

Title: Your secret AA* batteries (*THAT'S AMINO ACIDS); We've all heard of them but how many of us know the hidden wonders of the 23 amino acids found in our food?

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MANY people are aware that amino acids are good for you, but the majority don't know what they are - or that amino acids can help prevent and cure a wide range of specific health conditions, from cold sores to memory loss.

Amino acids are made from varying amounts of carbon, oxygen, hydrogen and nitrogen.

Chains of them are held together with bonds known as peptides.

These chains are what are used to make proteins in the body, which then form muscles, hormones, enzymes, skin, hair, organs and the building fabric of bones.

There are 23 amino acids, all of which provide different benefits in the building of proteins in certain parts of the body.

Here, Linda Lazarides, author of a book called The Amino Acid Report, tells AMY ANDERSON about them.

SERINE

RESEARCH has found that supplementation with serine can improve memory function for things such as numbers, names and lists in the over-60s by as much as 12 years, because it helps to release two crucial memory neurotransmitters, acetylcholine and dopamine.

It is found in eggs, walnuts, gelatine and almonds.

L-ARGININE

THIS is used mainly to make muscle tissues and sperm, as well as relaxing blood vessels. Recent research has found that L-Arginine helps in reducing angina, high blood pressure and glaucoma. Supplementation has also been found to help increase muscle mass for weight-trainers.

It is found in gelatine, peanuts, almonds, Brazil nuts, red meat, fish, oats and grains.

For the treatment of high blood pressure and angina or for increased muscle bulking, you will need to take a L'Arginine supplement of between 500-1,500mg daily.

ASPARTIC ACID

RESEARCH has shown that aspartic acid is beneficial for cancer patients who have undergone radiotherapy because it helps red blood cell-producing organs to regenerate after radiation exposure.

It can be found in walnuts, gelatine, almonds, sunflower seeds, meat and fish. It is not sold as pure supplement, but can be taken as a mineral called magnesium aspartate.

CARNITINE

THIS is a strong detoxifier that can help to speed up the fat-burning process. Research has found that supplementation with carnitine can help to increase weight loss in people who are overweight, as well as helping to reduce unsightly cellulite, caused by the build-up of toxins in fat under the skin.

It can be bought as a supplement and is usually taken in 500-2,000mg daily doses. It is found in red meat, liver, dairy products and yeast.

CYSTEINE

RESEARCH has shown that cysteine can be used when an overdose of paracetamol has been taken because it helps to break down toxins in the liver. It is also helpful for cancer patients undergoing chemotherapy, as well as helping to remove excess heavy metals from the body.

It is found in sunflower seeds, oats, eggs, wheatflour and Brazil nuts. It can be bought as a supplement, and a typical dose is 500mg daily, three times a day, which is equivalent to a large bowl of porridge.

GLYCINE

GOUT sufferers are helped by glycine supplements because it helps to break down uric acid in the kidneys.

Several scientific studies have found that a supplement can reduce the symptoms of schizophrenia.

Another study has found that supplementing with glycine significantly improved symptoms of osteoarthritis.

Glycine is found in gelatine, buckwheat flour, walnuts, almonds and sunflower seeds. It can be bought as a supplement if treating particular conditions, but an average daily intake should be about 3-5g, which can be got easily from food.

HISTADINE

ITS main function is for making histamines that cause allergies and hay fever, so sufferers should make sure their intake is not too high.

Research has shown that people with rheumatoid arthritis have very low levels of histadine and that supplementation reduces joint inflammation.

Taken alongside standard anti-inflammatory painkillers, it also helps to reduce the main side-effect of the painkillers, which is gastric inflammation.

Histadine is found in gelatine, dairy products, peanuts and sunflower seeds. For help with arthritis, 4g per day is recommended via supplementation.

GLUTAMIC ACID

ITS main use is for making folic acid, which is so necessary in healthy people, especially women.

However, too much glutamic acid in the body can encourage epilepsy and seizures. Therefore, sufferers of seizures need to make sure that they keep their vitamin B6 levels high in order to combat the high levels of glutamic acid, which is broken down by an enzyme supported by vitamin B6.

Glutamic acid is found in cheese, sunflower seeds, almonds and wheatflour.

There is no need for supplements because we get plenty from food, and levels may even need to be reduced if you are susceptible to epilepsy.

L-GLUTAMINE

STUDIES have shown that supplementation with L-Glutamine can hasten the repair of stomach linings damaged by excessive alcohol consumption, as well as slowing down the body's cravings for alcohol. L-Glutamine is found in potatoes, barley and cabbage. It is hard to get enough of it if you need high levels, so supplements are a good idea. Normal dosage is 500mg a day.

GLUTATHIONE

LOW levels of glutathione are found in people suffering from Parkinson's disease, cancer, multiple sclerosis and rheumatoid arthritis.

