



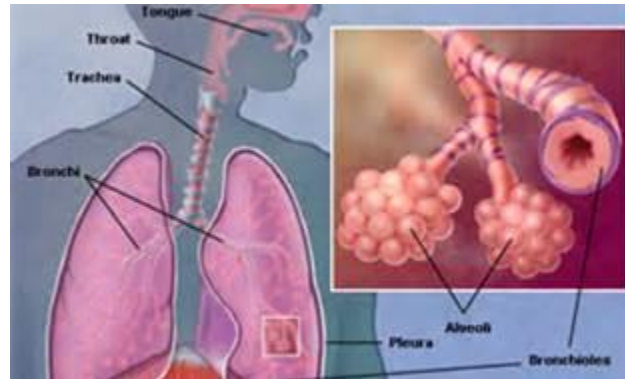
**Lifespan Cardiovascular Institute**

**Rhode Island Hospital • The Miriam Hospital  
Newport Hospital**

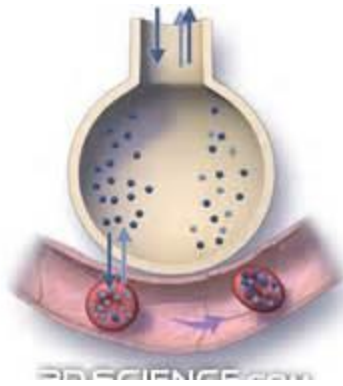
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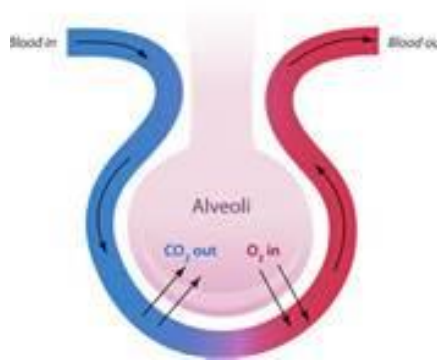
# How does the Oxygen get into your body?



- When you inhale room air, you are breathing in about 21% Oxygen and 1% Carbon Dioxide
- The air flows down through your lungs until it gets to the very ends of the airways.
- These parts of the lung are called alveoli



Pulmonary Gas Exchange



- The alveoli are like air bubbles. This is where the oxygen transfers into your blood stream.
- At the same time, the CO<sub>2</sub> transfers back into your lungs so you can blow it out.
- Different lung diseases can interfere with the O<sub>2</sub> and CO<sub>2</sub> trading places in different ways.

# 2 ways oxygen can be measured

- **Blood Gases**
  - ABG: arterial blood gases
  - This test uses a blood sample to determine how much O<sub>2</sub> and CO<sub>2</sub> you have in your body.
  - Less than 55 mmHg would qualify someone for home O<sub>2</sub>



# 2 ways oxygen can be measured

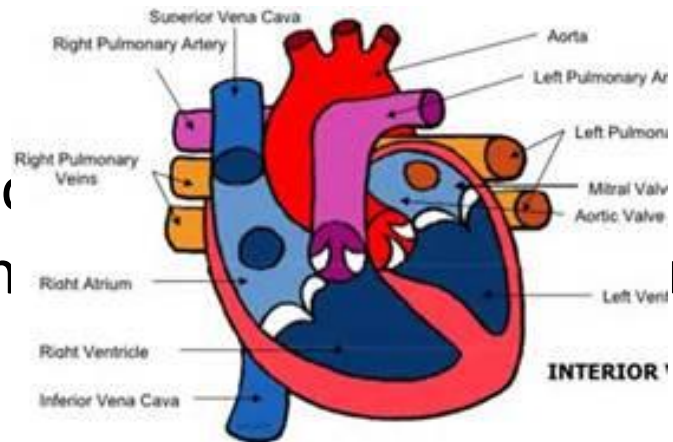
- **Pulse Oximetry**
  - This device is an estimate of how much O<sub>2</sub> is in your blood.
  - It can only measure O<sub>2</sub>, not CO<sub>2</sub> levels
  - Not as accurate as an ABG, but convenient
  - SPO<sub>2</sub> of <88% would qualify someone for home O<sub>2</sub>



# What happens when your O2 level is too low?

- Hypoxemia means that the O2 levels in your blood are too low. It can cause some long term problems:
  - Vasconstriction: blood vessels get narrower, so the heart has to work harder to pump blood through the lungs. Over time the heart can weaken because of this.

- The body may make compensate for the low O2 levels such as blood clots, high blood pressure, and other problems



# Other systems can be affected as well:

- Mobility problems:
  - Low endurance
  - Muscle fatigue
- Brain function:
  - Poor concentration/attention
  - Memory problems



m solving







# Will I get addicted to Oxygen?

- Oxygen is not addictive. It is a medication that is used to treat a chronic illness. It can offset the effects of low oxygen in the blood on your body.
- “The benefits of O<sub>2</sub> are well-known and measureable. Compare the benefits with feeling tired, out of breath and not well”



# Why do I feel so out of breath when my O2 reading is in the 90's??

– The oximeter reads your O2 levels only, not your CO2 levels. The fatigue and breathlessness can also be related to muscular weakness and poor endurance.

## • Why do I feel fine when my O2 reading is in the 80's?

– Some people can adjust to a certain oxygen in their body over time and decrease. The effect is still the same



# Types of Oxygen-There are way more options available now!



# O2 Safety

- O2 canisters should be kept at least 5-10 feet away from gas stoves and open flames
- Do not use an electric razor while on O2
- Do not use oil, grease or petroleum products on the O2 equipment or on your body
- No smoking should occur in the home or car while O2 is in use
- **Use caution with the tubing so you don't trip**
- Make sure that you have working smoke detectors in the home.