NUTRITION

FOR THE TENNIS STUDENT-ATHLETE



An elite tennis player needs power, agility and lasting on-court stamina. Nutrition must support endurance as well as repeated bursts of energy. Daily eating habits should provide recovery and the adaptations needed from training.

Balancing classes with proper fueling and hydration can be difficult for college athletes. Many arrive at practice short on fuel and fluid, leading to early fatigue and a greater risk of muscle cramps, both of which limit performance.

Information provided by

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TENNIS PHYSIOLOGY: WHAT MAKES IT UNIQUE

Tennis has distinct demands. Although it is a team sport, individual performance is central. Tailor your nutrition plan to yourself and adjust it daily as training loads change.

Tennis involves abrupt stops and starts, drawing on both aerobic and anaerobic energy. Fuel must support sustained effort and explosive bursts. Matches often take place in warm or hot conditions, increasing sweat loss. Players can lose 5 or 6 pounds of sweat an hour, with about 500 milligrams of sodium in each pound. Fluids and electrolytes are therefore crucial to performance.

These demands increase the chance of muscle spasms and cramps. Address each in your nutrition plan to perform your best.

PRESEASON PHASE

The tennis year has three phases: preseason, competition and championship. Preseason conditioning aims to improve cardiorespiratory fitness and power, and proper fueling and hydration support those adaptations. Establishing good habits now can determine whether you recover well all season or struggle between matches. Preseason priorities are:

- Drink enough fluid;
- Eat breakfast each day;
- Include plenty of fruits and vegetables; and
- Prioritize recovery nutrition.

Maintain Hydration: Many players overlook hydration and at least 50 percent are dehydrated, largely because they wait for thirst before drinking. By then, you are already about 1 percent dehydrated. Further fluid loss impairs strength, aerobic capacity and neuromuscular function. Good hydration supports endurance, power, concentration and accurate strokes.

Hydration Guidelines:

- Halve your body weight in pounds to estimate the minimum fluid ounces to drink regularly. Tougher training days require extra fluid to replace sweat and electrolyte losses.
- Carry water throughout the day to help meet your target.
- Keep water, electrolyte drinks and carbohydrate drinks courtside for breaks in play.
- Think of on-court fueling as "bites and gulps": take generous gulps of fluid and regular bites of fruit, chews, bars or trail mix.

Eat Breakfast: Breakfast starts the day with fuel and stops overnight catabolism, or muscle breakdown. It also makes meeting nutrient needs easier. Athletes who skip breakfast often become very hungry later and eat more toward day's end. This pattern is linked with less muscle and more body fat.

Frequent long trips can make breakfast your only seated meal of the day. Playing singles and doubles may mean repeated activity throughout the day, making breakfast even more valuable. Establish the habit in preseason so it is easier to maintain during competition.

Fruits and Veggies: Many athletes eat too little produce, increasing vulnerability to stress and inflammation. This can weaken immunity and reduce work capacity.

You may still perform with little produce, but nutrient shortages can eventually increase muscle injury and illness and prolong recovery. Include fruit or vegetables with every meal and snack to help limit injuries and time needed to recover between matches.

Eat a colorful mix of produce daily; more colors mean a broader supply of essential vitamins and minerals. On hot, humid days, frozen grapes, banana slices, orange wedges or cold pickles can provide water and electrolytes that help prevent dehydration or cramps.

