



Increasing Lean Muscle Mass

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Did you know the number one variable to increase longevity is your percent of lean muscle mass? And current research documents that age is NOT a deterrent to build muscle.

Professor Luc Van Loon specializes in exercise physiology and nutrition in the Netherlands. He and his team think totally outside the box. One of Professor Van Loon's experiments involved infusing a rare and trackable isotope into a cow. Then his team milked the cow and 24 hours later slaughtered it. In subsequent experiments his team used the milk and beef to track with "painstaking precision as it progresses from a person's mouth to their biceps by taking frequent samples of blood and biopsied muscle tissue in the hours after a meal".

In subsequent experiments they found about 55% of the "glowing cow" protein made it into the subjects' circulation within five hours. 11% percent of the ingested protein was incorporated into new muscle. The other 45% went mostly to the gut and liver.



Van Loon's work is very thorough and has a lot of intricacies. For example, only about 0.25 grams of protein per kilogram of body weight can be used for protein synthesis from each meal. For someone that weighs 175 pounds that's 20 grams of protein. Just to give you an idea: 3 ounces of fish, a cup of lentils, 3 ounces of beef, would get you in the ballpark to accomplish your goal. Obviously to build muscle, multiple doses each day yield the best results. Based on that data, Van Loon and his team decided to experiment with a pre-bedtime dose

of protein to see if they could boost muscle synthesis during sleep. They used a feeding tube directly into the stomach with 40 grams of protein. It worked and soon he began to get calls from sports coaches looking to find gastric feeding tubes. He laughed and explained to them that you can just eat protein before bed.

Another factor most people are not aware of is the relationship between eating and exercise. Van Loon says "Exercise before you eat and your muscles become more sensitive to protein's signals.

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You can't study food without exercise, and you can't study exercise without food, there's a synergy between them."

Speaking of protein signals Van Loon explains amino acids are not just building blocks of muscle. But they also serve another role as a signaling molecule, triggering the growth of new muscle. One amino acid in particular, leucine, seems to be the most potent anabolic signaler. Of course, you need all the amino acids together to effectively build muscle.



Just as exercise increases signaling the growth of new muscle, there are factors that inhibit sensitivity to protein signaling. Aging is one of them, and that's why Professor Van Loon suggests a larger portion of protein for older adults; 0.4 grams per kilogram instead of the 0.25 that he normally recommends. By increasing one's protein to 0.4 grams per kilogram you maximize their rate of protein synthesis.

I suspect the reason for the increased need for protein is one's decreasing ability to digest protein as we age. I learned a long time ago that digesting the appropriate levels of protein is just as important as eating it. It takes a lot of energy to concentrate hydrogen ions to make HCL. If you commonly have gas, burping or bloating, ask your wellness clinician to assess your need for the right digestive support.

But the big gorilla in the room when it comes to decreasing muscle is bed rest. His group found a 3.1 pound loss of lean muscle in one week when confined to bed rest. So the old adage move it or lose it is more true than we realize. When building muscle we also want to consider growth hormone because it declines as we age. Since the highest levels of natural growth hormone are secreted during exercise and while

sleeping, a program with aerobic exercise and progressive resistance training is essential.

A supplement I recommend in the prevention and treatment of muscle loss is Gammanol Forte with FRAC. Here's why. Dr. David Brownstein did a small study assessing growth hormone. Using Gammanol Forte with FRAC, two tablets, 3 times a day, he found 10 out of 10 women ages 29 to 77 had increases in growth hormone after supplementing for 5 weeks. Gamma Oryzanol is a fat soluble antioxidant

compound that comes from rice. The molecule also contains small amounts of a water soluble component called ferulic acid or FRAC. However, most of the research pointed to the water soluble component, ferulic acid, as having the strongest phytochemical properties.

In light of this, Biotics Research substantially increased the ratio of ferulic acid to pure gamma oryzanol in Gammanol Forte with FRAC. Each tablet is 50 mg of water soluble ferulic acid to 25mg of pure gamma oryzanol.

People routinely say they just feel stronger, especially elderly adults. Overall, Van Loon points out we break down and rebuild 1 to 2 percent of our muscle each day, meaning that you completely rebuild your muscles every two to three months.

Since the number one variable to increase longevity is % of lean muscle mass, I encourage you to start your anti-aging program now. Yes, it's an investment of time and money to build muscle but there is no substitute for quality of life. Make an appointment with your wellness clinician.

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