NEWS YOU CAN USE

Pro-Muscle, Pro-Memory, Pro-Immunity, Pro-Bone– THAT'S PROTEIN!

PROTEIN 101: YOUR POWERHOUSE

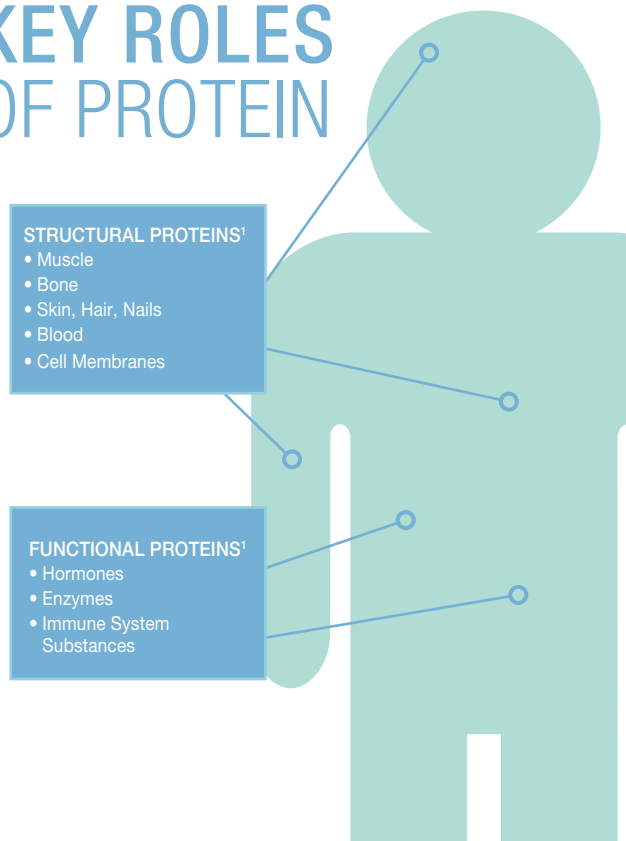
Today everyone is talking about protein. How much do we really need? What are the best sources to eat? Do we need to eat more protein if we are active? Does it matter when we eat our protein? Does protein help with weight management? Can more protein help us retain muscle as we age? These questions are hot topics in nutritional science today.

Protein is found literally everywhere in our body providing structure to our muscle, skin, hair and even our cell membranes. An incredible 42% of the dry weight of our body is protein—but proteins are not just for building structures. We tend to forget that our digestive enzymes and many hormones in our bodies are pure protein too![1] Without protein our body systems simply can't function! Even when we are fully grown adults, we need regular protein as our cells and tissues are constantly renewing themselves. Let's also remember that protein is used as a source of fuel, providing the same number of calories per gram as carbohydrates.

How Much is Enough?

A matter of much discussion and controversy but typically, adults are recommended to consume a minimum of 0.4 grams of protein per pound (or 0.8 grams per kilogram) of weight or to consume between 10 to 35% of daily calories from protein sources.[1] For a 140 pound female, that may mean around 50 grams from mixed sources of high quality protein needed per day. However, protein needs are greater if you are very active. In these cases,

KEY ROLES OF PROTEIN



protein may need to be increased to 0.5 to 0.9 grams of protein per pound (or 1.2 to 2.0 grams of protein per kilogram) of body weight.[2] Recent research also suggests that older adults need more. **Use our protein calculator tool to calculate how much you may need!**

Great protein sources include seafood, meats, poultry, eggs, nuts, seeds, legumes (beans and peas) and soy products like tofu. Protein foods usually contain a lot of other valuable nutrients such as B vitamins, selenium, choline, phosphorus, zinc, copper, vitamin D and E, and essential fats.[4] However, it is important to remember that not all the protein that we eat is of the same value in terms of quality. Protein quality as well as quantity matters.[1]

The Foundation: Amino Acids Build Proteins

As we know, amino acids are the basic building blocks (or bricks) of proteins. Different tissues in our body are built from different amino acids.[5] Let's look at an example we all care about: building and retaining muscle.

There are two types of amino acids, essential and non-essential. Essential amino acids are considered essential because your body cannot make them. Within this group are the branched chain amino acids or BCAA (they're branched in their chemical structure—hence the name) and they include one called **leucine**. **Leucine** is particularly helpful in triggering muscle protein synthesis—think of it as the starter foundation for when you're building your protein "house". Having high quality protein that contains leucine is helpful for all, but particularly older adults. The other amino acids are considered non-essential because our body CAN make them, but it is important to have the right balance of all amino acids as different tissue structures are built from different amino acid "bricks". Think about it—they are building up so many important different protein sources in your body—just like a house, you need to make sure that the right material is all there because if not, then the house will crumble!

