



SPORTS NUTRITION GUIDE

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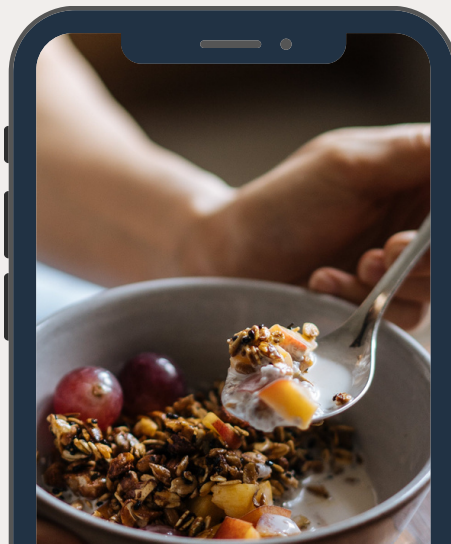
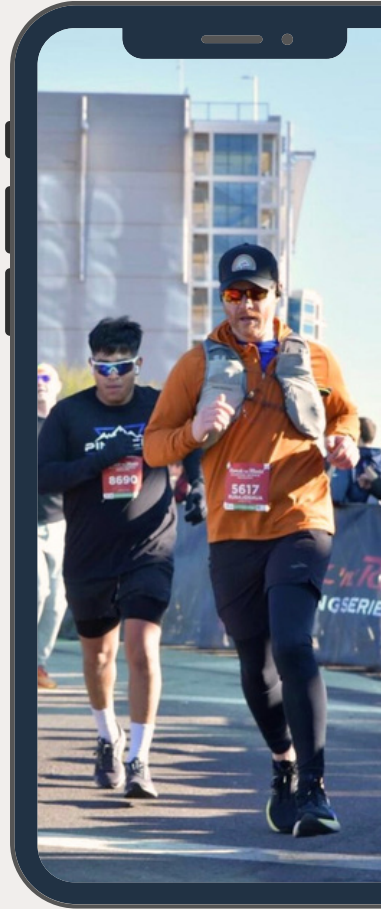
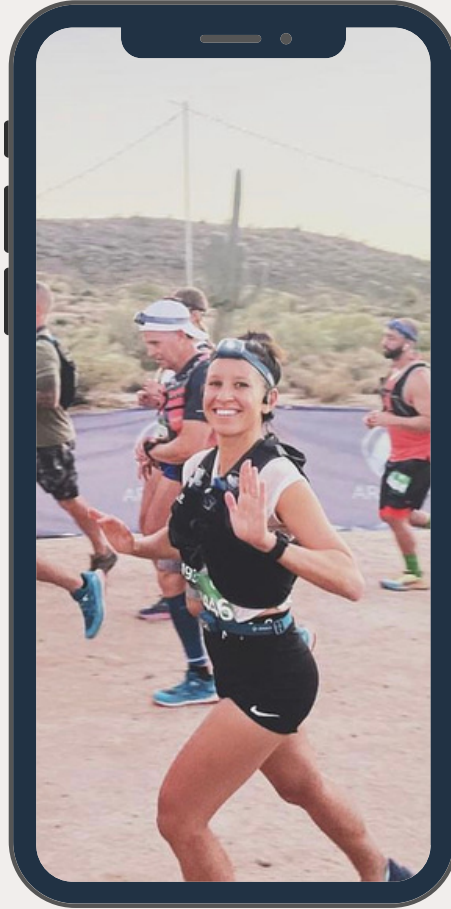
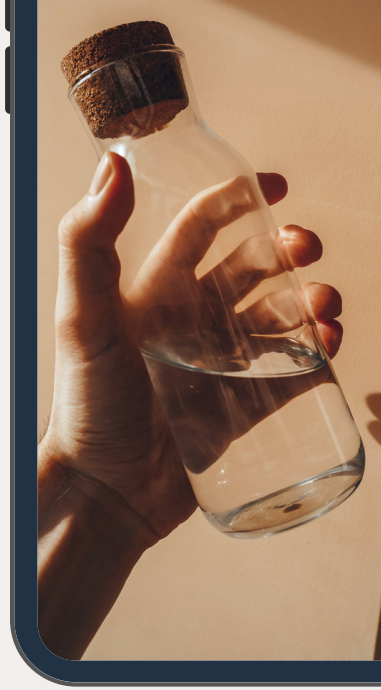
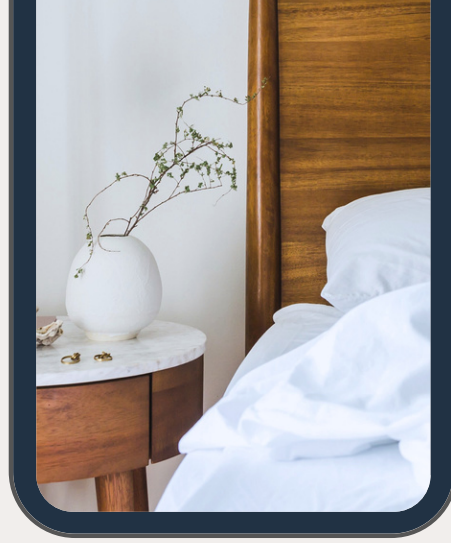


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What is Sports Nutrition?



Sports nutrition is all about fueling your body to perform better, recover faster, and stay healthy. It's not just what you eat—it's how you eat, when you eat, and how you support recovery with hydration, sleep, lab monitoring, and, when appropriate, supplements. Think of your body as a high-performance engine: giving it the right fuel at the right time makes everything work better.

Who Can Benefit?

Anyone who exercises with purpose can benefit from sports nutrition. Whether you run, lift weights, play recreational sports, or just want to move better, eating and fueling strategically can boost your energy, strength, and recovery. Even if you're a weekend warrior or casual athlete, small nutrition tweaks can make a noticeable difference in endurance, performance, and overall health.



