

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

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

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| --- | --- | --- | --- |
| Name: Layla keep | | | |
| 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) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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: Emphysema

Disease B: pleurisy

**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

**Emphysema:** A lung condition that causes shortness of breath

**Causes:** the main causes of emphysema is long term exposure to airborne irritants which include: smoking tobacco for an extended period of time, smoking marijuana for an extended period of time, air pollution, and chemical fumes and dust.

**Symptoms:** emphysema is a disease that can go unnoticed for years due to no signs or symptoms of the disease. The main symptom is shortness of breath that people notice and it occurs gradually. One shortness of breath occurs people tend to try avoid tasks that give them shortness of breath. It isn’t until it interferes with everyday life that some people will get it checked out. Other symptoms can include, fingernails or lips turning blue or Gray with exertion, and not mentally alert. Once experiencing shortness of breath that is unexplained for several months it is highly recommended that you see a medical professional especially if it is affecting every day life.

**Current treatments:** emphysema cannot be cured but can be treated to help relieve the symptoms and slow the progression. There are three treatment courses that can be taken depending on the severity of your symptoms. The first is medication: bronchodilators: these drugs relieve coughing, shortness of breath and breathing problems by relaxing any airways that are constricted, inhaled steroids: corticosteroid drugs inhaled as aerosol spray reduce inflammation and may help relieve shortness of breath, antibiotics: if you have a bacterial infection, like acute bronchitis or pneumonia, antibiotics are appropriate. The second treatment option is therapy: pulmonary rehabilitation: teaches you breathing exercised and techniques that may help reduce your breathlessness and improve ability of exercise. Nutrition therapy: in the early stages of emphysema many people need to loose weight, while people in the later stages need to gain weight this treatment gives people advice about the proper nutrition. Supplemental oxygen: severe emphysema can lead to low blood oxygen levels, using oxygen at home regularly when you exercise may provide some relief. Many people use oxygen 24 hours a day administered via narrow tubing that fits into your nostrils. Or surgery depending on the severity of your emphysema: lung volume reduction surgery: this procedure involves removing small wedges of damaged lung tissue. Removing the diseased tissue helps the remaining lung tissue expand and work more efficiently to improve breathing. Lung transplant: is only available if all other options have failed and the lung damage is severe.

**Diagnosis:** when diagnosing someone with emphysema your doctor will ask about your medical history and do a physical exam. After that the doctor may request a variety of tests, including, imaging testing, the doctor will request a chest x-ray to support their diagnosis and rule out other possible causes of shortness of breath. You may also have a computerized tomography (CT) scan if you are a possible candidate for lung surgery, due to a CT being x-rays taken from multiple angles to provide a cross sectional view of internal organs helping to diagnose emphysema. Lab tests such as blood tests can be taken from an artery in your wrist to determine how well your lungs transfer oxygen into and remove carbon dioxide from the blood stream. Lung function tests are non-invasive measures of how much air a persons lungs can hold and how well the air flows in and out of the lungs. They can also measure how well your lungs deliver oxygen to the bloodstream.

**Prevention:** to prevent emphysema, don’t smoke, try to avoid being around smokers to avoid second hand smoke and where masks to protect your lungs from any chemical fumes of dust if working in an environment where you are at risk of inhalation.

**Pleurisy:** a condition in which the pleura (two large thin layers of tissue that separates the lungs from the chest wall) becomes inflamed. Also called pleuritis, pleurisy causes sharp chest pain that worsens during breathing.

**Causes:** Causes of pleurisy include viral infections, bacterial infections, fungal infections, autoimmune disorder such as rheumatoid arthritis, lung cancer near the pleural surface, pulmonary embolism, tuberculosis, rib fracture or trauma, certain inherited diseases and certain medications and recreational drugs

**Symptoms**: Some signs and symptoms of pleurisy can include chest pain that gets worse when you breathe cough and/or sneeze, shortness of breath- often from trying to limit breathing in and out due to pain. Coughing in some cases and fever in some cases

**Diagnosis:** to determine if you have pleurisy and how severe your case is your medical professional may advise that you get a series of tests done which could include: blood tests to determine if you have an infection, or autoimmune disease. A chest x-ray to show if your lungs are fully inflating or if there is fluid between the lungs and ribs. CT scan to see the condition of the pleura and show any other possible causes of pain. Ultrasound to determine whether you have a pleural effusion. Electrocardiogram to monitor the heart to rule out other possible causes for chest pain. In some other cases the medical professional may choose to remove fluid and tissue from the pleural space for testing. They can do this by doing a thoracentesis, where after using a local numbing agent is injected between your ribs into the area which the fluid was seen on your imaging studies. A needle is then inserted through your chest wall between your ribs to remove fluid for lab analysis. Doing this can also help improve breathing. It is done with the assistance of an ultrasound. Or a thoracoscopy or also called a fluoroscopy may be performed. During this procedure a tiny camera is inserted through a small cut in your chest wall allowing for direct view inside your chest to look for any problems or to get a tissue sample.

**Treatment:** treatment for pleurisy focuses primarily on the underlying causes and treats them accordingly. The pain and inflammation associated with pleurisy is usually treated with nonsteroidal anti-inflammatory drugs such as ibuprofen. On occasion a health care may prescribe steroid medication. The outcome of pleurisy treatment depends on the severity of the case of the underlying cause. Diagnosing and treating the condition that caused a persons pleurisy early can help you feel better. Depending on the cause and condition you may make a full recovery. Some steps you can take at home to help relieve the symptoms related to pleurisy include taking medication that is recommended by your health care provider to relieve pain and inflammation, getting plenty of rest, find the position that is most comfortable when resting when feeling better be careful to not overdo it. And not smoking as this can cause more irritation to the lungs

**Prevention:** pleurisy can be prevented by avoiding lung infections and environmental causes of pleurisy such as asbestos exposure. To prevent infection wash your hands before touching your face or eating and after using the washroom, and avoiding contact with people who have serious respiratory conditions