Dietary supplements and muscle growth

Art & Culture, Dance

Dietary supplements orfoodsupplements are an important source of nutrition which do not usually form an essential part of our daily food intake. They can be rightly termed as life-sustaining elements, for they are almost indispensable for a balancedhealthregime. Dietary supplements can offer significant health benefits. Broadly the dietary supplements are products that contain fatty acids or amino acids, vitamins, botanical plants, minerals, herbs, and other herbal extracts or a combination of any of these ingredients. These food supplements come in the forms of powder, capsules, pills or liquid.

Some of the dietary supplements which are considered to be extremely beneficial for muscle growth are Weight Gainers, Creatine, Vitamin E, Protein powders, Vitamin C, and essential fatty acids. Our main focus here will be Proteins and Creatines. Protein: Derived from the Greek work proteios, meaning first, Proteins are a group of organic compounds, forming an integral constituent of every living cell. The food which we consume contains proteins which are further broken down into amino acids by the digestive juices present in the stomach and intestine.

The resulting amino acids can be reused by the body to maintain muscles, bones, body organs and blood. Forming an inherent component of skin, muscles, hair, ahrmones, cartilage, antibodies and enzymes, Proteins activate, regulate and defend the body chemistry. (Fillmore. 1999) Thus they serve as the essential life blood of a healthy structure and healthy system. The major kinds of proteins are Hemp seed, egg white, Soy protein, andCasein protein. Whey protein isolate is a catalytic protein to rev up the repair and growth of muscle tissues after an intense physical activity.

Casey protein as compared to others of its kind is a slow acting protein which works best if taken while going to bed, supplying the body with an uninterrupted flow of amino acids for repair and during the sound sleep at night. (Driskell, 2000) Protein Intake: The decisive factors for the ideal amount of protein intake are the total calorie consumption (particularly the consumption of sufficient fats and carbohydrates for energy), and the person’s fitness targets. The maximum amount of protein, processed for tissue building is approximately 0. 9 g protein per pound of body weight. (Fillmore. 1999)

No more protein can be stored in the body in anyway. The unprocessed or the remaining protein is either used for producing energy by converting to carbohydrates or stored as fat. Since protein-rich foods are more expensive as compared to carbohydrate-rich foods, eating lots of extra protein instead of adequate carbohydrates is not advisable. Side Effects: Just as excess of anything is not healthy; the same idea works in case of protein intake also. Excessive proteins can be detrimental to one’s health and physical performance in the following enumerated ways.

- Contrasting to the carbohydrates or fats, the breakdown of proteins into energy results in the production of nitrogen waste products, such as urea, ammonia, uric acid, etc. Excretion of these waste products by Kidneys is fundamental. Excessive production of urea can lead to exhausted and fatigued kidneys and they may start to fail. This is why some researchers advise that the protein consumption should be restricted to 1g/lb per day. (Driskell, 2000)

- A lot of protein can lead to dehydration, for excessive water is required to excrete the excessive urea.
- Protein-rich food intake (especially from animal sources) paves the way to acid generation in the body. Consequently the bones start releasing calcium as a fender to the overmuch acid load. High calcium loss occurs, when finally both the acid and calcium get excreted in the urine. (Driskell, 2000)
- Several animal proteins (such as whole fat milk, cheese, chicken with skin and red meat) are enriched with saturated fats, the absolute determinants of high blood cholesterol level as well as heart disease.

Further more, many protein bars contain palm oil (another highly saturated ingredient) and hydrogenated vegetable oils (a source of Tran’s fat) which further increase the high cholesterol level and heart health risks. • High protein intake may mean inadequate intake of carbohydrates. Carbohydrates are the only vital source of fuel during intensive anaerobic exercise (for e. g. weight training). Undue accumulation of protein is bound to deprive the muscles of all the carbohydrate, and thus the individual will not find himself capable of exhaustive training.

Muscle growth will inevitably be affected. Creatine: Creatine is an organic acid, naturally present in the body, comprising of three amino acids: methionine, glycine and arginine, that is responsible for the provision of short energy bursts to muscle cells. Scientific studies have provided significant evidences that creatine tends to increase strength, energy and muscle mass. Even more, recent studies have shown that creatine

accelerates brain function and beats down mental fatigue. Are Creatines Beneficial?

Various researchers have found out enough supporting evidences for the beneficial functions of creatine, it carries out its function most effectively and that is to retain water in the muscles, so crucially needed for muscle growth. (Becque, 2000) When creatine phosphate is abundantly stored in the muscle, the muscle is likely to retain more water in its cells. The more hydrated a muscle is, the better will be the production of protein as well as its breakdown. The retention of water in the muscles is an indicator of its readiness for building new muscle. Hydrated muscle will even lead to enhanced level of Glycogen synthesis.

Adequate protein synthesis along with effective training is bound to boost up muscle growth. However it should be remembered that increased muscle growth can only be attained by consuming creatine as well as working out. There is also a growing regarding kidney and liver damage as well as the risk of restraining body’s natural synthesis of protein. According to one case report, a healthy young man of around 20 years, developed severe nephritis (Kidney inflammation) after the consumption of 20 g of creatine every single day for four weeks. However the ideal recommended dosage of supplement is 20 g for 5 days, followed by the dosage of 3 g daily. People with inherited kidney disease, those with already existing kidney troubles and the other susceptible individuals (such as people withdiabetes) should either curb or avoid creatine supplements. (Becque, 2000)

Androstenedione: Androstenedione: also termed as “ andro”, is a food supplement cited to pose substantial health risks, usually linked with

steroids. Marketed mostly for athletes and body builders it has been advertised as an ultimate source to catalyze muscle growth and reduce fat. Among women users of this supplement, it increases the risk of breast cancer and endometrial cancer. Children as users of this supplement, suffer the risk of early puberty and premature stoppage of bone growth.

In March 2004, 23 companies were requested by FDA to stop marketing and supplying androstenedione constituting dietary supplements. (U. S food and drug admin, 2004) Conclusion: Everyone has an inborn desire to look great and everyone wants an easy way out. As a matter of fact, there is no easy way out. There is no shortcut to achieve physical fitness, a sturdy and well proportioned body except salubrious nutrition and out-and-outhard work. Supplements work, but they cannot replace nutritious food and vigorous training. Eat well and work out, that’s the only way to attain your desired result.