



Cascade Canoe & Kayak Racing Team Nutrition Recommendations

By Dan Henderson

This is a short paper on nutritional guidelines for training and racing. For a more complete program, please attend the Nutrition Seminar we hold periodically. The focus is on athletes seeking to race nationally and internationally. 5 – 11 paddling workouts, 3 – 5 weight workouts, 2 – 3 running workouts per week.

Needs of an athlete

The nutritional needs of an athlete are very different from those of someone less active. Think of your body as a machine – it needs fuel to function. You are building your machine to make a canoe or kayak go faster and faster.



Athletes eat to accomplish two fundamental requirements:

1. Fuel the machine
 - a. Normal activities of daily living that everyone does
 - b. The additional needs of high-level training
2. Build a better (stronger and more mass) machine
 - a. Normal growth that every adolescent goes through – undereating leads to stunted growth
 - b. The additional needs of building muscle mass and bone density necessary for every successful high-level athlete

What happens when you eat

When you eat, two main things happen:

The food you eat is broken down into basic nutrients and delivered throughout your body for short-term needs of your activity and growth.

After you meet your short-term needs, the remaining nutrients are stored somewhere in your body and are available for growth of bones, muscles and organs. When growth of bones, muscles and/or organs is stimulated, nutrients come out of storage and are directed to the growing areas.

How much to eat

It's simple arithmetic: calories consumed minus calories burned.

How much to eat is a function of changes in body weight. Young growing athletes training at a level where they seek to race national or internationally, should see small continuous (but not linear) increases in body weight. Young athletes do not need to worry about becoming overweight at all, as their training load will not allow that to happen.

Keep track of your body weight each day and if you see any decline, eat more. If you see a gradual weight increase, that's optimal. If you see a sudden large weight increase, reduce the amount you eat until you see the small steady increase return.

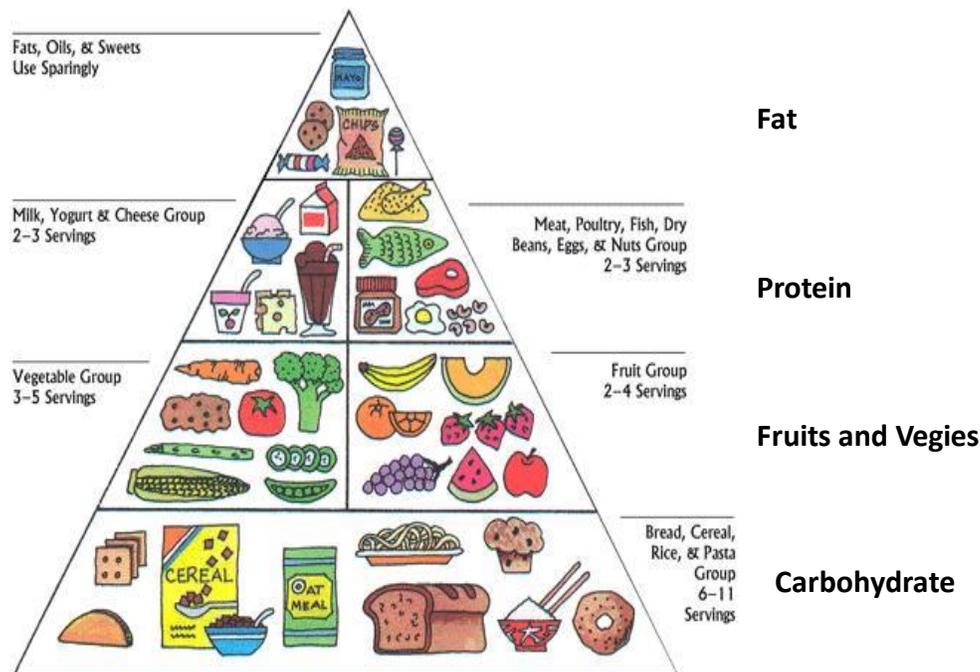
For example, at age 28 when I was racing, my USOC nutritionist calculated that I needed 6400 calories per day just to maintain my body weight.

What happens when you don't eat enough

If you don't eat enough to supply your immediate needs, your body will break down your muscle and use that as a supplemental energy source. This is why those who train at a high level and don't eat enough, don't gain mass and are often really skinny.

Many really good athletes, who were very competitive in U14, ended their athletic career early because they did not gain mass as they grew up. They did not eat enough to support their athletic development and remained very skinny. Many were convinced that they just could not gain mass, instead of understanding and appreciating the high volume of food they needed to consume. For younger athletes, parents must be involved in this effort and work as partners with their child athlete to provide enough nutrition to help them achieve their goals.

In the more extreme situations, undereating can have dramatic effects including loss of bone density, reduced organ function, and stunted growth, which can have negative lifelong consequences. Within the sport nutrition academics, there is an entire specialization related to athlete undereating, so this is a common problem



When to eat

High level athletes do not eat only when they're hungry, or when something appetizing is given to them, or only when they feel like eating. They seek out food to eat, and how it tastes to them is less important. They eat all the time!

A consistent eating pattern is important. Here's an example of a daily eating pattern.

- Eat 3 good-sized meals each day – breakfast, lunch and dinner. Balanced nutrition _ carbohydrate, protein and fat – is important for meals.



- Eat at least 3 snacks between meals – mid-morning, mid-afternoon, evening after dinner. Fruit, nuts, carbohydrate and protein are good snack suggestions.
- Eat within 20 minutes following workout. Post workout focus on carbohydrate and protein. Many athletes like non-fat chocolate milk.

Staying hydrated is important too

Again, it's simple arithmetic and urine color is the marker. Dark urine is the main indicator of dehydration. The more clear and uncolored you see in your urine the better. Keep it clear!

Start with a full water bottle and take it with you during paddling workouts, and gradually drink your entire water bottle throughout the workout. A small amount of electrolyte mixed in with your water is very helpful to maintain your energy level throughout your workout.

What to Eat – Nutritional Guidelines During Training

FUEL THE MACHINE

Generally, USOPC recommends that athletes eat about 25% complete protein that includes all the amino acids found in muscle, 25% carbohydrates, and 50% fruits and vegetables. Keep simple sucrose sugars to no more than 10%.

About 20% of your overall diet should include fat. If you're eating as much as you can and still not gaining weight, increase some of your calorie-dense foods. Fat has the most calories, so increase fat. Dairy, especially ice cream, is a high calorie food that is popular. My favorite weight gain food was a milkshake with ice cream, whole milk, a banana, a scoop of protein powder, and a little vanilla – yum!

The key for an athlete is to eat quality food, in a balanced diet, in high volume.

What to Eat – Nutritional Guidelines During Racing

Diet changes dramatically for racing with the goal of keeping your stomach relatively empty and blood sugar steady. This means eliminating all red meat (ex: beef and pork), almost all fat (ex: butter, cheese, ice cream), and all sugary sweets.

Racing diet should begin 4 -5 days before a race.

Here's some suggestions:

Water

Water with electrolyte solution

Non-fat chocolate milk

White bread or white bread bagels – higher glycemic aspect so digests easier

Honey or jam – lower in fat than cream cheese

Grapes – high fluid content, fructose, easy to eat

Poultry or fish

Fruits and vegetables

Pasta with marinara sauce – good carbohydrate, high potassium in the tomatoes, low fat



Olympic Village Cafeteria