are normal in all lobes.

  B – Breathing is regular at a rate of 24 breaths/minutes. Oxygen saturation of 92% on room air.

  C – Circulation stable at present indicated by a blood pressure 142/90, pulse of 122, S1 and S2 auscultated, and cardiac monitor reflecting sinus tachycardia.

  D – Disability demonstrated by verbalization of pain of 7 on a 1 to 10 scale. She is alert and oriented X3.

  E – Exposure has a superficial partial thickness burn approximately 12 by 30 cm on her right anterior thigh with blisters that has not ruptured.

  F – Fluid resuscitation has not been initiated.
- *Recommendation: Complete the secondary assessment while I notify the physician.*

Question for the learner immediately following brief:

Q 1. Is there anything else that should be stressed to the physician?

Potential Answer

Ms. Ferguson is at high risk for infection due to the treatment of Crohn's Disease with Humira. Humira is a TNF blocker that lowers the ability of the immune system to fight infections.

If the learner does not identify the elevated risk for infection, do not discuss it.

Question for the learner prior to viewing Clip 1

Q 2. What picture do you have of Ms. Ferguson as you enter the room for the first time; what physiologic responses could be causing these symptoms and what actions should you initiate?

Potential Answer

Assessment	Physiologic response causing the assessment	Anticipated actions
Pain	Partial thickness burns (second degree area reddened with blisters)	Cover the burn area with dry sterile dressing as soon as possible to avoid excessive exposure of burn area to air
Elevation of vital signs	Pain and anxiety (Pain due to exposure of intact but exposed nerve endings)	Intravenous opioids to decrease pain

Have the learner view Clip 1

Questions for the learner immediately after viewing Clip 1

Q 3. *What method can used to determine the estimated burn size? What was the estimated burn size?*

Potential Answer

The Rule of Nines (for an adult) can be used to determine the percentage of total burn surface area. The estimated burn size for Ms. Ferguson's injury is 2% of her total body surface area.

Q 4. Ms. Ferguson is mad at her husband for not applying ice to the area to decrease her pain. What could have resulted if Ms. Ferguson had rubbed the burn with ice to help decrease the pain?

Potential Answer

Ice or very cold water causes vasoconstriction and could potentially deepen the wound.

Q 5. What information was important to obtain when completing the secondary assessment and explain what could be the cause of any abnormalities you observed?

Potential Answer

- Vital signs were: Blood pressure: 142/92, Pulse 112, Respirations 24. The elevated blood pressure, pulse and respiratory rate could be due to stress and pain. The superficial burns are extremely painful due to exposure of the superficial nerves.
- Medical history and medications the patient is currently taking. Allergies, past history, smoking, and tetanus status. History of moderate Crohn's disease controlled with Humira

(adalimumab) is essential to identify because Humira is a tumor necrosis factor (TNF) blocker that lowers the inflammatory response that can decrease an individual's ability to fight infections.
- Ms. Ferguson has NKA.

Inform the learner: *Ms. Ferguson received morphine sulfate 3 mg IV push, after which the large blister is deroofed, dead skin removed, a non-adhesive absorbent dressing is applied with instructions to return to the clinic in 48 hours for a wound cleaning and dressing change. Pain control with Tylenol Extra Strength 500 mg, 2 tablets every 6 hours as needed. She is instructed to return to the clinic in 48 hours for wound cleansing and redressing.*

It is now 1 week later; Ms. Ferguson arrives at the clinic.

- If the learner correctly identified the importance of Ms. Ferguson's history of Crohn's disease and her treatment with a TNF blocker, proceed to Clip 2 then Clip 4.

- If the learner has NOT recognized Ms. Ferguson's elevated risk for infection, SKIP Clip 2 and proceed to Clip 3 then Clip 4.

Have the learner view Clip 2

Question for the learner immediately after viewing of Clip 2:

Q 5. If you had not addressed Ms. Ferguson's history of Crohn's disease and treatment with Humira, how could this have impacted the healing process?

Potential Answer

History of moderate Crohn's disease controlled with Humira (adalimumab) is essential to identify because Humira is a tumor necrosis factor (TNF) blocker that lowers the inflammatory response which can decrease an individual's ability to fight infections.

After Clip 2, proceed to Clip 4.

If infection risk was not identified, have the learner view Clip 3.

Question for the learner immediately after viewing Clip 3:

Q 6. What could be affecting the healing process for Ms. Ferguson's wound?

Potential Answer

History of moderate Crohn's disease controlled with Humira (adalimumab) is essential to identify because Humira is a tumor necrosis factor (TNF) blocker that lowers the inflammatory response which can decrease an individual's ability to fight infections.

Additional Discussion Opportunity: *Discuss the relationship between infection and healing time and scarring. If Ms. Ferguson developed an infection the length of time for healing will be extended with the potential for more scarring.*

Q 7. After completing the assessment of the wound, what actions should be initiated?

Potential Answer

Teaching should include: The newly healed skin may be sensitive to temperature and should be protected from the sun to prevent pigmentation changes. Burn itch can continue up to 6 months and can be decreased using skin moisturizers, baby oil, and taking an antihistamine at bedtime to prevent scratching at night.

Eating a high-calorie, moderate protein diet that is appropriate for her Crohn's Disease.

Importance of maintaining hydration.

Taking a multivitamin daily.

Good personal hygiene, review handwashing.

Prior to viewing Clip 4 Inform the learner: *Ms. Ferguson returns 10 days later for a check-up on her healing. While completing the wound assessment, Ms. Ferguson stated she was concerned about the scarring and color change of her skin around the healed burn injury and the constant burn itching*.

Have the learner view Clip 4

Question for the learner immediately after viewing of Clip 4:

Q 8. Based on your assessment, what teaching should you initiate?

Potential Answer

Learners should focus care on reteaching and include that newly healed skin may be sensitive to temperatures and should be protected from the sun to prevent pigmentation changes. Burn itch can

continue up to 6 months and can be decreased using skin moisturizers baby oil and tasking an antihistamine at bedtime to prevent scratching at night.

Additional Discussion Opportunity: What are some other anti-TNF agents commonly prescribed, and what conditions are they used to treat?

SUSAN FERGUSON - BURN - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 112, BP 142/92, R 18, T 100F (37.7C), SpO2 92% on room air ECG: sinus tachycardia	Surface burn on right anterior thigh. Pain, discomfort, anxiety.
2	P 100, BP 140/82, R 18, T 100F (37.7C), SpO2 92% on room air ECG: normal sinus rhythm	Some healing. Infection under control.
3	P 122, BP 138/82, R 18, T 102.2F (39C), SpO2 88% on room air ECG: sinus tachycardia	Wound infected. Feverish, uncomfortable, anxious.
4	P 96, BP 142/78, R 18, T 98.8F (37.1C), SpO2 92% on room air ECG: normal sinus rhythm	Burn healing. Calm, stable, at ease.

References

Atiyeh, B., Barret, J. B., Dahai, H., Duteille, F., Fowler, A., Enoch, S.,…Zhao-fan, X. (2014). International best practice guidelines: Effective skin and wound management of non-complex burns. Wounds International. Retrieved from 2www.woundsinternational.com

Patient: Darrell Jones

Pathology: Chronic Obstructive Pulmonary Disease (COPD) Exacerbation

Overview: An older patient experiencing exacerbation of COPD due to a respiratory infection.

Objectives: After completing this facilitated scenario the learner will be able to:

- Discuss how comorbidities impact the physiologic response of COPD.
- Correlate alteration in diagnostic findings to the physiologic responses of COPD.
- Discuss patient teaching strategies to decrease the incidents of exacerbation in an individual with COPD.

Case Scenario (Brief) to be presented to the learner

Darrell Jones, 70 years old, transferred to the acute care facility from a small rural hospital with severe shortness of breath. Mr. Jones is a farmer living in a rural community 20 miles away. He told the emergency personnel, "It has gotten worse the past 24 hours"; "tired all the time" and "coughing up thick mucus". Mr. Jones has a history of COPD and hypertension and is a long-time cigarette smoker (1 pack/day x 40+ years). Current home medications include Hydrochlorothiazide 25 ml orally daily, Prednisone 30 mg orally daily, and Serevent Diskus (salmeterol xinafoate) inhaler twice a day.

Questions for the learner prior to viewing Clip 1:

Q 1. What findings in Mr. Jones' history have predisposed him to exacerbation?

Potential Answer

Findings	Effects
1 pack/day cigarette smoker	Cigarette smoking causes irritation and inflammation of the airway epithelium
Farmer	Potential environmental factors
Hypertension	Vasoconstriction and increased workload of the myocardial muscle
Age	Decreased compliance of the lungs
Medications Prednisone 30 mg daily	Prednisone is a glucocorticoid used to suppress inflammation and immune responses. Adverse effects include increased vulnerability to infection, fluid and electrolyte imbalance, glucose intolerance, and muscle wasting).
Serevent inhalation aerosol	Serevent (salmeterol xinafoate) is a long-acting beta$_2$-adrenergic agonist (LABA). Side effects include hypokalemia, chronic cough, tachyarrhythmias, and increased hypertension.

Findings	Effects
Respiratory tract infection, evidenced by the productive cough	Infection and inflammation of the respiratory tract causes airway inflammation and increased mucus production.

Q 2. What if Mr. Jones were 82 years old; would this age difference impact his COPD and if so, discuss the reasons and outcomes?

Potential Answer

Normal aging causes the following changes impacting respiratory function:

- The thoracic structure becomes "stiffer" which deceased chest wall compliance
- Narrowing of the small airways
- Elevation of circulatory and sputum inflammatory markers

Have the learner view Clip 1

Questions for the learner immediately after viewing Clip 1:

Q 3. Correlate actions to be implemented to the assessment findings and related rationale that should be initiated to support Mr. Jones?

Potential Answer

Assessment	Action	Rationale
P 122, BP 156/112 T 100.4F (38C) EKG – Sinus tachycardia	Continue to monitor	Stress response causing increase in epinephrine
Respiration 24, labored Cough with brownish colored sputum **Optional Question:** *Q 3A. What does the discoloration of the sputum indicate?* **Potential Answer**: Infection	Maintain tripod position	Tripod position reduces the work of breathing by forcing the diaphragm downward
Oxygen saturation 82% Skin color: Ashen	Apply oxygen using nasal cannula at 3 L or venturi mask at 33% (Low flow) Notify the healthcare provider.	Decreased oxygenation to tissue yields the ashen coloration Low flow O2 used because the stimulus to breathe with COPD is a hypoxic drive.

Q 4. What if supplemental oxygen was applied at a high level?

Potential Answer

With COPD there is a high arterial level of carbon dioxide and low level of oxygen. Gradually, the central chemoreceptors become less sensitive to these changes and the stimulus for breathing reverts to the peripheral chemoreceptors in the carotid bodies and the aortic arch. These receptors, stimulated by low arterial levels of oxygen, transmit messages to the respiratory center in the medulla (Hypoxic drive). If the hypoxic drive is impaired the individual's stimuli for breathing is lost and the individual might quit breathing.

Inform the learner: *The healthcare provider arrives and ordered STAT inhalation therapy with a bronchodilator. Initiate IV therapy D5 ½ NS to infuse at 75 mL/hr, and levofloxacin 750 mg IVPB STAT and every 24 hours for 7 days. Continue home medications.*

Q 5. The following diagnostic tests are ordered: CBC, Blood Glucose, ABG, and a Chest X-ray. What are the expected outcomes for these and the rationale for your expectation?

Potential Answer

Diagnostic Test	**Expected Result**
Complete Blood Count (CBC)	Potential elevation of Hematocrit (HCT) would indicate polycythemia. Polycythemia caused by an increase in the production of erythropoietin in response to hypoxia. The erythropoietin increases the production of HCT in an effort to deliver more oxygen to the tissue. Results in an increase in the blood viscosity causing hypercoagulability and increased blood volume. This increases the workload of the heart resulting in an increase in the blood pressure. Potential elevation of White Blood Count (WBC) would validate the presence of infection.
Blood Glucose	Potential elevation as a result of his prednisone therapy and stress response. Although glucocorticoids stimulate the liver to release more glucose, the uptake of this glucose into muscle and peripheral tissue is decreased resulting in an increase in blood glucose.
Arterial Blood Gases (ABG)	Potential for hypercapnia (elevation of $PaCO_2$) and hypoxia (decreased PaO_2)
Chest X-ray	Expect to see lung hyperinflation and flattening of the diaphragm due to air trapping and consolidation due to excessive secretions.

Prior to viewing Clip 2, inform the learner:

Mr. Jones is admitted to the telemetry unit. It is now three days later.

Have the learner view Clip 2

Question for the learner immediately after watching Clip 2

Q 5. What changes were noted in Mr. Jones assessment? What concerns would you present to Mr. Jones' health care provider?

Potential Answer

P 96, BP 158/98, R 20, T 100 F (37.7C) SpO2 86%. Concern related to continued hypertension.

Prior to viewing Clip 3, inform the learner:

Seven days later, Mr. Jones is to be discharged on an inhaled corticosteroid, inhaled albuterol, hydrochlorothiazide and Norvasc (amlodipine).

Have the learner view Clip 3

Ensure learner notes vital signs P 90, R 20, BP 148/92.

Questions for the learner immediately after viewing Clip 3

Q 6. What actions should be initiated related to the medication regime prior to his discharge?

Potential Answer

Hydrochlorothiazide (Thiazide) is a potassium depleting diuretic. Mr. Jones is also on albuterol and corticosteroid both of which can also decrease the serum potassium level. Need to request serum electrolytes and discuss supplemental potassium with the healthcare provider. Blood pressure is still elevated could request Mr. Jones be monitored and supported via telehealth and/or home health care.

Q 7. What discharge teaching should be initiated?

Potential Answer

Learner should address the importance of including family member in the discharge teaching. Due to Mr. Jones' age and his condition, there is a high risk for anxiety, depression and forgetfulness. Discharge teaching needs to reflect an interprofessional approach and include social work, dietary, and the rehab or home health nurse.

- Topics to include:
- Smoking cessation program
- Nutritional support (include impact on diaphragmatic mass impairs pulmonary status)
- Medication administration (include rinsing mouth immediately after use of corticosteroid inhaler)
- Handwashing

- Review pursed-lip breathing
- Safety measures to be implemented at home

Additional Discussion Opportunity: *Discussion related to telehealth and usage for individuals in rural communities.*

DARRELL JONES - COPD w/EXACERBATION - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 122, BP 156/112, R 24, T 100.4F (38C), SpO2 82% on room air ECG: sinus tachycardia	Labored respiration. Ashy skin color. Productive cough, brown sputum.
2	P 96, BP 150/98, R 20, T 100F (37.7C), SpO2 86% on room air ECG: normal sinus rhythm	Condition improved.
3	P 90, BP 148/92, R 20, T 100F (37.7C), SpO2 88% on room air ECG: normal sinus rhythm	Condition improved. In street clothing.

References

Burt, L. & Corbridge, S. (2013). COPD exacerbations. *American Journal of Nursing*. 113(2), 34-43

Chandy, D., Aronow, W. S., & Banach, M. (2013). Current perspectives on treatment of hypertensive patients with chronic obstructive pulmonary disease. *Dovepress.*6. 101-109. Retrieved from http://dx.doi.org/10.2147/IBPC.S33982

Farsang, C., Kiss, I., Tykarski, A. & Narkiewiez, K. (2016). Treatment of hypertension in patients with chronic obstructive pulmonary disease (COPD). European Society of Hypertension. 17(62).

Mosenifar, Z. (2017, March 2). Chronic obstructive pulmonary disease (COPD) treatment & management. Medscape. Retrieved from http://emedicine.medscape.com/article/297664-treatment

Patient: Harry Benson

Pathology: COVID-19 / SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2)

Overview: An otherwise healthy middle-aged male experiencing onset of severe respiratory infection. Although this scenario was developed to support healthcare training needs of the pandemic, some or all of the clips may be useful for illustrating other severe respiratory pathologies.

Objectives: After completing this facilitated scenario the learner will be able to:

- Identify the signs and symptoms typical of COVID-19.
- Discuss the assessment & risk stratification of patients with suspected or confirmed COVID-19.
- Correlate the signs and symptoms indicating deterioration and need for escalation of care.

Case Scenario (Brief) to be presented to the learner

Harry Benson, 59 years old, has had about a week of feeling very fatigued, a dry cough, muscle aches, fevers and rigors. He felt like he was improving but over the last 24 hours has become increasingly unwell.

Usually fit and well, Mr. Benson works in the city, independent with all activities of daily living. He lives with a partner who has had a mild cough but has now fully recovered. Neither he nor his partner have left town in the past 3-4 weeks.

He has NKDA and a history of hypertension, well controlled by Amlodipine.

Questions for the learner prior to viewing Clip 1

Q 1. What findings in Mr. Benson's history, if any, give you cause for concern?

Potential Answer

- Flu-like symptoms
- Partner was recently also ill
- Sudden deterioration in condition after period of seeming improvement.
- Unproductive dry cough

Have the learner view Clip 1.

Questions for the learner immediately after viewing Clip 1:

Q 2. Correlate actions to be implemented to the assessment findings and related rationale that should be initiated to support Mr. Benson?

Potential Answer

Assessment	Action	Rationale
P 110, BP 130/82, R 20, ECG: sinus tachycardia	Continue to monitor	
Elevated temperature 102F (38.9C)	Request antipyretic	Indication of infection (bacterial/fungal/viral) /inflammatory process
O2 Sat 94% on room air	Continue to monitor	

Q 3. Describe the phenomenon of "happy hypoxemia" or "silent hypoxemia" that is often observed in COVID-19 patients. What actions on your part does that require?

Potential Answer

Patients may exhibit relatively asymptomatic hypoxia initially, then developing breathlessness later. Some COVID patients are extremely hypoxic without any discomfort. Hypoxia might precede and seem disproportionate to the breathlessness so close monitoring of O2 Sat is required.

Q 4. The following diagnostic tests were ordered: CBC, ABG, COVID-19 swab, and CXR. If Mr. Benson has COVID-19, what are the expected outcomes for these and the rationale for your expectation?

Potential Answer

Diagnostic Test	Expected Results (for COVID-19)
Complete Blood Count (CBC)	WBC high (>7.5 billion cells/L); Hgb = normal (13.2-16.6 grams/dL); Hct = normal (38.3-48.6 %); Plts = normal (135-317 billion/L)
Arterial Blood Gases (ABG)	Expect within normal ranges. pH 7.35-7.45, HCO3 22-26, PaO2 75-100, PaCO2 35-45
COVID-19 NAAT (PCR/TMA)	Positive
Chest X-ray (CXR)	moderate to severe bilateral/bibasilar airspace opacities
Ferritin	Elevated, >800 mg/L
CRP	Elevated, >10 mg/L
IL-6	Elevated, >1.8 pg/mL
D-dimer	Elevated, >500 microg/L

Q 5. Consider the above tests, but with a negative result for COVID. What actions would you then take?

Potential Answer

Suggest retesting Mr. Benson for COVID-19 given the rate (30%) of false negative tests. In addition, should evaluate the source/cause for leukocytosis, and hypoxemia noted on his CBC and ABG, respectively. He'd also need additional serology for atypical pneumonias (Legionella, Mycoplasma, respiratory viral panel) given the results of his chest x-ray.

Q 6. Considering the potential for COVID-19 use of personal protective equipment is indicated. What PPE you should obtain while treating Mr. Benson, and what donning and doffing protocols are required?

Potential Answer

PPE needs to take into account contact, droplet, airborne precautions.

Gather: isolation gown, goggles/face shield, NIOSH approved N95 filtering face mask/respirator, gloves

Don: Hand sanitizer >> isolation gown >> NIOSH approved N95 filtering face mask/respirator>>>face shield >>>gloves

Doff: Remove gloves >>> remove gown >>> (can exit patient room) >>> face shield/goggles >>> face mask >>>> hand hygiene

Prior to viewing Clip 2, inform the learner:

It is 2 hours later; Mr. Benson's vitals have been monitored every half hour. In order to maintain his oxygen saturation, he has been transitioned from breathing room air to now receiving oxygen via nasal cannula at a rate of 2L per minute. Both oxygen saturation and heart rate are now being monitored continuously via an oximeter on the patient's finger.

Have the learner view Clip 2.

Question for the learner immediately after watching Clip 2:

Q 7. What changes were noted in Mr. Benson's assessment? What concerns would you present to Mr. Benson's health care provider?

Potential Answer

Assessment	**Reasoning and Concerns**
Breathlessness seems to be increasing. Mild use of accessory muscles. R 29.	Concern for hypoxemia and eventual fatigue from use of accessory muscles

Assessment	Reasoning and Concerns
SpO2 86% on 2L/min O2	Hypoxemia; potential for increased lethargy and respiratory failure; hypoxemia induced cardiac arrhythmia
Increased HR	Hypoxemia; potential for increased lethargy and respiratory failure; hypoxemia induced cardiac arrhythmia

Prior to viewing Clip 3, inform the learner:

Another hour has passed, and Mr. Benson is now requiring further oxygen assistance via a non-rebreather mask at 15L/min. His skin is sweaty and pale. He's complaining of increasing fatigue from the effort of breathing and coughing.

Have the learner view Clip 3.

Ensure learner notes vital signs and that oxygen saturation is still below target even on NRB and maximum oxygen flow.

Question for the learner immediately after viewing Clip 3:

Q 8. What are some assessment findings that may be an indication of stability at this point? concerning at this point?

Potential Answer

Stable: oxygen saturation, spontaneous respiration, note skin color, and ability to verbalize.

Concern: his increased fatigue, pallor, diaphoresis, and increase in O2 requirement.

Prior to viewing Clip 4, inform the learner:

It's been 30 minutes since you last saw Mr. Benson. His chest x-ray is consistent with COVID-19, and his swab test also is positive. The attending physician has determined that continuous positive airway pressure (CPAP) is indicated, and this has been initiated and brought to >15 cm H2O.

The test results have come back, compare these to your expectations discussed earlier. Additionally, you have received Mr. Benson's chest x-ray.

NOTE: Facilitator may adjust the following values according to specific focus, comorbidities, discussion opportunity, or potential distractor information if desired. Values provided below are only one example case.

