

Muscle Fatigue Lab

Muscle Fatigue Lab	
Experimental variable	
Dependent variable	
Problem statement	
Hypothesis	
Control	

Procedure

Materials needed: tennis ball, clock with a second hand or a timer

If you have someone at your table who can count and watch the second hand as you squeeze the tennis ball, ask him or her to assist you. If not, this lab can be done on your own.

Grasp the tennis ball in your **non-writing** hand. A legal squeeze causes a dent in the ball made by using the heel of the hand. You are to record the number of squeezes in your Data Table every 10 seconds, but you are **NOT TO STOP** between trials. You will be squeezing the tennis ball without stopping for 100 seconds. **NEVER STOP SQUEEZING. REALLY SQUEEZE. DO NOT STOP BETWEEN TRIALS.**

Muscle Fatigue Data Table

Trial Number	Number of squeezes in 10 seconds
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

POST-LAB

Answer the following questions in your lab report.

1. What relationship exists between your experimental variable and your dependent variable?
2. Accept or reject your hypothesis. Explain.

3. Did you have an adequate experimental control? (Remember that a control follows the same procedure but with the absence of the treatment). Explain.
4. How did your squeezing hand and arm feel towards the end of your squeezing-time period?
5. By looking at your results, pinpoint when you first had a lot of lactic acid build-up. How did you know?
6. How long does it take for the burning feeling to disappear?

Thought Experiment

7. Design a similar experiment that would answer this question: Is there a connection between muscle strength and size of the bicep brachii muscle? Don't forget the experimental treatment and what you would record as data. Add this to your lab report for this activity. In other words, write your thoughts down!

Source: Presenter