



Go To Clinical Case

While caring for this client, be sure to review the concept maps in chapters 3 and 4.

Case 2: Impaired Oxygenation and Gas Exchange from Fluid Accumulation

Related Concepts: Comfort, Cellular Regulation, Nutrition, Protection

Threaded Concepts: Legal Issues, Communication, Delegation, Medication Calculation, Use of Social Media



Eric Van Sickle is a 16-year-old with a history of Non-Hodgkin's Lymphoma. He was treated aggressively with chemotherapy and radiation and has been in remission for three years. He considers lymphoma a problem of the past and is working hard to live a healthy lifestyle. He sleeps 6-7 hours a night and eats a diet of lean proteins, fruits, and vegetables. He also commits to running 1-2 miles each morning. He is active at school, an honor student, and class president. He tells his mom that he is having trouble taking a deep breath, just over the last week. She makes a clinic appointment.

1. The admitting nurse assesses his oxygenation/gas exchange status. What should the nurse include? Select all that apply.

1. Lung sounds.
2. Oxygen saturation.
3. Lymph node palpation.
4. Capillary refill.
5. Depth and symmetry of respiration.

Nursing	Flow Sheets	Provider	Labs & Diagnostics	MAR	Collaborative Care	Other
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Nurse Think
HEALTHCARE SYSTEM

Name: Eric Van Sickle
Health Care Provider: J. Johansen, M.D.
Code Status: Full code

Age: 16 years
Allergies: NKDA

NURSING NOTE

Sept. 4
1430

Temp. 100.0°F (37.7°C), HR 88, BP 110/78 (89), RR 30 rapid and shallow, Sats 89% on room air. States feeling short of breath at rest, worsening over the last week. Pain in chest, non-radiating. 4 on 1-10 scale, worse with a deep breath. Dry, irritating cough noted. Lungs clear in upper lobes and diminished in lower lobes.



2. The registered nurse reviews the assessment information. Which finding is most concerning?
1. Temperature, heart rate, blood pressure.
 2. Respiratory rate and oxygen saturation.
 3. Chest pain.
 4. Lung sounds.



3. NurseThink® Prioritization Power!

Reflect on Eric's assessment data and identify the **Top 3 Priority** Interventions.



1. _____
2. _____
3. _____

Eric's health care provider orders a chest x-ray. Review the report below.

Nursing

Flow Sheets

Provider

Labs & Diagnostics

MAR

Collaborative Care

Other

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RADIOLOGY REPORT

Sept. 4
1530

Radiological findings:

PA and lateral chest X-rays of a young patient. There appears to be no deformities and no damage to the soft tissues. There is a right lower lobe pleural effusion and consolidation of mid-lower lobe. Heart size difficult to measure from the large pleural effusion. There are perihilar markings visible along the left border of hilum in the left lung.

Possible diagnosis(es):

Right lower lobe pneumonia is the most likely cause but cannot rule out metastatic cancer with fluid accumulation, given the health history. The consolidation could also represent an empyema, hemothorax or pleurisy.

Recommendations:

Use other clinical indications of infection including such as leukocytosis, hyperthermia, sputum culture and treat possible pneumonia with intravenous antibiotics. Recommend a repeat chest X-ray followed by a thoracentesis if indicated. If the pleural effusion is undiagnosed after the thoracentesis, would recommend doing a CT scan of the chest.

4. What assumptions can the nurse make from the x-ray report?

1. Eric's lungs have an infection and should resolve with antibiotics.
2. Additional tests are needed to determine the problem.
3. Eric's x-ray is inadequate and needs to be repeated.
4. Eric's x-ray report is normal.

5. Given the information that the nurse knows about Eric's condition, which nursing intervention would be contraindicated?

1. Cough and deep breathing to increase expectoration.
2. Increase oral fluids to liquefy secretions.
3. Heating pad for chest wall pain.
4. Ambulation to mobilize secretions.



After consulting a pulmonologist, Eric is admitted to the children's hospital for further workup. A thoracentesis is performed using IV conscious sedation in interventional radiology. He returns to the medical floor after the procedure.

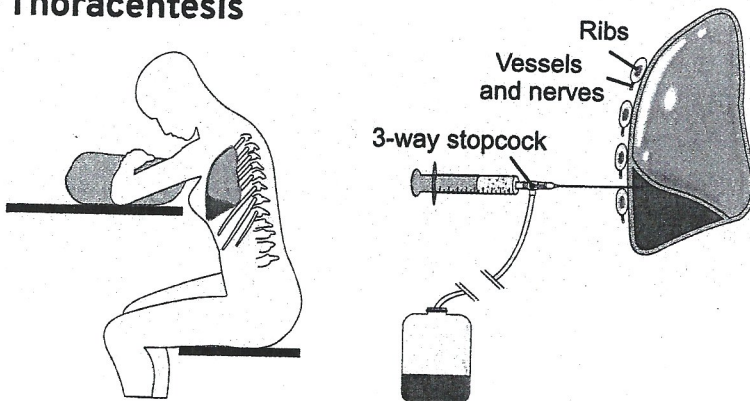
Handoff Report

Eric Van Sickle received a thoracentesis under fluoroscopy where 800 mL cloudy pink fluid was removed from his right lower lobe and sent to the lab for cytology, and culture & sensitivity. He received midazolam 2 mg IV. His vital signs have been stable throughout the procedure. He's now on room air. He's arousable to touch. His parents are at the bedside.