Diagnostic Test	Results
CBC	WBC=13.1; Hgb=13.7; Hct=39.9; Plts=227
Arterial Blood Gases (ABG)	pH=7.32; HCO3=22; PaO2=94; PaCO2=40
COVID-19 NAAT (PCR/TMA)	Detected
Chest X-ray (CXR)	moderate to severe bilateral/bibasilar airspace opacities
Ferritin	2233 mg/L
CRP	180 mg/L
IL-6	24 pg/mL
D-dimer	490 microg/L

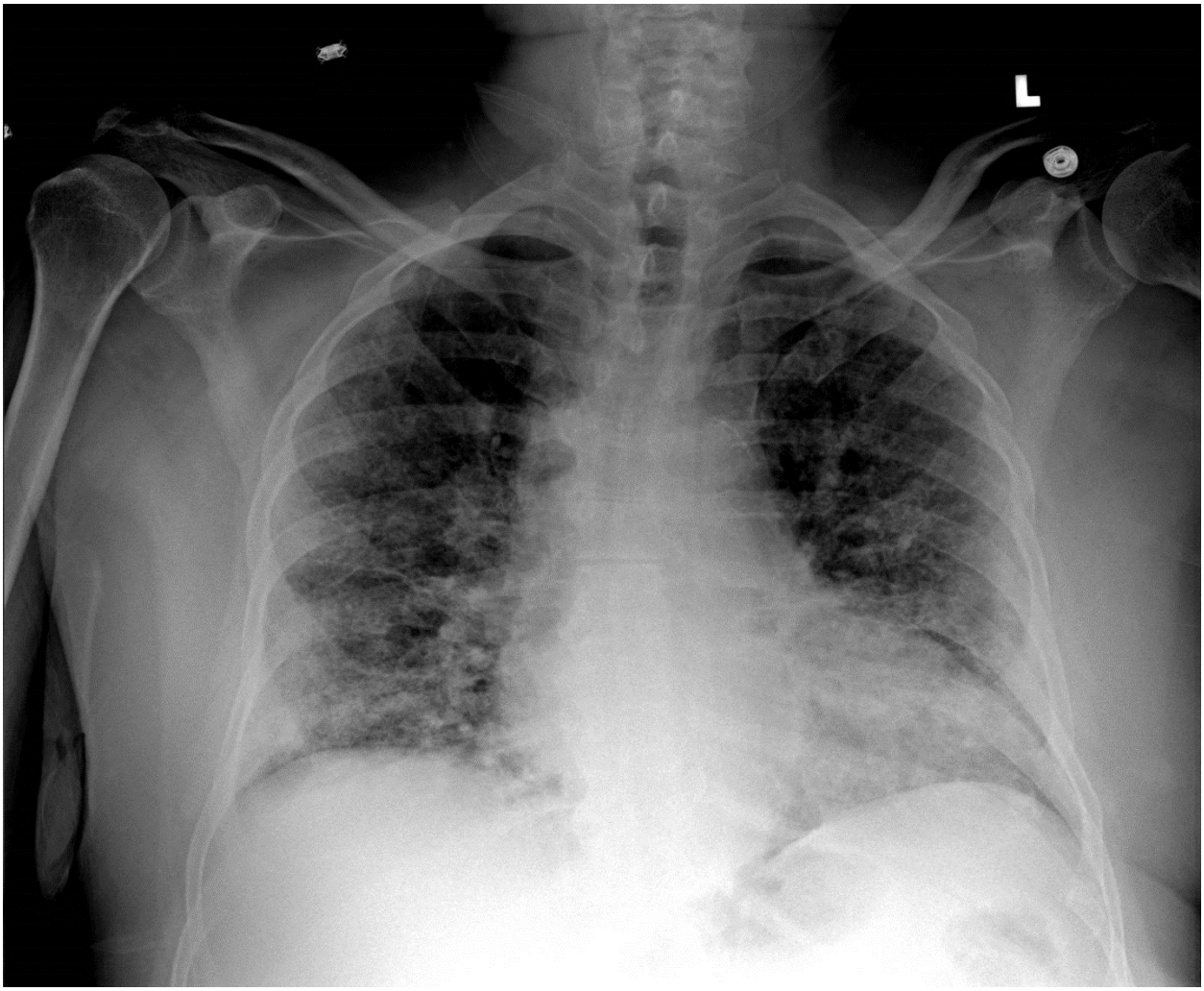


Image courtesy of Linda L Herrmann.

Have the learner view Clip 4

Questions for the learner immediately after watching Clip 4:

Q 9. How has Mr. Benson's assessment changed? What reasoning or concerns are indicated?

Potential Answer

Assessment	Reasoning and Concerns
Patient fitted with CPAP mask. Deep breathing, lethargic; taking slower deeper breaths but still requiring exertion to breathe. R22	CPAP needs to be tight fitting to ensure positive pressure. The aim of CPAP is to assist oxygenation and to help with work of breathing.
SpO2 89% on CPAP >15cm H2O Antibacterial filter has been fitted at exhalation port.	Oxygen level still below target even with CPAP at near maximum pressure and oxygen flow. Patient's respiratory system is failing. Need to closely monitor. The antibacterial filter in situ before the exhalation port is vital in a COVID-19 patient to filter exhaled air to prevent aerosolised spread of the virus.
P 110, BP 123/75, T 100.8F (38.2C) ECG: sinus tachycardia	Fever reduction could be due to previous use of anti-pyretics (above).

Q 10. What do you need to be concerned with regarding set-up and operation of the CPAP?

Potential Answer

Check with your institution's respiratory therapy department regarding the policy for use of the appropriate filter for the CPAP machine. Ensure the tubing and mask are securely attached. Ensure the mask is the proper size for the size and has a good seal. Verify the CPAP settings against the order. Assess and document the integrity of the skin around the mask, the ears and the occipital protuberance, noting any points of pressure.

Q 11. One possible next stage in Mr. Benson's care may be an intubation and oxygen support via a ventilator. What steps would you take to prepare Mr. Benson for that level of intervention?

Potential Answer

Prepare for adequate sedation/paralytic/analgesia. Explain/educate Mr. Benson on the procedure taking care to include his support system/caregivers/family. Ensure that Mr. Benson will be able to communicate with health care team while intubated (communication board at bedside, etc.).

Additional Discussion Opportunity: *Discuss protocols around proper disposal of items used in the care and treatment of highly infectious patients.*

HARRY BENSON - COVID-19 - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 110, BP 130/82, R 20, T 102F (38.9C), SpO2 94% on room air ECG: sinus tachycardia	Fatigued, sweaty/clammy skin Some non-productive coughing
2	P 100, BP 123/75, R 29, T 101.3F (38.5C), SpO2 86% on 2L/min O2 ECG: sinus tachycardia	Increasingly breathless Expending a lot of energy to breathe Feverish
3	P 105, BP 128/70, R 27, T 102F (38.9C), SpO2 90% on 15L/min O2 via NRB ECG: sinus tachycardia	Struggling to breathe, very tired from the effort. Using accessory muscles to assist breathing.
4	P 110, BP 123/75, R 22, T 100.8F (38.2C), SpO2 89% on CPAP +15cmH2O, 100% oxygen entrained ECG: sinus tachycardia	Exhausted but awake and oriented. All focus on breathing. Sitting in tripod position.

References

American Association of Critical Care Nurses. Coronavirus Update. https://www.aacn.org/clinical-resources/covid-19

Dhont, S., Derom, E., Van Braeckel, E. *et al.* The Pathophysiology of 'Happy' Hypoxemia in COVID-19. *Respir Res* **21,** 198 (2020). https://doi.org/10.1186/s12931-020-01462-5

Nicholson Thomas W, Talbot Nick P, Nickol Annabel, Chadwick Andrew J, Lawton Oliver. Respiratory failure and non-invasive respiratory support during the covid-19 pandemic: an update for re-deployed hospital doctors and primary care physicians.
BMJ 2020;369:m2446

Tobin, M. J., Laghi, F., Jubran, A. Why COVID-19 Silent Hypoxemia Is Baffling to Physicians. *Am J Respir Crit Care Med*, ***202***(3), 356–360 (2020). https://doi.org/10.1164/rccm.202006-2157CP

Australian and New Zealand Intensive Care Society. ANZICS COVID-19 Guidelines
https://www.anzics.com.au/coronavirus-guidelines/

Center for Disease Control (CDC). (2020). Clinical Care Guidance for Healthcare Professionals about Coronavirus (COVID-19). Updated 16 July 2020, accessed 2 Oct 2020.
https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care.html

NHS. Standard operating procedure (SOP) for general practice in the context of coronavirus (COVID-19). Updated 11 Aug 2020, accessed 2 Oct 2020.
https://www.england.nhs.uk/coronavirus/publication/managing-coronavirus-covid-19-in-general-practice-sop/

Society of Critical Care Medicine. Surviving Sepsis Campaign
https://www.sccm.org/SurvivingSepsisCampaign/Guidelines/COVID-19

Patient: Jenny Li

Pathology: Sexual Assault

Overview: A young woman has been sexually assaulted and presents for examination 4 hours after the event. Sexual Assault Nurse Examiner (SANE)/Sexual Assault Forensic Examiner (SAFE) procedures should be followed to collect critical consent, data, and evidence.

Objectives: The purpose of the educational activity is to prepare the didactically trained SAFE/SANE for clinical aspects of the adult/adolescent sexual assault medical-forensic examination, regardless of the provider's practice setting.

This activity is designed to promote the provider's professional performance in the role as an adult/adolescent sexual assault nurse examiner (SANE/SAFE). It may also be used to support training for any healthcare provider who may encounter victims of sexual assault.

After completing this simulation, the learner will be able to:

- Accurately, objectively, and concisely obtain medical forensic information associated with a sexual assault involving an adult or adolescent patient using trauma-informed, patient-centered care principles.
- Successfully navigate issues of reluctant, partial, or withdrawn consent.
- Discuss with a patient the options around evidence collection, treatment, and follow-up care for sexual assault.
- Begin initial comprehensive head-to-toe physical assessment of a sexual assault patient, while considering the patient's mental/emotional state and consent.

NOTE: This simulation follows the protocol outlined in the Michigan Medical Forensic Examination Report (MMFER) included in Appendix A. Please refer to your local medical and law enforcement protocols as appropriate. Links to detailed International Association of Forensic Nurses (IAFN) guidelines and other related protocols have been provided at the end of this section.

Case Scenario (Brief) to be presented to the learner:

Jenny is an 18–22-year-old Asian female who was brought to the ED by her friend Michelle who picked her up outside an apartment complex across town late last night (around 2 am). Michelle indicated that Jenny had texted her with a frantic message that she needed a ride home. Per Michelle, Jenny was a "complete mess" when she picked her up, crying uncontrollably and unable to put together full sentences. Michelle noticed Jenny's dress was rumpled and in disarray, she had red marks on her neck, and she seemed to be in a state of shock. Jenny also seemed to be embarrassed about what had happened and did not want to talk about it. After about an hour, Michelle was able to convince Jenny to go to the emergency room to be checked out. Jenny is now presenting to the ED approximately 4 hours after assault took place.

Jenny indicates that she is not on any prescription medication and has no known allergies. She had a few alcoholic beverages and smoked some marijuana with the assailant prior to the assault taking place. The initial information and consent have been obtained for this patient.

Inform the learner: *You have been called to see an 18–22-year-old Asian female, named Jenny, who has presented to the emergency center 4 hours after a sexual assault. The initial information and consent have been obtained for this patient.*

Question for the learner prior to viewing Clip 1:

Q 1. What will be your initial focus or concern with this patient?

Potential Answer

The initial focus should be on ensuring safety (physical and emotional), establishing trust and rapport with the patient, providing information with regard to medical care and examination options and obtaining informed consent for adult and adolescent populations. The primary goal and priority is always to provide high quality healthcare to the patient. Evidence collection is a secondary.

Have the learner view Clip 1

Questions for the learner immediately after viewing Clip 1:

Q 2. What additional information about consent or the examination process might Jenny need from you at this time? What do you feel may need amplification or repeating right now?

Potential Answer

Inform the patient that she is not required to participate in the criminal justice system and or cooperate with law enforcement as a condition of receiving treatment and/or evidence collection.

Ensure the patient understands that receiving an exam, treatment and/or evidence collection is voluntary and that she may stop the exam at any point in time and still receive medical attention if she chooses.

Provide her with the booklet “Important Health Information for You” or similar written information.

Q 3. Assuming the patient gives consent, what part of the MMFER form will you begin working through at this point?

Potential Answer

For those using MMFER protocols, this stage is correlated with Part A Patient/Examiner Information. (See Appendix A)

Facilitator Debriefing/Discussion Guide Clip 1 (Consent)

Key points:

It is essential that medical care and treatment of patients provided in a compassionate, holistic manner is the underlying capstone of the medical forensic examination and consequently the primary role of the medical provider

The nursing care of the patient with the chief complaint of sexual assault or abuse begins with the assessment, diagnosis, planning, intervention, and evaluation.

- The care of acute medical needs, and stabilization and treatment for life threatening injuries takes precedence over evidence collection.

Seeking informed consent from the patient for the medical forensic evaluation is an integral component of the examination process. What are some of the components of informed consent and important considerations around consent, especially in the case of sexual assault?

- Informed consent is based on the concept that adults have the right to decide what happens to their bodies.
- Informed consent should include verbal and written information about the examination, the risks, benefits, and alternatives to having a medial forensic examination as well as the possible consequences of not having an examination.
- In the U.S. patients are assumed to give consent for the purpose of treatment in the case of life-threatening emergencies (implied consent). This is not the case for medical-forensic examination, which is purely voluntary and not an emergency procedure.
- In addition to obtaining consent for the purpose of providing care, under federal privacy regulations created by HIPAA patients are required to give written authorization for the purpose of releasing healthcare information to someone who is not a healthcare provider such as law enforcement or a prosecutor.
- It is important for SANE nurses to recognize that during the sexual assault medical -forensic examination, consent is not a one-time event. Patients should be informed they may decline any portion of the medical forensic examination and examiners should reassess consent throughout the examination process.
- Criminal justice system participation and evidence collection is a voluntary process for the patient to choose or decline.
- SANEs should understand and be able to explain to the patient options for reporting the incident to criminal authorities- this includes any explanation of mandatory reporting laws.

In addition to the physical assessment the emotional and psychological state of the patient should be assessed. This includes the immediate mental state of the patient. Is the patient able to consent and cooperate with the examination? Are they mentally or cognitively impaired to a degree that they are unable to consent for an examination? The examiner should also consider if they have any problems that may impact the patient during the examination and upon discharge- does the patient have a history of underlying mental problems that would put themselves at risk for self-harm?

It is also important to understand that the short-term emotional needs of the victim and the long-term psychological effects of sexual assault. The actions, attitude and approach of the examiner may impact the patient's ability to make healthy adaptations after the assault.

The following have been described as beneficial:

- Being treated as a whole person, being given control over all aspects of the examination, and being given information about both the examination and the healthcare aspects of the assault.
- Providers also need to take a holistic approach to the needs of the patient including offering the patient the option of a support person during the exam (victims advocate) and taking time to meet their immediate needs – offering food or something to drink. Allowing the patient to set the pace of the exam and giving them permission to take breaks as needed is also helpful
- Provide anticipatory guidance about some of the physical and emotional responses to sexual assault can help the victim prepare.

Inform the Learner: *Jenny has consented to proceed with the examination, and you are now beginning with the assessment of the patient. The next three video clips will allow you to hear her describe things as she remembers them. You should focus on attaining the medical history starting with general medical history and history of chief complaint/assault as covered in Parts B & C Medical History & History of Chief Complaint/Assault on the MMFER form.*

The patient has shared that she initially met the assailant on a dating app where they had been conversing for a couple of days prior to arranging a time to meet. She indicates that they met at a bar and had a few drinks. After a few drinks the assailant invited her back to his place. He drove them there. She does not recall the exact location other than it was near a Mobil Gas station. The patient further shares that once at the apartment they had another drink and smoked some marijuana.

The following data has been gathered so far:

Patient Name: Jenny Li	*MR/Case Number: 10101*
Address: Local college campus	*Phone Number: 123-345-0910*
Age: 18-22	*Contact Number: As above*
Ethnicity/Race: Asian	*Contact Instructions: Do not leave message*
Allergies: NKDA	*Current Medications: None*
General Medical History: No significant medical history	*Surgeries: None*
Last Tetanus: Unknown	*Disability: No*

Recent Treatments including last OBGYN exam: Greater than 12 months ago. Patient does not recall exact date.

Last Menstrual Period: 2 weeks prior	*Vaginal Deliveries within past 6 months: No*

Consensual coitus in last 120 hours: No

Date of Assault: within last 24 hours

Time of Assault: On or about midnight, patient unsure of exact time.

Please fill out the MMFER for this patient as you proceed with the scenario.

Have the learner view Clip 2.

Questions for the learner immediately after viewing Clip 2:

Q 4. What are your impressions of the patient at this point?

Potential Answer

The patient is more composed, but still emotional. She is able to recount some details of the assault, and with appropriate support she may be able to tell us more.

Facilitator Debriefing/Discussion Guide for Clip 2 (Medical History & Chief Complaint)

[These may be spread across discussion of Clips 2, 3, and 4.]

What observations did you make of Jenny?

What did you notice about her demeanor? How has it changed?

What strategies might we use to assist Jenny in providing us with a clearer picture of the assault?

What strategies can we use to support Jenny?

What are some important considerations?

What information shared is of concern and warrants further exploration?

- Loss of consciousness/strangulation
- Blood tests – urine and blood will need to be collected for analysis

What other questions should be asked?

- Was the assault photographed or video recorded?
- Information about personal hygiene following the assault such as bathing, or tooth brushing could impact or provide explanation for presence or absence of assailant DNA.
- Information about the identity of the assailant - since this assailant was known to the victim a determination needs to be made if there is a risk of threat or injury to the patient after discharge (e.g., does he know where she lives?)

What other considerations are there?

- If the patient has injuries or health problems that require immediate medical attention the sexual assault examination should be deferred.

Inform the Learner: We now need to go back and attempt to obtain more details of the events and a more linear history of the events. Consider how we can support the patient in order to get the details and information needed for this portion of the exam.

Questions for the learner prior to viewing Clips 3 and 4:

Q 5. What other information do we need to gather from the patient? What questions will you ask?

Potential Answer

Refer also to section D on the MMFER (see Appendix A):

- How did you meet the assailant?
- What time did you go to his place?
- Was anyone at his place besides the two of you?
- Where exactly in the apartment were you when this happened?
- Do you recall what he was wearing?
- Does anything in particular stand out to you? Anything he said? Was there anything about the way he said things? Any smells?
- Describe the apartment. Clean? Unique details?
- Do you recall what he was wearing?
- Did you see his body?
- Anything unique about his physique?
- Body piercings?
- Did he have hair on his body? Was his body clean-shaven?
- Birthmarks?
- Was he circumcised?
- Anything unusual about his penis? Shape? Bent? Small? Large?
- One testicle? Two? Anything unusual about his scrotum?
- Was there penetration? Where? With what (penis, digital, foreign object)?
- Did he ejaculate? Where?
- Have you showered or bathed since the event?
- Do you have any injuries? Can you show them to me? Are there any injuries that you can feel physically, but we may not be able to see?
- May we collect the clothes that you were wearing?

Have the learner view Clips 3 and 4.
Use the sets of questions above and the MMFER (or similar report protocol) to guide your continued prompting and cueing of the learner.

- We now proceed to the physical assessment. For those using the MMFER, this includes Parts G-J
  G - General Physical Assessment
  H - Head, Neck, and Oral Exam
  I - Strangulation Assessment, and
  J - Physical Assessment Body Maps
- **Clip 5 may be used for upper body physical assessment**, as the patient is standing. Be sure to encourage the learner to walk all around the patient and examine her from all sides.
  Clip 6 is designed for lower body assessment, as the patient is seated and will raise her gown to show her legs.

Prior to viewing Clips 5 and 6, inform the learner:

Jenny has shared that she was restrained by the assailant with his hands (on her neck and wrists). Her clothes were forcibly removed, and the assailant penetrated her vaginally with his penis. She was unsure if he used a condom. No weapons were used, and she was not threatened. The assault took place on the couch in his apartment living room area. She has provided the assailant's name and has confirmed that there was only one assailant, who was known to her through their communications on a dating app prior to their arranged date that night.

She further has indicated that she might have lost consciousness during the assault and that her memory is "foggy". She is wearing the same clothes as she was during the assault and has not eaten or drunk anything, showered, brushed her teeth, or washed her genital area. She has urinated. She is willing to give her clothes for evidence.

Jenny has been given a gown to change into, and her clothing has been collected for evidence. She has consented to a physical examination but is still unsure and uncomfortable.

Her weight is 106 lbs (48 kg), and she is 5'1" (1.55 m) tall.

Have the learner view Clip 5 (upper body assessment) and fill out the MMFER or similar report.

Q 6. What upper body injuries do you note? Where does the patient indicate she has pain?

Potential Answer

Bruising on neck. Patient says throat and neck are sore. Pattern of a hand seems visible.

Bruising on upper arms and wrists. Pattern of a hand seems visible.

Abrasion on left shoulder blade area. Patient indicates pain or discomfort there.

Q 7. What additional information should you gather when potential strangulation injury is indicated?

Potential Answers

Is the patient having difficulty swallowing, breathing, or speaking?

Are there any signs of petechiae in the eyes?

Is the patient coughing, experiencing voice changes (hoarseness, raspy), sore throat, hearing, or visual disturbances?

Is the patient reporting dizziness, loss of bowel or bladder control?

Are there any ligature marks?

Is the patient reporting nausea or vomiting?

Have the learner view Clip 6 (lower body assessment) and fill out the MMFER or similar report.

Questions for the learner immediately after viewing Clip 6

Q 8. Jenny is noticeably and increasingly anxious and uncomfortable with the process. What can you do to try to alleviate that anxiety?

Potential Answer

It may help to remind the patient that she can stop the examination at any point. It may help her to know that gathering evidence at this time does not obligate her to anything, but much of what you need is time-sensitive and cannot be gotten later.

