

Test 1: Exercise Metabolism

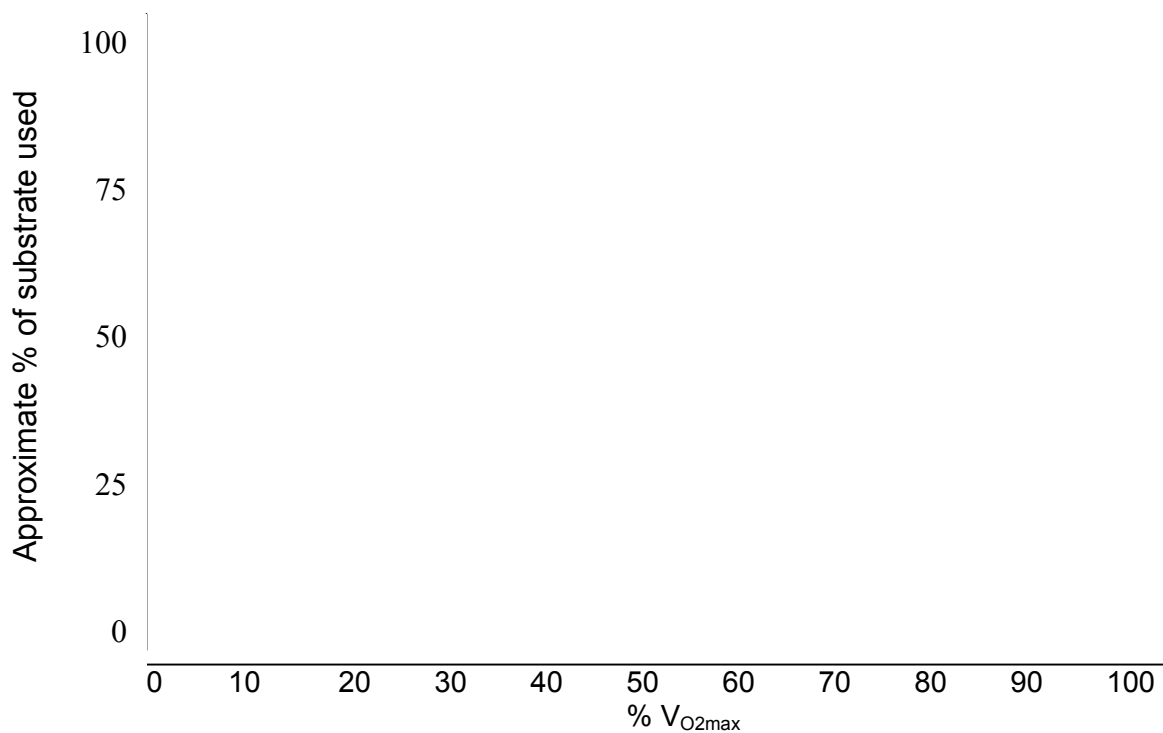
1) Define the following with their basic equation (units not necessary):

Force =

Power =

2) Define Km.

3) Describe the “crossover concept” by drawing a solid line on the graph below for fat used as energy source, and a dashed or dotted line for carbo/glucose used as energy source.



In the graph above, use an arrow to indicate the effects of training on the “crossover” point (i.e. indicate which direction the point moves with training).

3) What is the fate/storage form of glucose in **adipose** tissue after a meal.

4) Give a concise explanation/description of the glucose-fatty acid cycle. What effect could this “cycle” have on blood glucose levels during exercise?

6) Does all liver glycogen come from Newly Absorbed Glucose? If not, explain. (hint:glucose paradox)

7) What major hormone increases in the blood with moderate intensity exercise and is thought to be important in the “feed-forward” control of glycemia? _____

8) Training ↓ or ↑ [circle one] plasma catecholamines levels (epinephrine/norepinephrine) during low intensity exercise.

9) What intracellular signal(s) cause PFK-2 to enable gluconeogenesis?

10) Growth Hormone ↑ or ↓ [circle one] lipolysis.

11) Growth Hormone ↑ or ↓ [circle one] glycolysis.

12) _____ is the process of making new glucose. This process mainly takes place in the _____ and a little in the _____.

13) Answer EITHER:

a) Describe the function of cortisol

OR, b) What is the secretion site, function, and action of ACTH?

14) What does glucagon do?

15) What two stimuli increase ADH secretion? From where is ADH secreted?

16) Why shouldn't the blood lactate concentration inflection point be confused with the point at which the body switches from aerobic to anaerobic energy consumption?

Bonus) What is the normal blood glucose range (include units)?

Bonus) Which has a higher blood level during exercise? epinephrine or norepinephrine [circle one]