

# Sports Nutrition Primer

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## Food Basics:

Carbohydrates – the *primary* energy nutrient for fueling muscles; carbos exist in 2 forms: simple (sugars) and complex (starches); 1 gram of carbohydrate yields 4 calories; 60-65% of calories in diet should come from carbos.

- All carbohydrates - simple and complex – are digested and converted to blood sugar (glucose) and transported to muscles for fuel; the rate at which this occurs varies from fairly rapid to slow & steady and is termed the *glycemic index*
- Best eating strategy for pre-game and post-game recovery is picking a blend of foods that span the glycemic index (ideas below)
- What are “bad carbs”? Essentially anything white (flour, sugar, rice) and highly refined foods (packaged, many frozen meals, “junk food”)
- Minimize these when possible and replace with whole grains and fruit

Fat – the *secondary* energy nutrient for long term fueling (“slow burning”); 1 gram of fat yields 9 calories; 20-25% of calories in diet should come from fat.

- Moderate amounts of *unsaturated* fat is healthy; fats from vegetables, nuts, fish
- *Saturated* fats come from animal and animal products (eg milk, butter); use sparingly and/or replace with low-fat dairy products

Protein – for muscle recovery and repair, but NOT a good source for energy fuel; 1 gram of protein yields 4 calories; 10-15% of calories in diet should come from protein

- The body does NOT store protein and excess is turned to fat
- Typical American diet contains way to much; control portion size

Water – essential that athletes stay well hydrated before, during, and after competition.

## Timing:

(both food and water)

- Best strategy is to eat balanced meals all week and stay hydrated
- Before game, at least 60 minutes prior, consume 300-400 calories from multiple types of carbohydrate based foods; drink 16 oz water or sports drink
- During game, drink 4-6 oz water every 15 minutes of play time
- After and especially between games, imperative to replenish blood sugar levels via carbohydrates; protein can be introduced at this time; consume water until urine is clear

## Carbohydrates & Glycemic Index:

(quickest to slowest energy release)

- Very high: sports drinks
- High: honey, potatoes & corn, bagels & breads, cereals, snack bars, anything with table sugar or high-fructose corn syrup (candy, cookies, sodas)
- Moderate: raisins/grapes, crackers (graham, wheat), whole grains & bran, oatmeal & granola, bananas, oranges, pasta
- Low: dairy, beans/legumes, apples, pears, peaches, cherries, nuts

## Meal Planning & Ideas:

1. Overall format:
    - glass of water
    - grapes/raisins, orange juice, or banana
    - milk or yogurt
    - sizable serving of primarily whole grain carbohydrate food (ideas below)
    - optionally, low glycemic index fruit
  
  2. High energy carbo Breakfast ideas:
    - whole wheat or multi-grain\* pancakes
    - french toast with whole grain or multi-grain bread
    - oatmeal
    - whole grain cereals (sugar coated is okay) with milk
    - whole grain toast with peanut butter and jelly/honey or bananas
- \* blend white flour, wheat flour, bran, powderized oatmeal, cornmeal to taste
3. Liquid combo meal:
    - yogurt-based fruit "smoothie"
      - vanilla yogurt, several fruits and/or fruit juice, ice
    - *power-carbo* option: add powderized oatmeal (do this in blender first)
    - add honey for sweetener
  
  4. Pack ahead for "On the Run" times:
    - Peanut butter sandwich on whole/multigrain bread; *power-carbo* options: add honey and/or sliced bananas