An Advocate and/or support person can be a source of emotional support for the patient during this process. It is reasonable to also offer the patient a moment to take a break and gather her thoughts if the process is becoming too difficult

Opportunity for Further Discussion:
How to handle the patient changing consent during the examination process.

Q 9. What lower body injuries are you able to observe?

Potential Answer

Bruising on inner thighs.

Facilitator Discussion/Debriefing for Clips 5 & 6 (General Physical Assessment):

Based on her description of the assault what areas should we have focused our examination on?

What did you observe in the initial assessment/physical examination of the patient?

What was missing? What did you not see?

What else should be examined? How can we address the patient's concern regarding the photographs and showing us all areas of her body for this assessment?

Who does have access to the photographs? Can the patient decide at this point not to continue?

What do these injuries suggest to us? What other assessments may need to be done?

Further Discussion Points:

The physical examination should be performed with a systematic approach that allows the examiner to evaluate each part of the patient's body yet maintains the privacy and modesty of the patient. It starts with a head-to-toe examination of all the surfaces to look for injury.

Blunt Force Trauma:

- Bruises or contusions occur when an impact causes blood vessels to rupture and blood seeps into surrounding tissues. This usually occurs when the skin is crushed or over-stretches causing tearing of blood vessels and escape of RBC into the tissue.
- Bruises will go through several stages of healing. During this process their color and size change. Recent or fresh bruises are usually red, to blue to purple in color and have well-defined margins. They are also associated with pain and swelling
- As bruises begin to heal the color changes to green, yellow, and brown, margins fade. The pain and swelling resolve. The color changes and rate at which a bruise heals depends on many factors, including force of impact, amount of blood released, location of the bruise, thickness of skin, patient's age, medications, and overall health. There is no consensus, however, on the time frame between color changes of a bruise. Many factors impact the healing process, and as a result trying to time stamp when a bruise occurred or estimating age of a bruise is not recommended and should be avoided.
- Bruises may not always be visible immediately; however, they are often proceeded by pain at the injured location. Therefore, body surfaces without visible injury must still be assessed for pain and palpated for tenderness or swelling. When indicated, a 24- to 48-hour follow-up examination should be arranged to assess bruises that may have evolved.

Abrasions:

- Abrasions are caused by rubbing or scraping away of the superficial layer of skin by a mechanical means, typically confined to epidermal and dermal layers of skin.
- Abrasions are of importance as they can reveal the exact point of contact between an object and the body and can allow for determination of the mechanism of injury, as well as indicate the direction of force.

Patterned Injuries:

- Finger pad marks are 1-2 cm circular bruises caused by pressure of the finger pad or tip during grabbing, holding, pressing, or squeezing. Typically finger pad marks are found on the extremities or neck but can be found on any body surface area.
- Grip marks refer to a bruise pattern that reflects the grip impression left by a hand. A cluster of finger pad bruises, with three marks (index, middle, and ring finger) on one side of the extremity and one mark (thumb) directly opposite are the most common type of grip marks,

Strangulation:

- Strangulation is a serious, life-threatening form of physical force often used by an assailant during a sexual assault.
- Victims may have a single injury, multiple injuries, or no visible external injury after strangulation.
- Symptoms during strangulation may include difficulty breathing, talking, dizziness, lightheadedness, visual or hearing disturbances, bowel or bladder incontinence or loss of consciousness.

- Post-strangulation symptoms include coughing, vomiting, difficulty breathing, voice changes, sore throat, difficulty swallowing loss of memory, headache, or neck pain.
- Non-Fatal Strangulation History Questions (review/discuss these as needed).

Additional Aspects of Sexual Assault Forensic Examination

Discussion with learners may also include other aspects of a complete sexual assault forensic examination, including the anogenital exam and evidence collection, Foley catheter technique, and (depending on local requirements) use of toluidine blue dye. Attention to the emotional needs and comfort of the patient should be kept at the forefront. It is important that no part of the examination process causes additional trauma.

Topics may also include collection of photographic evidence and evidence chain of custody.

Q 10. At the completion of the full forensic examination, the patient will be ready for discharge. What will you need to consider and cover in discharge teaching for Jenny?

Potential Answer

As law enforcement, patient advocates, and others may have been involved in the process, ensure that discharge conversations with the patient are coordinated so as not to overwhelm her. Your primary goal should be to ensure that her medical and mental health needs are met, and that she will be safe and have appropriate support and care available to her when she leaves your care.

In addition to speaking with the patient, provide her with written instructions, a summary of the exam, information on follow-up appointments and any medications to be taken. Include contact information for local sexual assault advocacy and counseling resources. When speaking with Jenny, be sure to give her time to absorb what you are telling her and opportunity to ask any questions she may have.

There may be follow-up appointments needed for STI testing, HIV testing, hepatitis B vaccination, or even further evidence collection. Make sure Jenny feels comfortable with the method of follow-up – would she like health care providers to reach out to her or will she be able to initiate contact for follow-up care? Provide detailed written information on all follow-up appointments and care providers. Inform Jenny what longer term care she can get through her primary care provider and make it clear that she is not required to disclose the assault to receive follow-up care.

If Jenny has decided to make a report and law enforcement is involved, then she should also receive information on the next steps in the investigative process. She will receive contact information and a case report number, as well as instructions on when and to whom she should report any additional information or signs of injuries which may appear later.

If Jenny does not wish to report the assault and declines to involve law enforcement at this time, she should be given information on who to contact and what to do if she decides that she does want to file a report at a later date. She should also be given information on where the evidence kit will be stored and how it will be tracked so she can provide that to law enforcement or her legal representative.

JENNY LI – SEXUAL ASSAULT - Default Data for Each Clip

Clip	*Vital Signs (default data)*	*Symptoms/Behavior*
1	P 100, BP 103/52, R 18, T 98.1F (36.7C), SpO2 98% on room air ECG: Sinus tachycardia	Tearful (trying not to cry), seems shocked and embarrassed. Speaking in a rambling manner and only in partial sentences.
2	P 108, BP 125/72, R 26, T 98.1F (36.7C), SpO2 97% on room air ECG: Sinus tachycardia	Composed, but emotional. Describes being restrained and hurt.
3 & 4	P 110, BP 138/72, R 28, T 98.1F (36.7C), SpO2 98% on room air ECG: Sinus tachycardia	Composed, but emotional. Asserts she did not give consent and wanted to leave. 3: Describes position during the assault. 4: Describes strangulation and no condom.
5	P 112, BP 133/73, R 28, T 98.1F (36.7C), SpO2 98% on room air ECG: Sinus tachycardia	Standing in hospital gown. Seems a bit dazed and dissociated. Complains of tenderness on neck, sore throat and back. Bruising on arms and back.
6	P 112, BP 133/73, R 28, T 98.1F (36.7C), SpO2 98% on room air ECG: Sinus tachycardia	Seated in hospital gown. Growing anxious and uncomfortable as photo evidence is taken. Shows bruising on thighs.

Acknowledgements

In adding this important patient to our growing suite of pathologies, GigXR is grateful for the collaboration and resources provided by the University of Michigan-Flint School of Nursing where this project was funded by a Health Resources and Services Administration, Advanced Nursing Education - Sexual Assault Nurse Examiner (ANE-SANE) Program Grant # 1T96HP42061-01-00. We'd especially like to thank Carman Turkelson, DNP, RN, CCRN-K, CHSE-A (carmant@umich.edu) and Ronald Streetman, MA, EMT-B, CHSOS-A (rtstreet@umich.edu) for their subject expertise and assistance.

Resources and Information

International Association of Forensic Nurses (IAFN)
https://www.forensicnurses.org/

Michigan Medical Forensic Examination Report (MMFER), see Appendix A.

Sexual Assault Nurse Examiner (SANE) Education Guidelines (2018) retrieved May 3, 2022 via https://www.forensicnurses.org/page/EducationGuidelinesAccess/

Non-Fatal Strangulation Documentation Toolkit, IAFN (November 2016), https://www.forensicnurses.org/wp-content/uploads/2022/01/strangulation_documentation_.pdf

Below we have gathered links to additional salient information across different geographic regions. If resources for your country or region aren't represented here, please let us know the resources to include to support you and your learners!

United States of America:

A National Protocol for Sexual Assault Medical Forensic Examinations Adults/Adolescents, 2e (April 2013) U.S. Dept. of Justice. Office on Violence Against Women (OVW) (Washington, DC) https://www.ojp.gov/pdffiles1/ovw/241903.pdf

National Training Standards for Sexual Assault Medical Forensic Examiners, 2e (August 2018) U.S. Department of Justice Office on Violence Against Women (Washington, DC) https://www.justice.gov/ovw/page/file/1090006/download

Resource for accessing various US State Protocols, provided by SAFEta.org - https://www.safeta.org/page/stateprotocols

Currently 8 states (Kentucky, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Texas) have specific requirements and require a separate state board certification for SANE.

Australia:

Freedman, E. (2020) Clinical management of patients presenting following a sexual assault, *Australian Journal for General Practitioners*, 49(7), 406-411 doi: 10.31128/AJGP-01-20-5199 https://www1.racgp.org.au/ajgp/2020/july/clinical-management-of-patients-presenting-followi

Canada:

The Ontario Network of Sexual Assault/Domestic Violence Treatment Centres https://www.sadvtreatmentcentres.ca/

New Zealand:

MEDSAC and Sexual Abuse Assessment and Treatment Service (SAATS) https://medsac.org.nz/

United Kingdom:

UK National Guidelines on the Management of Adult and Adolescent Complainants of Sexual Assault 2011 (Updated 2012) https://www.bashhguidelines.org/media/1079/4450.pdf

https://www.thesurvivorstrust.org/who-we-are

https://www.nhs.uk/live-well/sexual-health/help-after-rape-and-sexual-assault/

Patient: Maya Roberts

Pathology: Delirium Superimposed on Moderate- to Late-Stage Dementia

Overview: The case scenario depicts an older adult female/patient with moderate- to late-stage dementia presenting with delirium superimposed on dementia.

Objectives: After completing this facilitated scenario the learner will be able to:

- Identify the patient's appropriate clinical presentation and conduct appropriate assessment and interventions necessary to stabilize the patient.
- Recognize and discuss the difference between delirium and dementia
- Recognize and discuss what can trigger behavior changes in a dementia patient.

Case Scenario (Brief) to be presented to the learner:

Maya Roberts, 76 years old, has been brought to the Emergency Department by her daughter: "her behavior's really different these last two days, restless or something… I don't know what's going on."

According to her daughter, she's been "getting along well with our carers at home, but in the last two days, she just seems restless. She normally doesn't sleep so well at night, but this change, this restlessness is all day long. She seems more confused all of a sudden.

Ms. Roberts was diagnosed with Alzheimer's dementia 3 years ago. She resides at home with her daughter who has arranged round-the-clock care with formal and informal caregivers. She is on a mechanical soft diet due to dysphagia. She has a history of hypertension (well controlled on current medication), and she is allergic to penicillin.

Her current medications are: Memantine, 15mg daily; Amlodipine, 5mg daily; Omega 3 fatty acids, 600mg daily.

Question for the learner prior to viewing Clip 1:

Q 1. What data will you obtain in your initial assessment of Ms. Roberts, and what is the rationale for this data?

Potential Answer

Data	Rationale
Vital Signs to include pain assessment	Provides baseline information; may provide evidence of abnormal HR, RR, body temperature
ECG pattern	Provides baseline evaluation; may provide evidence of cardiac arrhythmia or ectopy
Length of time since changes were noticed.	Can provide information of underlying causes: illness/fever/infection; environmental changes; medication changes; change in caregivers; loss of loved one (all stressors that can potentiate delirium).
Orientation to person, place, time, situation	Provides baseline evaluation; may provide evidence of stability/progression of neurological status
Health history	Dysphagia poses a risk of aspiration pneumonia.

Have the learner view Clip 1

Questions for the learner immediately after viewing Clip 1:

Q 2. What assessment was identified and what are the potential cause and actions to initiate related to these findings?

Potential Answer

Assessment	Potential Cause	Actions to Initiate
P = 81 R = 22 BP = 124/72 SpO2 = 92% on room air ECG = normal sinus rhythm	Heart rate elevated, oxygen level slightly low	Continue to monitor
T 100.8F (38.2C)	Elevated temperature due to possible infection	Monitor. Request blood cultures and urinalysis.
Restless, agitated	Dementia or delirium brought on by infection	Reduce stimulation in environment.

Q 3. What examinations or assessments in addition to your observations are advisable and what is the rationale for them?

Potential Answer

Assessment	Rationale
Blood cultures and urinalysis	Evaluate source of infection
Auscultation of breath sounds Chest X-ray	Evaluate pleural abnormalities: abnormal breath sounds (diminished); presence of pneumonia/infiltrates

Q 4. The patient's daughter asks you if this perhaps isn't just "the next stage" of her mother's dementia. How would you recognize the difference between delirium and dementia? What are some assessment methods you might apply?

Potential Answer

Dementia (Alzheimer's dementia) tends to have an insidious onset with a progressive course. Consciousness is generally clear until later stages, and there is no evidence of hallucinations or delusions. In addition, cognitive deficits in dementia impact short-term memory and attention is less affected until dementia is severe. Psychomotor activity can be normal.

Delirium, on the other hand, is characterized by acute or subacute onset, with a fluctuating course that usually revolves over a period of days to weeks. Poor short-term memory and attention span are both present. Psychomotor activity may be increased, reduced, or unpredictable. Fleeting delusions and hallucinations, generally visual, are common. Key differences can be consequently noted in onset, course, conscious level, cognitive defects, presence of hallucinations and/or delusions, and level of psychomotor activity.

The Confusion Assessment Method (CAM), Mini-mental State Examination (MMSE), and Organic Brain Syndrome Scale are the most commonly used tools to assess and diagnose delirium (Resnick, 2009).

Inform the Learner: *It's a busy day in the Emergency Department, and you've been unable to move Ms. Roberts to a quieter room. A doctor is being located to review the case, and the patient continues waiting in her examination area with her daughter. After about an hour, on one of your routine check-ins with them, observe the following….*

Have the learner view Clip 2

Questions for the learner immediately after watching Clip 2:

Q 5. What changes were noted in Ms. Roberts' condition? What are the actions to initiate?

Potential Answer

Assessment	Actions to Initiate
P 96, SpO2 88% R 26 and shallow Increased heart rate, decreased O_2 sat.	Patient is becoming hypoxic and will need supplemental oxygen to prevent further deterioration of status.
T 101.3F (38.5C) Temperature has increased.	Infection worsening, appropriate antibiotics/antifungal/antimicrobials are needed. Check on blood and urine cultures.

Q 6. Why would you want to try to move the patient to a quieter room if possible?

Potential Answer

Some of the patient's agitation and confusion may be exacerbated by the stimulation of the busy Emergency Department atmosphere. A quieter room within the department, if available, can help reduce her agitation and anxiety while further assessments are completed.

The learner should recognize and discuss triggering situations that contribute to behavior changes. Change in environment (from familiar to unfamiliar); hospital admission; changing clothes or bathing time; underlying infectious process (causing delirium superimposed on dementia).

- If learner correctly identifies the worsening symptoms, their causes, and recommends supplemental oxygen for symptom management – skip Clip 3, and go to Clip 4.

- If learner does not identify need for urgency in intervention, proceed to Clip 3.

Prior to viewing Clip 3, inform the learner:

Ms. Roberts has been under observation for about 3 hours since arriving. She continues to wait with her daughter for the results of her tests.

Have the learner view Clip 3

Questions for the learner immediately after viewing Clip 3:

Q 7. What changes are noted in your assessment of Ms. Roberts? What could have caused these changes?

Potential Answer

Assessment Changes	Potential Cause
P 124, SpO2 85% R 32 and shallow Increased heart rate, decreased O_2 sat.	Patient exhibiting hypoxia (tachypnea)
T 102F (38.9C) Temperature has increased.	Infection worsening, appropriate antibiotics are needed. Check on blood and urine cultures.
Increased agitation and confusion	Manifestation of delirium due to the underlying infectious process.

Q 8. What do you think is causing the hypoxia?

Potential Answer

As there have been no underlying chronic conditions identified such as asthma, COPD, or heart disease, this condition would seem to be arising from pneumonia.

Q 9. You are waiting on the test results, but if they show that Ms. Roberts has pneumonia, what are some of the likely pathogens which may be causing it, and the expected pharmacotherapy?

Potential Answer

Common bacteria which are related to inhalation pneumonia may include: *Peptostreptococcus, Fusobacterium nucleatum, Fusobacterium necrophorum, Prevotella, and Bacteroides melaninogenicus*.

Suggest ampicillin-sulbactam (1.5 to 3 g IV every 6 hours for those with normal renal function) as first-line therapy. For patients who are not severely ill and who can tolerate an oral regimen, amoxicillin-clavulanate (immediate release 875 mg orally twice daily or extended release 2 g orally twice daily) is an appropriate alternative; could also be combination of metronidazole (500 mg orally or IV three times daily) **plus either** amoxicillin (500 mg orally three times daily) **or** penicillin G (1 to 2 million units IV every 4 to 6 hours). Note: penicillin would be contraindicated here due to patient's allergy.

Prior to viewing Clip 4, inform the learner:

Ms. Roberts has been placed on supplemental oxygen (O_2 2L). The results of the blood cultures and urinalysis have returned and confirm a urinary tract infection. Chest Xray shows infiltration of the right lower lobe (consistent with aspiration/inhalation pneumonia). Antibiotic treatment was initiated, and Ms. Roberts has been kept for observation approximately 90 minutes since then.

Have the learner view Clip 4

Questions for the learner immediately after viewing Clip 4:

Q 10. What are your observations of the patient now?

Potential Answer

The patient is stabilized. Oxygen saturation is 98% on 2L oxygen. Her temperature has started to come down (99.7F) as the antibiotics take effect. As her physical symptoms have been addressed, her agitation and anxiety have significantly reduced.

Inform the learner: *Ms. Roberts will be admitted for observation and care for at least one day.*

Q 11. What are the main points you will cover in discharge teaching with Ms. Roberts?

Potential Answer

Remember to speak to Ms. Roberts directly but with her daughter or other caregiver present. Make eye contact with Ms. Roberts, acknowledging her. Be mindful that at times, rapid/high pitched speech patterns may exacerbate agitation, so speak slowly, calmly.

Points of emphasis should be on reducing risk of aspiration pneumonia (modified diet, maneuvers for the patient to do, such as a chin-tuck maneuver, upright/sitting position/HOB> 30-45 degrees for all meals and drinks). Caregiver education about mental status change and body temperature changes in older adults (infection manifests as subtle mental status changes rather than overt body temperature changes in some cases).

MAYA ROBERTS - DELIRIUM/DEMENTIA - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 81, BP 124/72, R 22, T 100.8F (38.2C), SpO2 92% on room air ECG: normal sinus rhythm	Restless, fidgeting. Confused, disoriented.
2	P 96, BP 118/68, R 26, T 101.3F (38.5C), SpO2 88% on room air ECG: normal sinus rhythm	Increased agitation, confusion. Signs of hypoxia.
3	P 124, BP 98/62, R 32, T 102F (38.9C), SpO2 85% on room air ECG: sinus tachycardia	Increased agitation, anxiety, confusion. Hypoxic, impending tachyarrhythmia.
4	P 76, BP 122/72, R 18, T 99.7F (37.6C), SpO2 98% on 2L O_2 ECG: normal sinus rhythm	Agitation resolved, comfortable. Stable condition, on oxygen.

References

Alzheimer's Association. Alzheimer's and Dementia. https://www.alz.org/alzheimers-dementia

National Health Service. Dementia Guide. https://www.nhs.uk/conditions/dementia

Resnick, B. (2019). *Geriatric nursing review syllabus* (6th ed.). New York: American Geriatrics Society.

Social Care Institute for Excellence https://www.youtube.com/watch?v=loksPQ7Q8tM https://www.scie.org.uk/dementia/

Tarawneh, R., & Holtzman, D. M. (2012). The clinical problem of symptomatic Alzheimer disease and mild cognitive impairment. *Cold Spring Harbor Perspectives in Medicine*, *2*(5), a006148. https://doi.org/10.1101/cshperspect.a006148

Patient: Katie Livingston

Pathology: Complications of Diabetes Mellitus: Hypo- and Hyperglycemia

Overview: Two cases presenting examples of complications related to diabetes mellitus.

- **Case 1** presents a young adult experiencing a hypoglycemic reaction. (Clip 1)
- **Case 2** is the same individual experiencing diabetic ketoacidosis. (Clips 2 & 3)

Objectives: After completing this facilitated scenario the learner will be able to:

- Differentiate between the symptoms of hypo- and hyperglycemia.
- Discuss emergency measures to the initiated for an individual experiencing hypo- and hyperglycemia.
- Discuss age-appropriate patient teaching strategies to decrease the incidents of diabetic complications.

Case 1 – Hypoglycemia (Clip 1)

Case Scenario (Brief) to be presented to the learner:

Katie Livingston, a junior math major at a local university comes to the university clinic. She states she feels shaky and has a pounding headache. When questioned she states, "I'm a diabetic – controlled by insulin. I took my insulin this morning – but didn't eat – I was running late for my math test."

Katie also says, "Everything looks kind of blurry. That's why I had to come in. I couldn't even finish my test!"

Have the learner view Clip 1

Questions for the learner immediately after viewing Clip 1:

Q 1. *What do the assessment findings indicate and what action/s should be initiated?*

Potential Answer

Assessment	**Potential Cause**	**Actions to Initiate**
• Jittery • Sweating • Hungry • Headache • Blurred vision • Dizzy • Pale	All are symptoms associated with hypoglycemia.	Safety: Have Katie lie down immediately. Obtain STAT Blood Glucose and A1C levels. Provide treatment using the 15/15 rule.
Took her insulin without eating	Contributing factors related to hypoglycemia	

Q 2. What does the 15/15 rule for hypoglycemia treatment indicate?

Potential Answer:

Provide 15 g of rapid-acting carbohydrate and rechecking the blood glucose in 15 minutes. If the blood glucose is still < 70 mg/dL provide an additional 15 g of carbohydrates and repeat the blood glucose level in 15 minutes.

