

Gas Exchange Paper

COPD

It's a term for two different diseases emphysema and bronchitis. Half of those with COPD have symptoms and have not noticed yet. Getting screening done early can prevent extra lung damage from not noticing symptoms. With emphysema the damage takes place within the alveolar walls and the volume of air exchanged in the lungs decreases. With COPD the lungs become clogged with mucus, phlegm and inflammation which can make breathing difficult. One can have both at the same time the term COPD is used for having both Emphysema and Bronchitis. COPD can be caused by smoking, pollution, dust, chemicals and fumes from the work place. Sometimes it can be from genetics even those who do not smoke. COPD is progressive and can start with no symptoms then move up to a cough persisting for longer than 3 months that is productive with mucous. Other symptoms may include dyspnea, and frequent respiratory infections, along with the cold and flu. More serious symptoms include fevers and headache due to high Co₂ in the blood, cyanosis due to low O₂ and barrel chest, clubbing. A ABG test will be done to determine the damage to the lungs. Changes in lifestyle can slow the process. Bronchodilators may be used along with corticosteroids to help manage symptoms.

Tuberculosis

IS a contagious bacterial infection that begins in the lungs and spreads throughout the body. It is known to be one of the oldest diseases. One third of the world's population has it some without knowledge. It is highly contagious and is concentrated in areas with high population around the world, such as parts of Asia, India, and African. There is multi drug resistant TB which is harder to get rid of. It can be the latent form or an active form. The latent form is kept latent by a persons immune system, if the system weakens it can become active. Symptoms include night sweats, productive cough with sputum, malaise, and fatigue. Common tests include chest x rays, and sputum analysis. When treating latent TB Rifampin and Pyrazinamide should not be used together because they can cause liver damage. Active Tb can be treated by Rifampin, Pyrazinamide, Isoniazid, and Ethambutol.

Pneumonia

Those at risk are Children below 2, elderly over 65, smokers, and the immunocompromised. Hospital acquired pneumonia is more resistant therefore more dangerous. Though all the other types should be taken as seriously. Chest x-ray and CT scans can be used to check for fluid in the lungs. Treatments include drawing of cultures before antibiotics are given and giving the antibiotics within six hours. If it is viral antivirals will be used. Bacteremia can lead to sepsis if the infection spreads to different organs through the blood stream. Vaccines are recommended to those over 65 and those who are immunocompromised

Sleep apnea

Your tongue can obstruct your airway when sleeping which causes periods of apnea. Your body can wake you up throughout the night because it is not getting enough oxygen. Risk factors include being male, and being overweight. Things that make it worse can be laying in supine position, and being in REM sleep. Treatment includes CPAP machine or procedures to open the airway such as a uvulectomy to move the uvula out of the airway.

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Chest Tubes

Chest tubes are inserted into the pleural space to release air or fluid, so that the lung can expand. They can be needed to drain a pneumothorax (air in space) or a hemothorax (blood in space). Cardiac patients may get one in the mediastinum space to drain fluid or blood to reduce pressure on the heart. There are different types of chest tube drainage systems. The main ones are the wet suction and the dry suction. If you see bubbling there could be an air leak. The suction between the two work differently. Wet Suction the nurses will put the water to the fill line then connect it to the suction. There will be gentle bubbling. The physician will order how much suction. The nurse is responsible for monitoring respiratory status, the drain system, and troubleshooting if there's an issue. The tubing and system should be draining below the chest. If the chest tube becomes dislodged the site should be covered with sterile dressing with tape on each side. Call physician immediately. Do not milk the tubing. Always follow hospital protocol. At the bedside the Physician and nurse will remove tube together. Nurse will get supplies. Valsalva maneuver is used to prevent air from entering space. After removal nurse will monitor patient, and a chest Xray will be ordered.

Sources: Clearly, M.-M. L. E. (2012, October 4). *Obstructive Sleep Apnea Explained*

Clearly - Pathophysiology, Diagnosis, Treatment [Video]. YouTube.

<https://www.youtube.com/watch?v=NZszF7OaDVE&feature=youtu.be>

E. (2015a, March 10). *Pneumonia* [Video]. YouTube. [https://www.youtube.com/watch?](https://www.youtube.com/watch?v=rIuqrajIKis&feature=youtu.be)

[v=rIuqrajIKis&feature=youtu.be](https://www.youtube.com/watch?v=rIuqrajIKis&feature=youtu.be)

E. (2015b, April 21). *Tuberculosis* [Video]. YouTube. [https://www.youtube.com/watch?v=G_X-](https://www.youtube.com/watch?v=G_X-9577rxs&feature=youtu.be)

[9577rxs&feature=youtu.be](https://www.youtube.com/watch?v=G_X-9577rxs&feature=youtu.be)

E. (2016a, January 11). *Emphysema & Bronchitis: COPD* [Video]. YouTube.

<https://www.youtube.com/watch?v=9Rr-7PMEhiU&feature=youtu.be>

R. (2016b, August 3). *Chest Tubes Nursing Care Management Assessment NCLEX Review*

Drainage System [Video]. YouTube. [https://www.youtube.com/watch?v=JB-](https://www.youtube.com/watch?v=JB-CqwMyrTM&feature=youtu.be)

[CqwMyrTM&feature=youtu.be](https://www.youtube.com/watch?v=JB-CqwMyrTM&feature=youtu.be)

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