Not All Protein Is Created Equally!

But is all protein the same? Not at all! Protein quality matters because it impacts many things such as tissue repair and your lean muscle mass.[6] It has been shown that protein from animal sources is of high quality and this can be important for all life stages but particularly during childhood when demands for growth are so great. However, plant sources have been shown to be valuable too and can provide high quality protein, particularly when different sources are combined.

The quality of a protein is determined by the amino acid components, how many of the essential amino acids they contain, how well the component amino acids are digested and how much of these get absorbed for use in the body.[7] There are different scales to determine the quality of protein—the development of these different protein scales goes back 100 years! Countries also have unique scoring systems for protein and this is continuously evolving as we learn more about what makes a

ARE YOU GETTING ENOUGH PROTEIN?[1,3]

Use our protein calculator tool to calculate how much protein you need:

Weight (lbs)	÷ 2.2 =	Weight in Kilograms	x	Activity Factor	=	Total Protein Needed Per Day (Grams)
_____		_____		_____		

ACTIVITY FACTOR	ACTIVITY LEVEL / LIFE STAGE
0.8	Sedentary
0.8 – 1.0	General fitness
1.0 – 1.2	Older adults
1.2 – 1.5	Moderate amount of intense training
1.7 – 2.0	High volume of intense training

*Protein needs are for current weight and are not intended for weight loss measures.

(continued on page 6)

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protein an "excellent" and high quality protein. **Some proteins such as proteins from milk like casein and whey, egg, and soy protein are high quality proteins**.

NeoLifeShake and **NeoLife Sport Performance Protein** were built to give you the highest quality protein. The NeoLife exclusive Protogard Process treats the protein at a low heat to ensure the integrity and quality of the proteins and component amino acids within the shakes.

The quality of protein you eat daily impacts the structure and function of your body and your ability to be physically active which in turn may influence your long-term health outlook and the onset of nutrition-related chronic diseases or how successfully you age.[6]

Protein And Weight Management: Pace Your Protein!

The latest research in protein consumption, nutrition and weight loss indicates that it is not only the consumption of protein that is important but also the time of day the protein is consumed that has a pronounced effect on satiety and weight loss. Research shows that consuming a protein-rich breakfast has a positive effect on satiety and helps keep the satiety system activated throughout the day, which contributes to consuming fewer calories and to weight reduction.[8] The satiety effects, as well as reduced hunger and cravings after consuming a protein-rich breakfast have even been measured in the brain using a high-technology technique called functional magnetic resonance imaging (fMRI).[9]

Recent research has also emphasized the benefit of regular protein consumption through the day—a concept which is called protein pacing. This means that it is far better for the body's retention of protein and muscle building, to have a reasonable amount of protein (20-30 grams) at a few time points during the day rather than in a single high protein meal at the end of the day.[10,11]

So, to give yourself the best chance to lose fat and build muscle, try incorporating a convenient source of high quality protein into your daily meal planning. **NeoLifeShake**, clinically proven in a leading research laboratory to have cardio protective benefits, reduce body fat and body size (including waist circumference) and to lower body mass index (BMI), is a product you can trust to kick start your day and to help your weight management goals.*[12]

As We Age, Our Foundation Fades: Needs For Older Adults

As we age, our bodies change and as we get older we need more protein. Aside of needing more protein to account for general needs, there is evidence showing that protein can help with aiding age-related muscle loss called sarcopenia.[13] It is easy to say "eat more protein!" but it is common for older adults to consume less than the recommended

NEOLIFE FOCUSES ON **QUALITY PROTEIN**

NeoLife nutritional products offer the highest quality protein sources. **NeoLifeShake** provides **18 grams of protein** (including **3.4 grams of BCAA** including **1.5 grams of leucine**) per serving in 3 delicious flavors. Whether you are drinking the shake as part of an active lifestyle or to help with weight management—NeoLifeShake provides a high-quality protein which is nutritionally-balanced and nutrient-packed to help you power through the day. NeoLifeShake with NeoLife's proprietary fiber blend was specifically designed to assist digestion and aid satiety.