Additional Discussion Opportunity: *How does stress impact blood glucose.*

Inform the learner: Katie's initial blood glucose level is 68 mg/dL and her A1C is 8

Q.3. What do these results indicate?

Potential Answer

Normal blood glucose level is 100-120 mg/dL. The current low level is indicative of hypoglycemia.

Recommended A1C (HbA1c or glycated hemoglobin) is < 7. The A1C level reflects the individual's management of their diabetes over the past 2 to 3 months. A1C measures the percentage of hemoglobin that has glucose attached. Therefore, when the A1C level is higher than normal it means the blood glucose levels have been higher than normal.

Inform the learner: *It is now 45 minutes later, and Katie's blood glucose level is 124 gm/dL. She states she is feeling "much better". Her skin in warm and dry, BP 124/68, P 98, R 20.*

Q 4. What actions need to be initiated?

Potential Answer

Discharge teaching to include: Review of medications, diet, and activities. Review of monitoring technique. Special discussion related to alcohol intake because alcohol can slow the absorption of food leaving to hypoglycemia.

Q 5. How would you respond when Katie asks, "Should I eat a candy bar when I experience this again?

Potential Answer

The recommend treatment would be 4 ounces of regular soda or juice (orange or cranberry), or glucose tablets. Food with fiber, protein, or fats (a candy bar) would delay the absorption of glucose into the blood stream.

Additional Discussion Opportunity: *How do some drugs which seem to be unrelated to diabetes, for example antibiotics and salicylates, increase the risk for hypoglycemia?*

Case 2 – Diabetic Ketoacidosis (Clips 2 & 3)

Case Scenario (Brief) to be presented to the learner:

Ms. Katie Livingston, 20 years old, is brought to the emergency room by a friend. The friend states, "I know Katie is a diabetic. She takes insulin, well most of the time. She has been extremely restless the last couple of days, drinking a lot of water and going to the bathroom frequently. Tonight we went out and had a few drinks trying to relax. She really started to act weird, complained of having blurred vision and a severe headache; so I thought I better bring her to the hospital. Katie ran a marathon several days ago, I think she fell and hurt her leg."

Question for the learner prior to viewing Clip 2.

Q 1. What information in the brief needs to be explored quickly and why during your initial assessment on Katie?

Potential Answer:

Information to Explore	Rationale
Health History: What medications is Katie currently on?	Brief indicated Katie is not always compliant with her insulin therapy
Physical Assessment: What does "acting weird" mean? What is Katie's current mental status? Vital Signs including oxygen saturation Assessment of Katie's leg	Symptoms of hyperglycemia identified in the brief include polydipsia, polyuria, blurred vision, and headache. Two of the most common factors leading to diabetic complications are infection and noncompliance with insulin therapy

Have the Learner view Clip 2

Questions for the learner immediately after viewing Clip 2

Q 2. What actions should be initiated immediately do to your assessment?

Potential Answer

Actions	Rationale
Maintain patient safety – someone needs to remain at Katie's bedside	Katie is restless, thrashing, vital signs indicate sinus tachycardia with Kussmaul pattern respirations. *Q 3. What does the identification of Kussmaul pattern respirations indicate?* **Potential Answer**: Kussmaul respirations (rapid, labored, deep respirations) occur as the body

Actions	Rationale
	attempts to blow off carbon dioxide in order to compensate for the metabolic acidosis from DKA.
Initiate oxygen therapy at 2 liters via nasal cannula	Although Katie's oxygen saturation is 92% there is a potential for impaired tissue oxygenation due to the acidotic state and increased body temperature. *Q 4. How does the acidotic state and increased body temperature influence Katie's oxygenation status?* **Potential Answer**: Acidosis and increased temperature cause a decrease in the hemoglobin's affinity for oxygen. This causes a rapid diffusion of oxygen from the blood to tissue cells.
Initiate intravenous therapy with normal saline	Blood pressure 92/68, P 128, T 102.2F (39C), skin is dry and flushed. This assessment indicates potential dehydration. *Q 5. What if intravenous therapy was not initiated immediately with normal saline?* **Potential Answer**: Fluid deficit in DKA can be up to 100 mL per kg of body weight. If rehydration with isotonic saline is not administered at a rate to maintain adequate blood pressure and pulse, urinary output, and mental status, the patient's dehydration and acidosis will progress which could lead to shock. The rehydration will assist in decreasing the concentration of glucose in the blood lowering the blood glucose level.
Obtain blood for diagnostic studies	Expect the following diagnostics to be ordered: • Plasma glucose • Electrolytes • CBC with differential • A1C to determine if Katie's diabetes has been controlled *Q 6. Why is it important to obtain electrolytes levels STAT?* **Potential Answer**: Acidosis increases levels of serum potassium by moving intracellular potassium into the extracellular fluid (plasma) in exchange for

Actions	Rationale
	hydrogen ions. Potassium levels directly affect heart function.
Obtain wound culture	Culture to determine if Katie's wound is infected to determine appropriate treatment. *Q 7. What is the relationship between Katie's blood glucose and her infection?* **Potential Answer:** Elevation in blood glucose decreases the body's natural immune defenses needed to fight infections. Additionally, the elevation in blood glucose allows bacteria to grow at a faster rate.
Notify physician and other members of the healthcare team	

Inform the learner:

The diagnostics reveal a blood glucose level of 422 mg per dL and a serum potassium of 5.2 mEq per L. The physician orders 30 mEq of potassium to be added to 1000mL of NS to infuse at 15 mL per kg per hour, an insulin drip to infuse at 0.1 units per kg per hour (the insulin drip arrives from pharmacy and is labeled 100 mL NS with 100 u Regular Insulin), and a repeat of the blood glucose and serum potassium levels in one hour.

Q 8. If Katie weighs 148 pounds how fast should the intravenous therapy and the insulin drip infuse?

Potential Answer:

148 lb. = 67 kg

IV solution should infuse at 15mL/kg/hr * 67 kg = 1000 mL/hr = 1 L/hour

Insulin drip should infuse at 0.1u/kg/hr * 67 kg = 7 mL/hour

Inform the learner: *It is two days later Ms. Livingston is ready to be discharged.*

Have the learner view Clip 3:

Q 9. What assessment did you note; identify a potential cause and actions that need to be implemented?

Potential Answer:

Assessment	Potential Cause
Responsive X 3 BP 132/76, P 78, R 18, T 99F (37.2C) Skin (would be expected to be warm and dry)	Blood Glucose level within normal limits

Q 10. What should be included in Katie's discharge teaching?

Potential Answer

Review treatment regime: Proper medication administration, review of glucometer monitoring

Review of signs and symptoms of DKA

Importance of following "Sick Day Rules":

Continuing taking medications

Increase monitoring of blood glucose to every 4 hours

Reporting blood glucose level > 300 mg/dL

Reporting emesis or diarrhea to healthcare provider

Review proper hygiene related to glucose monitoring or other risk of infection:

Hand washing with either soap and water or an alcohol-based hand rub.

Wear gloves during blood glucose monitoring or any activity that involves potential exposure to blood or body fluids.

Change gloves when they have touched potentially blood-contaminated wounds. Discard gloves in appropriate receptacles.

Perform hand hygiene immediately after removal of gloves.

KATIE LIVINGSTON - DIABETES - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 112, BP 96/72, R 22, T 97.2F (36.2C), SpO2 92% on room air ECG: sinus tachycardia	Hypoglycemic Headache, blurred vision, very restless.
2	P 122, BP 92/68, R 28, T 102.2F (39C), SpO2 90% on room air ECG: sinus tachycardia	Diabetic Ketoacidosis (DKA) Kussmaul breathing
3	P 78, BP 132/76, R 18, T 99F (37.2C), SpO2 94% on room air ECG: normal sinus rhythm	Condition improved. Stable.

References

Corl, D. E., McCliment, S., Thompson, R. E., Suhr, L. D., & Wisse, B. E. (2014). Efficacy of diabetes nurse expert team program to improve nursing confidence and expertise in caring for hospitalized patient with diabetes mellitus. *Journal for Nurses in Professional Development*, *30*(3), 134-142. Retrieved from www.jnpdonline.com

Kreider, K. E., Padilla, B. I. (2017). Hypoglycemia in diabetes: Challenges and opportunities in care. *The Journal for Nurse Practitioners, 13*(3), 228 – 234. http://dx.doi.org/10.1016/j.nurpra.2016.08.032

Mills, L. S., & stamper, J. E. (2014). Adult diabetic ketoacidosis: Diagnosis, management and the importance of prevention, *Journal of Diabetes Nursing, 18*(1), 8-12.

Smith, N., & Schub, T. (March, 2018). Diabetic Ketoacidosis in adults. *CINAHL Information Systems*. Retrieved from http://web.a.ebscohost.com/nup/pdfviewer/pdfviewer?vid=3&sid=4251a1dc-e74a-4c49-a34b-09cf874dc02f%40sessionmgr4010

Stahl, R. J. & Woods, M. (October, 2014). Taking care of your diabetes when you are sick. *Health Library: Evidence-Based Information.* Retrieved from http://web.a.ebscohost.com/nup/detail/detail?vid=5&sid=4251a1dc-e74a-4c49-a34b-09cf874dc02f%40sessionmgr4010&bdata=JnNpdGU9bnVwLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=2010217907&db=nup

Patient: Lydia Johnson

Pathology: Potential Domestic Violence

Overview: Female adult experiencing injuries due to potential domestic violence.

Objectives: After completing this facilitated scenario the learner will be able to:

- Identify signs and symptoms that suggest domestic violence
- Demonstrate the ability to communicate appropriately to obtain permission to perform an assessment on a client with findings suggestive of domestic violence
- Identify appropriate referrals for a client experiencing domestic violence

Case Scenario (Brief) to be presented to the learner:

Lydia Johnson, 28 years old, is brought to the urgent care clinic by a friend. Ms. Johnson states, "She fell down the stairs at the apartment building where she lives."

Question for the learner prior to viewing Clip 1:

Q 1. *Discuss the focused health history and assessment you need to complete on Ms. Johnson related to the brief.*

Potential Answer

Health History: Story related to current injury, allergies, past medical history, family history, past hospitalizations/clinic visits, and support system.

Physical Assessment: Vital signs, assessment of visible wounds and bruising, demeanor, and nonverbal communication and behavior.

Have the learner view Clip 1

Question for the learner immediately after viewing Clip 1:

Q 2. What assessments have you made, and what are the potential cause and actions to initiate related to these findings?

Potential Answer

Assessment	Potential Cause	Actions to Initiate
Limited eye contact. Nonverbal communication; looking away, withdrawn Clothing that hides bruises (long sleeve that she repeatedly pulls down over her wrists)	Scared Anxious	Specific objective documentation of eye contact and body language
Multiple lacerations and bruises (face, arms, and neck)		Specific documentation of any lacerations, bruises, etc.

Q 3. How would you document these findings?

Potential Answer

Documentation should include detailed record or what the patient states (use quotation marks); document injuries in detail. If possible, draw or take pictures of the injuries (after written consent is obtained).

Q 4. Why is this documentation important?

Potential Answer

These records may be accessed in the case of criminal proceedings.

Q 5. What are your legal responsibilities related to reporting domestic violence?

Potential Answer

In the United States each state has different requirements, see:
http://www.futureswithoutviolence.org/userfiles/file/HealthCare/Compendium%20Final.pdf

These requirements also vary from country to country, for example:
http://www.domesticviolencelondon.nhs.uk/uploads/downloads/DH_4126619.pdf

Q 6. How do you need to proceed in providing care for Ms. Johnson?

Potential Answer:

You will need Ms. Johnson's permission to complete any further assessment. Screening for abuse demands sensitivity, cultural competency, excellent communication skills, a knowledge of institutional policies, state laws, and availability of community resources. Screen must be conducted in a private setting, away from accompanying friends or family members. Multiple screening tools are available to assist, but no matter which is used you must be respectful and nonjudgmental in your approach. If the individual answers to domestic abuse screen: let them know the healthcare environment is a safe place to talk about abuse and receive help if the situation ever changes. If the individual affirms abuse initiate your agency's protocols and contact the appropriate individual.

- If the learner identified the need to ask for permission to complete a further assessment of Ms. Johnson, proceed to Clip 3.

- If the learner does not ask for permission to complete a further assessment of Ms. Johnson, proceed to Clip 2. Discuss the legality related to obtaining permission, then continue to Clip 3.

Have the learner view Clip 2.

Q 8. What if Ms. Johnson refuses to allow you to proceed with a more in-depth assessment, how are you going to approach the conversation related to potential violence?

Potential Answer

Let Ms. Johnson know the clinic setting is a safe place for her to talk and receive help. Provide information related to community services in a professional, respectful, nonjudgmental manner.

Have the learner view Clip 3.

Question for the learner immediately after viewing Clip 3:

Q 7. How would you document the findings of your physical assessment?

Potential Answer

Learner should describe all injuries objectively and with as much description as possible to include size and color.

Additional Discussion Opportunity: *Explore the next steps in care to be provided to Ms. Johnson. Appropriate next steps will depend on the policies of the agency and any national/state guidelines that must be followed. Learners might utilize their mobile devices to locate and access these guidelines.*

LYDIA JOHNSON - DOMESTIC VIOLENCE - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 122, BP 138/86, R 24, T 98F (36.2C), SpO2 92% on room air ECG: sinus tachycardia	Withdrawn, anxious. Bruising to face (eye, nose, lips)
2	P 148, BP 142/86, R 24, T 99F (37.2C), SpO2 92% on room air ECG: supraventricular tachycardia	Anxious and very uncomfortable. Indicating refusal to comply. Scared.
3	P 112, BP 132/76, R 20, T 99F (37.2C), SpO2 92% on room air ECG: sinus tachycardia	Relaxed, but still anxious. Complies, but nonverbal.

References

Bradbury-Jones, C. & Taylor, J. (2013). Establishing a domestic abuse care pathway: Guidance for practice. *Nursing Standards, 27*(27), 42-47.

Muller, L. S. (2014). A case management briefing on domestic violence. *Professional Case Management, 19*(5), 237-240. Doi: 10.1097/NCM.0000000000000054

Pasqualone, G. & Michel, C. (2015). Forensic patients hiding in full view. *Critical Care Nursing Quarterly, 38*(1), 3-16. Doi: 10.1097/CNQ.0000000000000043

Rouchee, J. P. (2016). Identifying domestic violence in patients. *Radiologic Technology, 88*(2), 218-221.

Tietjen, G. E. (2012, March). Office assessment for abuse and management of the battered patient. *Neurology: Clinical Practice*. Retrieved from www.neurology.org/cp

Patient: Samuel Lee

Pathology: Care of a Patient with Heart Failure Exacerbation

Overview: An older male patient admitted with symptoms of heart failure. The scenario provides opportunities to discuss the importance of age, co-morbidities, ethnicity, and culture.

Objectives: After completing this facilitated scenario the learner will be able to:

- Correlate how co-morbidities, stress and aging can impact heart failure
- Describe the importance of ethnicity and culture in are of a patient with heart failure
- Describe the treatment modalities to be initiated with heart failure exacerbation
- Identify the diagnostic studies and finding occurring with exacerbation of heart failure

Case Scenario (Brief) to be presented to the learner from the triage nurse (SBAR):

- *Situation: Samuel Lee, 80 years old, with a history of Type 2 Diabetes Mellitus for 24 years, and heart failure and hypertension for the past 18 years. His diabetes has been controlled with Metformin 400 mg tablet twice a day, and he takes Captopril 25 mg tablet three a day for his hypertension.*
- *Background: Mr. Lee stated he has been experiencing "a lot" of family stress lately, has felt tired the past week and even had difficulty thinking. This morning his heart started racing, beating funny, and he felt "tightness in his chest". So, he had his wife drive him to the emergency room.*
- *Assessment: Mr. Lee is alert X3 but takes a few seconds for him to respond. BP 172/88, P 124 irregular, R 24, T 99.2F (37.3C), EKG monitor reflects atrial fibrillation, 1+ non-pitting peripheral edema bilaterally, and his blood glucose level was 210. He is sitting in tripod position.*
- *Recommendation: Obtain a 12-lead EKG and notify his physician.*

Questions for the learner immediately following brief:

Q 1. After receiving report form the triage nurse, what "picture" do you have of Mr. Lee and what would be the underlying cause of these findings?

Potential Answer:

Assessment	Potential Cause
Fatigue Confused Appearing distressed	Stress response and potential decrease in oxygenation

Q 2. Mr. Lee reports that he has been experiencing "a lot" of family stress lately. How would you describe the body's response to short-term stress and to prolonged stress?

Potential Answer

Short-term Stress	**Prolonged Stress**
Amygdala sends "distress signal" to hypothalamus which activates the sympathetic nervous system. Hypothalamus communicates with the adrenal medulla, where epinephrine (adrenaline) and norepinephrine (noradrenaline) are released.	Hypothalamus releases of corticotropin-releasing hormone (CRH), which signals the pituitary gland to release adrenocorticotropic hormone (ACTH) ACTH travels to the adrenal cortex where corticosteroids are released.
Heart rate and respiration increase Blood pressure increases Bronchioles are dilated Metabolic rate increases; liver converts glycogen to glucose and releases glucose into blood. Alertness increases; digestive and excretory functions decrease.	Mineralocorticoid release leads to: • Kidneys retain water and sodium • Blood volume and blood pressure increase Glucocorticoid (cortisol) release leads to: • Conversion of fats and protein into glucose or energy • Blood glucose increases • Immune system suppressed

Q 3. Correlate the physiologic stress response to Mr. Lee's assessment provided in the report.

Potential Answer:

Responses observed in assessment:

- Increased blood pressure 178/88
- Increased pulse rate 124 (irregular in rhythm)
- Increased blood glucose level of 210
- Increased sodium and water retention yielding the 1+ non-pitting edema

Have learner view Clip 1

Question for the learner immediately after viewing Clip 1:

Q 4. What actions need to be implemented and provide the rationale for these actions?

Action	Rationale
Validate Mr. Lee is supported in a tripod position	Improves oxygenation by promoting lung expansion
Initiate oxygen therapy at 2 L via nasal cannula and increase according to changes in oxygen saturation	Improves oxygenation
Communicate in a calm soothing manner	Decreases anxiety in an effort to decrease the stress response
Weigh Mr. Lee	Changes in weight can correlate to fluid retention (1 kg = 1 L)

Q 5 Mr. Lee's wife stated his usual weight is 167 pounds. His current weight is 174 pounds. Estimate the potential fluid retention this indicates.

Potential Answer

174 – 167 = 7 lbs = 3.2 kg ~ 3 to 3.5 L fluid retained

Inform the learner: *Mr. Lee's primary healthcare provider arrives and requests actions to be initiated for elective cardioversion due to the sudden onset of atrial fibrillation.*

Q 6. What is the rationale for the immediate elective cardioversion?

Potential Answer

In atrial fibrillation the atria do not have an effective, regular contraction and therefore will not completely pump blood out of the atria into the ventricles. This blood can pool and form clots that may then be pumped out of the heart and eventually into an artery in the brain, leading to a stroke. Additionally, the decrease in blood being pumped out of the atria and the increase in heart rate lead to a decrease in stroke volume – yielding a decrease in cardiac output. The blood can "back up" from the right atrium. In the systemic circulatory system this causes fluid retention (weight gain and peripheral edema). In the pulmonary circulatory system, it causes fluid to back up into the lungs (pulmonary edema).

Q 7. What actions need to be initiated to prepare for the elective cardioversion?

Potential Answer

- Informed consent after physician discusses the procedure with Mr. Lee.
- Initiate an intravenous access.
- Expect Mr. Lee to receive an IV sedative.

Additional Discussion Opportunity: *What are the responsibilities of witnessing a consent?*

Inform the learner: *It is the next day and Mr. Lee is to be discharged with a follow up in the clinic in 1 month.*

Have learner view Clip 2

Questions for the learner immediately after viewing Clip 2

Q 8. What changes did you observe in Mr. Lee's assessment and what could have caused these changes?

Potential Answer

BP 142/78, P 86 and regular, R 22, O2 Sat. 89%, EKG – Normal Sinus Rhythm (improved myocardial function providing increased cardiac output and improved tissue oxygenation)

Q 9. When preparing the plan for discharge teaching you note Mr. Lee is to be discharged on Metformin 400 mg BID, Captopril 25 mg TID, Hydrochlorothiazide 50 mg QID, and Coumadin 5 mg daily. What is the rationale for adding Hydrochlorothiazide and Coumadin to his medication therapy?

Potential Answer

Hydrochlorothiazide is a thiazide diuretic. Recommended to be added to an ACE inhibitor (Captopril) when BP in a diabetic is not maintained below 140/90 mmHg.

Coumadin (warfarin) is an anticoagulant which reduces the formation of blood clots.

Q 10. What if Mr. Lee were a strict vegetarian, would this affect the effect of his medications?

Potential Answer

Vitamin K interferes in the anticoagulant effects of Coumadin: therefore, Mr. Lee should avoid making any changes in his diet. Foods that are high in vitamin K (liver, leafy green vegetables, or vegetable oils) can make warfarin less effective. If these foods are a part of Mr. Lee's diet, he should eat a consistent amount on a weekly basis.

SAMUEL LEE - HEART FAILURE - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 124, BP 178/88, R 24, T 99.2F (37.3C), SpO2 88% on room air ECG: atrial fibrillation	Elevated blood glucose, non-pitting 1+ edema. Sitting in tripod position. Indicating pain in left chest.
2	P 86, BP 142/78, R 22, T 98.8F (37.1C), SpO2 89% on room air ECG: normal sinus rhythm	Quiet, relaxed. Condition improved.

References

Caple, C. & Uribe, L. M. (September 30, 2016) Heart failure: Treatment with ACE Inhibitors. *CINAHL Information Systems*. Retrieved from http://web.a.ebscohost.com/nup/pdfviewer/pdfviewer?vid=3&sid=50b5fcb2-75e8-437c-86eb-30fa642a10b7%40sessionmgr4008

Schub, E. & Schub, T. (September 30, 2016) Heart failure: Treatment with Beta Adrenergic Antagonists. *CINAHL Information Systems*. Retrieved from http://web.a.ebscohost.com/nup/pdfviewer/pdfviewer?vid=2&sid=50b5fcb2-75e8-437c-86eb-30fa642a10b7%40sessionmgr4008

Patient: Doreen Siegel

Pathology: Hip Fracture

Overview: The case scenario presents an older female patient being treated for hip fracture after having a ground-level fall.