6. The nurse enters the room and notes that Eric's respirations are 10 per minute, even, and unlabored, the oxygen saturation reading is 99% and the head of the bed is flat. What should be the nurses next action?

1. Continue to allow him to sleep.
2. Gently arouse him by touching his arm.
3. Place him on oxygen.
4. Raise the head of the bed.

Thoracentesis



Over the next hour, the nurse records post-procedural care.

Nursing
Flow Sheets
Provider
Labs & Diagnostics
MAR
Collaborative Care
Other

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VITAL SIGN RECORD

Time	BP (MAP)	HR	RR	Sats
1139	100/58 (72)	69	10	99% RA
1157	105/63 (77)	77	18	97% RA
1216	115/77 (90)	98	22 labored	94% RA
1225	122/80 (94)	101	24 labored	94% 2 L/NC

Resting comfortably upon return from radiology. Post-procedure vital signs demonstrate worsening respiratory distress over 1 hour. Oxygen re-applied to maintain saturation is at 94%

7. Before the nurse contacts the health care provider, what additional assessments are priority? Select all that apply.

1. Auscultation of lung sounds.
2. Assessment of thoracentesis dressing.
3. Assessment for a tracheal shift.
4. Measurement of urine output.
5. Orientation to person, place, and time.

8. After further assessment, the nurse discovers a tracheal shift to the left and absent breath sounds on the right side. A call is placed to the health care provider. Complete the communication form.

S - _____

B - _____

A - _____

R - _____

Clinical Hint:
 S - Situation
 B - Background
 A - Assessment
 R - Recommendation

Next Gen Clinical Judgement: Practice giving this report to another person. Talk into a cell phone to make it more 'real'.

These verbal orders are received, and the provider says he will arrange with interventional radiology for a chest tube placement.

Nurse Think
HEALTHCARE SYSTEM

Name: Eric Van Sickle
Health Care Provider: J. Johansen, M.D.
Code Status: Full code

Age: 16 years
Allergies: NKDA

HEALTH CARE PROVIDER PRESCRIPTIONS

- Sept. 4
1300
1. STAT portable chest x-ray.
 2. Consent for right chest tube.
 3. Oxygen to keep Sats >94%.
 4. Chest tube placement per interventional radiology.

9. The nurse returns to the room and finds Eric is anxious and afraid. His parents went to the cafeteria for a cup of coffee. The nurse needs to explain what is going on and obtain consent for the chest tube placement. How should the nurse proceed?

1. See if Eric has a sedative ordered.
2. Tell him you will get his parents from the cafeteria.
3. Explain the situation to Eric and obtain consent.
4. Stay with Eric and send someone else to get his parents.

Once Eric's parents return to the room, the nurse pulls up a chair to the bedside, sits down, and explains the situation to the family. "Eric is having more difficulty breathing as you can see. We think he may have experienced a pneumothorax from the thoracentesis. I've spoken with the health care provider, and we are getting another x-ray. If it confirms a pneumothorax, Eric will need to have a chest tube with a closed chest drainage system. Here is the consent that you need to sign for the procedure. What questions do you have?"

10. Critique how the nurse communicated with the family and determine what should/could have been done differently.

11. The x-ray showed a 70% pneumothorax, and a chest tube is placed. Eric returns to the floor with a right-sided 20 french chest tube connected to a chest tube drainage system at -20 cm H₂O of suction. Prioritize the sequence of assessments. _____, _____, _____, _____.

1. Drainage System: setting for suction, fluid in the collection chamber, bubbles in the water seal chamber.
2. Respiratory Status: rate and depth, saturation level, lung sounds.
3. Dressing: chest tube dressing intactness.
4. Pain: discomfort in chest from tube.

The next day, the nurse is reviewing the chest tube assessment flow sheet for the previous 24 hours.

Nursing
Flow Sheets
Provider
Labs & Diagnostics
MAR
Collaborative Care
Other

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CHEST TUBE ASSESSMENT RECORD

Time	Respiratory	Dressing	Drainage System	Comments
Sept. 4 1500	RR 18 - no distress, Sats 98% on RA, Lungs with RLL crackles	Clean, dry, intact. Pressure dressing secure	-20 cm H2O suction, no fluid in collection chamber, rare bubble in water seal chamber	Resting. Mild pain with movement 2/10
Sept. 4 2330	RR 16 - no distress, Sats 98% on RA, Lungs with RLL crackles	Clean, dry, intact. Pressure dressing secure	-20 cm H2O suction, 25 mL serous fluid in collection chamber, rare bubble in water seal chamber	Pain 4/10, medicated with PO pain med.
Sept. 5 0730	RR 18 - no distress, Sats 96% on RA, Lungs with RLL and LLL crackles	Clean, dry, intact. Pressure dressing rolling up around edges	-20 cm H2O suction, 75 mL serous fluid in collection chamber, occasional bubble in water seal chamber	Pain 5/10 with movement. Medicated with PO pain med. Ambulated in hall with 1 assist
Sept. 5 1450	RR 22. shallow, Sats 94% on RA, Lungs with crackles bilaterally	Clean, dry, intact. Pressure dressing loose around edges	-20 cm H2O suction, 175 mL serous fluid in collection chamber, occasional bubble in water seal chamber	Pain 7/10 with movement. States PO pain med is not helpful.

