



CARBOHYDRATE FACTS

Physically Speaking

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DANGER: THE LOW-CARB ZONE

Yes, you've seen the ads, the media attention...headlines in newspapers and online—"Pasta Makes You Fat"—and top selling books *The Atkins Diet* and *The Zone* and now *The Paleo Diet*. This information is misleading for the general population and is especially questionable for an athlete. Tennis players must have muscle energy levels high enough to allow them to last 2-3 hours on the court at a time. If players adopt the latest low carbohydrate fad diets, they quickly increase their chances of fatigue and dehydration which negatively affects performance.



Low-carbohydrate diets have been popular since the late 1960s, when the Atkins diet, the first in a long list of high-protein diets, made news as the 'answer' to permanent weight-loss. Just like the search for a magic solution to improve athletic performance, these diets fail to deliver what they promise, AND they create potential dangers that will REDUCE your on-court energy and performance.

Here is a list of ten reasons why NOT to follow the high-protein, low-carbohydrate diets:

1. Most high-protein diets are very low in calories (< 1200 calories), far below the recommended minimums for tennis players. This low calorie level jeopardizes muscle energy levels and **leads to earlier fatigue on the court.**
2. Most high-protein diets have 2x to 3x the recommended dietary allowance for protein needs. They can put the body at increased risk for kidney problems such as kidney stones and kidney failure earlier in life, as well as urinary tract function problems. **For the tennis player, this leads to increased complications maintaining a normal hydration status and increased heat stress.**

Nutrition Facts	
Serving Size 1/2 cup (124 grams)	
Amount Per Serving	
Calories 100	
Calories from Fat 0	
Total Fat 0g	
Saturated Fat 0g	
Trans Fat 0g	
Cholesterol 0mg	
Sodium 0mg	
Total Carbohydrate 43g	
Dietary Fiber 0g	
Sugars 0g	

"The higher your energy level, the more efficient your body. The more efficient your body, the better you feel and the more you will use your talent to produce outstanding results."

-Anthony Robbins (Motivational Speaker and Author)

3. Most high-protein diets are so limited in total food variety that you cannot get the recommended amount of vitamins and minerals without extra supplementation. Low fruit and vegetable intake can lead to decreased immune function and ability to fight off illness and infection. **This may compromise the immune system, causing slower healing and increased risk of illness and injury.**
4. Most high-protein diets can increase cravings for sugar and sweets and potentially increase the risk of over-eating later in the day. Eating more simple carbohydrates (such as sugar or sweets) does not improve long-term energy stores for the tennis player. **The pattern of restricting carbs, followed by over-eating, may compound disordered eating patterns in vulnerable athletes.**
5. Most high-protein diets promote high amounts of water weight loss, which **leads to increased risk for severe dehydration** while also causing light-headedness, fatigue, cold sensitivity, and decreased metabolic rates. All of these will negatively affect your tennis performance.
6. Most high-protein diets claim that high carbohydrate intakes are the cause of the western world's obesity problem. To date, the scientific evidence does not support this theory. **Carbohydrates are the body's preferred fuel source for organ and brain function.** The body prefers to use carbohydrates as fuels and will store excesses as fat ONLY when that excess is above the daily caloric expenditure needs for that athlete.





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- Most high-protein diets are so low in carbohydrate intake that you do not receive adequate carbohydrate energy to keep your metabolism revved up. Over time, a player on a low-calorie high-protein diet may slow his or her metabolism so much that normal eating will cause immediate water regain as the body tries to establish a normal balance again. **This can cause the tennis player to feel sluggish on the court.**
- Most high-protein diets are so low in fiber that your digestive function can be compromised. A person on these types of diets for long periods of time will have increased constipation and an increased risk of colon cancer. Additionally, **not getting enough high-fiber complex carbohydrates will result in low muscle energy stores for the tennis player and the player will tire more quickly and take longer to recover from longer matches.**
- Most high-protein diets recommend so much animal protein (>10 oz./day) that cholesterol and saturated fat intake will be above recommended levels, **putting the athlete at increased risk for heart disease and slow weight gain leading to obesity over time.**
- Most high-protein diets accelerate the rate of calcium loss from bone and increase the risk of osteoporosis. **For female tennis players, this increases the risk of bone related injuries such as stress fractures, ankle fractures, and vertebral fractures.**

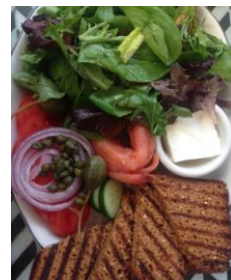
For more information read the topics: Winning Weighs; Fuel for Champions; Bone up on Bones

*"I've been on a few diets because I can't get enough to eat on just one."
-Anonymous*

HOW MUCH CARBOHYDRATE DOES AN ATHLETE NEED?

For a healthy distribution, you should aim to have at least:

- Grain/Bread:** 2 – 3 choices at each meal 3 times per day (1 cup minimum portion)
1 choice at each snack (2 times a day)
- Fruit:** Minimum of 4 servings per day (or 2 cups)
- Vegetables:** Minimum of 2 servings per day (or 1 cup minimum)
- Dairy:** Minimum of 3 servings per day (e.g., 1 cup milk/yogurt)



A useful rule is to aim to eat 3 gms. per 0.5kg (1 pound) of body weight.

For example: A 65kg (130-pounds) person would need a minimum of 390 grams of carbohydrate foods per day from the food groups listed above.

Why does your body need carbohydrates?

- Carbohydrates are the main source of fuel for muscles and organs
- Eating adequate carbohydrates will raise your metabolism (help you maintain optimum weight)
- Used to maintain blood sugar and quick energy stores (for brain and body)
- Stored in our body to be used as an energy source between meals and snacks
- An important source of fiber, B vitamins, and iron
- "Bulk" source, helps us to feel full and assists gastrointestinal function



What are some healthy sources of carbohydrates?

- Whole wheat grains - breads, pastas, bagels, muffins, rolls, etc.
- Starchy vegetables - corn, peas, potatoes, etc.
- Legumes/beans - pinto, navy, baked, black, black-eyed, etc.
- Brown rice, couscous
- Pretzels, popcorn, wheat crackers
- Bananas, oranges, apples, melon, etc.
- Carrots, broccoli, green beans, squash, etc.
- Milk, yogurt, pudding, cheese, etc.



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Thank you to Page Love, MS, RD, CSSD, LD
for authoring this topic