NUR 212  
Managing Care  
Case Study  
Mary R, A Patient with Pulmonary Restrictive Disease

You are the nurse assigned to admit Mary R, 38 years old, who is a direct admission from a family practice clinic. No other information is available. You have just been informed that Mary has been brought to the floor and has been assisted into bed.

**Initial Appraisal:**
On walking into her room for the first time, you quickly note the following:

*General appearance:* Mary is an African-American female of small stature. She appears well nourished and is tidy in appearance. She is still fully clothed except for her shoes. She is wearing glasses.

*Signs of Distress:* Mary’s respirations are rapid and appear shallow. She is moving restlessly in the bed. A frequent, harsh cough is heard, and secretions are audible during coughing. Perspiration is noted on Mary’s face.

*Other:* You do not note any intravenous lines or oxygen in use. A man of approximately the same age is in the room with Mary, talking quietly to her. He identifies himself as James, her husband.

**Focused Respiratory Assessment:**
Mary’s clothing is exchanged quickly for a hospital gown to make assessment easier and make her more comfortable. Because Mary appears to be in acute respiratory distress, you immediately perform a rapid assessment focusing first on her pulmonary status. *The results are as follows:* Mary is restless and oriented to person, place, and time. Her respiratory rate is 32/min, shallow, and regular. Her mucous membranes are dusky. Her respirations are labored. She is using accessory muscles in her neck during inspiration. Crackles and wheezes are auscultated in the right middle and right lower lobes of her lungs. A pleural friction rub is auscultated at the right anterior axillary line, fifth intercostal space. Her current blood pressure is 140/88 (baseline according to her husband is 130/76), pulse is 120/min, and temperature is 102 degrees F (orally). She is complaining of increased SOB that does not improve with the HOB raised. Her cough is weak but she is expectorating small amount of thick, green sputum. After this initial assessment (you have no standing orders), you call her admitting physician.

1. Pretend you are the nurse calling the physician, what information would you give him?

The physician gives the following stat phone orders:
- Arterial blood gas (ABG)
- Complete blood cell count (CBC)
- Electrolytes
- Portable chest x-ray
Sputum for culture and gram stain

2. Considering Mary’s symptoms and assuming that the tests cannot all be performed at the same time, prioritize the testing:

Stat Test Results:
Arterial blood gases (on room air)
PH= 7.45, PaCo2= 33, PaO2=68, HCO3= 20, SaO2=90%
WBC= 15,000   Na=142
RBC= 4.8   K=4.5
Hgb=14   Cl=104
Hct= 42%   Ca=9.2

Portable chest x-ray results: Right middle lobe and right lower lobe infiltrates are consistent with pneumonia.
Sputum C&S: Results pending on culture. Gram stain= gram-positive clustered cocci.

3. Which of the following statements is true regarding the laboratory or x-ray data?
   A. The ABG shows evidence of acid-base balance with mild hypoxemia
   B. The electrolytes show evidence of possible overhydration
   C. The CBC does not show evidence of an infectious process
   D. The gram stain is consistent with a viral infection

The results of the ABG, CBC, BMP, chest x-ray, and gram stain are called to the physician immediately and oxygen is initiated at 4L/min via nasal cannula.

4. On closer examination of Mary’s ABG results, the nurse would conclude that the acid-base values could best be explained by her
   A. Crackles and wheezes
   B. Pleural friction rub
   C. Respiratory rate
   D. Shallow breathing

5. You note that Mary is very restless in the bed. This assessment is most likely associated with her
   A. Decreased PaCo2
   B. Decreased PaO2
   C. Increased pH
D. Decreased HCO3

**Focused Nursing History:**
Since Mary is in too much distress to be interviewed directly, you decide to talk with her husband to obtain the most important critical historical data that may have an impact on Mary’s present situation. The complete nursing database will be completed within the first 24 hours postadmission. *Her husband gives the following history:*
Ten day history of common cold symptoms; Four days of increasing fever with chills; Productive cough with green sputum; Difficulty sleeping secondary to cough; C/O increasing SOB; No prescription drugs; Several over-the-counter meds to relieve symptoms (nonnarcotic cough preparation and acetaminophen); C/O transient sharp pain in lower right chest that increase with breathing x 3 days; 20 year history of smoking ½ to 1 pack of cigarettes per day; and no history of ETOH. Mary has an allergy to PCN.

6. Additional priority nursing history data that the nurse should obtain from Mary’s husband is:
   A. Dietary preferences
   B. Usual weight
   C. Preexisting medical conditions
   D. Date of last menstrual period
   E.

**Systemic Bedside Assessment:**
*Head and Neck:* Overall skin coloring difficult to assess d/t fact it is dark. Mucous membranes dusky. Oriented but restless. Slight nasal flaring noted. O2 via n/c at 4L/min. No JVD. No other abnormalities of head and neck noted.
*Chest:* Pulmonary status as previously noted. Cardiac: Adventitious breath sounds make it difficult to clearly discriminate sounds. S1 and S2. No murmur. HR regular at 122/min.
*Abdomen:* Abd. Flat with positive bowel sounds all quads. Soft to palpation. Denies tenderness.
*Pelvis:* Voided 125 ml. of clear, dark amber urine, with specific gravity of 1.030.
*Extremities:* Poor skin turgor. Hot and diaphoretic. No peripheral edema. Nailbeds difficult to assess d/t pigmentation. 3+ peripheral pulses all four extremities.
*Posterior:* No skin breakdown. No sacral edema. Posterior breath sounds: crackles and wheezes on the right side to midlung field.

7. Which of the following best states the cause of Mary’s right-sided crackles? Her crackles:
   A. Probably indicate exudates in the small airways
   B. Are suggestive of bronchoconstriction
   C. Are typical of secretions in the large airways
   D. Result from inflammation of the parietal pleura
8. Development of Nursing Diagnosis: Cluster Your Data (from previous history and physical assessment)

Subjective Data:

Objective Data:

9. Based on these data, which of the following nursing diagnoses would you select as being appropriate in planning Mary’s care?
   A. Impaired gas exchange
   B. Ineffective airway clearance
   C. Ineffective breathing pattern
   D. All of the above

10. List a nursing diagnosis that would cover all of Mary’s respiratory problems:

11. List at least six expected outcomes that would be appropriate for Mary’s diagnosis:
   1. 
   2. 
   3. 
   4. 
   5. 
   6. 

12. Name several non-respiratory nursing diagnosis that could be derived from Mary’s preliminary data:
   1. 
   2. 
   3. 
   4. 
13. List some independent nursing interventions you would perform:
   1. 
   2. 
   3. 
   4. 
   5. 
   6. 

14. List some collaborative Interventions related to Pulmonary Status (physician’s orders may include):
    1. Pulmonary drug therapy:
    2. Laboratory and x-ray testing:
    3. Other departments:
    4. Intravenous fluids: