Does smoking affect exercise performance?
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In short, yes. Lighting up that cigarette is going to impact the performance of your body when it comes to exercising. Let's now look at what the short- and long-term adverse effects are in greater detail.

Acute effects of smoking on exercise performance (within 1-2 hours of lighting up)

- Exercise tolerance and maximal aerobic capacity are reduced

- Increases the carbon monoxide (CO) content in the blood
  Note: CO has 200-250 times greater affinity for haemoglobin (Hb) than oxygen

- Presence of CO can hinder the ability of Hb to deliver oxygen to the body
  Note: Oxygen is critical for aerobic metabolism to make energy for the working cells during prolonged exercise

- Extraction of oxygen by the working muscles is also impaired

- The body is working with lesser oxygen, leading to a greater contribution from anaerobic metabolism to generate the necessary energy required for the exercise**.** Greater production of anaerobic by-products would cause earlier onset of muscular fatigue

- The nicotine in cigarettes increases resting and submaximal-exercise heart rate and elevates heart rate during the recovery period, which means the heart is working relatively harder for the same intensity of exercise

- Elevates heart rate during the recovery period

- As a result of all the above, exercise tolerance and maximal aerobic capacity are drastically reduced

Summary

Essentially, the body is working with lesser oxygen after smoking, akin to exercising in hypoxia (oxygen deficiency). All of these can adversely affect exercise performance, particularly when performing intense exercises, where oxygen demand within the working muscles is very high.

Chronic effects of smoking on exercise performance (after years of smoking)

- Structural damage to the respiratory apparatus
- Over time, the toxins from inhaled cigarette smoke break the thin walls of alveoli (tiny air sacs in the lungs), leaving larger, less efficient air sacs, making it harder to bring in oxygen and expel carbon dioxide

  Note: This process causes emphysema, a form of Chronic Obstructive Pulmonary Disease (COPD). Smoking is the leading cause for 90% of deaths from COPD
- Smoking causes vasoconstriction (and possibly blockage) of coronary arteries
- Increased risk of developing cardiovascular diseases
- Lower level of aerobic fitness than non-smokers
- Progressive deterioration of skeletal muscle fatigue resistance and sensations of fatigue

Summary

Habitual smokers after 3 to 5 years (average of 2 to 5 cigarettes per day) have showed increased in airway resistance leading to reduce forced vital capacity and forced expiratory volume. This is due to the accumulation of cigarette tar (stimulating the airway mucus) within the respiratory apparatus.

It has been suggested that chronic smokers' airway resistance during intense exercise is higher by two times or more compared to non-smokers, and the oxygen transport ability of habitual smokers also decreases by 10%.

Own your health

Now that you know the adverse effects of smoking, it's not too late to quit and take ownership of your health. Remember, Better Beats Perfect!

QuitLine: 1800-438-2000
Website: I Quit 28-Day Countdown

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