

Gas Exchange Paper

There are quite a few new things that I learned from each of the YouTube videos. The first video I watched was over tuberculosis. I learned that it begins in the lungs, but it can also be spread to any organ. It is rare when this happens and is known as extrapulmonary or disseminated TB. It travels via the lymph nodes and the blood stream. TB is known to be one of the oldest diseases among humans, and today it is one of the leading causes of infection and death in adults. One third of the world's population suffers at present from this disease. The infection starts when particles are small enough cross the upper respiratory tract and reach the lungs.

The second video I watched was over Chronic Obstructive Pulmonary Disease, or COPD. This term is used for two different chronic lung diseases, which are emphysema and chronic bronchitis. These diseases hinder breathing by limiting lung airflow and becoming more severe with time. COPD is the 4th leading cause of death in the United States. With emphysema, the main damage takes place in the alveolar walls. Surface area for gaseous exchange is reduced because alveoli are damaged and there are few big ones instead of many tiny ones. In chronic bronchitis, the lining of the air passages is clogged with mucus/phlegm due to chronic inflammation, irritation, and swelling. It is common for both types of COPD to occur together. It is caused by inhaling pollutants like smoke, fumes, chemicals, or dust. Emphysema is a progressive disease with symptoms getting worse as time goes on. Although it is irreversible, there are things that can slow it down, like medications and lifestyle changes.

The video over sleep apnea is what I watched next. Sleep apnea is when you stop breathing because of an obstruction. In sleep, your muscles also go to sleep and become flexible. Your tongue muscle tends to fall back especially when you are laying on your back. No air is getting in, so your pulse oximetry drops, and this notifies your brain, creating a pattern of a cessation of breathing. Males are most at risk for experiencing this, but women become just as much at risk after menopause. They store more fat in their neck and stop breathing more during sleep. Obesity, race, nasal obstruction, genetic factors, and age are more risk factors to this.

Pneumonia is due to inflammation of the alveoli and surrounding tissues. The air sacks, or alveoli, are filled with pus and the inflammation makes it difficult to breathe. Pneumonia is classified based on how the infection was acquired, such as community, hospital, or aspiration. Lung sounds of pneumonia in areas with liquids are diminished or crackling. A chest x-ray confirms a patient has pneumonia, but a sputum or blood test will indicate the organism causing the infection so that it may be treated with the correct antibiotics.

The last video I watched was over chest tubes. A chest tube might be inserted into the pleural space to remove air or fluid to help the lungs re-expand. Or it might be inserted in the mediastinum space and placed under the sternum to drain fluid from around the heart after cardiac surgery. There are important nursing interventions in place so that the chest tube will be safely maintained. Respiratory status of the patient must be closely monitored, along with the drain system itself. We must also know what to do when things go wrong with the system or the patient.

Overall, these videos were a great help to better my understanding of these diseases before I learned more about them in class. I got valuable information as well as interesting little facts here and there.