

### Ketosis and the Endurance Athlete

Introduction

The Ketogenic Diet

Ketosis and Endurance Performance

Ketone Supplements

Final Quiz

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### Introduction

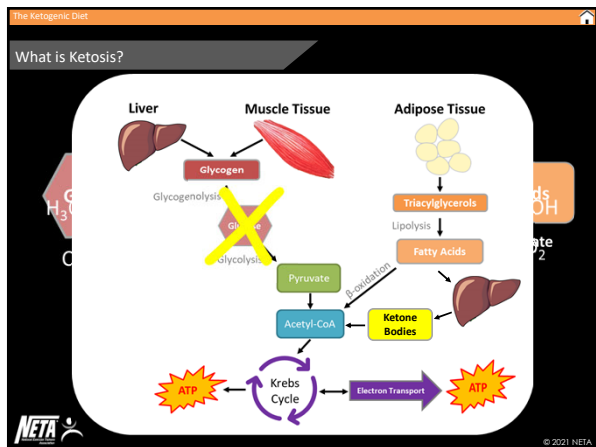
#### Course Objectives

Upon completion of this e-learning course, participants will be able to:

- Describe the ketogenic diet and ketosis,
- Evaluate the potential benefits and shortcomings of this dietary strategy, and
- Convey the role of the keto diet and ketone supplementation for endurance performance enhancement.

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### Ketosis and Endurance Performance

#### Keto-Adaptation

	Low Carb	High Carb
Peak Fat Oxidation (Fat <sub>max</sub> )	1.54 g/min	0.67 g/min
% VO <sub>2</sub> max at Fat <sub>max</sub>	70.3% VO <sub>2</sub> max	54.9% VO <sub>2</sub> max

A ket... of fat... Volek et al. (2016)

The diagram shows a human figure with buckets labeled 'Carbs' and 'Fats' connected to a mitochondrion labeled 'Mitochondria' which produces 'ATP'.

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### Ketosis and Endurance Performance

#### Other Potential Benefits

Improved body composition

Decreased inflammation & oxidative stress

Decreased lactate accumulation

Decreased central fatigue & increased mental clarity

Decreased delayed onset muscle soreness & enhanced recovery

Decreased gastrointestinal distress

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### Ketosis and Endurance Performance

#### Keto Flu

reduced performance

headaches increased perceived effort

asthenia weakness

gastrointestinal discomfort

symptoms irritability

dizziness nausea

immunosuppression

undesirable weight loss fatigue

lethargy drowsiness

poor concentration

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