Energy Balance

Energy balance is the relationship between the calories you consume and the calories you burn. Calories come from foods and beverages and are used for basic functions like heart and brain activity, daily movement such as walking or chores, digesting food, and structured exercise like running, lifting, or sports.

An energy deficit occurs when calorie intake is less than energy burned, which can lead to hormonal changes, slower metabolism, weaker bones, delayed muscle repair, fatigue, and decreased performance.

Fueling according to your activity level is essential for maintaining performance, recovery, and long-term health. Tracking intake and exercise with apps like Cronometer can help ensure you meet your needs.

Macronutrient Goals: Fueling Your Training

Athletes need the right balance of carbohydrates, protein, and fats to perform their best, recover well, and stay healthy.

- **Carbohydrates** are the main fuel for muscles, supporting endurance, speed, and overall performance. Timing matters: eating carbs before, during, and after exercise helps maintain energy and promotes recovery.
- **Protein** repairs and builds muscle tissue after training, supporting strength gains and adaptation. Spreading protein intake throughout the day, and including some after exercise, yields the best results.
- **Fats** provide steady energy for longer sessions and support hormone production and overall health. Focus on high-quality sources, especially omega-3s, to reduce inflammation from intense training.



Example Macronutrient Targets for a 70 kg (155 lb) Athlete

Carbohydrates: Daily Fuel: 210g/day (3–10 g/kg), up to 500 g on heavy training/race days (12 g/kg)

Food choices: rice, potatoes, sweet potatoes, starchy vegetables, fruit.

Pre-workout: easy-to-digest carbs like bagels, crackers, or white rice.

Protein: Muscle Repair: 84–140 g/day (1.2–2 g/kg)

Post-workout: ~21 g (0.3 g/kg) within an hour

Sources: lean meats, poultry, fish, dairy, beans, lentils, tofu.

Fat – Energy & Hormones: 20–35% of total calories (~70–120 g/day depending on total calories)

Focus on healthy fats: salmon, sardines, chia seeds, walnuts, omega-3-rich foods.



Hydration

Staying hydrated is crucial. Aim to drink roughly half your body weight (in pounds) in fluid ounces daily.

For example, a 150lb athlete should target about 75 oz of fluids. Include electrolytes, particularly sodium, to replace losses during sweat. About 2 hours before exercise, drink 5–10 mL per kg of body weight (~1–2 cups per 20–40 lbs).



During activity, replace fluids lost through sweat and aim for roughly 300–700 mg of sodium per hour if you sweat heavily. Signs you need more fluids or sodium include strong thirst, dark urine, infrequent urination, fatigue, dizziness, or headache. Proper hydration helps maintain energy, endurance, strength, and safe body temperature during workouts

Nutrition Timing & Periodization

Fueling your meals to match your training makes a big difference. On heavy training days, increase your carbohydrate and total calorie intake. After workouts, focus on protein and nutrient-rich foods to help muscles recover. On lighter or rest days, slightly reduce calories while maintaining key nutrients. Eating in alignment with your training session helps optimize performance and recovery without over- or under-fueling.

Sleep & Recovery

Sleep is a critical piece of performance. It restores energy, supports the nervous system, and allows muscles to repair and grow. Sleep also boosts immunity, regulates hormones, and improves focus and reaction time. Most adults need 8–9 hours per night, while teens may need 8–10 hours due to growth and training demands. Consistently sleeping less than 8 hours increases the risk of injury and illness. To improve sleep, keep consistent bed and wake times, prioritize sleep after hard workouts, make your environment cool, dark, and quiet, limit screen time before bed, and consider strategic short naps when needed.

Lab Monitoring During Training

Check in with your healthcare provider about whether lab monitoring could help, especially if you experience fatigue or recurring injuries. Common labs include CBC to assess anemia or infection, CMP for kidney/liver function and electrolytes, CRP for inflammation, iron panel plus ferritin for energy, vitamin D for bones and muscles, and hormones like testosterone and cortisol to ensure recovery is on track. Lab monitoring helps identify issues early and keep your training safe and effective.



Supplements for Athletes

Performance Enhancers (strong evidence)

- **Caffeine:** 3–6 mg/kg 60 min before exercise, boosts endurance and alertness
- **Creatine:** 3–5 g/day maintenance, increases strength and muscle mass
- **Sodium Bicarbonate:** 0.2–0.4 g/kg pre-exercise, can improve short, high-intensity efforts
- **Nitrates (Beetroot):** 310–560 mg 2–3 h pre-exercise, may endurance endurance.

Deficiency Support

- **Iron:** Only if deficiency confirmed; essential for energy and endurance
- **Vitamin D:** 800–2000 IU/day; higher doses if deficient

**Iron and vitamin D should only be taken if lab tests show low levels.*

Limited or Mixed Evidence

- **Multivitamins:** Good for general health, not performance
- **Omega-3s:** May support recovery and reduce inflammation.
- **Curcumin:** May reduce muscle soreness.

Always consult a healthcare provider before starting any supplement, especially if you have underlying conditions.





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Final Thoughts

Sports nutrition is about giving your body what it needs, when it needs it, so you can train harder, recover faster, and feel your best. Small, consistent changes—like timing your carbs around workouts, spreading protein throughout the day, staying hydrated, prioritizing sleep, and checking in on labs—can make a big difference in performance and long-term health. Remember, fueling your body is not one-size-fits-all, so listen to your energy levels, adjust based on how you feel, and reach out to a healthcare professional when needed.

Start with one or two changes this week and build from there—every step counts toward stronger, healthier, and more energized training.

Jacqui Lombardi, MS, CNS, LDN
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