Amino acids are important for many structures and functions; however, this article will focus on one specific function of importance: the direct incorporation of amino acids into muscle tissue for building muscle mass and strength.

Scientists describe three types of amino acids:

- **Non-essential amino acids**, which our bodies can make from food sources as long as we obtain adequate nutrients in our diet.
- **Essential amino acids**, which must come from protein in the diet. Our bodies cannot make this type.
- **Conditionally essential amino acids**, which are most needed during physical exertion stress, injury, and recovery from a disease or operation. Under these conditions, our bodies require more essential and non-essential amino acids than usual. And if our system is weak or not properly nourished, we are not able to make enough of the non-essential amino acids to function optimally.

**Do you know Laminine contains all 22 amino acids?**
Laminine contains substantial proteins and a full array of amino acids. In the Laminine formulation, the fertilized avian egg extract is very high in free amino acids. In addition, other unique growth factors, antioxidants and immune factors round out the exceptional formula. It has a complete profile of all the essential and non-essential amino acids in a natural, non-synthetic form. Laminine has been further fortified with naturally occurring simple protein from pea and marine sources, and is a perfect protein supplement.

**Amino acid supplementation can enhance strength and increase muscle mass during workout or exercise**
Amino acid and protein supplementation with easily assimilated proteins has been shown in numerous studies to enhance muscle strength and build muscle. Free amino acids and simple proteins can be absorbed quickly and enter the blood stream especially on a fairly empty stomach.

A large analysis of 22 studies totaling 680 subjects showed that both trained and untrained subjects could increase both muscle mass and strength by consuming supplemental simple proteins and/or amino acids. When individuals took protein supplements 30-60 minutes prior to, or again 30-60 minutes after, the workout or resistance exercise for six weeks, results showed increased gains in muscle mass and in strength as measured by leg press strength.

**How does taking protein while exercising increase muscle mass and strength?**
When the amino acids enter the blood stream and flow to the muscle fibers during exercise, they are incorporated into the muscle fibers (type I and type II fibers). Trained and untrained subjects, both young and older individuals, experienced the effects as compared to individuals who took placebo, such as carbohydrate drinks or water. The amount of protein consumed prior to exercise training was equivalent to nine to 1.5 Laminine capsules.
Does amino acid supplementation help older athletes perform better?
A recent study of 22 women “masters” athletes (ages 52-54 years) who rode in bicycle competitions were evaluated. The group that supplemented with the alanine amino acid for 28 days showed increased cycling performance as measured by the time to become exhausted, and by greater work output. Lactic acid was found to clear much faster from the blood in the amino acid supplemented group as compared to placebo. Lactic acid is the acid produced during strenuous exercise that causes muscle soreness and stiffness.

Solution for Healthy Aging: Take Laminine
As people age, they become frail. They lose muscle mass and their bones become condensed over time. They have been found to be more prone to infections that become serious. One reason is that as aging occurs, digestion and absorption are impaired. Nutrients from food, including proteins, are not absorbed as well as when younger. Elderly people also may not eat as much food as when they were younger. There is loss of muscle mass—partially due to the aging process and less exercise overall.

Studies with elderly people who were given supplemental protein and amino acids showed a gain in muscle mass. Studies have also shown that elderly people supplemented with protein and amino acids can ward off infections better and if they become sick, it is not as severe. For example, influenza virus effects are lessened. This is important to their overall health. Taking Laminine is such a simple solution for obtaining all the amino acids the body needs. The capsules are easy to swallow and can also be opened up and sprinkled on food or mixed in smoothies, yogurt and beverages. Regardless of whether you’re an aspiring athlete or simply trying to get the protein and amino acids your body needs for optimal functioning, taking Laminine is the practical and cost-effective way to boost your health.

References: