



Sport-Specific Nutrition: Basketball

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Jen works with ICYF to provide expert advice on sports nutrition and healthy eating to the students and families of Indianola. As a board-certified sports dietitian, Jen owns a private practice that focuses on helping athletes stay on the cutting edge with superior nutrition to enhance performance with safety and efficacy.

Basketball players are athletic individuals that must be conditioned and fueled properly for utilization of all the body's energy systems and mental acuity. One's aerobic system (cardiovascular) must be conditioned to support several hours a week of play. Your anaerobic systems (ATP-CP and lactic acid cycles) must be trained for fast breaks, jumping and passing. Nutrition (glucose) also plays a role in your split-second decision making, which is vital to this fast-paced game.

Nutrition Recommendations for Basketball Players

- **Focus carbohydrate-rich foods for energy before AND after practices and games.**

Energy needs for basketball players are high. The best way to fuel your body appropriately is to consume adequate amounts of carbohydrate rich foods for meals and snacks. Every individual is different but, during basketball season, players should be eating about 8 grams of carbohydrate (CHO) per kilogram of body weight.

Weight (pounds)	Approximate grams CHO needed per day
140	500 grams
165	600 grams
185	675 grams

This amount of carbohydrate must be consumed from a variety of sources. Carbohydrates can come from breads, cereals, whole grains, fruit, milk, yogurt, starchy vegetables, sports drinks, nutritional beverages and appropriate snack foods. A more specific list of these foods can be found on the ICYF "Athlete Shopping List" guide. For a more detailed plan ensuring adequate carbohydrate intake for superior performance, work with a sports nutritionist/dietitian.

Pre-Event : Being properly fueled before walking onto the court is important. Your pre-game fuel should leave you neither full nor hungry. The amount of food you consume pre-event is based on your body weight and how close you are to the start of your training. As trainings lasting longer than 60 minutes get closer, meal/snack size should decrease whereas larger meals should be consumed if eating 3-4 hours beforehand. As a general guide for every hour before training, consume 1 gram of carbohydrate per kilogram of body weight up to four hours in advance.

Hours before training	Grams of carbohydrate to consume for a 140-pound athlete
3- 4	200 grams - pasta with meat sauce, bread, salad, milk
2- 3	150 grams - ham sandwich on bagel, banana, 100% juice
1	64 grams - sports drink, fig bar or cereal bar

Remember that each individual is different. Don't forget to trust your gut. Everyone reacts to foods differently so do not try any new or unfamiliar foods pre-game.

Think about when you last ate BEFORE putting on your uniform. If it's been more than 3-4 hours, a small snack would more than likely benefit you. Pick a snack that is high in carbohydrates and low in fiber and fat. This blend of macronutrients will facilitate gastric emptying and fuel utilization. A list of snacks can be found on the ICYF "On the Go Snacks for Athletes" guide.

Post-Event: It is also important to refuel after a game or practice to ensure that your muscle glycogen stores are being replaced and muscle repair can occur.
- It is ideal to eat something within 30 minutes of an event because muscle enzymes are most active.



-Refueling is most important if you have another event within 24 hours.

- Refuel with carbohydrates and a little bit of protein.

-The amount of food to eat post-event will depend on your weight (0.5 – 1.5 grams carbohydrate per kg bodyweight.) and schedule. If you cannot eat a meal within 30 minutes, consume a snack.

-Some ideas include low-fat chocolate milk, peanut butter sandwich, meal replacement shake, or sports drink with string cheese.

• Stay hydrated

Hydration before, during and after training and game time should be well planned. Drinking large amounts of water in the minutes beforehand is not an optimal way to hydrate and can leave you with water sloshing in your stomach in the opening minutes of play. Dehydration (2-3% loss in body weight or just a bit over 3 pounds for a 165-pound player) can slow pace and decrease reaction time. Players should sip small amounts of fluid during training and regularly throughout the day.

Hydration Tips

- Start hydrating about 4 hours before practice or competitions so that you are able to excrete any excess fluid as urine before you compete.

- If you are training for 60+ minutes, sip 4-6 ounces fluid every 15 minutes.

- On days where you are training intensely, for every pound lost, replace with 24 ounces of fluid.

- Carry a water bottle with you during the day to help achieve your fluid goals. One sip of water is equal to about 1 ounce.

Hydration during practices and games is also critical. If you are playing for more than 60 minutes then a sports beverage may be needed. Sports beverages can allow you to keep your blood sugar at appropriate levels to allow for immediate energy to your muscles and split-second decision making. Your brain relies on glucose for energy function. Without appropriate fuel (glucose), your blood sugar can decrease causing impaired mental acuity.

References

1. Vitamin D Council. "Am I deficient in Vitamin D?" Web. Oct 2013. <http://www.vitaminDcouncil.org>.

2. Dunford, Marie. *Sports Nutrition. A Practical Manual for Professionals. 4th Edition.* American Dietetic Association, 2006.

3. Position of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance. *Journal of the American Dietetic Association, March 2009, Volume 109 Number 3 p. 509-522.*

• Maintain optimal Vitamin D levels

Basketball is primarily an indoor sport. The basketball season is during winter months; training and playing in the off-season is typically done at indoor recreational facilities. Players that get little to no sun exposure may want to begin a Vitamin D supplement. Speak with your physician and ask for a "25 – hydroxy Vitamin D blood test." People in Iowa may be at risk for low Vitamin D levels due to our northern latitude. Being deficient in Vitamin D can cause tiredness, vague aches and pains and an increase in your susceptibility to infection. (1)

• Maintain optimal iron status

Basketball players, mainly female, can be at risk for low iron status. Low iron levels are detrimental to performance and can cause decreased aerobic capacity, diminished exercise endurance, decreased VO_{2max} and decreased production of ATP in skeletal muscle (2). Iron-rich foods should be consumed daily to decrease risk. Iron-rich foods include: beans, iron-fortified breakfast cereals (Cream of Wheat®, Raisin Bran, Frosted Mini Wheats, Cheerios,) iron-fortified breads, iron-rich pasta (Barilla Plus®,) red meat, raisins, dried apricots and pretzels. An iron supplement in the form of ferrous sulfate may be necessary. **Low iron levels can STILL affect performance without having iron-deficiency anemia.** Reduced iron levels can be assessed by a physician checking your serum ferritin level. (3)

Tips for Increasing Iron through Food

Eat foods high in Vitamin C with iron-rich foods to promote better iron absorption. Examples include:

- Mixing iron fortified breakfast cereal with dried fruit in a baggie for a grab and go breakfast. Have with 100% orange juice.

- Eat pretzels with fresh strawberries for a snack.

- Use iron fortified bread to make a sandwich. Add green or red pepper slices and tomato.