

Glutamine

-Glutamine is found in foods high in proteins, such as fish, red meat, beans and dairy products. It can also be consumed in a supplement form.

-Glutamine is the most abundant amino acid in the body, and is classified as a non-essential amino acid because it can be produced by the body.

-Glutamine is required for numerous metabolic processes such as:

- Regulation of cell growth and function
- Synthesis of proteins and nucleic acids (DNA and RDA)
- Movement of nitrogen in the body. Glutamine is the body's primary means of transferring ammonia in a non-toxic form.
- Glucogenesis – the formation of glucose from protein and fat
- As a major fuel for intestinal mucosal cells
- Improved kidney function.

-The immune system relies heavily on this amino acid and catabolism/muscle break down can occur if the body robs muscles of glutamine for elsewhere such as nitrogen transport or maintaining the immune system.

-During exhaustive exercise, plasma glutamine levels decrease as much as 50%, and can remain depleted for up to 6 hours after training.

-This reduction can leave the body vulnerable to various respiratory tract infections such as coughs, colds, sore throats e.t.c as immune function is decreased.

-Athletes involved in weight lifting, body building and endurance sports use glutamine to replenish the body's supply of amino acids that have been used during exercise or everyday activities.

-For these athletes it prevents infection and also reduces the amount of muscle deterioration that occurs because other tissues that need glutamine will not rob the glutamine stored in the muscle cells.

-Glutamine supplementation is important in keeping muscles building - not deteriorating.

-A secondary benefit to bettering body immunity is fortification of the intestinal tract, responsible for roughly 70% of the body's immunity.

-Glutamine enriched diets aid maintenance of gut barrier function, intestinal cell proliferation and also reduce the symptoms of irritable bowel syndrome. The reason glutamine has these cleansing properties is the fact that the intestinal extraction rate of glutamine is higher than that of other amino acids.

-Glutamine can also reduce healing time after surgery as studies show that patients have improved nitrogen balances, lymphocyte recovery and intestinal permeability.

-Body builders can benefit by taking 10grams or more of glutamine a day, (pre and post workout). Healthy non-trainers will benefit from taking as little as 1gram a day as they will get all the glutamine they need from their diet.