

***Human Biology ATAR – Task 3: Extended Response***

***Lung diseases and treatments (7.5%)***

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| --- | --- | --- | --- |
| Name: Oluwaseun Olatunji | | | |
| Time allowed: 1 Lessons | | | |
| **Section** | Your Mark | Marks available | Percentage |
| **Section 1:**  Report |  | 10 | 18.5% |
| **Section 2**:  Validation Test |  | 44 | 81.5% |
|  |  | **54** | **100%** |

**Declaration of Authenticity**

I (Student Name) \_\_\_\_\_Oluwaseun Olatunji\_\_\_\_\_\_\_\_\_ declare that this work is my own and I have not plagiarised from any source.

Signature:  
  
Date:

**Lung disease and treatments**

You are to choose **one** lung disease from List A and **one** disease from List B to research and find information about the named aspects of each disease. You will then complete an in-class validation assessment on your research without notes.

DISEASES

|  |  |
| --- | --- |
| **LIST A** | **LIST B** |
| Chronic bronchitis | Pneumonia |
| Emphysema | Pleurisy |
| Cystic fibrosis | Tuberculosis |

Check list

* Cause, or main causes
* Symptoms and diagnosis
* Current treatments…how they work and what they do
* Prevention

Write the names of the diseases you have chosen here:

Disease A - Chronic bronchitis

Disease B - Pneumonia

**Marks Table**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Report** | **Cause** | **Symptoms** | **Treatments** | **Prevention** | **Marks** | Your mark |
| **Disease A** | 1 | 1 | 1 | 1 | 5 |  |
| **Disease B** | 1 | 1 | 1 | 1 | 5 |  |

This sheet is to be the cover page of your report

**Chronic Bronchitis**

Chronic bronchitis is inflammation (swelling) and irritation of the bronchial tubes. These tubes are the airways that carry air to and from the air sacs in your lungs. The irritation of the tubes causes mucus to build up. This mucus and the swelling of the tubes make it harder for your lungs to move oxygen in and carbon dioxide out of your body.

*Cause*:

Causes of chronic bronchitis is usually long-term exposure to irritants that damage your lungs and airways. include second-hand smoke, air pollution, and chemical fumes or dusts from the environment or workplace.

*Symptoms:*

* Frequent coughing or a cough that produces a lot mucus
* Wheezing
* A whistling or squeaky sound when you breathe
* Shortness of breath, especially with physical activity
* Tightness in your chest

Some people with chronic bronchitis get frequent respiratory infections such as colds and the flu. In severe cases, chronic bronchitis can cause weight loss, weakness in your lower muscles, and swelling in your ankles, feet, or legs.

*Diagnose*

* A medical history, which includes asking about individual’s symptoms
* A family history
* Various tests, such as lung function tests, a chest x-ray or CT scan, and blood tests

*Treatments:*

There is no cure for chronic bronchitis but there are ways to slow the progress the disease and improve ability to stay active such as:

Lifestyle changes

* Quitting smoking. This is the most important step you can take to treat chronic bronchitis.
* Avoiding second-hand smoke and places where with the potential of breathing in other lung irritants

Medicines

* Bronchodilators, which relax the muscles around your airways. This helps open airways and makes breathing easier. Most bronchodilators are taken through inhalers. In more severe cases, the inhaler may also contain steroids to reduce inflammation.
* Vaccines for the flu and pneumococcal pneumonia, since people with chronic bronchitis are at higher risk for serious problems from these diseases.

Oxygen therapy

* Having severe chronic bronchitis and low levels of oxygen in your blood. Oxygen therapy can help with breathing better.

*Prevention:*

Smoking causes most cases of chronic bronchitis, the best way to prevent it is to not smoke. It's also important to try to avoid lung irritants such as second-hand smoke, air pollution, chemical fumes, and dusts.

**Pneumonia**

Pneumonia is an infection in one or both of the lungs. It causes the air sacs of the lungs to fill up with fluid or pus.