Objectives: After completing this facilitated scenario the learner will be able to:

- Identify the patient's appropriate clinical presentation and conduct appropriate assessment and interventions necessary to stabilize the patient.
- Identify and discuss signs and symptoms of hip fracture.
- Discuss risk factors for hip fracture.

Case Scenario (Brief) to be presented to the learner:

Doreen Siegel, 84 years old, was brought into the Emergency Department by ambulance. She recalls having a misstep off of a street corner and falling to the ground.

Ms. Siegel is a widow and lives in an apartment with her 2 cats. She likes to take walks around her neighborhood for fresh air and was on one of these walks today. A neighbor saw her fall and called the emergency services from his cellphone after he went to her aid and found she was unable to stand up. This occurred about 45 minutes ago.

She has a history of smoking but quit using cigarettes 10 years ago. She was treated for breast cancer 30 years ago and is in remission. She has osteoporosis. In addition to a daily multivitamin, she has taken Risedronic acid (or risedronate) 35mg weekly for the past 5 years. NKDA.

Questions for the learner prior to viewing Clip 1:

Q 1. Before seeing the patient, what picture do you have of her? What physical symptoms will you be looking for?

Potential Answer

Ms. Siegel has multiple risk factors for fracture including: patient sex, age, history of osteoporosis, long-term use of bisphosphonates, history of tobacco use. Also, in older adults the mechanism of injury (MOI) in older patients is typically low impact as is the case with this patient - a ground level fall.

We will need to find out where her pain is. The background says she can't stand up. Information points to possible hip or leg fracture.

She could have just taken a misstep, or her fall might have been caused by something else. Vital signs will be checked for any sign of irregularity in ECG/heart rhythm, blood pressure, pulse rate, or oxygen saturation.

Have the learner view Clip 1

Questions for the learner immediately after viewing Clip 1:

Q 2. Correlate actions to be implemented to the assessment findings and related rationale that should be initiated to support Ms. Siegel?

Potential Answer

Assessment	Action	Rationale
Pain in right upper thigh, right groin.	Contact provider for analgesia.	Patient should be kept comfortable and calm while under further assessment.
Right leg appears slightly shorter than left and externally rotated.	Contact provider for x-ray or other imaging.	Leg position indicative of hip or femur fracture.
Bleeding abrasion on left knee	Clean the wound. Look for signs of swelling or deeper injury.	Evaluate for further injury of left knee (patellar fracture, prepatellar contusion, patellar tendon)
Vital signs all normal range: P 84, BP 126/72, R 18, T 99.8F (37.7C), SpO2 98% on room air ECG: normal sinus rhythm	Continue monitoring. Keep patient comfortable.	Irregularity, if any, could be intermittent. Patient's pain level will also be detectable via vital signs.

Inform the Learner: *About 30 minutes have passed.*

Have the learner view Clip 2

Question for the learner immediately after watching Clip 2:

Q 3. What changes do you note in Ms. Siegel's condition? What concerns, if any, would you present to Mr. Siegel's health care provider?

Potential Answer

All of the Assessments/Action/Rationale items recorded above apply here as well as noting that the vital signs are indicating increased stress, discomfort, and anxiety.

P 91, BP 132/79, R 23, T 99.8F (37.7C), SpO2 94% on room air
ECG: normal sinus rhythm

This is accompanied by the patient's continued indication of pain in the right thigh/groin area.

- If learner correctly identifies the patient's increasing signs and symptoms of a right hip or femur fracture and has recognized that they should notify the primary physician of this – skip Clip 3, and go to Clip 4.

- If learner does not identify signs and symptoms of hip or femur fracture, proceed to Clip 3.

Prior to viewing Clip 3, inform the learner:

Ms. Siegel has been under observation for about 1.25 hours since arriving

Have the learner view Clip 3

Question for the learner immediately after viewing Clip 3:

Q 6. What are your observations of Ms. Siegel now?

Potential Answer

Ms. Siegel is showing pronounced discomfort. Verbalizing and rubbing at her right thigh/groin area. Her right leg position indicates probable fracture. This should be confirmed by x-ray. After the x-ray results come back, the Emergency Department physician may call for an orthopedic surgery consultation to determine whether the patient will be admitted to hospital medicine with orthopedic surgery as the consultant.

The tachycardia is concerning and an indication of the patient's increasing discomfort, stress, and anxiety. Pain medication should help relieve this.

Relaxation techniques can be reviewed with Ms. Siegel as a form of non-pharmacological management of her pain and anxiety. Appropriate management of her pain and anxiety will also help alleviate her rapid respiratory pattern and allow for appropriate oxygenation. Note that Ms. Siegel has good perfusion of her right lower extremity (side of probable fracture) as indicated by pink skin color, appropriate capillary refill (<2 seconds), and skin that is warm to touch (normal finding).

Q 7. What are the different types of hip fracture?

Potential Answer

A hip fracture occurs at the top of the femur.

Intracapsular – within the joint capsule. This occurs when the break is at the neck of the femur between the trochanter and the head (or ball); also called a femoral neck fracture.

Extracapsular – outside the joint capsule. A trochanteric fracture is high on the femur and passes through the trochanter. A subtrochanteric fracture is at the top of the femur, but within the region 5cm away from the lesser trochanter.

Prior to viewing Clip 4, inform the learner and show image:

The physician approved pain medication for the patient. Ms. Siegel was given appropriate doses about 40-45 minutes ago, and he has been kept for observation since then.

Additionally, since you last saw the patient, she was taken for an x-ray. The result is shown below.

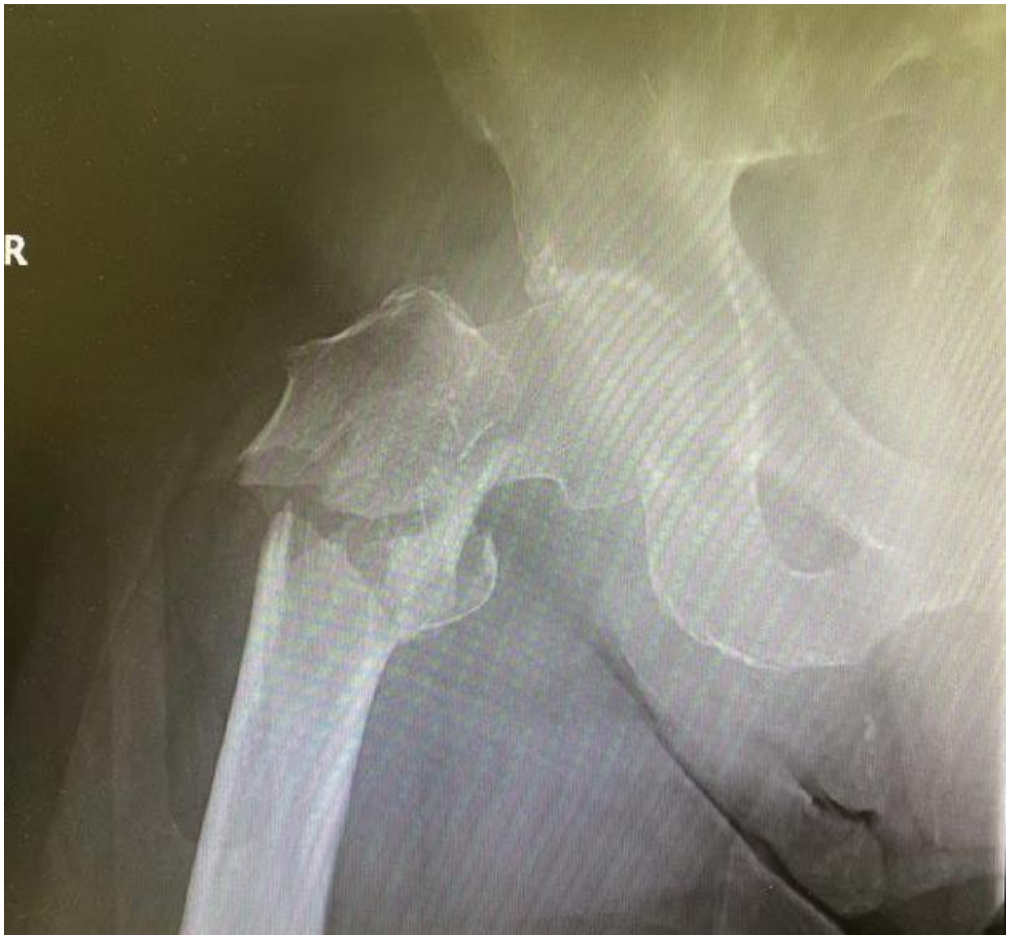


Image courtesy of Linda L Herrmann.

Additional Discussion Opportunity:

Facilitator may wish to specify or lead discussion around choice of pain medication. Opiates (morphine 1-2 mg IV every 1-2 hours PRN mild to moderate; moderate to severe hip pain) can be used for pain management to treat mild to severe pain. Fentanyl (25 to 50 mcg IV or IM [preferable to use IV in older preop patient] every 1-3 hours PRN) severe pain (being mindful of sedation and decreased respirations), primarily targets the mu receptors in the brain and spinal cord.

Have the learner view Clip 4

Question for the learner immediately after viewing Clip 4:

Q 8. What are your observations of the patient now? How do they compare with her condition when you last saw her, or when she arrived?

Potential Answer

The patient is much more relaxed, although clearly still experiencing mild discomfort. The pain medication is taking effect, and it is likely helpful for her to know what her diagnosis is.

Q 9. The patient will be going into surgery later today. What will you do to prepare the patient for that? What else might you use this time to discuss with her?

Potential Answer

The learner will obtain the preoperative orders in preparation for surgery. These typically include labs, NPO status, and the beginning of preoperative teaching (how long the surgery will be, what to expect after surgery-pain control/pain management regimen, mobility issues such as how often one will be getting out of bed, participation in physical therapy. The learner might also begin brief discharge planning (assessing presence of support system/caregiver, home environment) and need for post-acute care services for rehabilitation to restore function. The learner can also review post-operative care- surgical incision care, bowel regimen, nutritional program, activity status, number to call to reach the provider, anticipation of needs for durable medical equipment after hospital discharge.

Q 10. One aspect of post-operative care will be pain management. What are some concerns around the use of pain medication? How does the patient's age impact the choice of appropriate pain medication?

Potential Answer

Discussion points should include the use of both pharmacological (narcotic and non-narcotic medications) and nonpharmacological interventions (Complementary and alternative medicine [CAM] such as natural products, mind-body medicine, and manipulative and body-based practices). Pain following hip fracture has been associated with delirium, depression, sleep disturbance. Multimodal pain management (use of multiple pain management strategies) can be effective for patients with hip fractures. The goal of multimodal pain management is to decrease pain to a greater extent than with one lone intervention.

Use of certain opioids including meperidine, propoxyphene, and tramadol should be avoided in older adult patients. Meperidine contains active metabolites (can cause neuroexcitation, nervousness, and seizures). Propoxyphene is not more effective than placebo. Tramadol is contraindicated in people with seizure disorders and/or those who are also taking serotonergic medications. Tramadol binds to opioid receptors and inhibits the reuptake of both norepinephrine and serotonin.

DOREEN SIEGEL - HIP FRACTURE - Basic Data for Each Clip

Clip	*Vital Signs (default data)*	*Symptoms/Behavior*
1	P 84, BP 126/72, R 18, T 99.8F (37.7C), SpO2 98% on room air ECG: normal sinus rhythm	Bleeding abrasion on left knee. Right thigh soreness; unable to bear weight on right leg. Leg positioning indicative of hip or femur fracture.
2	P 91, BP 132/79, R 23, T 99.8F (37.7C), SpO2 94% on room air ECG: normal sinus rhythm	Becoming mildly restless, increasing discomfort. Right thigh soreness persisting.
3	P 115, BP 138/90, R 28, T 99.8F (37.7C), SpO2 91% on room air ECG: sinus tachycardia	Restless; very uncomfortable. Pain noticeably worse.
4	P 78, BP 118/74, R 18, T 99.7F (37.6C), SpO2 99% on room air ECG: normal sinus rhythm	Resting. Mild discomfort in right thigh/groin.

References

Centers for Disease Control. Hip fractures among older adults. https://www.cdc.gov/homeandrecreationalsafety/falls/adulthipfx.html

Jackson, C., Tanios, M. & Ebraheim, N. (2018). Management of subtrochanteric proximal femur fractures: A review of recent literature. Volume 2018; https://doi.org/10.1155/2018/1326701

National Clinical Guideline Center. The management of hip fracture in adults. https://www.nice.org.uk/

Patient: Marjory Anders

Pathology: Myocardial Infarction

Overview: A female patient admitted to the emergency room with complaint of back and shoulder pain resulting from myocardial infarction (MI).

Objectives: After completing this facilitated scenario the learner will be able to:

- Discuss gender differences specific to cardiovascular disease.
- Correlate alterations in diagnostic findings to the physiologic responses of a myocardial infarction.
- Discuss initial interventions for a patient experiencing chest pain.
- Discuss discharge teaching for a patient post MI.

Case Scenario (Brief) to be presented to the learner:

Marjory Anders, a 62-year-old female, has just been admitted to the emergency room complaining of back pain that radiates to her upper left shoulder. The pain has gotten worse over the past hour.

Question for the learner prior to viewing Clip 1

Q 1. *What data will you obtain in your initial assessment of Ms. Anders and what is the rationale for this data?*

Potential Answer

Assessment Data Needed	Rationale
Vital signs to include pain assessment and oxygen saturation	Assist with identifying detrition of condition
EKG monitor pattern	Potential for ST Segment changes which could indicate myocardial ischemia or injury
Length of time experiencing back pain	Assists in determining appropriate interventions such as reperfusion therapy *Q 1A. What are some reperfusion guidelines?* **Potential Answer:** Reperfusion goals include: Door-to-balloon 90 minutes Door-to-needle (fibrinolysis) 30 minutes
Health history to include medications, cigarette smoking, diet, exercise regimen, family history, and any history of diabetes	Some risk factors such as high blood pressure and diabetes increase the risk of myocardial infarction more significantly in women than men.

Have the learner view Clip 1

Question for the learner immediately after viewing Clip 1

Q 2. What is the significance of the back and shoulder pain Ms. Anders is experiencing?

Potential Answer

Females can experience atypical pain due to a myocardial infarction (MI). Gender differences may include:

- less likely to report chest pain
- report symptoms other than chest pain (fatigue; back, neck, or jaw pain; nausea or vomiting) which can lead to misdiagnosis
- may experience fatigue, sleeping problems, and shortness of breath week prior to experiencing an MI

Q 3. What does the EKG pattern indicate?

Potential Answer

The pattern is sinus tachycardia with a slight elevation of the ST segment. The sinus tachycardia could be related to Ms. Anders's anxiety and her pain. The elevation in ST segment indicates myocardial ischemia or injury

---

- If the learner identified the potential of an MI continue directly below.

- If the learner does not identify the possibility of the patient experiencing an MI, skip questions 4 & 5, proceed to have the learner view Clip 3 and progress from there.

Inform the learner: The physician requests the patient to be sent to cardiac catheter and begin reperfusion therapy.

Q 4. What actions need to be initiated prior to sending the patient to the cardiac catheter lab?

Potential Answer

- Have the patient empty her bladder.
- Validate placement of the intravenous catheter.
- Assess and mark location of pedal pulses.
- Validate understanding of teaching related to the procedure.
- Validate the patient has no allergies to iodine or shellfish.
- Witness the patient signing the consent for the procedure.
- Administer preoperative medication.

Q 5. What if the possibility of an MI was not identified; what could have occurred?

Potential Answer

Complications related to the MI include increased pain, extension of the myocardial damage, arrhythmias, and even death.

*** Facilitator has the option to show the learner Clip 3.**

NOTE: Clip 3 contains portrayal of an acute MI event

Question for the learner immediately after viewing Clip 3

Q 6. What changes in Ms. Anders's assessment were noted? Identify the potential cause of these changes and actions that need to be initiated.

Potential Answers:

Assessment	Potential Cause	Actions to Initiate
Increase in pain down the left side extending down the arm Increased diaphoresis P = 130 R = 24 BP = 140/84 SpO2 = 84% EKG Pattern: Sinus Tachycardia with increase in the ST segment	Increase in myocardial ischemia Decrease in oxygenation to the myocardial muscle Increased pain Increased anxiety	Notify MD and Rapid Response Team Initiate/Increase oxygen delivery at 6 L via nasal cannula. Increase based on oxygen status. Initiate/validate • Acetylsalicylic Acid (ASA) SL • Nitroglycerine • Morphine Sulfate

Inform the learner: *Appropriate measures were initiated, and Ms. Anders is ready for discharge.*

Have the learner view Clip 2

Questions for the learner immediately after viewing Clip 2:

Q 7. What changes did you note in your assessment?

Potential Answer

Nonverbal – relaxed able to focus

BP 142/84, P 86, R 18, EKG Normal Sinus Rhythm

Q 8. What needs to be included in the discharge teaching for Ms. Anders?

Potential Answer

Lifestyle modifications to include the need for cardiac rehabilitation, daily exercise that is moderate in intensity and includes muscle strengthening. Eating a diet rich in fruits, vegetables, whole grains, and fiber; limiting saturated fat cholesterol, alcohol, sodium, and sugar while avoiding trans-fatty acids.

Maintaining a body mass index (BMI) of 25 kg/m^2 or less; waist size less than 35 inches.

American Heart Association's Go Red for Women campaign resources available at www.goredforwomen.org

Q 9. What if Ms. Anders asks, "I heard something about a "waist-to-hip" ratio, what does that mean?"

Potential Answer

The waist-to-hip ratio (WHR) is the circumference of your waist divided by the circumference of your hips. A value of over 1.0 indicates a risk for developing heart disease and Type 2 diabetes.

https://www.medicalnewstoday.com/articles/319439.php

MYOCARDIAL INFARCTION - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 124, BP 152/86, R 22, T 99F (37.2C), SpO2 88% on room air ECG: sinus tachycardia with elevated ST	Discomfort, anxiety. Indicating pain in left shoulder.
2	P 86, BP 142/84, R 18, T 98F (36.6C), SpO2 92% on room air ECG: normal sinus rhythm	Relaxed, well-oriented.
3	P 130, BP 140/84, R 24, T 99F (37.2C), SpO2 84% on room air ECG: sinus tachycardia with elevated ST	Increased pain; onset of acute MI event.

References

American Heart Association. *Advanced Cardiovascular Life Support Provider Manual*, (2016). Dallas, Texas.

American Heart Association American Heart Association. *Facts Cardiovascular Disease: Women's No. 1 Health Threat*. Retrieved from www.heart.org/policyfactsheets

Caboral, M. F. (2013). Update on cardiovascular disease prevention in women. *American Journal of Nursing (AJN). 113* (3), 26-33. Retrieved from ajn@wolterskluwer.com

Campo, D. L. (2016). Recognizing myocardial infarction in women: A case study. *American Journal of Nursing (AJN). 116* (9), 46-49. Retrieved from ajn@wolterskluwer.com

Patient: Marc Snyder

Pathology: Parkinson's Disease

Overview: The case scenario presents an elderly patient being treated for Parkinson's disease who has gotten behind on his medication schedule.

Objectives: After completing this facilitated scenario the learner will be able to:

- Identify the patient's appropriate clinical presentation and conduct appropriate assessment and interventions necessary to stabilize the patient.
- Recognize signs and symptoms of worsening Parkinson's disease.
- Discuss the importance of timing of Parkinson's disease medications.

Case Scenario (Brief) to be presented to the learner:

Marc Snyder, 81 years old, came into Urgent Care during a layover on his way to Tanzania from his home in the United States. He missed his connection due to a weather delay and cannot access his luggage. "I just need to get my medications refilled," he says, explaining that he has run out of his Parkinson's medications. "I thought I'd be near my luggage by now." He last took his medications 5 hours ago. His next flight is late tomorrow.

Mr. Snyder is a retired college professor, and lives with his partner in a single-story suburban home. He was diagnosed with Parkinson's disease at age 72. He has a history of hyperlipidemia and mild depression (stable, no homicidal/suicidal ideations). His current medications include: Escitalopram oxalate, 10mg daily; carbidopa-levodopa, 25mg/100mg, one tablet 5 times daily; pramipexole 1 mg, ½ tablet 6 times daily; rosuvastatin, 5mg daily. He is allergic to shellfish.

Questions for the learner prior to viewing Clip 1:

Q 1. Before seeing the patient, what picture do you have of him? What physical symptoms will you be looking for?

Potential Answer

Parkinson's disease is considered a movement disorder. As such, symptoms of bradykinesia, tremor, and rigidity can be present. Twenty-five percent of PD patients don't have a tremor but have rigidity or stiffness. Other symptoms that don't involve movement include constipation, disrupted sleep cycles, fatigue, visual changes, pain, and mood disorders.

Q 2. What data will you obtain in your initial assessment of Mr. Snyder, and what is the rationale for this data?

Potential Answer

Data	Rationale
Vital Signs – BP, HR, RR, body temp	Provides baseline information; any abnormalities can indicate some issues (fever, arrhythmia, elevated blood pressure)
Assessment of movement: tremor, bradykinesia (slowed movement) or rigidity	Assess for baseline status and any abnormalities.

Have the learner view Clip 1

Questions for the learner immediately after viewing Clip 1:

Q 3. Correlate actions to be implemented to the assessment findings and related rationale that should be initiated to support Mr. Snyder?

Potential Answer

Assessment	Action	Rationale
P 73, BP 128/72, R 18 SpO_2 97%, T 99.7F (37.6C) EKG: Normal sinus rhythm	Continue to monitor	Vitals are currently within normal limits.
Resting tremor of right hand; stiffness	Make note of the presence of tremor, consider asking the patient his baseline-if tremors are worse, better, the same. The rigidity may not be noticeable by the learner, since it would require 1. That the patient note increased rigidity off medication, or 2. That the learner examine the patient and notice the rigidity.	This may also lead into a discussion of medications-are increasing tremors an indication to you that you need to take your medication?

