

**RECOMMENDATIONS FOR OPTIMAL DIETARY PROTEIN REQUIREMENTS IN GERIATRICS**

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ABSTRACT

To ensure good health, improve recovery from sickness, and maintain functionality, older persons require more dietary protein than younger adults. Older persons must compensate for age-related changes in protein metabolism, such as increased splanchnic extraction and diminishing anabolic responses to protein consumption. They also require more protein to compensate for the inflammatory and catabolic conditions associated with chronic and acute diseases that are common as people age. Most older persons with acute or chronic disorders require higher protein in their diet (1.2-1.5 g/kg body weight/d). Protein quality, time of ingestion, and use of additional nutritional supplements may all be important, but there isn't enough research to make particular recommendations just yet. Physical function capability decrease in the elderly is associated with loss of independence, falls, and even mortality. As a result, future research targeted at determining optimal protein intake in specific populations of older adults must include physical function assessments.

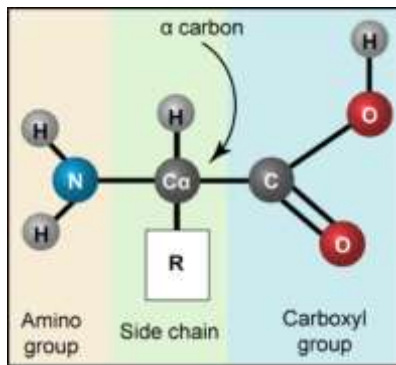
KEYWORDS: Dietary Protein, Exercise, Physical Function, Protein Quality, Geriatrics.

WHAT IS PROTEIN?

Proteins needed by older folks. Amino acids are the building components of protein. Our bodies require 20 distinct types of amino acids. Nine of these are regarded as "essential," which means that since our bodies cannot produce them, we must obtain them from diet.

Because they include all nine essential amino acids, animal-based protein sources are frequently referred to as "complete" proteins. This applies to dairy, eggs, and meat. Because they include some but not all of the essential amino acids, plant-based protein sources are frequently referred to as "incomplete" proteins.

To ensure their bodies are getting the protein they require, those who follow a plant-based diet simply need to make sure they eat a variety of plant-based proteins throughout the day.



Nutritional Value of Protein

After consuming rapidly-absorbed protein sources, older adults appear to have a more favorable overall protein balance than younger individuals. A slower-digesting dietary protein (casein) led to a higher protein increase in young males than a faster-digesting protein (whey protein). Depending on how quickly the protein was digested, different pathways contributed to this increase. However, whey protein, a swiftly digested protein, increased protein gain in older participants, but casein, a slowly digested protein, decreased it.

Longer-term research is needed to prove that this strategy lessens body protein losses throughout ageing, although this suggests that a "fast" protein may be more advantageous to minimize protein losses in older persons. Recent research has also shown that resistance training combined with a 2–10 g/day whey protein supplement, as opposed to the same quantity of a casein protein supplement, results in better improvements in muscle strength in an elderly population.



It is obvious that getting older is linked to less effective chewing in addition to varying absorption and



Protein for General Well-Being

For older persons' general health, protein is crucial. Protein is present in every cell of our bodies, not just in our muscles. Our skin, hair, blood, bones, and other body

metabolism rates between various food sources. For instance, it has been demonstrated that servings of minced beef digest more quickly than portions of intact beef, increasing amino acid availability and increasing postprandial protein retention, even though this acute study did not demonstrate increased postprandial muscle protein synthesis (MPS).

Why is protein important for geriatrics?

One macronutrient that is necessary for life is protein. This implies that everyone is dependent on this vitamin to survive. Protein helps older persons retain their physical function, muscle mass, and immunity.

The amount of protein needed by older persons may differ from that of younger adults. The **DIETARY REFERENCE INTAKE (DRI)** outlines the recommended daily intake of protein. Adults need 0.8 grams of protein per kilogram of body weight as their DRI for protein. An guy weighing 150 pounds would require about 55 grams of protein each day. For both older individuals and younger adults, the DRI for protein is the same. However, studies indicate that elderly persons could actually require more protein.

Protein for Muscle Protection

The slow loss of muscle with ageing is known as **SARCOPENIA**. It lowers the quality of life for older people and robs them of their independence. Age-related muscle protection is crucial. Additionally, protein is crucial for keeping muscle safe.

The first strategy to avoid or minimize muscle loss is to consume enough calories to prevent accidental weight loss. Next, we must ensure that an older adult consumes adequate protein and engages in both resistance and endurance training. Exercise and protein work together to protect muscle in older people.

tissues are all made of protein. Protein is crucial for good health in general.

Malnutrition brought on by insufficient protein intake raises the risk of falls, hospitalizations, disability, and early mortality. Simply put, protein is crucial. We must ensure that older persons receive enough.

