FITNESS & EXERCISE

Do You Really Need a Protein Shake?

Protein matters, but a shake earns its place only if it fills a real gap or supports your resistance training.

The shaker is not the starting line

You finish a workout, spot the shaker in your bag and wonder whether the session somehow counts less without it. Protein shakes have become so closely tied to exercise that skipping one can feel like skipping part of the workout. But your muscles do not know whether protein arrived in a bottle or on a plate.

Your body needs dietary protein to build and maintain muscle, bone and skin. You need it every day, and the amount you need varies with your age, sex, health and physical activity. That makes protein important. It does not make a shake compulsory.

Protein is already available in meat, dairy products, nuts, certain grains and beans. Most Americans get enough from their diet. If those foods regularly appear in your meals, a shake may simply add more of something you were already getting.

The useful question, then, is not whether protein shakes work. Supplemental protein can work in particular circumstances. The question is whether adding it changes anything meaningful for you.

What the gym trials found

The strongest case for supplemental protein comes from resistance training. A 2018 systematic review and meta-analysis combined 49 studies involving 1,863 healthy adults. Alongside resistance exercise lasting at least six weeks, protein supplements produced additional gains in strength, fat-free mass and muscle size.

The average differences were real but modest. Supplementation added about 2.5 kilograms to the change in one-repetition-maximum strength and about 0.3 kilograms to fat-free mass. It was more effective in people with resistance-training experience, while its effect on fat-free mass became smaller with increasing age.

There was also a ceiling. Once total protein intake passed the threshold identified by the review, adding still more did not produce further resistance-training-related gains in fat-free mass. A shake cannot keep improving results simply because another serving fits into the day.

A 2022 review of 74 randomised controlled trials reached a similar conclusion. Increasing daily protein produced small additional gains in lean body mass and lower-body strength among healthy adults doing resistance exercise. The effect on bench-press strength was slight, the effect on physical-function tests was minimal, and the evidence for handgrip strength remained unclear. The exercise provides the setting in which the extra protein has most consistently shown value.

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More is not the same as necessary

Those findings leave room for a shake without turning it into a requirement. If you are resistance training and additional protein raises an otherwise lower intake, supplementation may contribute to small extra gains. If you already eat enough, the same evidence gives you no reason to expect endless returns from piling more on top.

This distinction matters because research on supplementation answers a narrow question: what happens when healthy adults increase protein, often while resistance training? It does not show that everyone needs a bottled drink, or that ordinary protein-containing foods have stopped doing their job.

Animal proteins generally provide all the amino acids the body cannot make. Most individual plant proteins do not, which is why eating different types of plant protein is important. That can be done through meals. A shake is one possible source of additional protein, not a separate biological category with powers food lacks.

So the person most likely to have a reason for one is not simply "someone who exercises." It is someone whose goal involves resistance-training gains and whose current diet leaves room for additional protein. Even then, the likely difference is small rather than transformative.

The gaps worth taking seriously

A vegan diet deserves a more careful look, but not an automatic shake. A 2021 systematic review of 48 European studies found that vegan diets were lower in protein than other dietary patterns. It also found lower intakes of several micronutrients, including vitamin B12, zinc, calcium and selenium.

That evidence does not establish that every vegan needs protein powder. It does show why focusing on protein alone can miss the larger picture. Adding a protein shake would not, by

itself, prove that the full diet supplies the nutrients found to be at risk in the review.

Pregnancy is another point at which this stops being a casual gym question. A 2024 systematic review and meta-analysis found that adequate energy and macronutrient intake is essential for supporting maternal needs and fetal growth. Across the included studies, average total energy intake was below the average requirement during pregnancy.

But that review did not test whether protein shakes solve the problem. If you are pregnant, have a health condition, or have been told that your nutritional intake may be inadequate, your needs should not be inferred from fitness advice. That is the point to discuss your overall diet with a qualified healthcare professional rather than adding a shake and assuming the issue is settled.

Make the shake prove its job

On Monday, take a sheet of paper and a pen. Write down the meals you usually eat on an ordinary day, then underline the foods that provide protein: meat, dairy products, nuts, grains or beans. You are not calculating a target. You are looking for whether protein is already a routine part of your food.

Next, write one sentence describing the job you expect a shake to do. Perhaps it is intended to add protein while you pursue resistance-training gains, or to fill an obvious gap in meals. If you cannot name the gap, the shake has not yet justified itself.

If your list already shows regular protein sources, remember what the trials actually found: extra protein produced small benefits during resistance training, and benefits did not keep rising once total intake was already high enough. You may still choose a shake, but the evidence does not turn it into a necessity.

If the page shows little protein, or if pregnancy, a vegan diet or your health makes the answer less straightforward, take that same paper to a healthcare professional. A sheet of paper and a pen are enough to replace a vague worry with a specific conversation-and to decide whether the shaker belongs in your next week at all.

Where this comes from

- Dietary Proteins

  MedlinePlus, U.S. National Library of Medicine · https://medlineplus.gov/dietaryproteins.html
- Dietary Guidelines for Americans, 2020-2025 (Protein Foods sections)

Dietary Guidelines for Americans · https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf

- A systematic review, meta-analysis and meta-regression of the effect of protein supplementation on resistance training-induced gains in muscle mass and strength in healthy adults.

British journal of sports medicine, 2018 · https://pubmed.ncbi.nlm.nih.gov/28698222/

- Systematic review and meta-analysis of protein intake to support muscle mass and function in healthy adults.

Journal of cachexia, sarcopenia and muscle, 2022 · https://pubmed.ncbi.nlm.nih.gov/35187864/

- Intake and adequacy of the vegan diet. A systematic review of the evidence.

Clinical nutrition (Edinburgh, Scotland), 2021 · https://pubmed.ncbi.nlm.nih.gov/33341313/

- Maternal macronutrient and energy intake during pregnancy: a systematic review and meta-analysis.

BMC public health, 2024 · https://pubmed.ncbi.nlm.nih.gov/38360655/