**Task 3 – Disease Report Chloe Hodgkiss**

**Cystic fibrosis**

Cystic fibrosis is an inherited disorder that causes damage to the lungs, digestive system, and other organs in the body. As cystic fibrosis is a disease that is inherited, it is caused by a defect (mutation) within a gene (cystic fibrosis transmembrane conductance regulator) which changes a protein that regulates the movement of salt in our cells. This results in a thick, sticky mucus in the respiratory, digestive, and reproductive systems, as well as an increased salt in sweat. The severity of the condition is associated with the type of gene mutation as many different defects can occur within the gene.

Cystic fibrosis is diagnosed by genetic testing, sweat testing and immunoreactive trypsinogen in blood.

The symptoms of cystic fibrosis also vary on the severity of the disease, some common ones are, inflamed pancreas, infertility and recurring pneumonia, wheezing as well as poor weight gain and growth. Symptoms can also cause more serious complications in the body’s systems. Such as damaged airways, chronical infections and coughing up blood (haemoptysis) are all respiratory system complications. Some digestive complications include nutritional deficiencies, diabetes, and liver disease.

This disease cannot be cured but there are several treatment options available to help manage symptoms and reduce complications. A Treatment option is an inhaled medication called bronchodilators; they can help keep the airways open by relaxing the muscles around your bronchial tubes in the lungs. This medication is distributed through devices like inhalers which work by just breathing in the contents once the pump is pushed. There is also a vest therapy that is available which also aims to clear up the mucus from the airway walls and lead It to the large airways. This technique is quite common to help loosen mucus, it requires clapping with cupped hands on the front and back of the chest.

As cystic fibrosis is an inherited disease, it means that the child needs to inherit one copy of the gene from each parent in order to have cystic fibrosis. If the child only inherits one copy of the mutated gene the child can still become a carrier of the disease. Genetic testing is an option that can be used to determine whether both partners have the gene and are at risk of carrying it on to their children. The reproductive complications of cystic fibrosis can affect both men and women, With infertility in men and reduced fertility in women.

**Pneumonia**

Pneumonia is an infection that inflames the air sacs in one or both of the lungs. The tiny air sacs may fill with fluid or pus. Pneumonia can range in seriousness from mild to life-threatening.

Signs and symptoms of pneumonia vary from mild to sever depending on factors such as the type of germ causing the infection and overall health. Some symptoms include chest pain when you breathe or cough, fatigue, coughing up phlegm and nausea. These signs are different in newborns and infants as they may not show any signs of the infection causing a serious and more developed case of pneumonia, as well as in adults that have heart failure or chronic lung problems can cause pneumonia to quickly become a life-threatening condition.

Pneumonia can be diagnosed by doing a physical examination with a stethoscope by listening to the lungs to check for abnormal bubbling or crackling sounds while breathing that could suggest pneumonia

There are many germs that can cause pneumonia, the most common ones and bacteria and viruses within the air we breathe. Our bodies and immune system usually prevent these germs from infecting the lungs but sometimes these germs can overpower the immune system. Bacteria is the most common cause of pneumonia, while there is also viral pneumonia that Is caused by viruses. Bacterial pneumonia can occur on its own or after you’ve previously had a cold or the flu as well as an infection within the lung. While viral pneumonia commonly occurs is children younger than 5 years, while usually being mild some cases can become very serious like covid can cause more serious cases.

Depending on the cause of the infection, symptoms and the severity of the case, pneumonia can be treated via medications, therapy, and self-care. Antibiotics can treat cases of bacterial pneumonia while viral infections cannot be cured by antibiotics and are cured by antivirals, both methods in which help to work with the immune system to fight against the infection in the lungs. Oxygen therapy is also a treatment that is used to help maintain the oxygen level in the blood by delivering oxygen for you to breathe through tubes resting in your nose, a face mask or tubes placed in your trachea. Self-care treatment options are used for mild cases of pneumonia, resting, and drinking plenty of fluids which help the body recover faster without causing any further problems.

There are many options available for pneumonia prevention, these including vaccinations which can prevent some types of pneumonia and the flu. Practising good hygiene and sleeping are also helpful things to do to prevent pneumonia to protect yourself from respiratory infections that can sometimes lead to pneumonia, like washing hands regularly, using hand sanitiser, getting enough sleep, and exercising to better your immune system and overall health.

[Pneumonia - causes, symptoms and treatments | healthdirect](https://www.healthdirect.gov.au/pneumonia#prevented)

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