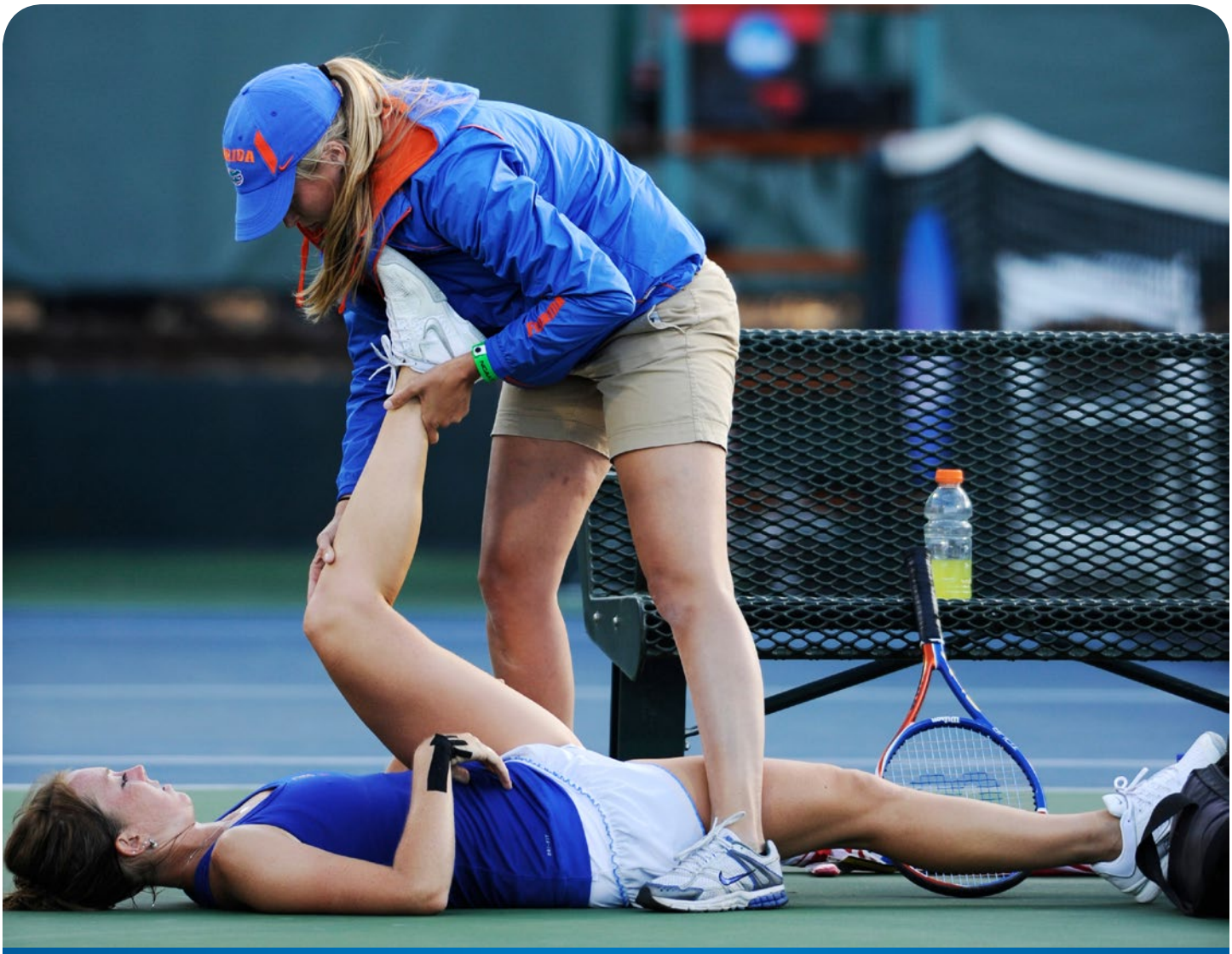
Recovery: Recovery means returning to normal or better condition. For tennis players, it restores the body after training or competition. Faster recovery lets you train or compete well sooner. Focus on three tasks: replacing sweat losses, replenishing carbohydrate reserves and repairing exercise-damaged muscle.

Carbohydrates: Carbs replenish muscle glycogen for strong performance. Eating too few can impair both intense exercise and endurance, both essential in tennis. This intermittent sport

FRUITS AND VEGETABLES GROUPED BY COLOR

Red	Yellow/Orange	White	Green	Blue/Purple
Cherries	Butternut Squash	Apples	Asparagus	Black Olives
Cranberries	Cantaloupe	Bananas	Avocado	Blackberries
Dried Cranberries	Carrots	Cauliflower	Broccoli	Blueberries
Raspberries	Grapefruit	Onions	Brussels Sprouts	Eggplant
Red Bell Peppers	Oranges	Pears	Collards	Plums
Red Cabbage	Peaches	White Peaches	Green Bell Peppers	Prunes
Strawberries	Pineapples	White Potatoes	Green Olives	Purple Grapes
Tomatoes	Pumpkin		Guacamole	Raisins
Watermelon	Sweet Potatoes		Kale	
	Tangerines		Mustard Greens	
	Yellow Bell Peppers		Romaine Lettuce	
			Spinach	





NUTRITION PRIORITIES FOR COMPETITION

The day before competition: Keep your usual eating routine and emphasize carbs to refuel muscles, including fruit, pasta, potatoes, rice, bread and grains.
One to three hours before bed: Have a small snack containing carbs and moderate quality protein, such as Greek yogurt, cottage cheese, milk, eggs or chicken.

