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Lab 14 :)

November 16, 2023

Purpose: In this laboratory, the lung capacities of tidal volume, vital capacity, inspiratory capacity, inspiratory reserve volume, expiratory capacity and expiratory reserve volume will be recorded for student volunteers. The timed vital capacity (TVC) or forced expiratory volume will also be calculated for these students. The students will be introduced to the use of theory behind incentive inspiratory devices and a portable spirometer. Impedance pneumography, the measurement of ventilation rates by recording the changing impedance of an expanding and contracting thorax, may be demonstrated

Procedure:

1) Open the grey plastic box on your lab desk that says “BASELINE” Lung Capacity Spirometer” on the lid. Inside the lid of the box is a white paper that has specific instructions, please read the whole inside page with “how to use”.

2) Insert the clear plastic mouthpiece on the “Windmill-Type” spirometer and make sure the measurement indicator is at zero position before beginning.

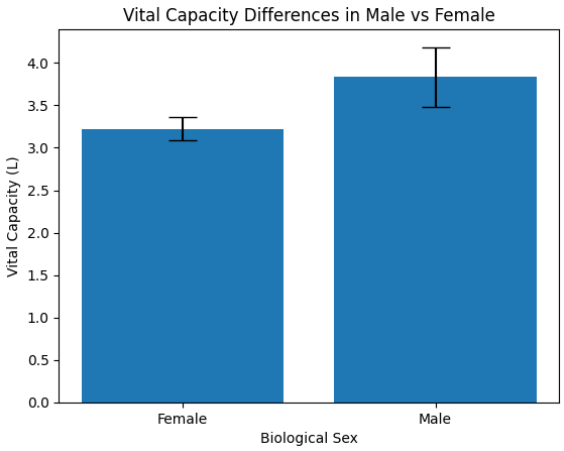
3) Make sure you only exhale into the spirometer, DO NOT inhale from it.

4) After exhaling, record the measurement from the the spirometer. Be sure to place your used plastic mouthpiece in the correct tub after use (the tub is labeled).

5)Calculate your predicted vital capacity from the nomograms available in the lab. Using a straightedge, make a line matching your height and age to the vital capacity prediction. Note that the VC is in liters whereas other measurements have been taken in milliliters.

6) Compare the values obtained from the portable spirometer, the predicted values from the nomograms, and the value obtained from the Koko spirometer, if available. How can your account for any differences?

Results:



Discussion: I have observed that the comparison between male and female, that the male has more vital capacity.

Conclusion: An incentive spirometer helps prevent lung infections by expanding your lungs, strengthening your lungs, keeping your lungs inflated and clearing mucus and other secretions from your chest and lungs Lung capacities are derived from a summation of different lung volumes. The average total lung capacity of an adult human male is about 6 liters of air.

Terminal value (TV) determines the value of a business or project beyond the forecast period when future cash flows can be estimated.Volume indicates the total amount of space covered by an object in three-dimensional space. Capacity refers to the ability of something (like a solid substance, gas or liquid) to hold, absorb or receive by an object. Both solid and hollow objects have volume. Only hollow objects have the capacity.