



# Postoperative Pulmonary Embolism

## Simulated Clinical Experience (SCE™) Overview

**Location:** Medical/Surgical Unit

**History/Information:**

A 22-year-old male sustained bilateral compound femur fractures following a motor vehicle collision (MVC) in which he rolled his truck. Upon admission to the trauma center, his blood alcohol level was 175. His urine and toxicology screen was negative for all other drugs. He is a second year student at a local university for his Bachelor of Science degree with an emphasis on a pre-medical school track. After immediate treatment in the Emergency Department, he was taken to surgery for an open-reduction and internal fixation (ORIF) of both femurs. Due to prolonged anesthesia administration he was transferred to the Surgical Intensive Care Unit for overnight observation. The following morning he is transferred to the general surgery/trauma unit. You are the nurse assigned to this patient when you come on duty at 1500 hours.

**Healthcare Provider's Orders:**

Telemetry x 24hrs, then discontinue if no dysrhythmias  
Portable Chest x-ray in AM  
CBC, Electrolytes, BUN, Creatinine, Glucose in AM  
Vital signs every 4 hours  
O<sub>2</sub> 2LPM nasal cannula x 48 hours  
Check SpO<sub>2</sub> every 4 hours x 48 hours  
ABG STAT for SpO<sub>2</sub> less than 92%  
Respiratory therapy for albuterol unit dose nebulizer 4 times a day  
Incentive spirometry every 2 hours while awake  
Clear liquids and advance to regular diet as tolerated  
IV of D5/0.45% NS with 30mEq KCl/L at 100mL/hour  
Cefazolin 500mg IVPB every 6 hours  
Morphine PCA: 1mg every 10 minutes with 4 hour lockout of 24mg  
Morphine 2-3mg bolus for break thru pain every 2-4 hours  
Enoxaparin 30mg SQ every 12 hours x 10 days  
Biscodyl suppository one PR on day 3 if no bowel movement, then prn constipation  
Central line dressing change per protocol  
Flush each port with 2mL NS with heparin 100units/mL every 8 hours for all capped central line lumens  
Intake and Output every 8 hours; Urinary catheter care every 8 hours  
Anti-embolus hose and sequential compression device to legs  
Physical therapy for range of motion  
Notify the healthcare provider for: HR greater than 140 or less than 60, SBP less than 100 or greater than 180,  
Urine output less than 240mL/8 hours, Temp greater than 38°C, SpO<sub>2</sub> less than 92%

## Learning Objectives

1. Formulates a nursing plan of care based upon the pathophysiology of pulmonary embolism (SYNTHESIS).
2. Designs an individualized plan of care for the nursing management of a patient with a pulmonary embolism (SYNTHESIS).
3. Prioritizes the implementation and approach to the nursing care of a patient with a pulmonary embolism (ANALYSIS).
4. Evaluates the patient's response to interventions and modifies the nursing care as appropriate for the patient with a pulmonary embolism (EVALUATION).

## Questions to Prepare for the Simulated Clinical Experience

1. Describe the pathophysiology of a pulmonary embolism.
2. Describe common assessment findings for a patient experiencing a pulmonary embolism.
3. What lab and diagnostic tests are used in the assessment and treatment of pulmonary embolism?
  - a. What is a V/Q scan? How is it done? How are results reported? Describe the nurse's responsibility in caring for a patient undergoing a V/Q scan.
  - b. What is a helical CT scan of the chest? How is it done? How are the results different than a V/Q scan?
4. Describe procedures used in treatment of pulmonary embolism.
  - a. What is a pulmonary embolectomy? When is it done? Describe the nursing care pre and post procedure.
  - b. What is a Greenfield filter? How is it placed? How does it work? Describe the nursing care pre and post procedure.
5. Discuss collaborative management of the pulmonary embolism patient.
6. Discuss pharmacological management of the pulmonary embolism patient.
  - a. Describe weight-based heparin therapy. What are nursing responsibilities in administering heparin?
  - b. How does heparin work?
  - c. What is a PTT? How it used to adjust heparin? What are target PTT values for a patient with PE?
  - d. What are thrombolytic agents? How do they work? What are contraindications for the use of these agents?

## References

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