

SPO 3020 Training circulation and oxygen consumption AUTUMN 2012

English

1. Endurance performance, as in long distance running or cross-country skiing, imposes great demands on both the cardiovascular system and the employed locomotor organs. An efficient oxygen transport system is therefore vital. There are several steps at which the oxygen transport pathway may be limited. Give an overview of supply and demand limitations of oxygen transport to the working muscle, and discuss how the size of the working muscle will affect the limitations.
2. How would you effectively train to improve aerobic endurance performance in a group of cardiovascular diseased patients? Discuss the rationale for using heart rate to establish exercise intensity when performing aerobic training.
3. Give short answers!
 - a. How much does the blood flow to the brain change from rest to hard work?
 - b. What does partial pressure of oxygen mean (PO_2)?
 - c. What does the Oxyhemoglobin dissociation curve describe?
 - d. Which substances or factors give a right shift in the Oxyhemoglobin dissociation curve?
 - e. The tidal volume is determined by?
 - f. Stimulation of vagus nerves will lead to?
 - g. Where are the important parts of the cardiovascular system that regulate the organs blood flow?
 - h. Blood flow in a vessel is regulated by the following factors:
 - i. Peripheral chemoreceptors especially registrates?
 - j. Which are the factors that will increase the work of inspiration more than normal?