#3804 – Creamy Vanilla
#3805 – Berries n' Cream
#3806 – Rich Chocolate

NeoLife Sport Performance Protein offers an impressive **26 grams of protein** (when mixed with 8 ounces of non-fat milk), and **5.7 grams of BCAAs** including **2.6 grams leucine**—the amount needed for optimal muscle building and retention. Further, it has 5.1 grams of glutamine and glutamic acid to support immune strength and the integrity of the digestive tract.*

#3212 – Vanilla

†Results are not typical. In an open label clinical study participants lost an average of 5.27 lbs. over a 12 week period.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

KEEP YOUR STRENGTH! **WHAT IS SARCOPENIA?**

You snooze, you lose, but the same can happen with your muscle. **Sarcopenia is a condition where your muscle mass declines and this can consequently lead to a loss of muscle strength**.[16] This loss in muscle mass can also contribute to frailty, disability, physical dependence and mortality and this isn't great to hear at all![15] And we think of protein as just contributing to muscle health but the prevention of sarcopenia is also important for reducing the risk of fractures and osteoporosis.[13] When muscle mass is lost, the loss of bone mass comes into play—muscle strength helps increase bone density. Muscle strength is needed for balance and posture and when these fail, there is a risk of falling and with this, an increased risk of getting fractures. Remember that walking is a series of calculated falls and having proper muscle strength and muscle mass can help ensure you're at lower risk from falls and fractures.

And a heads up, once you reach the age of 30, your muscle mass may decline at around 1% per year and for some the pace may be more severe.[16] **But there is hope!** There has been a lot of recent research on how to prevent or slow down the progression of muscle loss with aging. The first step is to ensure that you're consuming adequate protein levels and quality for your age as described earlier.

There is research that really indicates that 25 to 30 grams of a high quality protein per meal containing 2.5 to 2.8 grams of leucine is necessary to help stimulate muscle protein synthesis in older adults.[15,17]

For older adults who may not consume more than the RDA (of 0.4 grams protein per pound, or 0.8 grams protein per kilogram of body weight), **leucine** supplementation of 4 grams/meal may be able to improve muscle protein synthesis.[18] Consistent protein doses or "protein-pacing" throughout the day can be particularly helpful for building and retaining muscle, especially among older adults.

TURBO CHARGE WITH **HIGH QUALITY PROTEIN**

Other new research also emphasizes that perhaps older adults need even more protein than is currently recommended. One study conducted over 12 weeks with elderly subjects (age 70 to 85) showed that when older adults were given 0.7 grams of protein per pound of body weight (or 1.5 grams of protein per kilogram of body weight) per day via a protein powder supplement, this had the most beneficial effects for preventing sarcopenia and frailty compared to older adults who consumed 0.4 or 0.5 grams of protein per pound of body weight (or 0.8 or 1.2 grams of protein per kilogram of body weight).[19] The study also showed that this amount of protein improved muscle mass in the arms, legs and other muscle regions in older adults, and protein also helped in improving comfortable walking speed.[19]

amounts of protein. A study revealed that adults over the age of 50 years of age often failed to meet the recommended daily allowances (RDA) for protein and this lack of protein can ultimately lead to muscle loss.[14]

With aging and the associated muscle loss that may occur, more protein is needed. It is recommended that older adults consume about 0.5 grams per pound (or 1.2 grams per kilogram) of body weight a day of protein to maintain optimal muscle function, which is higher than the general recommendation for adults of 0.4 grams of protein per pound (or 0.8 grams per kilogram of body weight).[13,15]

Keeping The Foundation Stable: Other Nutrients That Support And Work With Protein

There are a range of other nutrients that may positively impact muscle strength. One study called "The Vitality, Independence, and Vigor Study (VIVE2)" evaluated 149 older adults and they were placed in either one group required to consume a nutritional supplement beverage containing both 20 grams of whey protein and a combination of 800 IU vitamin D, 350 mg calcium and other vitamins and minerals or another group that did not receive these added nutrients.[20] All of the older adults in this trial were initially vitamin D deficient and all participated in a structured physical activity program. The authors found that physical activity was immensely protective for optimal muscle health. They also found that the adults who consumed a high protein, high vitamin D supplement beverage had a reduction in the fat found within the muscle and generally improved muscle composition compared to the group that did not have this supplementation.[20] This highlights the fact that **vitamin D** may also play a large role in protecting older adults from loss of muscle along with protein and physical activity! Something to note and remember is that **vitamin D, calcium and magnesium** all play important roles in bone health. Vitamin D promotes calcium absorption and can support bone, heart, and immune health as well. **NeoLife Cal-Mag incorporates the powerful trio of calcium, vitamin D, and magnesium to support healthy muscle function and bone health**.* The special formula contains the chelated forms of the minerals to help ensure maximum absorption.* In addition, daily supplementation of calcium and vitamin

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D combined may reduce the risk of bone fractures in all adults, regardless of age or gender.