12. THIN Thinking Time!

Reflect on the care of the chest tube over the last 24 hours and apply **THIN Thinking**.

- T - _____
- H - _____
- I - _____
- N - _____



- T - Top 3
- H - Help Quick
- I - Identify Risk to Safety
- N - Nursing Process

Scan to access the
10-Minute-Mentor
on THIN Thinking.



NurseThink.com/THINThinking

13. The nurse is evaluating the fluid within the collection chamber and the intermittent bubbling in the water seal chamber. What conclusion can be made?

1. The color of the fluid is concerning.
2. The amount of the fluid is concerning.
3. The bubbling is concerning.
4. The findings are to be expected.

14. The nurse identifies the need for several interventions. Which can be delegated to the UAP? Select all that apply.

1. Changing the chest tube dressing.
2. Obtaining an incentive spirometer.
3. Positioning the client for the dressing change.
4. Obtaining pain medication.
5. Instructing about the importance of taking deep breaths.

The screenshot shows a web interface for a Medication Administration Record (MAR). At the top, there are navigation tabs: Nursing, Flow Sheets, Provider, Labs & Diagnostics, MAR (highlighted), Collaborative Care, and Other. Below the tabs is a patient information section with the following details:

- Name: Eric Van Sickle
- Age: 16 years
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- Allergies: NKDA
- Code Status: Full code

The NurseThink logo is visible in the bottom left corner of the interface.

MEDICATION ADMINISTRATION RECORD

Time	Medication	Administration
Sept. 4	Oxycodone Hydrochloride 2.5 mg with Acetaminophen, 325 mg by mouth every 4 hours PRN for pain	Sept. 4 - 2330 Sept. 5 - 0330
Sept. 4	Oxycodone Hydrochloride 5.0 mg with Acetaminophen, 650 mg by mouth every 4 hours PRN for moderate pain	Sept. 5 - 0730 Sept. 5 - 1200
Sept. 4	Morphine 2.5 mg IVP every 4 hours PRN for pain scale 4-7	
Sept. 4	Morphine Sulfate 5 mg IVP every 4 hours PRN for pain scale 8-10	

15. The nurse reviews the medication administration record to identify the best options for pain control. What consideration(s) are priority in making a safe decision? Select all that apply.

1. Risk of narcotic dependence.
2. Adequate pain control.
3. Compromised respiratory status.
4. Last bowel movement.
5. Acetaminophen dosing.

The nurse decides to deliver morphine sulfate (MS) 2.5 mg IVP for pain rated at a 6 on a 1-10 scale and re-evaluate the response after 15 minutes (peak time 20 minutes).

16. The morphine pre-filled syringe includes morphine sulfate 5 mg in 2 mL of solution. The nurse draws up 2.5 mg, then further dilutes the MS to a total of 10 mL of solution. It is recommended that the dose of 2.5 mg be administered over 5 minutes. At what rate should the nurse deliver the IV push pain medicine?
_____ mL/minute

17. After 15 minutes, the nurse performs an evaluation. Which finding will determine the medication was effective?

1. Pain is tolerable.
2. Respiratory rate of 16 breaths per minute.
3. Client is sleeping.
4. Blood pressure is 110/67 (81) mmHg.

18. The UAP tells the nurse that Eric has a temporal temperature of 100.4°F (38°C). What should be the nurse's next action?

1. Deliver a dose of acetaminophen.
2. Ask the UAP to retake the temperature orally.
3. Auscultate the lung sounds.
4. Observe the chest tube collection chamber drainage.

19. NurseThink® Prioritization Power!

Reflect on Eric's pulmonary status and identify the **Top 3 Priority** Respiratory Interventions.

1. _____
2. _____
3. _____



20. A couple of days later, Eric's chest tube was pulled, and he was ready for discharge. His cytology report came back positive for malignancy, and he was scheduled to see the oncologist the next day for treatment options. Eric asks the nurse if he can "friend" her on social media so they can stay in touch. How should the nurse respond?

1. "Sure, why not. I'd like to hear how you do with your cancer."
2. "I'm not on social media."
3. "It's not considered professional for me to "friend" my patients on social media."
4. "Let me check with my manager; I'm not sure."

Next Gen Clinical Judgment: The National Council State Boards of Nursing (NCSBN) has established guidelines about social media for nurses, as inappropriate posts by nurses have resulted in licensure and legal repercussions.

Scan this QR code to watch a video about the policies of social media. www.ncsbn.org