Hydrate
- Multiply your weight in pounds by 0.6 to 0.7 to find the fluid ounces to drink on the day before competition.
- Have 16 to 20 ounces of water, sports drink or milk before going to bed.

Electrolytes
- Add salt to meals or choose salty snacks such as pretzels.
- Meet your electrolyte needs throughout the day; add supplements only as directed by a sports registered dietitian. Needs differ widely because sodium loss in sweat varies from person to person. Too few electrolytes can lead to muscle spasms, cramps and dizziness.

Competition day: About three hours before play, eat a meal mainly of carbs with moderate protein.
One hour before, and during events lasting over an hour: Choose easily digested carbs such as sports drinks, gels, energy chews or low-fiber energy bars.

Hydrate
- Have 16 to 24 ounces of water or sports drink two to three hours before play.
- Have another 8 ounces 15 to 30 minutes before the match begins.
- At each change of ends, drink 8 to 12 ounces of water or sports drink.
- Take a few mouthfuls of water or sports drink even during tie-break changes.
- After the match, drink at least 32 ounces of fluid.

Refuel and repair
- Combine carbohydrates and protein within 15-30 minutes after play. One to two hours later, have a full meal with a balance similar to your pregame meal.

involves four to 10 seconds of effort followed by brief active recovery. With no fixed time limit, match lengths vary greatly. Bring convenient carbohydrate foods to eat during breaks.

Protein: After training or matches, protein repairs exercise-related muscle damage. Requirements depend on body weight and exercise intensity. Aim for **at least** 20 grams **within 15 minutes after practice or competition,** or multiply your weight in pounds by 0.2 grams. To build muscle, aim toward the upper end of 0.55 to 0.8 grams per pound, according to the intensity of strength and conditioning.



COMPETITION PHASE

Build on the habits formed in preseason. Players and coaches sometimes overemphasize the pregame meal and overlook everyday eating, although daily nutrition matters more than a single meal before play. During competition, focus on maintaining weight and muscle and supplying fuel for training and matches. Carbohydrates power tennis's intense bursts. Include fruit, potatoes and grains at meals and before and after training.

Meet protein and fat needs too. Protein supports muscle growth, repair and immunity. Sources include low-fat dairy, eggs, chicken, and lean beef and pork. For muscle repair, eat 20 to 25 grams of lean protein every three to four hours. A 3-ounce chicken breast, roughly a deck of cards in size, or a can of tuna supplies the recommended quality protein.

Fat is often associated with weight gain and disease, yet too little may hinder tennis performance because it provides the main fuel for low- to moderate-intensity activity. Suitable fats help reduce inflammation and regulate hormones. Include healthy sources daily, such as nuts, seeds, olive oil and fatty fish like salmon and tuna.

The Pre-Competition Meal: This meal helps maintain normal blood glucose for concentration, supplies carbs to delay fatigue and supports hydration. No formula guarantees great play. Choose familiar foods three to four hours before the match: mainly carbs, lean protein and some produce. Limit high-fiber foods that may upset digestion and high-fat foods that slow stomach emptying. Some athletes prefer a smaller meal plus easily digested carbs, such as sports drinks, gels, chews or low-fiber energy bars, an hour before play and during the match.

CHAMPIONSHIP/ POSTSEASON PHASE

Championships may require long matches on consecutive days. Sound fueling and recovery are essential to perform well throughout this demanding schedule.

Continue the fueling approach used in the regular season, while giving greater attention to post-match nutrition. After your final match of the day, prioritize rehydration and rapid replacement of glycogen stores.

Keep carbs and protein courtside for the end of play. Useful protein-rich recovery snacks include low-fat string cheese, yogurt, hard-boiled eggs and beef jerky. Fresh fruit supplies recovery carbs; choose many colors. Combined options include a lean deli-meat sandwich, trail mix and low-fat chocolate milk. The snack starts glycogen replenishment and muscle repair while you shower, visit the training room and rest before dinner. Your post-match meal should include:

- Starches such as baked potatoes, rice or pasta on at least two-thirds of the plate.
- Moderate protein, such as chicken breast or salmon, to support glycogen storage.
- Fruit and vegetables for antioxidants, extra carbohydrate and water.
- Cherry juice or dried cherries, when available, to fight inflammation and support recovery.
- Salt added to food, plus enough fluid to replace sweat lost during play.



Written by registered dietitians (RDs). For advice on customizing a recovery plan, consult an RD who specializes in sports, particularly a board-certified specialist in sports dietetics (CSSD).