Q 4. What if the patient said he has Parkinson's disease, but he could not remember his exact medications and dosages?

Potential Answer

The learner should contact the patient's provider or pharmacy to get a list of current medications and dosages.
An additional teaching point would be to remind the patient of the benefits of carrying a list of current medications/dosages in his/her wallet/smart phone.

Inform the Learner: *While the provider confirms the patient's medications and dosages, Mr. Snyder waits calmly in the examining room. The provider is delayed in her task. You check in on Mr. Snyder, noting it's been about 45 minutes since he first arrived.*

Have the learner view Clip 2

Question for the learner immediately after watching Clip 2:

Q 5. What changes were noted in Mr. Snyder's condition? What concerns, if any, would you present to Mr. Snyder's health care provider?

Potential Answer

Tremor increasing. Resting tremor of right hand is much more noticeable.

Concern about elapsed time since he took his medications.
Noting symptom progression and signs (increased tremors and rigidity) and concern about the "off phase"
Patient needs medication soon to avoid worsening of symptoms.

- If learner correctly identifies the worsening symptoms and recommends rushing medications for symptom management – skip Clip 3, and go to Clip 4.

- If learner does not identify need for urgency in medication, proceed to Clip 3.

Prior to viewing Clip 3, inform the learner:

Mr. Snyder has been under observation for about 1.5 hours since arriving. He is becoming more anxious, saying "I need to get my meds" and "how am I going to get my plane tomorrow?"

Have the learner view Clip 3

Question for the learner immediately after viewing Clip 3:

Q 6. What are your observations of Mr. Snyder now?

Potential Answer

Mr. Snyder is becoming more anxious. His heart rate and blood pressure are beginning to show this. The patient's gait is halting and shuffling. The right side seems to be more affected than the left. He "freezes" and then gets himself going again. People with Parkinson's are aware of when "freezing" is

likely to occur (approaching a doorway or turning around). Employment of relaxation techniques can helpful.

Q 7. What effect is the "freezing" indicative of? And how does the patient seem to be managing that?

Potential Answer

Increased tremor and/or "freezing" can be indicative of the "off" phase of levodopa. People with Parkinson's often experience these sudden changes in movement control lasting a few seconds or several minutes, called the "on-off" phenomenon.

Mr. Snyder may use an app on a smartwatch to give him an auditory cue which helps get him past the "off" phase or "freezing". Other common aids include making "tick-tock" sounds or clicking of the tongue, listen to music with a marching beat (marching band).

Prior to viewing Clip 4, inform the learner:

The provider approved medications for the patient. Mr. Snyder was given appropriate doses about 40-45 minutes ago, and he has been kept for observation since then.

Have the learner view Clip 4

Question for the learner immediately after viewing Clip 4:

Q 8. What are your observations of the patient now? How do they compare with his condition when he arrived?

Potential Answer

Symptoms (tremor, "freezing") are much reduced and less noticeable than when he arrived.

Q 9. What are the main points you will cover in discharge teaching with Mr. Snyder?

Potential Answer

Discuss the importance of timing of Parkinson's disease medications. Keeping a list of medication dosages and scheduled times, and adherence to the dose and schedule is important in management of symptoms, as well as avoiding "off" periods from missed medications.

Educate/remind the patient of the benefits of carrying enough medication (1-2 day supply) within reach (rather than in checked baggage) in the case of extended layovers or cancelled flights during travel.

MARC SNYDER - PARKINSON'S DISEASE - Default Data for Each Clip

Clip	*Vital Signs (default values)*	*Symptoms/Behavior*
1	P 73, BP 128/72, R 18, T 99.7F (37.6C), SpO2 100% on room air ECG: normal sinus rhythm	Resting tremor of right hand
2	P 77, BP 128/76, R 20, T 99.8F (37.7C), SpO2 100% on room air ECG: normal sinus rhythm	Resting tremor of right hand increasing. Anxiety increasing.
3	P 92, BP 132/82, R 22, T 99.8F (37.7C), SpO2 100% on room air ECG: normal sinus rhythm	Patient anxious, walking with slow gait, right leg and arm movement stiff and less than left side; "freezing".
4	P 81, BP 126/73, R 20, T 99.7F (37.6C), SpO2 100% on room air ECG: normal sinus rhythm	Resting tremor of right hand (less noticeable than in clip 1). Patient calm and relaxed.

References

American Parkinson Disease Association. https://www.apdaparkinson.org/about-apda/

European Parkinson's Disease Association. https://www.epda.eu.com/

National Health Service Parkinson's Disease. https://www.nhs.uk/conditions/parkinsons-disease

Parkinson's Foundation. https://www.parkinson.org/Understanding-Parkinsons/

Patient: Millie Taylor

Pathology: Preeclampsia

Overview: The case scenario presents a woman in her third trimester (elderly primigravida) with preeclampsia leading to eclamptic seizure.

Outcome: After completing this facilitated scenario the learner should demonstrate the ability to:

- Identify the patient's appropriate clinical presentation and conduct appropriate assessment and interventions necessary to stabilize the patient.
- Recognize and discuss the signs and symptoms of preeclampsia.
- Recognize and discuss important elements of monitoring a patient with preeclampsia.
- Discuss the appropriate intervention necessary to stabilize a patient with preeclampsia.

Case Scenario (Brief) to be presented to the learner

Millie Taylor, 39 years old, has been admitted to the Labor & Delivery Unit for abdominal pain with headache. She denies any history of headaches or blurred vision but has mild pedal edema. She reports a "new headache" as well as epigastric pain in the last 3 hours. She has not been able to distinguish the epigastric pain from possible contractions. "I've had reflux since my first trimester, but now I can't tell if it's heartburn or if the baby's coming." She is 34 weeks pregnant (G1P0).

Ms. Taylor lives with her partner in a townhouse in the city center near where she works part-time at a law firm. She is taking daily prenatal vitamins and reports NKDA.

She was asked to provide a urine specimen upon admission and those results have just returned showing 2+ protein in her urine.

Question for the learner prior to viewing Clip 1:

Q 1. What data will you obtain in your initial assessment of Ms. Taylor, and what is the rationale for this data?

Potential Answer

Data	Rationale
Vital signs, including fetal heart rate	With the high protein in her urine, this patient is at risk for preeclampsia. High blood pressure and an elevated heart rate would support that hypothesis. Check for fetal distress. Fetal heart rate at this stage of gestation should be 120-160 bpm.

Data	Rationale
Additional personal and family health history relating to diabetes, heart disease, hypertension, and preeclampsia.	Preeclampsia is more prevalent in women with a history of diabetes, kidney disease, hypertension, some autoimmune diseases, and whose mother or sisters have had preeclampsia or hypertension during pregnancy
Inquire about any recent increase in stress.	Some data support an association between increased stress and preeclampsia.

Inform the Learner: *You will not be able to see the fetal heart rate in HoloPatient. Assume that is being monitored and at this time is around 150.*

Have the learner view Clip 1.

Questions for the learner immediately after viewing Clip 1:

Q 2. What did you note in your assessment? What are the potential cause and actions to initiate related to your findings?

Potential Answer

Assessment	Potential Cause	Actions to Initiate
P = 84 BP = 150/92 Headache, fatigue, epigastric pain	During a normal pregnancy, the blood vessels to the placenta which supply the fetus with nutrients and oxygen widen as gestation progresses. In some cases, this does not happen and instead blood vessels throughout the mother's body can become narrower and more permeable, resulting in endothelial damage, causing fluid shifts, high blood pressure and proteinuria, both key symptoms of preeclampsia.	Notify physician. Order Lactated Ringer's solution (LR) @125 cc/hour.
Edema	Fluid retention is normal during the third trimester, but if it worsens it could be related to preeclampsia.	Continue to monitor
T 97.9F (36.6C) R = 16 SpO2 = 98% on room air ECG = normal sinus rhythm FHR = 150	Normal range	Continue to monitor

Q 3. What is the purpose of initiating the LR IV?

Potential Answer:
Purpose is to prevent/correct hypovolemia, to preserve perfusion to vital organs.

Fluid shifts into interstitial space (can cause the peripheral edema seen in this case, as well as central edema-cardiopulmonary system) as a result of leakage of H2O, plasma, electrolytes from the intravascular space (from endothelial damage).

Q 4. What examinations or assessments in addition to your observations are advisable and what is the rationale for them?

Potential Answer

Assessment	Rationale
Continue to ask patient whether she is experiencing any vision problems (e.g., blurring, flashing)	Indicative of an escalation in condition
Continue to frequently monitor patient's pain level re: headache, abdominal pain	Indicative of an escalation in condition

Inform the Learner: *At this point your patient, Millie Taylor, has been receiving LR @125 cc/hr for about an hour. You have been conducting serial assessments of her symptoms, and she is just now reporting blurry vision. Her edema is now 2+ in lower extremities. FHR is 150.*

Have the learner view Clip 2.

Questions for the learner immediately after watching Clip 2:

Q 5. What changes were noted in Ms. Taylor's condition? What are the actions to initiate?

Potential Answer

Assessment	Actions to Initiate
Escalation of preeclampsia indicated by the following: worsening edema, onset of blurry vision, increasing headache, abdominal pain, anxiety	Notify physician immediately. Place patient to left side lying position for comfort.
P 98, BP 158/100, R 20, T 98.2F (36.8C), SpO2 97% on room air	Need to reduce and manage blood pressure; notify physician. If ordered, administer nifedipine or labetalol, placement of indwelling catheter, continued hydration with LR @125cc/hr.
FHR 150	Need to reduce patient's blood pressure.

Q 6. How are the mother's blood pressure and the presence of proteinuria and pitting edema related?

Potential Answer

Elevated BP leads to endothelial damage which then allows interstitial leakage of protein, electrolytes and water. As fluid shifts there is increased potential for hypovolemia. In this situation, there is a need for careful monitoring of fluid management and input & output (I&O) to ensure no peripheral or central edema.

- If learner correctly identifies the escalation of symptoms, their causes, and recommends addressing blood pressure and notifying the provider of the signs – skip Clip 3, and go to Clip 4

- If learner does not identify need for urgency in intervention, proceed to Clip 3.

Inform the learner: *About 30 minutes has passed since your last assessment of the patient. Fetal heart rate has dropped into the 90s.*

Have the learner view Clip 3.

Questions for the learner immediately after viewing Clip 3:

Q 7. What changes are noted in your assessment of Ms. Taylor? What is the potential cause of these changes and what actions need to be initiated?

Potential Answer

Assessment	Potential Cause	Actions to Initiate
Eclamptic seizure (generalized tonic-clonic seizure)	Eclampsia	- Call for help. - Use airway-breathing-circulation (ABC) algorithm. - Contact provider for seizure management (magnesium sulfate bolus followed by maintenance dosage).
P 142, BP 210/115, R 13, ECG: sinus tachycardia FHR: 90s	Eclampsia	Contact provider for blood pressure management.
		Move patient to left side lying position for comfort.

Q 8. Discuss the cause of the progression to eclampsia as manifested by the generalized seizure.

Potential Answer

The main cause is traceable to endothelial damage. Fluid shifts into interstitial space (can cause the peripheral edema seen in this case, as well as central edema-cardiopulmonary system) as a result of leakage of water, plasma, and electrolytes from the intravascular space (from endothelial damage). The cause of the seizure is not well understood but thought to be a result of cerebral vasospasm and cerebral edema from these fluid shifts.

Q 9. What is the importance of magnesium sulfate and how does it work in reducing the likelihood of progression to eclampsia?

Potential Answer

Magnesium sulfate elicits vasodilation, which can reduce the likelihood of cerebral ischemia during cerebral vasospasm.

Inform the learner: *Ms. Taylor is receiving Labetolol 20mg IV and supplemental oxygen 2L. She's resting comfortably while waiting to be transferred to a room where she will stay for overnight observation. Current fetal heart rate is in the 130s.*

Have the learner view Clip 4.

Questions for the learner immediately after viewing Clip 4:

Q 10. What are your observations of the patient now? What actions should be initiated or maintained?

Potential Answer

The patient is stabilized and in left side lying position. Her blood pressure has started to come down (134/87) though her heart rate (100) is still high. She needs continued observation while her vital signs return to normal levels. Oxygen saturation is 97% on 2L oxygen via nasal cannula. The FHR is back in an acceptable range, but monitoring should continue. Mother's magnesium level should be monitored.

We should conduct serial assessment of the patient's symptoms during this period – checking on her pain (headache and epigastric pain), monitoring signs (blood pressure, edema, protein in urine), and be alert for additional seizures.

Q 11. After the patient is discharged, what on-going monitoring or instructions does she need to follow?

Potential Answer

Ms. Taylor will need to monitor and record her blood pressure at home 3-4 times a day to report to the OB-GYN to ensure blood pressure stability. Monitor urine output, edema, epigastric pain, vision changes. Discuss signs/symptoms of seizure activity and instruct her to return to the Emergency Department is there is any sign of increased blood pressure, increased headache, or blurred vision.

She will need to have her urine tested at her OB-GYN office weekly. She needs to collect a 24-hour urine at home.

Q 12. In your discussions with her, Ms. Taylor asks about any long-term effects or complications from preeclampsia. What are some of the things you might discuss with her?

Potential Answer

Possible recurrence with next pregnancy. As this is a syndrome related to elevated BP, there should be counselling on BP monitoring/management, prudent salt intake, and follow up with primary care provider and OB-GYN postpartum and before consideration of next pregnancy.

MILLIE TAYLOR - PREECLAMPSIA - Basic Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 84, BP 150/92, R 16, T 97.9F (36.6C), SpO2 98% on room air ECG: normal sinus rhythm FHR: 150s	Headache, epigastric pain 2+ pedal edema
2	P 98, BP 158/100, R 20, T 98.2F (36.8C), SpO2 97% on room air ECG: normal sinus rhythm FHR: 150s	Increasing headache, epigastric pain. New onset of blurry vision. 2+ edema in lower extremities. Increasingly anxious; complaining of not feeling good.
3	P 142, BP 210/115, R 13, T 98.7F (37.1C), SpO2 96% on O2 10L FM ECG: sinus tachycardia FHR: 90s	Headache, abdominal pain, and blurry vision continue. Edema progressing to hands. Onset of tonic-clonic seizure.
4	P 100, BP 134/87, R 20, T 98.4F (36.9C), SpO2 97% on 2L O_2 NC ECG: normal sinus rhythm FHR: 130s	Resting comfortably. Lying on left side.

References

English, F. A., Kenny, L. C., & McCarthy, F. P. (2015). Risk factors and effective management of preeclampsia. *Integrated blood pressure control*, *8*, 7–12. https://doi.org/10.2147/IBPC.S50641 (Or accessed at: www.ncbi.nlm.nih.gov/pmc/articles/PMC4354613/)

Harvard Health www.health.harvard.edu/a_to_z/preeclampsia-and-eclampsia-a-to-z

Mayo Clinic www.mayoclinic.org/diseases-conditions/preeclampsia/symptoms-causes/syc-20355745

NHS https://www.nhs.uk/conditions/pre-eclampsia/

National Institute of Health Eunice Kennedy Shriver National Institute of Child Health and Human Development https://www.nichd.nih.gov/health/topics/preeclampsia

Patient: Rose Kamaka

Pathology: Sepsis

Overview: An older female patient presenting with sepsis during recovery and rehabilitation from orthopedic surgery.

Objectives: After completing this facilitated scenario the learner will be able to:

- Identify the patient's appropriate clinical presentation and conduct appropriate assessment and interventions necessary to stabilize the patient.
- Identify and discuss signs and symptoms of a patient with sepsis.
- Discuss important aspects of monitoring patients with suspected sepsis.
- Discuss and identify potential sources or causes of infection in post-operative patients.

Case Scenario (Brief) to be presented to the learner:

Rose Kamaka, 68 years old, has been brought to the Emergency Department by ambulance from Island View Rehabilitation Center where she has been receiving subacute rehabilitation since being discharged following left knee replacement surgery 8 days ago.

Ms. Kamaka reported feeling unwell this morning, and her caregivers at the rehabilitation facility noticed that she wasn't as responsive and cheerful today. She was unable to participate in her morning therapies. She says she "feels warm and just kind of out of it. I just don't feel good at all."

History: Osteoarthritis, chronic back pain, and hypertension

Medications: *Amlodipine 5mg orally daily;*
Hydrocodone/acetaminophen 7.5 mg every 4 hours around the clock for postoperative pain

Allergies: PCN

Question for the learner prior to viewing Clip 1:

Q 1. What data will you obtain in your initial assessment of Ms. Kamaka, and what is the rationale for this data?

Potential Answer

Data	Rationale
Vital Signs	Provides baseline information; may provide evidence of abnormal HR, RR, body temperature
Pain Assessment	Location and severity of pain may indicate source of any infection that may be present.

Inform the learner: *Ms. Kamaka has been feeling pretty bad for at least the past 2 hours, since she was unable to finish her breakfast and decided not to do her therapies.*

Have the learner view Clip 1

Questions for the learner immediately after viewing Clip 1:

Q 2. What assessment was identified and what are the potential cause and actions to initiate related to these findings?

Potential Answer

Assessment	Potential Cause	Actions to Initiate
P 91, BP 134/76, R 20, SpO2 98% on room air ECG: normal sinus rhythm	Within normal ranges	Continue to monitor
T 101.5F (38.6C)	Elevated temperature due to possible infection	Monitor. Request blood cultures and urinalysis. Provider to order chest x-ray to r/o pulmonary cause of elevated body temperature.
Indicating suprapubic/lower abdominal pain.	Possible urinary tract infection. Possible abdominal etiology (ileus, appendicitis).	Monitor. Request blood cultures and urinalysis. Provider to order abdominal x-ray, possible CT abdomen.
Indicating pain in left knee (surgery site). Edema and erythema (redness) visible.	Possible infection of surgery site.	Monitor. Request blood cultures.
Restless, general discomfort.		Employ relaxation techniques. Check when patient last had pain meds. Administer as appropriate and directed by provider.

The learner should recognize the symptoms (feelings of being warm, feelings of being unwell, pressure in lower abdomen/suprapubic region; and knee pain) and signs (slightly increased heart rate and body temperature in an older adult who is post op from a knee replacement). The learner should call the provider to notify the changes and concern.

Inform the Learner: *It's determined that Ms. Kamaka should be admitted for further monitoring and treatment. A provider is being located to review the case, and the patient continues waiting in her examination room. Approximately another 45 minutes has passed.*

Have the learner view Clip 2

Questions for the learner immediately after watching Clip 2:

Q 3. What changes do you notice in Ms. Kamaka's condition? What are the actions to initiate?

Potential Answer

Assessment	Actions to Initiate
P 112 ECG: Sinus tachycardia	Provide clinical update to provider. Assess hydration status, I & O; assess for pain management.
T 101.8F (38.8C) Temperature has increased. Patient is pale and sweating.	Infection worsening, initiate appropriate antibiotics once cultures are drawn (within 1 hour of suspected sepsis). Check on blood and urine cultures.
R 16, SpO2 95% on room air Respiration rate is slowing.	Contact provider for update; initiate O2 via nasal cannula with provider order. Monitor SaO2, titrate to keep SaO2> 97%
BP 120/62	Continue monitoring.
Suprapubic/lower abdominal pain is increasing and more acute.	Infection worsening, initiate appropriate antibiotics once cultures are drawn (within 1 hours of suspected sepsis). Check on blood and urine cultures. (These will take hours to speciate. Antimicrobial therapy can start once cultures are drawn).

Q 4. What could be causing the signs and symptoms you are observing in this patient?

Potential Answer

A likely cause is sepsis. The learner should recognize the symptoms (feelings of being warm, feelings of being unwell, pressure in lower abdomen/suprapubic region; and knee pain) and signs (slightly

increased heart rate and body temperature in an older adult who is post-op from a knee replacement).

- If learner correctly identifies the signs and symptoms as indicative of sepsis and recognizes the urgency to begin treatment to reduce the infection – skip Clip 3 and go to Clip 4.

- If learner does not identify probable sepsis or the need for urgency in intervention, or if you wish to highlight the impact of a delay in correct assessment and intervention, proceed to Clip 3.

Prior to viewing Clip 3, inform the learner:

Ms. Kamaka has been in the Emergency Department about an hour and a half now.

Have the learner view Clip 3

Questions for the learner immediately after viewing Clip 3:

Q 5. What changes are noted in your assessment of Ms. Kamaka now? What could have caused these changes?

Potential Answer

Assessment Changes	Potential Cause
Patient is lethargic and minimally responsive. Semi-conscious. R 16 and shallow SpO2 92%	Sepsis
P 133, BP 88/54, T 102.4F (39.1C) ECG: sinus tachycardia	Sepsis

Q 6. What are the key aspects of monitoring a patient with sepsis?

Potential Answer

The learner should recognize the progression of the scenario as a critical situation; that signs of lethargy, semi-consciousness, further increased heart rate and body temperature, decrease in blood pressure depict a clinical picture of sepsis (the thoughts being that of urosepsis due to suprapubic pressure and/or postoperative wound/surgical site infection due to redness). The learner should call the provider to notify the changes and concern.

Prior to viewing Clip 4, ask the learner:

Q 7. What intervention is needed to stabilize the patient?

Potential Answer if coming from Clip 2

The learner should assess and recognize (1st intervention) the symptoms (patient feelings of warmth, feeling unwell, pressure in lower abdomen/suprapubic region, knee pain) and signs (elevated body temperature, reddened peri-incisional area left knee); and notify the provider (2nd intervention) regarding these findings.

The following interventions would then occur based on the learner's discussion with the provider: administration of antipyretic, urinalysis (followed by appropriate treatment for suspected urinary tract infection), blood cultures (monitoring and treatment for bacteremia), possible need for surgical exploration (possible incision and drainage/washout) of left knee incision as deemed necessary by orthopedic surgery depending of the level of suspicion (imaging, tapping of left knee, labs) for left knee infection post replacement.

Potential Answer if coming from Clip 3

All of the interventions if coming to from Clip 2, AND the following.