*Cause*:

Bacterial

* Bacteria are the most common cause. Bacterial pneumonia can occur on its own. It can also develop after certain viral infections such as a cold or the flu

Viral

* Viruses that infect the respiratory tract may cause pneumonia. Viral pneumonia is often mild and goes away on its own within a few weeks

Fungal

* Fungal pneumonia is more common in people who have chronic health problems or weakened immune systems

*Symptoms:*

* **Cough**: A persistent cough that may produce mucus or phlegm is a common symptom of pneumonia.
* **Shortness of breath**: Difficulty breathing or feeling short of breath, especially during physical activity or exertion, is another common symptom.
* **Chest pain**: Pain or discomfort in the chest area, especially when coughing or breathing deeply, may be a sign of pneumonia.
* **Fever**: A high fever, typically over 100.4 degrees Fahrenheit, is often present with pneumonia.
* **Chills and sweating**: A person with pneumonia may experience chills and sweats, particularly during fever spikes.
* **Fatigue**: Feeling unusually tired or weak is a common symptom of pneumonia.
* **Muscle aches**: Aches and pains in the muscles, especially in the back and legs, are another common symptom.
* **Headache**: A headache, particularly one that is severe or persistent, can be a sign of pneumonia.
* **Nausea and vomiting**: Some people with pneumonia may experience nausea and vomiting, especially if they have a high fever.
* **Confusion or disorientation**: In severe cases of pneumonia, particularly in older adults, confusion or disorientation may occur.

*Diagnose*

* A medical history, which includes asking about your symptoms
* A physical exam, including listening to your lungs with a stethoscope
* Various tests, such as
* A chest x-rays
* Blood tests such as a complete blood count (CBC) to see if your immune system is actively fighting an infection
* A Blood culture to find out whether you have a bacterial infection that has spread to your bloodstream

*Treatments*:

* **Antibiotics:** If the pneumonia is caused by bacteria, antibiotics will be prescribed to kill the bacteria. It's important to take the full course of antibiotics as directed, even if symptoms improve.
* **Antivirals**: If the pneumonia is caused by a virus, antiviral medications may be prescribed to help reduce symptoms and speed up recovery.
* **Antifungals**: If the pneumonia is caused by a fungus, antifungal medications may be prescribed to treat the infection.
* **Fever reducers**: Over-the-counter medications such as acetaminophen or ibuprofen can help reduce fever and relieve pain.
* **Oxygen therapy**: If the person with pneumonia is having difficulty breathing, supplemental oxygen may be given to help them breathe easier.
* **IV fluids**: If the person with pneumonia is dehydrated, intravenous fluids may be given to help replace fluids and electrolytes.
* **Rest and hydration**: Resting and drinking plenty of fluids can help the body fight the infection and speed up recovery.
* **Breathing treatments**: In some cases, breathing treatments such as nebulizers or inhalers may be prescribed to help open up the airways and ease breathing.

*Prevention:*

* **Vaccination**: Vaccination is the most effective way to prevent certain types of pneumonia, such as pneumococcal pneumonia and influenza. The Centres for Disease Control and Prevention (CDC) recommends routine vaccination for adults over 65, those with certain medical conditions, and children.
* **Avoiding smoking**: Smoking damages the lungs and increases the risk of developing pneumonia. Quitting smoking or avoiding exposure to second-hand smoke can help reduce the risk of pneumonia.
* **Managing chronic conditions**: Chronic conditions such as diabetes, heart disease, and lung disease can increase the risk of pneumonia. Proper management of these conditions can help reduce the risk of infection.
* **Avoiding close contact**: Avoiding close contact with people who are sick, especially those with respiratory infections, can help reduce the risk of pneumonia.
* **Good hygiene**: Covering the mouth and nose with a tissue or sleeve when coughing or sneezing can help reduce the spread of germs, and having good hand hygiene
* **Keeping the immune system strong**: Getting enough sleep, exercise, and proper nutrition can help keep the immune system strong and reduce the risk of pneumonia.