

# PERFORMANCE NUTRITION FOR SWIMMING

Basic nutrition is vital for aiding in growth, providing energy, and achieving good health and performance. The goal with sports nutrition is to provide athletes with the energy they need to train and compete while reducing risk of injury or fatigue and improving recovery. It is important for athletes to take in equal or more calories than they expend to prevent energy deficit, which can result in loss of muscle mass, menstrual dysfunction, loss or failure to gain bone density, and increased risk for fatigue, injury, or illness. Boys and girls typically follow specific patterns of growth from infancy to adulthood. Middle childhood is typically a period of small, constant gains, while adolescence is characterized by rapid growth, followed by slow and constant growth into adulthood. Before puberty, there are no significant differences between boys and girls in regards to biomechanics, body composition, or nutritional requirements. PMID: 18395653

FAD Diets are extremely common this time of year and it's tempting for young athletes to fall into the diet traps. Young athletes must remember that they are fueling for performance and physical growth. No wonder they are always hungry! Reducing energy intake or removing food groups during this critical growth time can result in lasting deficiencies (i.e. low bone density). Athletes who remove food groups may also be at risk for nutrient deficiencies (i.e. iron, vitamin D, B vitamins, selenium, magnesium, etc).

## FAD Diet examples:

Ketogenic Diet	Gluten Free Diet	Paleo Diet	Low-Carb Diet
High-fat, extremely low carbohydrate diet. >70% diet from fat 10-15% protein <10% carbohydrate Increases satiety, risk of low bone density and increased cholesterol	Removal of all foods that contain gluten. Necessary medical diet for individuals with diagnosed celiac disease. Removes many valuable sources of carbohydrates.	Mimics foods eaten by our "hunter-gather" ancestors. Generally low-carbohydrate Removes dairy products, starchy vegetables, refined sugar, and grains.	Low total dietary carbohydrate. Reduces or completely removes food sources of carbohydrate (grains, legumes, beans, potatoes, pasta, cereals, etc)
<b>No evidence to show benefits for young athletes. Depletes athletes of essential energy source (glucose). Possibly beneficial for long endurance athletes, but more research needed in healthy populations.</b>	<b>Unnecessarily removing food groups can unintentionally reduce energy intake which could lead to poor performance, limited food options, decreased immune health &amp; poor performance.</b>	<b>Removal of these valuable food groups can increase risk of nutrient deficiencies, especially in young athletes. There is no reason for a healthy individual to exclude these food groups.</b>	<b>The brain requires a minimum of 130g of carbohydrate per day to function. Reducing carbohydrate will not only decrease performance in the pool, but also in the classroom.</b>