Move on over to **omega-3s** as these mighty fatty acids have been shown to increase the rate of muscle building.[21] A group of 16 healthy, older adults were either given supplements with omega-3 fatty acids or given corn oil supplements for 8 weeks and it was found that the group that took the omega-3s had an indirect increase in the rate of muscle protein synthesis, similar to the effects of **leucine**, the branched chain amino acid we discussed earlier.[21] Omega-3s, particularly the ones found in seafood, have a powerful influence on cell membrane structure with anti-inflammatory properties. Pairing these two—protein and omega-3s can pack a powerful punch to help protect muscle loss! **A great way to incorporate more omega-3s into your system is by taking a high-quality, omega-3 supplement such as NeoLife Omega-III Salmon Oil Plus**.

Omega-III
Salmon Oil Plus
#3502 – 90 softgels

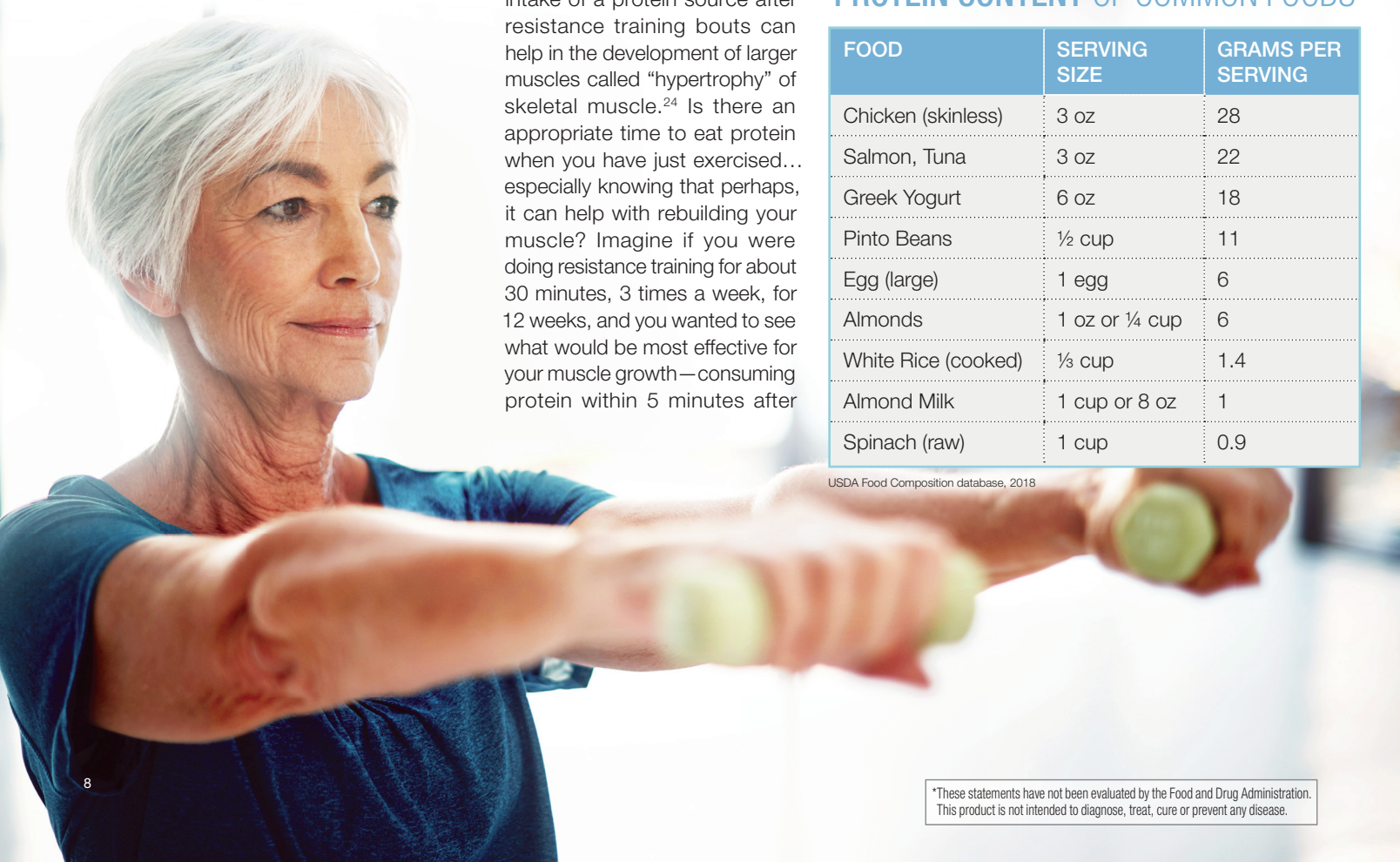
Resistance Training And Protein Timing In Older Adults

