

## IMMUNE DEFICIENCY

The immune system is designed to protect the body from infection and any deficiency in this system will increase the chances of infection and disease. Various nutritional deficiencies have been shown to be associated with ill health as a weakened system is open to attack from opportunistic virus or bacteria.

The whole immune system is only as strong as the tissues and cells from which it is made so it follows that a good diet will strengthen the immune system (your practitioner will have discussed this with you).

Whilst nutritional deficiencies make infections more likely so can excessive consumption of some foodstuffs reduce the bodies resistance to invasion and so deplete its ability to fight back. In particular refined carbohydrates (white sugar, white bread, processed foods) depress the immune system as quickly as one hour after eating them.

There are some positive steps that you can take to boost your immune system without additional supplementation:-

- Avoid or reduce the consumption of refined carbohydrates, glucose, sucrose and fructose (sugars). These will all be listed on the packet so read the label in the shop before you buy the product.
- Reduce the intake of animal fats to the minimum and replace with fats from vegetable sources
- Reduce or stop drinking tea and coffee, replace with water, Herb/fruit tea, rooibosh tea
- Ensure a good daily intake of vegetables especially the green leafy ones.
- Eat enough fibre, found in beans, fruits, vegetables and cereals e.g. wheat, oats, barley, rye, corn and rice.
- Stop or drastically reduce smoking.
- Reduce alcohol to one to two units a day.
- Do not add salt to your food either in cooking or at the table.
- Wherever possible eat fresh food and avoid foods that contain additives such as colourings, preservatives and flavourings.
- Exercise on a daily basis (walking instead of using the bus/lift/car, swimming, jogging, aerobics)
- Get at least 6 - 8 hours sleep each night.

The immune system depends on vitamins and minerals and your practitioner will discuss the quantities of the following supplements which will be most beneficial to you.

Vitamin A (beta-carotene). Important in maintaining the integrity of the digestive tract, lungs, all cell membranes and it also helps stop viruses and bacteria getting into cells. The ideal intake of beta-carotene is between 10000-50000 IUs a day. **It is dangerous to take in excess of 50000 IUs without definite instructions from your practitioner.**

**Vitamin B1, B2, B5, B6, B12 and folic acid.** These all play an important role in the production of antibodies which are necessary to help the body fight infection. In particular B6 is used in the manufacture of T-cells. The ideal daily level of these is 50-100mg.

**Vitamin C.** (The toxicity of the vitamin recently exposed in the media was based on poorly controlled research). This is the master immune boosting nutrient and at present at least 12 roles of this vitamin in the immune system have been identified. As this is a water soluble vitamin it is extremely difficult to overdose as the body will remove the excess. A normal level of intake would be 1mg each day taken as a timed release preparation. In times of stress on the immune system levels of 2-6 mg day can be taken. A side effect of excessive dose is diarrhoea.

**Vitamin E.** Also an all-round helper especially in the production of B and T cells. Its properties are boosted when taken with selenium. A daily intake of 100-1000 IUs is safe.

**Selenium, iron, manganese, copper and zinc.** These are all involved in anti-oxidation and have been to positively improve immune power. Of these selenium and zinc are the most potent. The ideal daily intake is 15-50mg although it is unwise to take zinc and iron during a bacterial infection as these can reduce the efficiency of macrophages.

As well as supplementing with key vitamins and minerals there are other natural immune enhancing substances.

**Aloe Vera.** This plant shows immune enhancing, anti-viral/fungal and bacterial properties. This, taken as directed with fruit juice to mask its strong taste, will benefit the whole system.

**Echinacea.** Is a Herb that has shown to enhance T-cell, macrophage and interferon production. It also has anti-bacterial properties. This is also useful in the control of candidiasis.

**Garlic.** This is especially anti fungal/bacterial and can be taken raw, cooked in food or by capsule although these last two methods reduce the amount of the beneficial properties.

#### WHICH SUPPLEMENTS BOOST THE IMMUNITY

<u>SUPPLEMENT</u>	<u>IMMUNE BOOSTING</u>	<u>ANTI VIRAL</u>	<u>ANTI BACTERIAL</u>	<u>ANTI FUNGAL</u>
Vitamin A	Y	Y	N	N
Vitamin B complex	Y	N	N	N
Vitamin C	Y	Y	Y	N
Vitamin E	Y	N	N	N
Selenium	Y	N	N	N
Zinc	Y	Y	N	N
Iron	Y	N	N	N
Aloe Vera	Y	Y	Y	Y
Echinacea	Y	Y	Y	Y
Garlic	Y	N	N	Y