

# Maintaining Homeostasis During Exercise

During exercise, your body goes through a lot of changes. These changes are all signs that your body is hard at work attempting to maintain homeostasis. Sustaining homeostasis is important for regulating your body's internal balance so that all of your organs and cells function properly.

During a workout, your body:

- 1) Breaks down glucose for fuel – The more intense your workout, the more oxygen your body needs to convert food into fuel. This is why you breath harder while exercising. Additionally, your body uses glucose from the foods you eat to fuel your muscles. As a result, your pancreas releases insulin to maintain proper blood sugar levels.
- 2) Increases heart rate and blood flow – During exercise, your body increases heart rate by stimulating your sympathetic nervous system. Other sympathetic nervous system responses include improved eyesight, breathing, circulation, and a slower digestive system so energy can be freed up for exercise.
- 3) Attempts to cool down - Your body also redistributes blood flow to your skin and working muscles during exercise, as well as initiates sweating. These are attempts at preventing itself from overheating.

Ways to maintain homeostasis:

- **Stay hydrated** - Drinking water during exercise helps replenish fluids that are lost by sweating. Your body needs fluids to carry nutrients to your cells and organs to keep them functioning properly.
- **Breathe** – Don't hold your breath during hard reps! Your body needs more oxygen during exercise to maintain homeostasis. Plan a 3-minute diaphragmatic breathing practice at the end of your workout. This restores the nervous systems parasympathetic response.
- **Proper fuel** - Your body needs quality fuel to perform during exercise. Eat a small pre-workout snack but avoid high doses of caffeine. 30 to 60 minutes after exercising have a meal containing a mix of carbohydrates and protein.
- **Warm up and cool down** – Wake up your muscles and joints before exercise to prevent injury and spend some time cooling down after to redistribute blood flow to your organs and improve muscle flexibility and joint range of motion.

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