HIGHER HEIGHTS FITNESS

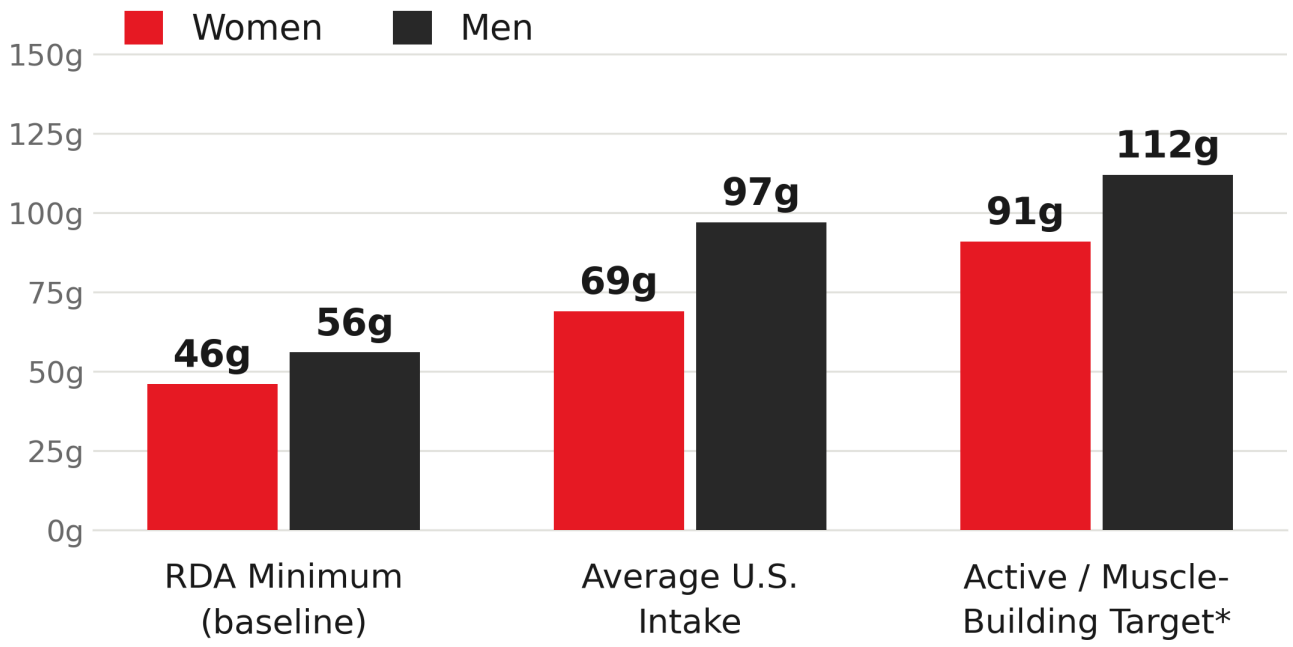
BRECKSVILLE, OHIO

Protein: How Much You Actually Need — and Why Your Nervous System Decides How Well You Use It

Eating enough protein is only half the equation. What your nervous system is doing — during training and between sessions — determines how much of that protein actually gets put to work building muscle.

01 HOW MUCH PROTEIN DO YOU ACTUALLY NEED?

The government minimum (RDA) is built to prevent deficiency — not to build muscle. Most people already eat more than that minimum, but still fall short of what's optimal for someone training. The chart below compares the bare-minimum baseline, the average American's actual intake, and the range that's actually useful for building or preserving muscle.



Grams of protein per day, average-sized adult. Sources: NIH/NASEM Dietary Reference Intakes; USDA NHANES 2015–2016; ISSN Position Stand on Protein & Exercise (2017).

**Active/muscle-building target reflects the ISSN-recommended 1.6–2.0 g of protein per kg of bodyweight/day for most exercising individuals (up to ~114g for women, ~140g for men at the top end). Use your own bodyweight to individualize — ask your trainer to calculate your number.*

02 WHY THE NERVOUS SYSTEM MATTERS FOR USING THAT PROTEIN

Protein sitting in your bloodstream doesn't build muscle by itself — your nervous system has to create a reason for the muscle to use it. Two mechanisms matter most:

- **Neural drive determines the growth signal.** Your brain and spinal cord control which muscle fibers get recruited and how hard, through motor units. Mechanical tension from that recruitment — not protein intake alone — is what triggers muscle protein synthesis in the first place. Train with better focus, full range of motion, and real effort, and you recruit more fibers — giving the protein you eat more places to actually go to work.
- **Your "rest-and-digest" state governs absorption.** The vagus nerve and parasympathetic nervous system regulate the stomach acid, gut motility, and enzyme release needed to break protein down into usable amino acids. When the body is stuck in sympathetic ("fight-or-flight") mode from chronic stress, poor sleep, or overtraining, digestive efficiency can suffer — meaning the same meal may be absorbed and used less effectively.

DON'T SKIP THE CARBS

Carbohydrate isn't just workout fuel — it directly supports muscle building, which is why a protein-only mindset backfires:

- **Protein-sparing effect:** when carbs and total calories are adequate, the body burns carbohydrate for energy instead of breaking down muscle protein for fuel — leaving more amino acids available for repair and growth.
- **Insulin is anti-catabolic:** carbohydrate intake raises insulin, which suppresses muscle protein breakdown and helps tip net protein balance positive when paired with protein.
- **Glycogen fuels the reps that matter:** stored carbohydrate (glycogen) powers the volume and intensity that create the mechanical tension driving growth — under-fueled workouts mean less muscle recruited, less often.

SOURCES

1. National Academies of Sciences, Engineering, and Medicine – Dietary Reference Intakes for protein (0.8 g/kg/day RDA), ncbi.nlm.nih.gov/books/NBK208874
2. USDA/ARS – "Protein Intake of Adults," What We Eat In America, NHANES 2015–2016, ars.usda.gov
3. Jäger et al., "International Society of Sports Nutrition Position Stand: Protein and Exercise," J Int Soc Sports Nutr, 2017, doi.org/10.1186/s12970-017-0177-8
4. Wackerhage et al., "The role of the neural stimulus in regulating skeletal muscle hypertrophy," Eur J Appl Physiol, 2022, doi.org/10.1007/s00421-022-04906-6
5. Staples et al., "Carbohydrate does not augment exercise-induced protein accretion versus protein alone," Med Sci Sports Exerc; Koopman et al., J Appl Physiol, 2007 – carbohydrate/insulin and net muscle protein balance
6. Breen & Phillips, "Interactions between exercise and nutrition to prevent muscle waste," Nutr Metab, 2013 – protein-sparing effect of carbohydrate