

HEALTHY ENERGY + MUSCLE BUILDING

Get your protein and energy from healthy sources

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By now, we're all pretty conversant with supplements. They're being used widely to plug the gaps in our daily stretched diets which not only lack the 5 mandatory servings of fruits and veggies, but don't even meet the bare minimum 3 square meals a day criteria. Having fairly discussed and understood protein powders in this column, I would like to now go over to amino acids and energy products, two very important yet ignored areas of sound supplementation.

AMINO ACIDS

These are the building blocks of protein. Just like a house is made up of bricks, a protein molecule is made up amino acids, 22 in all. These amino acids are further sub-divided into ESSENTIAL and NON-ESSENTIAL. Now don't be misguided by these terms- NON-ESSENTIAL does not mean that they're useless; it only means that the body CAN manufacture them in times of need. The ESSENTIAL AMINO ACIDS (EAAs) on the other hand, CANNOT be manufactured by the body and must be provided through the diet alone.

Essential Amino Acids (EAAs)

The 8 Essential Amino Acids are- leucine, isoleucine, valine, threonine, tryptophan, methionine, phenylalanine and lysine. These must be provided through the diet and are instrumental for muscle building which brings us to the next important principle of new muscle formation.

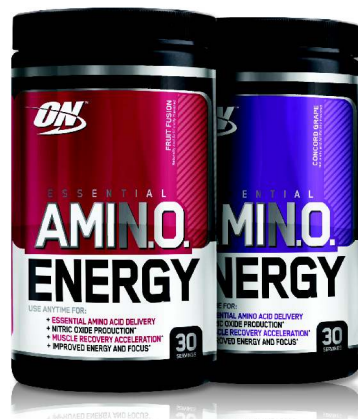
PROTEIN SYNTHESIS

In simple terms, the conversion of food protein into muscle protein is called protein synthesis. It is the key to muscle growth. No protein synthesis = No new muscle formation. Period. The problem is that protein synthesis comes to a screeching halt in the absence of even one EAA. That's correct. If even one of the essential amino acids is missing from your diet, protein synthesis cannot progress which leads to diminishing returns from your hard training workouts

Branched Chain Amino Acids (BCAAs)

Out of the 8 Essential Amino Acids as described above, there are 3 amino acids which are even more important than the other five. These are called the Branched Chain Amino Acids due to the fact that they have aliphatic side chains with a branch. The 3 BCAAs are- Leucine, Isoleucine and Valine.

So why are these BCAAs so important? Well this has to do with the way your body metabolizes substrates for energy. The body's preferred source of fuel for energy production is CARBOHYDRATES. However, during resistance training in the gym, your body's simultaneously switches to BCAAs for energy. Now in the absence of these being present in extra quantities through diet, your body would eat away muscle tissue to get its quota of BCAAs. In case you didn't know, muscle is made up of protein and water. So it stands to reason that to build muscle, you must eat muscle. Or in other words, to build protein (muscle) you must consume sufficient protein.



CAFFEINE IN SUPPLEMENTS- Is it Safe?

Caffeine is a central nervous system (CNS) stimulant, having the effect of temporarily warding off drowsiness and restoring alertness. Beverages containing caffeine, such as coffee, tea, soft drinks, and energy drinks, enjoy great popularity.

Caffeine is the world's most widely consumed psychoactive substance, but, unlike many other psychoactive substances, it is legal and unregulated in nearly all jurisdictions. Caffeine in sports nutrition products would be preferable if sourced from natural plants and leaves rather than the anhydrous variety used in many formulations. Safe yet effective sources of caffeine would ideally be green tea and green coffee. Should you use it pre workout? Absolutely, if you want a more intense and focused workout.

NEW AGE SPORTS NUTRITION INGREDIENTS- Safe yet efficacious

ARGININE- this is an amino acid which although non-essential, is a highly sought after amino since it produces a gas called NITRIC OXIDE which causes a vasodilation effect which leads to greater blood flow to working tissues. What does this mean to the muscle building enthusiast? Greater blood flow, greater transport of nutrients to working muscles and ultimately a bigger and better pump.

BETA- ALANINE- When we exercise, especially when it's high intensity exercise, our bodies accumulate a large amount of hydrogen ions (H+), causing our muscles' pH to drop (become more acidic). This process is what leads to the feeling of an intense burn near the end of your set.

Beta alanine, also known as a muscle fatigue fighter, has a buffering effect on the muscle thereby reducing the production of H+ ions due to its ability to convert to Carnosine which is what actually soaks up these H+ ions thereby bringing the pH level of muscles back up.

PUTTING IT ALL TOGETHER

A supplement containing one or more of these ingredients will surely take your workouts to the next level. OPTIMUM NUTRITION'S (ON) shortly to be launched supplement called ESSENTIAL AMINO ENERGY is one example of a new class of products containing many of the above ingredients. To know more, visit www.optimumnutrition.com or www.neulife.in



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