

FUELING FOR PERFORMANCE

COMPILED BY CHARLENE BOUDREAU, FORMERLY OF USA SWIMMING

Fueling for Performance is...

- Always having a full tank of gas.
- Getting the most economical fuel.
- Fueling at the right times and places

The Basic Nutrients are:

- Carbohydrate
- Protein
- Fat
- Vitamins
- Minerals
- Water

What are Carbohydrates?

- The primary fuel source for aerobic athletes!
- Carbohydrates are NOT fattening.
- If taken in reasonable amounts, carbs are used for energy, leaving little to be converted to body fat.

What about Protein?

- Protein builds and repairs muscle.
- Protein produces hormones.
- Protein supports the immune system.
- Protein replaces red blood cells.
- Protein provides energy only when other sources are no longer available (starvation, malnutrition).
- What about extra protein?
- ...“Most athletes do not need ‘extra’ protein, but should focus on the timing of nutrient ingestion.”
- ...Post-exercise CHO reduces protein breakdown.
- ...Protein post-exercise optimizes anabolic response.
- ...Pulse the system.
- ...Essentials better than mixed.
- ...Source has minimal effect.
- Extra protein does not build muscle bulk...exercise does.
- Your need is based on body weight and current training intensity.

What about Fat?

- Our ability to make certain fats limits our requirement to consume them.
 - Fats are also known as “Lipids.”
 - Fat is a substance in many hormones.
 - Fat helps control satiety (fullness after eating).
 - Fat stores our fat-soluble vitamins (A, D, E, K).
 - Fats deliver our essential fatty acids.
- I need Fat, but...
 - Limit Fat intake to 25% of total calories.
 - Trade high-fat foods for low-fat substitutes:
 - lean cuts of meat instead of meat with visible fat
 - angel food cake instead of chocolate cake
 - frozen yogurt instead of ice cream

- low fat salad dressing instead of regular
- 2% or skim milk instead of whole milk
- baked anything instead of deep-fried!

THE AEROBIC ATHLETE'S DIET.

In terms of calories...

- 60%* should come from Carbohydrate
- 15%* should come from Protein
- 25%* should come from Fat

*Note: +/- 5% depending on seasonal variations in training and intensity. The aerobic athlete's carbohydrate intake should never drop below 50%, protein should not go above 25%, fat should not go above 30%.

Nutrition Foundations...

- Eat a Variety of Foods from all Food Groups
 - No magic foods.
 - No magic food groups.
 - Vitamins and Minerals.
 - Servings grow as YOU grow.
- Eat Colorful Foods for vitamins, minerals, antioxidants, carbohydrates, recovery and general health
- Eat Early and Often
 - The first 2 hrs post-workout are the most critical.
 - Glycogen repletion can occur 2-3x faster than normal.
- Drink Early and Often

“After exercise, the dietary goal is to provide adequate energy and carbohydrates to replace muscle glycogen and to ensure rapid recovery.....Protein consumed after exercise will provide amino acids for the building and repair of muscle tissue. Therefore, athletes should consume a mixed meal providing carbohydrates, protein and fat soon after a strenuous competition or training session.”

(ACSM, ADA, Dietitians of Canada Joint Position Statement on Nutrition and Athletic Performance, 2000, p 2131)

RECOVERY NUTRITION: TIPS & REMINDERS

- Start the replenishment process IMMEDIATELY! The “window of opportunity” for maximizing glycogen repletion starts to close as soon as exercise stops...it lasts for about 2 hours.Pulse the system. Try to eat something substantial every hour versus waiting for the large meal or eating only every 3-4 hours.
- Adjust post-exercise fuel intakes accordingly. Focus on maximizing glycogen repletion when practices are exhaustive. You might not need to replenish as long when workouts are not as intense.
- Most replenishment periods should continue for at least 2 hours, but may last as long as 5 hours if the workout was completely exhaustive.
- Something is better than nothing. If you just can't meet the 1.0 g/kg/hr for at least two hours recommendation, consuming some carbohydrate fuel immediately after workout will do more to help prevent chronic or long-term glycogen depletion than consuming nothing at all.