Student Name: Jacob Zarazua Unit: S5 Pt. Initials: RL Date: 2/24/2021

Adult/Geriatric Critical Thinking Worksheet

1. **Disease Process & Brief Pathophysiology-**	2. **Factors for the Development of the Disease/Acute Illness-**	3. **Signs and Symptoms-**
Pneumonia is an acute bacterial or viral infection. Specific pathophysiological changes related to pneumonia vary according to the offending pathogen. Almost all pathogens trigger an inflammatory response in the lungs. Inflammation, characterized by an increase in blood flow and vascular permeability, activates neutrophils to engulf and kill the offending pathogens. As a result, the inflammatory process attracts more neutrophils, edema of the airways occurs, and fluid leaks from the capillaries and tissues into alveoli causing (consolidation). Normal 02 transport is affected, leading to manifestation of hypoxia (tachypnea, dyspnea, tachycardia). Gas exchange cannot occur. and nonoxygenated blood is shunted into the vascular system, causing hypoxemia. Bacterial pneumonias involve all or part of a lobe, whereas viral pneumonias appear diffusely throughout the lung. Community-acquired pneumonia is the most common. Individuals with community-acquired pneumonia generally do not require hospitalization unless an underlying medical	• Patient older than 50 years of Age. (P) • Patient underlying medical conditions like COPD, cardiac disease, DM or immunocompromised. (P) • Living in extended care facility • Bedrest Prolonged immobility • Recent antibiotic therapy (P) • Smoking • Tracheal Intubation • Air Pollution • Abdominal or chest surgery	• Cough (productive & Non-productive) (P) • Increased sputum (rust colored, discolored, purulent, bloody, or mucoid) production. (P) • Fever • Pleuritic Chest Pain • Dyspnea or Tachypnea (P) • Chills • Headache • Myalgia • Confusion/Disoriented • Restlessness • Decreased Skin Turgor • Dry mucous membranes secondary to dehydration • Use of Accessory Muscles or Respiration (P) • Decreased Breath Sounds (P) • Decreased chest Expansion by Pleuritic pain • Tachycardia • High pitched and inspiratory crackles (rales)

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4. Diagnostic Tests pertinent or confirming of diagnosis-

- History and Physical Examination. (P)
- Chest X-ray (P)
- Sputum: Gram stain, Culture and sensitivity test. (P)
- Pulse oximetry or Arterial Blood Gases (if indicated) (P)
- CBC, White Blood Cell Differential, and routine blood chemistries (if indicated). (P)
- Blood Cultures (if Indicated). (P)

5. Lab Values that may be affected-

Lipid profile, CK-MB, Myoglobin, CBC, CRP

- C: confusion (compared to baseline) (P)
- U: BUN ≥ 20mg/dl (P) 28mg/dL
- R: Respiratory Rate ≥30 beats/min (P) 23b/min
- B: Systolic blood pressure < 90mmHg or diastolic blood pressure ≤ 60 mmHg (P) 122/42
- 65: ≥ Age 65 yr. (P) 83 yr. old
- LDH: > 230 µ/L
- Albumin: < 3.5 g/dL (P) 1.9 g/dL
- Platelet Count: < 100 x 10Λ9/L (P) 395
- WBC: (P) 17.81
- ABG: (P)
  (Ph 7.45, Co2 37.7, 02 57.7, Hco3 25.6, Sao2 90)

6. Current Treatment-

- Incentive Spirometry when he is able to. (P)
- Oxygen via Bipap (P)
- Pulse Ox Monitoring as well Telemetry (P)
- Respiratory Therapy rounding and monitoring patient. (P)
- Increase Mobility with PT (P)
- Started Antibiotics (P)
- Resuming home medications (P)

7. Focused Nursing Diagnosis:

- Impaired Gas Exchange

8. Related to (r/t):

- Patient underlying medical conditions like COPD, cardiac disease, DM or immunocompromised. (My Patient has history of CHF, HNT, Sleep Apnea)

9.As evidenced by (aeb):

- Pt. is currently on Bipap eventually be able to get him on Nasal Cannula and maintain sats above 92%.
- Decrease oxygen saturation during coughing spells
- Medications to reduce cough and loosen secretions.
- Pt. was having issues with dyspnea 2 wks ago and progressed.
- Was not able to perform Incentive Spirometry
- Pt. had Clear Breath Sounds in the upper lobes posterior and anterior but diminished in the lower lobes bilaterally.

10.Desired patient outcome:

- Pt. can be back to normal with no oxygen and able to ambulate to and from the restroom on his own. While maintaining at least 92% oxygen saturation
- Pt's need for oxygen decreased. To hopefully not need oxygen because patient never worn oxygen before prior to visit.
- Pt. can independently perform ADLs and know when to take a break and avoid any exertion as well have him have the strength to not fall.

11. Nursing Interventions related to the Nursing Diagnosis in #7:

- Administer Oxygen as prescribed and monitor oximetry reading; report O2 saturation of 90% or Lower.

Evidence Based Practice: Oxygen saturation of less than 92% is a sign of significant oxygenation problem and can indicate for increase in 02 therapy due to impaired gas exchange.

- Position the patient for comfort while also increasing oxygen when laying/sitting.

Evidence Based Practice: Semi fowlers position provides comfort, promotes diaphragmatic descent, maximized inhalations, and decrease work of breathing. Gravity and hydrostatic pressure when the patient is in the position promotes perfusion and Ventilation.

- Maintain prescribed activity levels to maintain/increase lung expansion thus improving gas exchange.

Evidenced Based Practice: Prescribed activity level will increase the patient's stamina while minimizing dyspnea and increasing lung expansion and gas exchange.

12. Patient Teaching:

1.Teach Pt. how to properly use the Incentive Spirometer and pt. is able to demonstrate it back to you. This would help him increase his lung expansion and increase gas exchange.

2.Teach the patient the importance of preventing fatigue by pacing activities and allowing frequent rest periods. This will help patient by not exacerbating himself and impairing his respiratory drive/ status.

3.Teach patient techniques that promote gas exchange by expanding the alveoli and help mobilize secretions to the airways, coughing further mobilizes, and clears the secretions.

4.Teach the patient to splint the chest with a pillow, folded blanket or crossed arms. Reduces pain while coughing, thereby promoting a more effective cough

13. Discharge Planning/Community Resources:

1).Have Respiratory Therapy help with getting patient necessary oxygen and tubing if needed for home discharge as well teach about any nebs if they are taking.

2.) Consult case management on helping patient minimize factors that can cause reinfection, including close living conditions, poor nutrition, and poorly ventilation living quarters. As well making sure he is has his cpap machine working properly because he has history of Sleep Apnea.

3.) Consult physical therapy for any needed adjustments at home to minimize pt. exertion/fatigue and loss of balance.

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