Studies have found that in Parkinson's sufferers, after 30 days' supplementation with glutathione, symptoms declined by 42 per cent.

This amino acid is found in fresh fruit and vegetables, fish and meat.

It can be taken as a supplement, but research has found that eating a diet rich in glutathione, combined with taking the antioxidant lipoic acid, boosts levels more effectively.

ISOLEUCINE

RESEARCH suggests that supplementation with this amino acid can help with symptoms of ME (chronic fatigue syndrome) because it reduces levels of tryptophan (a precursor to sleep) in the brain.

Isoleucine is found in cheese, oats, gelatine and sunflower seeds. To help with excessive tiredness, 1-2g, combined with 4g of leucine (see below), is recommended.

LEUCINE

THIS also helps to inhibit the level of tryptophan in the brain, and so taken in combination with isoleucine can reduce chronic fatigue. It is available in the same foods as Isoleucine.

LYSINE

THIS has been shown in studies to help with the symptoms of the herpes virus.

In trials, people taking a supplement have seen reductions in the frequency of cold sores and genital herpes outbreaks.

If taken in conjunction with zinc and vitamin C, 1g supplementation three times daily should reduce intensity and frequency of herpes infections. It is found in tofu, beans and lentils, broccoli and potatoes.

METHIONINE

THIS has been found in studies to help fight against allergies and hay fever, as it reduces histamines. But in order for it to be metabolised effectively, it needs to be taken in conjunction with B vitamins (namely folic acid and B12).

It is found in Brazil nuts, sesame seeds and oats; 200mg a day is recommended for allergy sufferers along with B vitamins.

ORNITHINE

RESEARCH has found that, taken in large daily doses - around 5g a day - ornithine, combined with arginine, can help to increase muscle mass, improve appetite and help weight gain.

It is found in dairy products and eggs. The recommended dose for increasing muscle mass is 500mg twice a day, combined with 500mg of arginine.

PHENYLALANINE

THIS is used to make adrenal and thyroid hormones and has been found to help with persistent pain caused by backache and arthritis, as it helps produce natural painkillers called endorphins. It also works as an antidepressant.

It is found in gelatine, cheese, peanuts, almonds and oats. One gram, three times daily, is suggested for pain relief and also to help with depression.

PROLINE

THIS has been shown to slow down the progression of a condition called gyrate atrophy (lesions) of the eye. It needs to be taken with vitamins B3 and C. It also speeds up wound-healing.

Proline is found in gelatine, cheese, wheat, oats and sunflower seeds. The recommended supplement dose to help eyes is between 500-1,500mg a day.

ALANINE

PEOPLE on low-fat or high-protein diets or who do a lot of exercise need more alanine, as do diabetics, who need higher amounts in order to produce enough glucose.

Alanine can be found in gelatine, red meat, fish, sunflower seeds, almonds, peanuts and oats. There are no alanine food supplements.

TAURINE

THIS has been shown to help prevent gallstones because it reduces cholesterol by increasing bile production and keeping it fluid. It has also been shown to dissolve gallstones.

It is found in liver, kidney, fish and cow's milk. 100mg a day supplementation is recommended for gallstones.

THREONINE

A STUDY found that low levels of threonine are found in patients with clinical depression, and of those supplemented with it, the majority had reduced symptoms.

It is found in peanuts, almonds, gelatine, cheese and fish.

Supplementation for clinical depression is not recommended without medical advice.

TRYPTOPHAN

THIS produces serotonin in the brain and is used in common antidepressants.

Low levels of serotonin can cause insomnia, depression, food cravings and attention deficit disorder.

Supplementation with 900mg of tryptophan a day on a group of 20 obese patients in a double-blind study resulted in significant weight loss in all patients and a dramatic reduction in food cravings, especially for carbohydrates, over a 12-week period. It is found in sunflower seeds, cheese, oats and Brazil nuts. To help with insomnia, 500mg taken 30 minutes before bedtime is recommended. For weight loss, take the same dosage with fruit juice an hour before meals.

TYROSINE

THIS makes the neurotransmitter dopamine, which is low in people with Parkinson's disease, and, used alongside conventional treatments, there have been better results than drugs alone.

It can also help to reduce stress levels because it increases the production of the hormone noradrenaline, which is depleted by stress.

It is found in peanuts, cheese, almonds, sunflower seeds and eggs. As supplement for stress, 1g day should help, but it should not be taken with meals.

VALINE

THIS has been shown to help reduce the symptoms of ME by inhibiting the levels of tryptophan in the brain. It needs to be taken in conjunction with isoleucine and leucine.

It can be found in gelatine, cheese, peanuts, oats, fish and sunflower seeds. Suggested supplementation is 1-2g a day, along with 2-4g of leucine and 1-2g of isoleucine.

This document provided by HighBeam Research at <http://www.highbeam.com>