Fluid resuscitation - during the initial minutes to hours, fluid boluses (a 1- to 2-L fluid bolus of crystalloid solution) are required to reverse hypoperfusion and shock. 1000mL lactated Ringer's or Plasma-lyte over 30 minutes for systolic blood pressure <90mmHg (goal systolic blood pressure is > 100mmHg). Fluid resuscitation is the initial treatment for hypotension in septic shock.

The patient may also require the initiation of pressors to maintain the systolic blood pressure >100mmHg. Vasopressor therapy should be initiated in patients with sepsis when fluid resuscitation fails to restore mean arterial pressure (greater than 65 mm Hg) or continued organ hypoperfusion. (Norepinephrine remains the preferred vasopressor for achieving the target mean arterial pressure to titrate to maintain systolic blood pressure >65mmHg, or desired parameter determined by crucial care provider).

Prior to viewing Clip 4, inform the learner:

Ms. Kamaka has been given IV antimicrobials per sepsis protocol since all cultures (sputum, blood, and urine) have been obtained and sent to lab. About 90 minutes have passed.

Have the learner view Clip 4

Questions for the learner immediately after viewing Clip 4

Q 8. What are your observations of the patient now?

Potential Answer

The patient is stabilized. Her temperature has started to come down (99.3F/37.4C) as the antibiotics take effect. She does not appear to be in any distress, and her respiration and blood pressure have

returned to normal. As her physical symptoms have been addressed, her agitation and anxiety have significantly reduced. She is lucid and seems comfortable.

Q 9. Considering the patient's post-operative situation, as well as the signs and symptoms she presented, what are the potential sources/causes of sepsis in this patient?

Potential Answer

Potential sources/causes of sepsis in this case are the post-operative wound/left knee surgical site and/or urosepsis due to possible urinary retention from heavy opioid use postoperatively, the recent anesthesia, immobility post operatively, and the use of an indwelling urinary catheter intraoperatively and in the 1st day postoperatively.

Q 10. When the patient is ready for discharge, what will you cover in discharge teaching?

Potential Answer

Main points for discharge teaching are explanation of discharge diagnosis, review of discharge medications, with attention to new medications (antibiotics) and importance of completing the duration of prescribed therapy. In addition, incisional care/wound care, bladder and bowel care/regimen. Patient used opioids regularly due to recent knee replacement surgery, and opioids are associated with urinary retention (that contribute to urinary tract infection/urosepsis) and constipation (beware of ileus given recent surgery and anesthesia now coupled on opioid use).

ROSE KAMAKA - SEPSIS - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 91, BP 134/76, R 20, T 101.5F (38.6C), SpO2 98% on room air ECG: normal sinus rhythm	Left knee pain; edema and erythema around incision site. Feeling pressure in suprapubic area. Patient feels warm and unwell.
2	P 112, BP 120/62, R 16, T 101.8F (38.8C), SpO2 95% on room air ECG: Sinus tachycardia	Increasing suprapubic/lower abdominal discomfort. Some confusion, feeling sleepy.
3	P 133, BP 88/54, R 16, T 102.4F (39.1C), SpO2 92% on room air ECG: sinus tachycardia	Lethargic, semi-conscious. Septic shock.
4	P 76, BP 128/72, R 18, T 99.3F (37.4C), SpO2 99% on room air ECG: normal sinus rhythm	Feeling better. No longer feels warm. Feeling of suprapubic pressure resolved.

References

American Family Physician. Early recognition and management of sepsis in adults: the first six hours. https://www.aafp.org/afp/2013/0701/p44.html

David TS, Vrahas MS. Perioperative lower urinary tract infections and deep sepsis in patients undergoing total joint arthroplasty. *J Am Acad Orthop Surg.* 2000;8(1):66-74. doi:10.5435/00124635-200001000-00007

Sepsis Training Modules, Sepsis Alliance https://www.sepsis.org/education/providers/sepsis-training-modules/

The UK Sepsis Trust https://sepsistrust.org/professional-resources/

Patient: Isobel Smith

Pathology: Care of the Patient post CVA (Stroke)

Overview: An older female admitted to the emergency room after experiencing changes in level of consciousness and decreased function of her right side.

Objectives: After completing this facilitated scenario the learner will be able to:

- Identify signs and symptoms of a CVA
- Discuss the American Heart Association's protocols for treating a patient post CVA
- Discuss the importance of interprofessional collaboration when caring for a post CVA patient

Case Scenario (Brief) to be presented to the learner:
Ms. Isobel Smith, a 76-year-old female, was brought to the emergency room by ambulance. She is accompanied by her son, who stated he found his mother lying on her bed when he checked on her this morning. She was conscious but had difficulty speaking. Her words were slurred and hard to understand. The right side of her face was drooping, and she had no movement on the right side. EMS was called.

Ms. Smith lives alone a few blocks from her son. He reports that she seemed fine when he visited her yesterday evening. Prior history of hypertension for 10 years, a MI and open-heart surgery 4 years ago. She is currently taking Coumadin (warfarin) 2.5 mg/day and Cardizem (diltiazem) 120 mg/day, and nitroglycerin SL PRN for chest pain. She is allergic to statins.

Question for the learner prior to viewing Clip 1

Q 1. What actions would you expect the emergency medical personnel to have initiated?

Potential Answer

- Oxygenation 4 liters via NC and progress to maintain O2 Sat > 90%
- Initiate prehospital stroke assessment
- Determine time of symptoms onset (or last time documented normal)
- Vital signs and EKG monitoring
- Initiate IV therapy
- Obtain blood glucose level

Q 1A. The stroke assessment applied by Emergency Services was the Cincinnati Prehospital Stroke Scale (CPSS). What does this protocol assess, and what were the results for Ms. Smith?

Potential Answer

Facial Droop: Ms. Smith's right side of her face does not respond or move as well as the left.

Arm Drift: Ms. Smith's right arm does not move.

Abnormal Speech: Ms. Smith's words are slurred and hard to understand.

Q 1B. Why is it important to ascertain the time of symptoms onset or last documented normal?

Potential Answer

This information is critical to determine the appropriateness of thrombolytic therapy (fibrinolytic therapy).

Q 1C. What is the relationship between the blood glucose level and brain function?

Potential Answer

Prompt restoration of normal blood glucose is required if hypoglycemia is identified. The brain is composed of a lot of neurons which demand extensive energy using approximately one-half of the body's glucose supply. Hyperglycemia, on the other hand, is also problematic, as it may worsen the damage caused by the stroke. Hyperglycemia may also be a sign of another underlying risk factor such as diabetes mellitus.

Have learner view Clip 1

Questions for learner immediately after viewing Clip 1:

Q 2. What data did you obtain in your initial assessment of Ms. Smith and what actions need to be initiated?

Potential Answer

Assessment	**Actions to be initiated**
Vital Signs: BP 196/102, P 164, R 24, SpO2 84% EKG – Atrial fibrillation Lack of movement/strength of right arm Drooping of right side of mouth Appearance anxious	Oxygenation supported with 2 L via nasal cannula Safety – monitor airway related to the drooping of her face Positioning – Semi-Fowler's position Discuss elevated BP and atrial fibrillation with healthcare provider

Q 3. What could be the relationship of atrial fibrillation and Ms. Smith's CVA?

Potential Answer

Atrial Fibrillation can cause clots to form in the atrium which could be released and migrate to the cerebral circulation

Inform the learner: *Ms. Smith has an emergent CT scan which indicates an ischemic stroke. The physician orders Labetalol 20 mg IV over 2 minutes, may repeat 1 time. Notify if BP remains SBP > 180 mmHg and DBP > 105 mmHg, STAT INR and platelets. INR is 2.0.*

Q 4. What is the rationale for the Labetalol?

Potential Answer

Labetalol is a beta blocker. Beta blockers inhibit normal sympathetic effect and cause smooth muscle relaxation. These actions should decrease Ms. Smith's blood pressure and slow her heart rate.

Q 5. What if Ms. Smith's son asked why a drug that dissolves clots was not used in her initial treatment? How would you respond?

Potential Answer

Ms. Smith had several factors that support ineligibility for thrombolytic medication, such as IV alteplase therapy.

Alteplase is not recommended when:

- there is an unclear time of onset and in patients whom the last normal >3 hours (The last known normal observation of Ms. Smith was the previous evening.)
- a patient has been on anticoagulant medication (Ms. Smith takes Coumadin)
- an INR >1.7 (Ms. Smith's INR was 2.0)
- elevated blood pressure, systolic >185 mmHg and diastolic is >110 mmHg (Ms. Smith's admission BP was 196/102)

Q 6. Ms. Smith's son asks what problems could be expected in his mother due to the stroke.

Potential Answer

Problems that could result include:

- Motor control and movement that can affect her face, arms, leg and which may result in difficulty with everyday activities and swallowing.
- Sensory disturbances, including feeling of touch, pain, numbness or tingling of the affected limbs, loss of urinary continence.
- Problems with using or understanding language, including ability to speak and impaired verbal communication of thoughts.
- Shortened attentions span or loss of short-term memory.
- Increased feelings of fear, anxiety, anger.

Q 7. Following her hospital care, Ms. Smith will be transferred to a rehabilitation facility. Let's assume that she progresses well and can regain some use of her right arm and leg. She is able to walk unassisted, but only for short periods and with some difficulty. Based on this, what recommendations would you make to the interprofessional team related to Ms. Smith's discharge planning?

Potential Answer

- Complete a home assessment specific related to safety measures during ambulation
- A cane to assist with walking as recommended by the physical therapist

- Home health care to assist with activities of daily living
- Safety related to monitoring in case of a fall

Q 8. Ms. Smith is to be discharged to her home which is two blocks from her son's house. What members of the interprofessional team should be involved in her rehabilitation care and what would be their various roles?

Potential Answer

- Patient and Family – major decision makers, family members provide support and assist with safety measures
- Physician – to manage and coordinating the long-term care
- Home health nurse or aid – to assist with activities of daily living
- Physical therapists – to assist with motor and sensory impairments
- Occupational therapist – to assist in relearning skills related to personal grooming, etc.
- Speech-language pathologies – for relearning speech or development of alternative means of communication

ISOBEL SMITH - STROKE - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 164, BP 196/102, R 24, T 99F (37.2C), SpO2 84% on room air ECG: atrial fibrillation	Lack of strength/movement on right side Facial droop on right side

References

American Heart Association and American Stroke Association. (2017). *2017 Guide for the Prevention, Detection, Evaluation and Management of High Blood Pressure in Adults*. American Heart Association. Dallas, Texas

Crawford, A. and Harris, H. (2016). Caring for adults with impaired physical mobility. *Nursing 2016, 46*(12), 36-41. Doi-10.1097/01.NURSE.0000504674.19099.id

National Institutes of Health & National Institute of Neurological Disorders and Stroke (September 2014). *Post-Stroke Rehabilitation*. Retrieved from https://stroke.nih.gov/materials/rehabilitation.htm

Powers, W. J., Rabinstein, A. A., Ackerson, T., Adeoye, O. M., Bambakidis, N. C., Biller, J. …Tirschwell, D. L. (January 24, 2018). *2018 Guidelines for the Early Management of Patients with Ischemic Stroke: A Guideline for Healthcare Professionals*. American Heart Association/American Stroke Association. Retrieved from http://doi.org/10.1161/STR.0000000000000158

Patient: Todd Mansfield

Pathology: Trauma (post MVA)

Overview: The case scenario presents an older male patient who has been involved in a motor vehicle crash. The patient is experiencing intra-abdominal hemorrhage.

Objectives: After completing this facilitated scenario the learner will be able to:

- Identify assessment findings indicating potential internal complications.
- Discuss how aging can affect a patient's response to hemorrhage.
- Discuss how specific medications can impact an individual's response to stress and his injuries.
- Describe actions to initiate to prepare a patient for emergency surgery.

Case Scenario (Brief):
Todd Mansfield, 76 years old, was admitted to the emergency room after being involved in a motor vehicle crash in a car driven by his daughter. He sustained multiple small lacerations on his hands from the windshield, a larger laceration to his right forearm, and bruising across chest and abdomen. Mr. Mansfield has an 18-year history of COPD, hypertension, and atrial fibrillation as indicated by his daughter. She stated he is on a blood thinner and several medications for his heart. Mr. Mansfield's daughter sustained minor injuries and is currently in one of the examination rooms across the hall.

X-rays have been completed (chest, pelvis, and cervical spine), and his c-spine has been cleared. The neck brace and back board have been removed. The physician in is the process of completing the Focused Assessment with Sonography for Trauma (FAST) examination.

Question for the learner prior to viewing Clip 1:

Q 1. What emergency measures, other than immobilizing Mr. Mansfield, would you expect the emergency medical services (EMS) personnel to have initiated, and what is the rationale for these actions?

Potential Answer

(Provide the assessment data as the learner requests the information.)

Emergency Measures	**Rationale**	***Data to be provided to the learner***
Primary Survey • Airway • Breathing • Circulation • Disability • Exposure	Primary survey includes identification and treatment of life-threatening injuries	*<u>Airway</u> – unobstructed* *<u>Breathing</u> – R 28 and shallow, no paradoxical movement, Oxygen saturation 88%.* *Oxygen therapy initiated at 2 liters via nasal cannula* *<u>Circulation</u> – P 88 and irregular, EKG monitoring indicated atrial fibrillation*

		BP 112/68 IV access with an 18-gauge intracath initiated in left antecubital, RL infusing at 150 mL/hour, covered to maintain warmth *<u>Disability</u> – Awake, responds to verbal stimuli, confused with a Glasgow Coma Scale (GCS) of 13, pupils equal and responsive to light* *<u>Exposure</u> – Logrolled; minor bruising on back*

Q 2. What actions do you plan to initiate as you begin care for Mr. Mansfield?

Potential Answer

Initiate another Primary Survey and reassess often.

Complete the Secondary Survey to include examination of head, neck, neurological exam, chest exam, abdominal exam, pelvis and limbs.

Q 3. What data related to Mr. Mansfield's health history is still needed?

Potential Answer

- Medications and dosages
- Allergies
- Weight

Provide the following information <u>if requested by learner</u>.

Mr. Mansfield is on ASA 75 mg daily, Cardizem CD (diltiazem) 180 mg daily, Advair (fluticasone/salmeterol) oral inhaler 50 mcg twice a day, hydrochlorothiazide 12.5 mg twice a day, potassium supplement 200 mg daily.

According to Mr. Mansfield's daughter, he has NKDA.

Mr. Mansfield weighs 148 kg.

Q 3A. How will Mr. Mansfield's medications impact his response to his injuries?

Potential Answer

ASA – decreases platelet aggregation; therefore, Mr. Mansfield will have a greater potential for bleeding.

Cardizem – is a calcium channel blocker which decreases the heart's response to atrial fibrillation (decreasing the heart rate) and causes peripheral vasodilation; therefore, Mr. Mansfield normal sympathetic response to stress and hemorrhage will be decreased.

Have the learner view Clip 1.

Question for the learner immediately after viewing Clip 1:

Q 4. What findings were noted on your assessment and what actions need to be initiated related to these findings?

Potential Answer

Assessment	Actions to Initiate
Vital Signs P = 84 and irregular R = 28 shallow BP = 102/60 T = 99 F (37.2 C) O2 Sat = 86% Multiple bruises Multiple lacerations on hands and arm Large Laceration on left forearm	Change oxygen delivery to 4 L via nasal cannula; monitor frequently and modify as appropriate Increase delivery of IV fluid to 200 mL/hours but assess frequently for pulmonary edema Request type and cross match and validate that a diagnostic profile has been obtained Insert foley catheter to monitor hourly output as a measurement of tissue perfusion
LOC – slightly confused	Orient Mr. Mansfield to person, time, and place
Need to request findings from the FAST exam	The physician states that she suspects internal bleeds and will be taking Mr. Mansfield to surgery.

Inform the learner: *Heart sounds S1, S2, and S3*

Q 5. *What does the third heart sound indicate?*

Potential Answer:

S3 or "ventricular gallop," is heard just after S2 when the mitral valve opens to allow passive filling of the left ventricle. The S3 sound is produced by the large amount of blood striking a very compliant left ventricle and is usually caused by heart failure.

OPTION: If the learner does not discuss the need for surgery or does not recognize the importance of the assessment findings and how Mr. Mansfield's age and medications can impact his response to the multiple injuries, the Facilitator may choose to increase urgency by proceeding directly to Clip 3.

Alternatively, proceed sequentially to Clip 2.

Have the learner watch Clip 2

Question for learner after viewing Clip 2

Q 6. With respect to various body systems, what affect does Mr. Mansfield's age have on the current situation?

Potential Answer

System	Physiologic Changes with Aging	Affect
Nervous	Decreased neurons and slower transmission	Decreased reporting of pain Slower reactions
Respiratory	Loss of elastic recoil Decreased pulmonary reserve Reduced cough	Muscle fatigue leading to hypoxia Increased potential for pneumonia
Cardiovascular	Increased myocardial and arterial thickening	Decreased cardiac index Hypertension
Integumentary	Thinning of the skin	Poor healing Increased potential for decubitus
Renal	Decreased glomerular filtration rate	Increased risk for urinary tract infections
Skeletal	Osteoporosis	Increased fractures

Inform the learner: *Mr. Mansfield is to be prepared for surgery.*

Q 7. What actions need to be initiated to prepare Mr. Mansfield for surgery?

Potential Answer

- Consent to be signed after explanations provided to Mr. Mansfield and his family. (If he has received any pain medication, a member of his family will need to sign the consent.)
- Validate allergies, health history and other critical information with family.
- Confirm IV placement, foley catheter, and oxygenation.
- Obtain another set of vital signs.
- Validate return of diagnostic studies and T & C of blood therapy.
- Allow family time with Mr. Mansfield and provide them information related to where they need to wait.
- Obtain pre-operative orders and administer pre-operative medication.
- Validate and update patient's chart.

If proceeding to Clip 3 following Clip 2, inform the learner: *Consider that the potential for intra-abdominal hemorrhage was not identified and his preparation for surgery was delayed.*

Have the learner View Clip 3.

Q 8. What assessment findings were observed and what is the potential cause of these changes?

Potential Answer:

- Mr. Mansfield is demonstrating signs of hemorrhagic shock (hypovolemic), BP 86/60.
- Recognizing he is on Cardizem, a calcium channel blocker, his normal sympathetic response to stress and hemorrhage is decreased. Therefore, he has not manifested they typical increase in his pulse rate (P 80).
- The PVCs could be caused by myocardial irritation due to decreased delivery of oxygen to the myocardial muscle.
- The decrease in LOC is also related to the lack of oxygenation.

Q 9. What actions need to be initiated?

Potential Answer:

- Increase oxygen delivery
- Increase delivery of IV fluid
- Transfer to surgery immediately

TODD MANSFIELD - TRAUMA - Default Data for Each Clip

Clip	***Vital Signs (default data)***	***Symptoms/Behavior***
1	P 84, BP 102/60, R 28, T 99F (37.2C), SpO2 86% on room air ECG: atrial fibrillation	Heart sounds S1, S2, S3 Breathing shallow, rapid. Bruising on chest (seatbelt pattern).
2	P 90, BP 122/72, R 24, T 99F (37.2C), SpO2 86% on room air ECG: atrial fibrillation	Heart sounds S1, S2, S3 Breathing shallow. Bruising on chest (seatbelt pattern).
3	P 80, BP 86/60, R 26, T 99F (37.2C), SpO2 82% on room air ECG: atrial fibrillation w/PVC	Heart sounds S1, S2, S3 Breathing shallow, rapid. Bruising on chest (seatbelt pattern).

References

Al-Ozaibi, L., Adnan, J., Hassan, B., Al-Mazroui, & Al-Badri, F. (2016). Seat belt syndrome: Delayed or missed intestinal injuries, a case report and review of literature. *International Journal of Surgery Case Reports, 20*, 74-76. http://dx.doi.org/10/1016/j.ijscr.2016.01.015

Gaebel, A., & Keiser, M. (2017). Challenges in the management of geriatric trauma: A case report. *Journal of Trauma Nursing, 24*(4), 245-250. Doi: 10.1097/JTN.0000000000000299

Holcomb, J. B. (2015). Geriatric trauma. *Critical Care Nursing Quarterly. 38*(3), 298-311. Doi:10.1097/CNQ.0000000000000075

Joyce, M. F., Balonov, K., & Azocar, R. J. (2014). Critical care and trauma considerations in the geriatric patient. *International Anesthesiology Clinics, 52*(4), 95-108. Retrieved from www.anesthesiaclinics.com

Maxwell, C. A. (2015). Trauma in the geriatric population. *Critical Care Clinics of North America, 27*, 183-197. http://dx.doi.org/10.1016/j.cnc.2015.02.006

Appendix A – MMFER Form to accompany Sexual Assault pathology (Jenny Li)

FSD-097 (10/2015)
MICHIGAN STATE POLICE, Forensic Science Division
Page 1 of 10

AUTHORITY: MCL 333.21527, MCL 752.933-752.935
COMPLIANCE: Voluntary

PATIENT/EXAMINER INFORMATION

Patient Name: _____
Address: _____
_____
Date of Birth: _____ Age: _____ Sex: _____
Date of Examination: _____ Time of Examination: _____

MR/Case Number: _____
Phone Number: _____
Contact Number: _____
Contact Instructions: _____
Ethnicity/Race: _____

A. Information for Patient (Health provider review with patient)

- ☐ Patient has signed appropriate consent for treatment provided by the health provider (not included here).
- ☐ The patient has been told that she or he **is not** required to participate in the criminal justice system or cooperate with law enforcement as a condition of receiving treatment and/or evidence collection.
- ☐ Patient understands that receiving an exam, treatment, and/or evidence collection is voluntary and that she/he may stop the exam at any point in time and still receive medical attention if the patient chooses.
- ☐ The patient has received a copy of the booklet "**Important Health Information for You**" (provided in evidence collection kit).
- ☐ Information about **SAFE Response** and examination payment options has been explained to the patient (provided in evidence collection kit).

