TAS ATHLETICS

Protein and Post-Exercise Nutrition

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Athletes and individuals who participate in regular physical activity can benefit greatly from a protein-rich diet. Protein is responsible for helping to build and repair muscle tissue after exercising and is vital in the recovery process. It also plays an important role in replenishing enzymes and hormones released in the body in response to physical activity.

When protein is consumed, our body breaks it down into branched-chain amino acids or BCAAs. There are two types of amino acids: non-essential and essential. Non-essential amino acids are produced by the body, while essential amino acids must be consumed in our diet. These amino acids circulate in our bloodstream, replenishing pools of BCAAs in our cells where needed. Without them, we would not be able to repair and rebuild damaged tissue, facilitate neurotransmitter conduction, or replenish antibodies. Because of the high physical demands placed on the bodies of athletes, it's imperative they receive enough protein to facilitate these processes.

The recommended daily allowance (RDA) for protein is 0.4g of protein per pound of bodyweight or 0.8g/kg each day (Pendick, 2018). This number signifies the basic minimal requirements for normal functioning. However, athletes, depending on the physical demands of their sport and personal goals, will need to consume somewhere between 0.6 to 1g per pound of bodyweight or 1.2 to 2g per kg. Whey and casein protein are two highly used protein supplements for athletes because of the absorption rate of whey and the slow release of casein.

After exercise, the body is "starving" for nutrients to replenish what was just lost. This is a perfect time to ingest some form of protein to help the body recuperate. Dr. John Ivy, kinesiology professor at the University of Texas at Austin, recommends consuming at least 20g of protein within the two hours following exercise to stimulate protein synthesis and tissue repair. For best results, consume 10 to 20g at least an hour before your activity, followed by 20g after your activity.

High-Quality Protein Sources

- Chicken and turkey breast
- Pork tenderloin
- Lean beef
- Lean ground meats (90/10 or leaner)
- Eggs
- Milk
- Fish (salmon, tuna, mackerel, tilapia, cod)
- Seafood
- Beans
- Low-fat dairy (Greek yogurt)
- Whey and casein protein powders
- Soy-based products (tofu, edamame, seitan)
- Beef
- Vegetable protein powder

References

Andrews, Ryan. “All about Protein: What Is It and How Much Do You Need?” *Precision Nutrition*, Precision Nutrition, 4 Apr. 2018, www.precisionnutrition.com/all-about-protein.

Pendick, Daniel. “How Much Protein Do You Need Every Day?” *Harvard Health Blog*, Harvard Health Publishing, 8 Jan. 2018, www.health.harvard.edu/blog/how-much-protein-do-you-need-every-day-201506188096.