Protein Requirements for Geriatrics

The precise amount of protein needed by older persons is not yet known. To sustain muscle, it is advised that most older persons ingest 1-1.2 grams of protein per kilogram of body weight, according to recent studies and expert opinion.

Around 68–82 grams of protein per day would be required for a person weighing 150 pounds. In

comparison to a person of the same weight who consumes 0.8 grams of protein per kilogram of body weight, this would be a daily increase of 13–27 grams of protein.

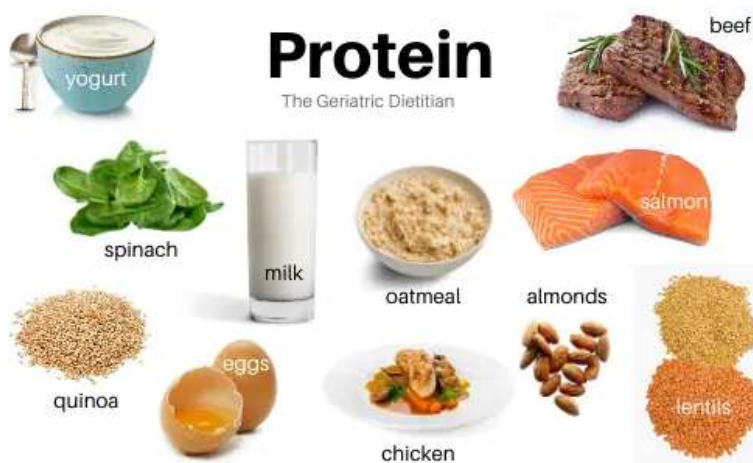
There are some circumstances where a senior may require additional protein. For instance, if they have a pressure injury or a wound that is not healing. Or perhaps they are recovering from an injury in the hospital. An older adult may also require less protein in some circumstances, such as if they have kidney problems.

Age	Source	Recommended grams of protein per kilogram body weight
Age 18 and above	Dietary reference intakes	0.8
Age 65 and above	Expert advice/research	1.0 - 1.2

Protein-Rich Foods

The greatest approach to obtain protein is first through meals. Notably, some of the foods with the highest protein content come from animal sources. To ensure

they are getting adequate protein, older individuals who follow a vegetarian or vegan diet plan should eat a wide variety of plant-based, high-protein foods throughout the day.



High-Protein Food Sources Include

BEEF	CHICKPEAS
YOGURT	EGGS
SALMON	OATMEAL
CHICKEN	SPINACH
ALMONDS	GREENPEAS
MILK	LENTILS
QUINOA	NUTS & SEEDS

Supplements With Protein

Not everyone can get the necessary amount of protein from diet alone. If dietary changes haven't worked, consuming protein supplements may. Protein beverages and powders are examples of protein supplements. Protein supplements should be used with caution since they can facilitate the provision of excessive protein.

Powdered Protein

Protein powder for senior citizens. An older adult can increase the protein in the foods they already eat by using protein powders. It may be incorporated into drinks or dishes like muesli or pudding. There are numerous varieties of protein powder available:

Whey protein, Casein protein, Soya protein, Pea protein, Hemp protein.**Protein Beverages**

Pre-made protein beverages are a convenient method to get enough protein. Oral nutrition supplements, in contrast, are calorie- and protein-rich nutrition drinks. For people who don't require the extra calories of an oral nutrition supplement, protein beverages are a good alternative.



There are numerous varieties of protein drinks available. Finding one that an older adult will genuinely love and drink is the key. One method to add diversity to protein drinks is to add flavoring syrups. They can also be frozen and served in bowls with ice cream.

Protein Suggestions For Acute And Chronic Conditions

Elderly individuals with certain acute or chronic disorders should follow recommendations for protein levels.

- Depending on the condition, its severity, the patient's nutritional status before to the disease, and the influence of the disease on the patient's nutritional status, additional dietary protein or supplemental protein may be required.
- People with severe illnesses or injuries or those who have severe malnutrition may need as much as 2.0 g/kg BW/d of dietary protein. This is true for the majority of older individuals who have acute or chronic diseases.
- The exception to the high-protein rule is older persons with severe renal disease (i.e., estimated glomerular filtration rate [GFR] 30 mL/min/1.73m²)

who are not on dialysis; these people need to decrease their protein consumption.

Combining Exercise and Protein Intake in Geriatrics

- It is advised to engage in endurance activity for 30 minutes each day or at personally safe and tolerable levels. Include progressive resistance exercise when you can; aim for twice or three times per week for sessions lasting at least ten to fifteen minutes.
- If necessary, increase food protein intake or give supplementary protein to get a total daily intake of at least 1.2 g protein/kg BW; you might also think about recommending a 20-g protein supplement after workouts.
- Taking extra protein or amino acid supplements is advised right after exercise; some research also suggests eating protein right after therapy sessions.

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