Exercise has been shown to help build muscles, especially in older adults.[22] A combination of consuming protein and exercising can be a power house for increased physical performance and muscle mass increase![22,23] **Resistance training is helpful with muscle growth**. Some examples of resistance training include chest press, leg extension, leg press, rowing, or lat pulldowns. **NeoLife social media pages and blogs offer great examples of some resistance training exercises**.

Evidence has shown that an intake of a protein source after resistance training bouts can help in the development of larger muscles called "hypertrophy" of skeletal muscle.[24] Is there an appropriate time to eat protein when you have just exercised… especially knowing that perhaps, it can help with rebuilding your muscle? Imagine if you were doing resistance training for about 30 minutes, 3 times a week, for 12 weeks, and you wanted to see what would be most effective for your muscle growth—consuming protein within 5 minutes after working out or consuming protein 2 hours after each training session. That's exactly the type of investigation that happened in a group of elderly men, between ages 70 to 80 years old.[24] These group of elderly men took part in a 12-week resistance training program and were instructed to either take protein immediately after the resistance training session or 2 hours after the session. This study showed that an oral protein supplement immediately after training was helping to achieve skeletal muscle growth even in these elderly men.[24] This goes to show that no matter what age, we can benefit from adding a protein source after a resistance training routine.

Ways To Integrate More Protein Into Your Daily Diet

We hear you! It is tough to know some ways to integrate protein into your diet. We have listed the top ways to incorporate more protein into your daily diet and a few examples!



PROTEIN CONTENT OF COMMON FOODS

FOOD	SERVING SIZE	GRAMS PER SERVING
Chicken (skinless)	3 oz	28
Salmon, Tuna	3 oz	22
Greek Yogurt	6 oz	18
Pinto Beans	½ cup	11
Egg (large)	1 egg	6
Almonds	1 oz or ¼ cup	6
White Rice (cooked)	⅓ cup	1.4
Almond Milk	1 cup or 8 oz	1
Spinach (raw)	1 cup	0.9

USDA Food Composition database, 2018

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1 Aim for lean protein varieties

Great examples of lean protein varieties include meats like beef, lamb, veal; poultry such as turkey, chicken; fish and seafood like crab, shrimp, salmon; eggs, nuts and seeds, legumes/beans including beans, lentils, and tofu. Some grains such as quinoa have high protein content as well (8 grams of protein per cup!).

2 Snack time can be a great time!

An easy way to incorporate snacks into your daily meals is to have tasty protein-rich snacks. Of course, the **NeoLifeBar** offers 10 grams of satiating protein and fiber to help keep you full for longer. Another way of having great snacks is by having a handful of nuts or seeds. These pack healthy fats and both protein and fiber to help when hunger strikes.

NeoLifeBar
#3850 – 15 Bars

3 Drink your protein!

Protein shakes can be an easy way to get your protein in a drinkable form. You can pack a protein supplement drink anywhere and when you're ready to consume, you can mix it with water. Try **NeoLifeShake** in 3 delicious flavors, Creamy Vanilla, Berries n' Cream, and Rich Chocolate. **With 18 grams of high-quality soy and milk proteins**, this is a great, fast way to pace your protein!

NeoLifeShake Packets
#3808 – Berries n' Cream
#3809 – Rich Chocolate
#3807 – Creamy Vanilla

Conclusion: Stay Strong And Get Your Protein On!

Protein and the amino acid building blocks play vital structural and functional roles in our body. Not all protein sources are of the same quality and that's something to keep in mind. Quality and quantity matter at all ages, but it is particularly imperative that everyone who is physically active and particularly golden agers consume adequate amounts of protein at regular intervals throughout the day to help build and maintain optimum muscle mass and strength. High-quality convenient protein shakes such as NeoLifeShake and NeoLife Sport Performance Protein are great to help us achieve this.

As with all things, keeping ourselves in peak condition is not only about what we ingest but our overall lifestyle including our physical activity levels, stress management, good sleep, and the positive relationships we have in our lives. A healthy balance of all these elements, and constant good protein supplies to our body, can ensure that we have the best tools to build a healthy foundation for our life! ■

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