

BI-374
Pulmonary Function Lab Introduction

Originally prepared by Dr. R. Gerrits, Revised and distributed by Dr. C. Tritt
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Pulmonary function tests are commonly administered to individuals suspected of having changes in the anatomical nature of their pulmonary system. These tests determine if lung volumes and capacities fall within normal values.

Assignment:

1. Perform the Biopac Pulmonary Function procedures for measuring tidal volume, inspiratory reserve volume and expiratory reserve volume.
2. Obtain these values from your results, along with your predicted vital capacities (note that when calculating predicted vital capacities, 1 inch = 2.54 cm).
3. Write a report on your results. Follow the format of the reports that you wrote in biology class (Introduction, Hypothesis, Background, Procedures, Results and Discussion sections). Use the following hypotheses for your experiments.
 - a. Tidal volume will be 500 ml.
 - a. Inspiratory reserve volume will be 1900 ml.
 - b. Expiratory reserve volume will be 700 ml.
 - c. The vital capacity correlation equation given in the procedures provides an accurate estimate of individual's vital capacities.
4. Reports are due 5/2/06. Pool your data by submitting it (individual TV, IRV, ERV and VC values) via e-mail to Dr. Tritt by 4/18/06 (but remember, we don't have class next week). He will redistribute it via e-mail as an Excel spreadsheet by 4/24/06. You may work in groups of up to 3 and submit a single report for your entire group.

Your data should be submitted as an Excel spreadsheet in a single row in the following sequence: Your Initials, Gender (M or F), Age (years), Height (cm), Weight (kg), TV (in ml), IRV (in ml) and ERV (in ml). Note: you must follow this format for full credit!