MEDICAL HISTORY

B. General Medical History

Allergies: _____
Current Medications (including contraception): _____
_____
General Medical History: _____
_____ Last Tetanus Immunization: _____
Disability: ☐No ☐Yes, comments: _____
Recent treatments, including last OBGYN exam, describe: _____
Surgeries, procedure/date: _____
Last Menstrual Period: _____ Vaginal deliveries w/in previous 6 months? ☐No ☐Yes Date: _____
Consensual coitus in last 120 hours? ☐No ☐Yes If yes, condom use? ☐No ☐Yes ☐ NA

C. History of Chief Complaint/Assault

Date of Assault: _____ Time of Assault: _____
Brief History of Assault (include loss of memory or lapse of consciousness and/or alcohol/drugs used): _____

White—Medical Records *Yellow—Place in Kit* *Pink—Law Enforcement*

Patient Name: _____ MR/Case Number: _____

Patient Alcohol and/or Drug Use at time of Assault: _____

Multiple Assailants: ☐Unknown ☐No ☐Yes (#)_____ Assailant(s) Gender (number if known): ___M ___F ___Unknown

Relationship of Assailant(s): _____

Assailant(s) Details (include name(s), if known): _____

Weapon(s) Used/Threatened/Present: _____ Location of Assault: _____

Patient Position During Assault (Check all that apply): ☐ Prone ☐ Supine ☐ Kneeling ☐Unknown ☐ Other_____

D. Acts Described By Patient

Acts Described By Patient	No	Yes	Unknown	Attempted	Patient statements
Fondling					
Licking/Kissing/Suction					
Biting					
Restraint/Force					
Strangulation (see pg. 3)					
Vulvar penetration/contact					
Penis					
Digital					
Foreign object use					
Anal penetration/contact					
Penis					
Digital					
Foreign object use					
Ejaculation					Where:
Oral contact to genitals					
Patient on assailant					
Assailant on patient					
Oral contact to anal area					
Patient on assailant					
Assailant on patient					
Lubricant used					
Condom used					
Patient clothing removed during assault					
Patient clothing items missing					
Injury to assailant (scratching)					

White—Medical Records ***Yellow—Place in Kit*** ***Pink—Law Enforcement***

Patient Name: _____ MR/Case Number: _____

E. Symptoms Since Assault

Physical Pain/Psychological/Emotional/ ADL Impairment/Other _____

F. Post Assault Activity/Hygiene

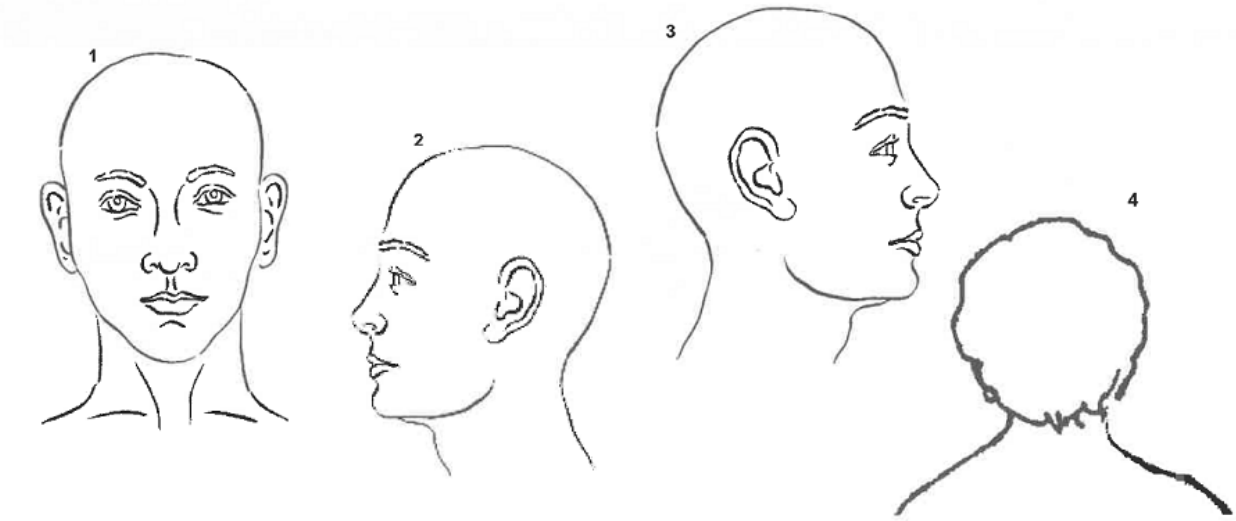
No	Post Assault Activity	Yes	Patient Statements	Unknown
	Urinated			
	Defecated			
	Genital wash/wipe			
	Douche			
	Bath/shower			
	Brushed teeth			
	Vomited			
	Smoked			
	Drank/ate			
	Use of intravaginal product		Specify:	
	Clothing change/missing			
	Other:			

PHYSICAL EXAMINATION/ASSESSMENT

G. General Physical Assessment

Pulse_____ Respiration_____ Blood pressure_____ Temperature_____ Weight_____

H. Head, Neck, and Oral Examination: Please diagram, measure, and describe areas of patient trauma and pain.



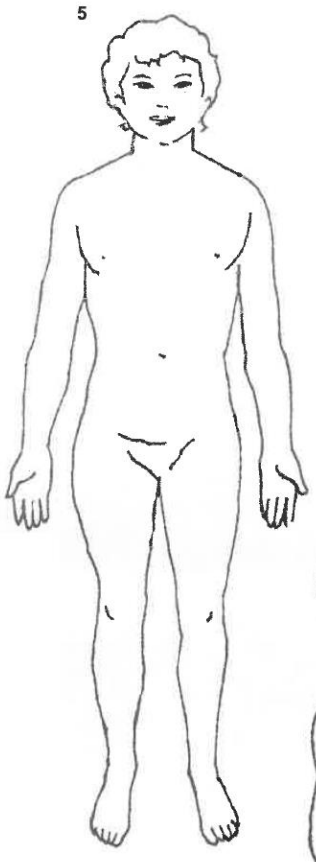
I. Strangulation Assessment ☐No ☐Yes ☐ N/A

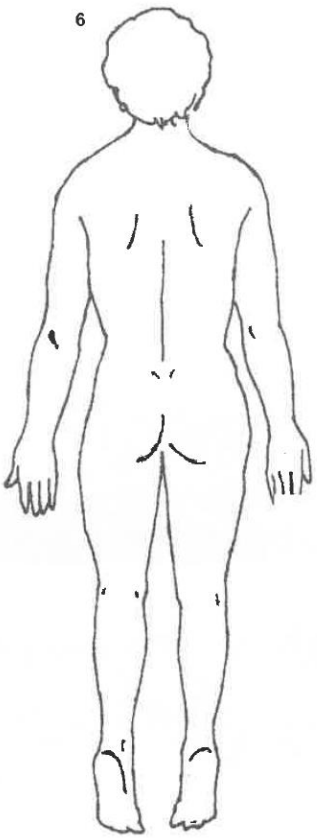
Breathing Changes	Voice Changes	Swallowing Changes	Physical	Behavioral Changes	Other
☐ Difficulty breathing ☐ Hyperventilation ☐ Unable to breath ☐ Other:	☐ Raspy voice ☐ Hoarse voice ☐ Coughing ☐ Unable to speak	☐ Trouble swallowing ☐ Painful to swallow ☐ Neck pain ☐ Nausea ☐ Vomiting	☐ Petechiae eye ☐ Contusion/Bruise ☐ Ligature marks ☐ Other:_____ Note on body map	☐ Agitation ☐ Amnesia ☐ Hallucinations ☐ Combativeness	☐ Loss of consciousness ☐ Dizzy ☐ Headaches ☐ Urinated ☐ Defecated

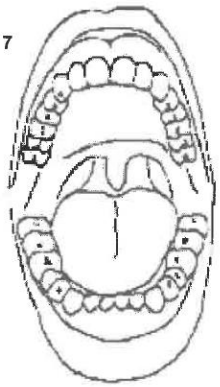
White—Medical Records ***Yellow—Place in Kit*** ***Pink—Law Enforcement***

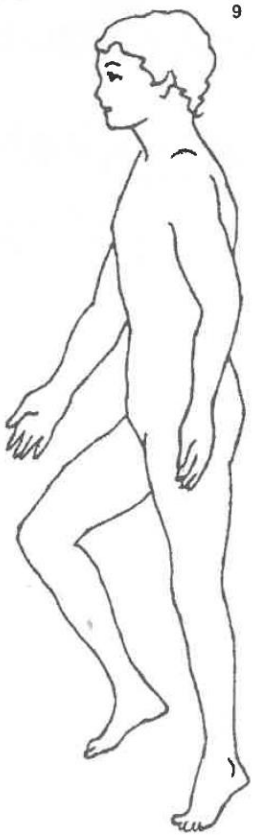
Patient Name: _____ MR/Case Number: _____

J. Physical Assessment Body Maps: Please diagram, measure, and describe areas of patient trauma, pain, and alternate light source findings (if used) on the maps below.
Sexual Maturation Stage/Tanner Stage: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5









White—Medical Records ***Yellow—Place in Kit*** ***Pink—Law Enforcement***

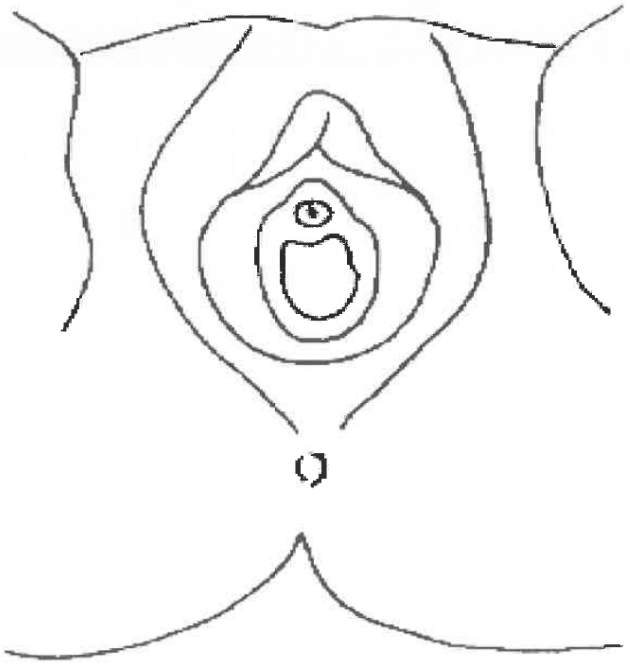
Patient Name: _____ MR/Case Number: _____

K. Detailed Anogenital Examination Female Patient: ☐ N/A

No Trauma	Anogenital Structure	**Trauma Identified** (describe and document on body map)
	Anus	
	Rectum	
	Vulva:	
	Vestibule/Periurethral/ Clitoris/Clitoral Hood	
	Perineum	
	Labia Majora	
	Labia Minora	
	Posterior Fourchette	
	Fossa Navicularis	
	Hymen	
	Vagina	
	Cervix	

Please diagram, measure, and describe areas of patient trauma, pain, alternate light source findings, and Toluidine Blue positive areas (if used) on the maps below.

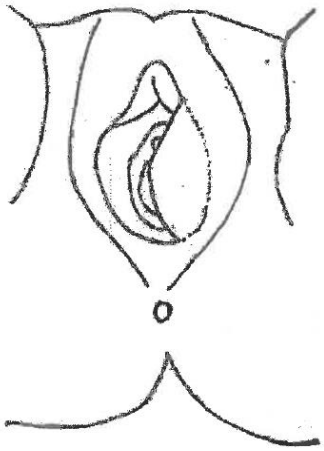
10



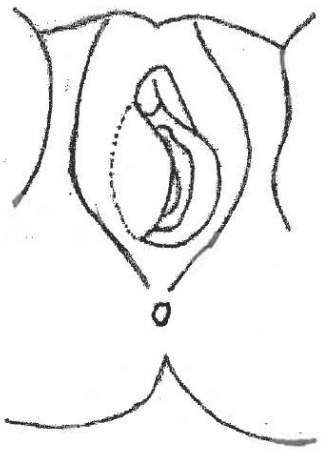
Patient Name: _____ MR/Case Number: _____

Detailed Anogenital Examination Female Patient Continued: Please diagram, measure, and describe areas of patient trauma, pain, alternate light source findings, and Toluidine Blue positive areas (if used) on the maps below.

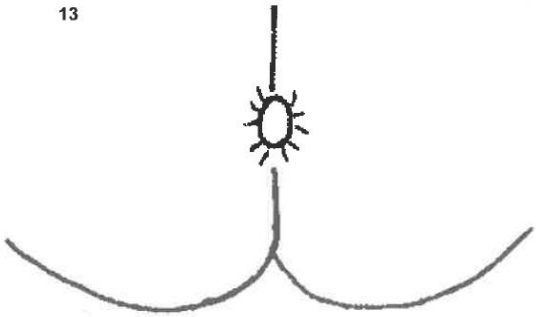
11



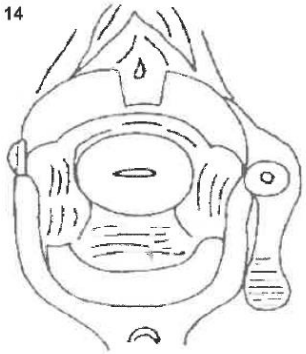
12



13



14



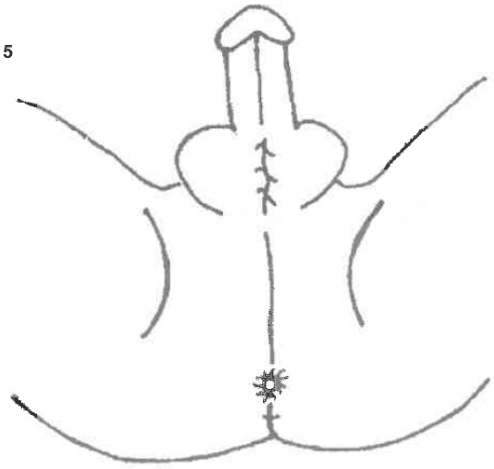
Patient Name: _____ MR/Case Number: _____

L. Detailed Anogenital Examination Male Patient: ☐ Circumcised ☐ Uncircumcised ☐ N/A

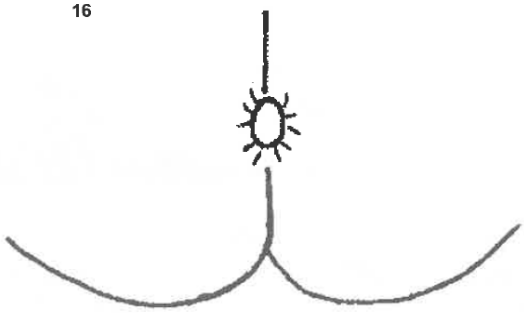
No Trauma	Anogenital Structure	Trauma Identified (describe and document on body map)
	Anus	
	Rectum	
	Glans Penis	
	Periurethral area	
	Penis (shaft)	
	Scrotum	

Please diagram, measure, and describe areas of patient trauma, pain, alternate light source findings, and Toluidine Blue positive areas (if used) on the maps below.

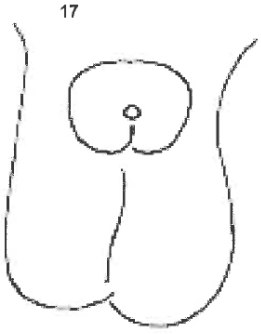
15



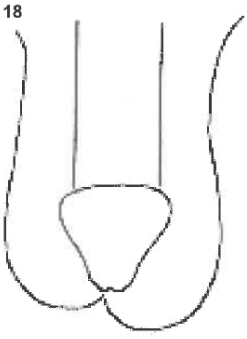
16



17



18



19

20

White—Medical Records ***Yellow—Place in Kit*** ***Pink—Law Enforcement***

Patient Name: _____ MR/Case Number: _____

M. Diagnostic/Treatment(s) Provided and/or Recommended:

Diagnosis: Medical forensic evaluation for sexual assault/abuse Other: _____

Pregnancy Test: ☐Positive ☐ Negative ☐ Not Indicated: _____

Other diagnostics, describe: _____

Analgesia / Other	Time/Dose	Response to treatment
Ibuprofen, PO		
Acetaminophen, PO		
Anti-emetics:		
Tetanus:		
Other:		

Emergency Contraception	Time/Dose	Comments
Not indicated		
Declined		
Levonorgestrel PO 1.5 mg (Plan B/Next Choice, etc.)		
Other:		

STI Prophylaxis	Time/Dose	Comments
Ceftriaxone (Rocephin) 250 mg, IM		
Metronidazole (Flagyl) 2 gm, PO		
Azithromycin (Zithromax) 1 gm, PO		
Cefixime (Suprax) 400 mg, PO		
Doxycycline 100 mg, BID x 7 days		
Other:		
Other:		

Other treatments discussed or recommended (including referral for emergency evaluation): _____

Medical follow-up referral information discussed with and given to patient: ☐No ☐Yes

Applicable aftercare, resources and referrals discussed with and given to patient: ☐No ☐Yes

Discharge safety discussed with patient: ☐No ☐Yes

FSD-097 (10/2015)
MICHIGAN STATE POLICE, Forensic Science Division

Place bar code sticker on PINK copy of this form

Patient Name: _____ MR/Case Number: _____

N. Evidence Collection Kit Used: ☐No ☐Yes Comments: _____

FORENSIC SPECIMEN COLLECTION

Forensic Specimen or Items and PLACED in the Evidence Collection Kit

Patient Reference Samples:
- ☐ Reference head hair
- ☐ Reference pubic hair
- ☐ Buccal swabs

Trace Evidence/Envelopes:
- ☐ Combed head hair
- ☐ Combed pubic hair
- ☐ Other: _____
- ☐ Other: _____

Swabs/Envelopes:
- ☐ Oral (2)
- ☐ Anal/Perianal (2)
- ☐ Vulvar/Penile (2)
- ☐ Vaginal/Cervical (2)
- ☐ Body/fingernail/Misc. _____
- ☐ Body/fingernail/misc. _____
- ☐ Body/fingernail/misc. _____

Smears:
- ☐ Oral
- ☐ Anal/ Perianal
- ☐ Vaginal
- ☐ Penile

Bag/Additional:
- ☐ Undergarment
- ☐ Tampon
- ☐ Sanitary item
- ☐ Diaper
- ☐ Condom
- ☐ Other: _____

Photograph(s) taken ☐No ☐Yes

Type: ☐ Digital ☐ Colposcopic Digital ☐ Other: _____

Location(s): ☐ Body ☐ Anogenital ☐ Oral ☐ Other: _____

Other Forensic Specimens or Items collected that were NOT PLACED in the Evidence Collection Kit: ☐No ☐Yes

☐ Toxicology (blood) ☐ Toxicology (urine) ☐ Paper Bags (number): ____ ☐ Other: _____

List Clothing or Miscellaneous Items (one article per paper bag):

Item	Description/Condition

CHAIN OF CUSTODY INITIATED

Items Released To _____ Date/Time: _____

Items Released By: _____

INVESTIGATING AGENCY INFORMATION

Law Enforcement Contacted: ☐Not at this time ☐Yes

Complaint # (if any): _____

Law Enforcement Agency: _____

Officer Name: _____

Children/Adult Protective Services Report: ☐No ☐Yes ☐NA

Agency/Worker: _____

MEDICAL EXAMINER INFORMATION

Examining Health Provider: _____

Signature of Medical Forensic Examiner	Date	Printed Name of Medical Forensic Examiner
Signature of Other Medical Forensic Examiner (if applicable)	Date	Printed Name of Medical Forensic Examiner

White—Medical Records ***Yellow—Place in Kit*** ***Pink—Law Enforcement***

O. Authorization for Release to Law Enforcement or Storage Without Release to Law Enforcement

INFORMATION ABOUT RELEASE FOR PATIENTS (Health provider review with patient)

- You do not have to sign this release and you are not required to release the evidence collection kit, information, or other items listed below.
- You have the right to revoke this release at any time, provided you do so in writing to the health provider listed below. However, once the evidence collection kit, information, or other items listed below have been transferred to law enforcement, the health provider can no longer get them back.
- If you decide to release the evidence collection kit and information listed below, it can be reviewed by the law enforcement agency, the prosecuting attorney, the Michigan State Police Forensic Laboratory, or other accredited laboratory. These organizations are not health care providers covered by federal health privacy laws and are governed by other laws.
- If you decide not to release the evidence collection kit, the health provider is required to store the evidence collection kit for a minimum of one year. However, under very rare circumstances the health provider may be required by law to release the evidence collection kit to law enforcement without your permission (for example, in response to a court order).
- You may ask the health provider to inspect or receive a copy of any records disclosed under this authorization.

COMPLETE AND INITIAL CHOICE A OR B

A ☐ **PATIENT WISHES TO RELEASE THE EVIDENCE COLLECTION KIT AND SELECTED ITEMS** _____ (Patient Initials)

I, _____ (Name of Patient), authorize _____ (Name of Health Provider Completing Exam) to disclose and release the following items noted below with my initials for the purposes of criminal investigation and to assist in the prosecution of the person or persons responsible for the crime. This authorization expires one year after the date of release. Items released to the below recipients during that one year period can be used until the final adjudication of the criminal case.

I authorize the release of the following information and items: (patient initial each)

____Evidence collection kit contents
____Urine and/or blood for toxicology
____Photographs
____Clothing/Other _____

Recipients of my health and medical information and items:

- Law Enforcement Agency (*name of agency if known*): _____
- Prosecuting Attorney's Office for County of (*name of county if known*): _____
- Michigan State Police Forensic Laboratories or Other Appropriate Accredited Laboratory

OR

B ☐ **PATIENT DOES NOT WISH TO RELEASE THE EVIDENCE COLLECTION KIT AT THIS TIME** _____ (Patient Initials)

- The evidence collection kit will be stored until (*date-minimum of one year*): _____
- If you decide to release the evidence collection kit prior to the above date, you should contact (instructions for contacting Provider): _____

SIGNATURE

The signature below documents my intent to release or not to release the information and items listed in sections A or B above.

Patient Signature _____ Date _____

Parent/Guardian Signature *(if required)* _____ Relationship _____

Witness Signature _____ Date _____

White—Medical Records ***Yellow—Place in Kit*** ***Pink—Law Enforcement*** ***Goldenrod–Patient***