

BLOOD FLOW

Blood flow to muscles is increased by endurance training and is due to the following factors:

- 1. Increased capillarization**
- 2. Greater opening of existing capillaries**
- 3. More effective blood redistribution**
- 4. Increased blood volume**

How does training affect $a-vO_{2\text{diff}}$?

The respiratory system does not limit $VO_{2\text{max}}$.

However, training can increase maximal pulmonary ventilation rates.

$a-vO_{2\text{diff}}$ increases with training and is due to increased oxygen extraction by the tissues and more effective blood distribution.

While training can improve skeletal muscle metabolism (i.e., lactate threshold, respiratory exchange ratio), the **major limiting factor** to one's maximal oxygen consumption ($VO_{2\text{max}}$) **is oxygen delivery** to the active muscle. [How is this related to Q_{max} ?]

Factors that affect the response to endurance training

1. Heredity

2. Age

3. Sex