THE LONGEVITY DIET

The secrets to heathy eating and slow ageing

THE LONGEVITY DIET & INFLAMMATION

The longevity diet has many health benefits and is of particular interest to those on the quest for a long, healthy life. Several large studies, including the Nurses' Health Study (a well-known study to examine whether adherence to the Mediterranean diet was associated with longer telomere length, a biomarker of ageing) have found that people who follow a Mediterranean pattern of eating have lower levels of the inflammatory markers C-reactive protein and interleukin-6 in their blood compared with those who don't. Most of us are familiar with the term inflammation. We usually recognise it as a swollen, hot and often painful part of the body, often in response to an injury or infection. What you may be surprised to learn is that premature ageing and the majority of disease in the body stems from a slowly occurring chronic form of inflammation.

This form of chronic inflammation often goes unrecognised as the symptoms are not obvious and left untreated can result in serious disease. Understanding and preventing the causes of inflammation is therefore fundamental to building the strong foundations for longevity and good health.

WHAT IS INFLAMMATION?

In its simplest form, inflammation is a self-protection mechanism of the body. It is the process where the body attempts to remove what is causing unease and is the precursor to the healing process.

there are 2 types of inflammation:

1. acute:

This is the body's normal response to injury, such as a cut or a burn or infections, and is necessary for healing. This is a normal response; however, sometimes the immune system triggers inflammation when there is no infection or injury.

2. chronic:

A persistent, low grade inflammation that does not necessarily lead to the healing process. It can be a major cause of free-radical damage and can perpetuate and aggravate health conditions and diseases such as Alzheimer's disease, arthritis, premature ageing, skin disorders, osteoporosis, heart disease, and some cancers.

Some foods can promote inflammation in the body. Eliminating these foods from the diet and eating a diet rich in ant inflammatory foods can assist with the prevention of many inflammatory conditions.

CHRONIC INFLAMMATION

A chronically inflamed state is the body's way of telling you there is some genetic or lifestyle factor affecting it. Early symptoms may be subtle, such as sensitive skin, aching joints or poor digestion.

While we can't control the genes we inherit, we can control lifestyle factors such as your diet and exposure to stress and environmental toxins (plant fertilisers, pesticides and cigarette smoke). These lifestyle factors can impact the way our genes are expressed and are the biggest factors contributing to chronic inflammation. Actively taking control of these lifestyle influences is imperative to our health and wellbeing.

Chronic inflammation can be monitored by testing the level of inflammatory markers present in the blood, such as C-reactive protein (CRP). Carrying excess weight tends to lead to increased levels of CRP. Larger fat cells excrete more of the chemical interleukin-6 (IL-6), which triggers the liver to produce more CRP. The higher the CRP level in the blood, the higher your risk of inflammatory associated diseases.

AGEING AND GLYCATION

Chronic inflammation and ageing is linked to a chemical process called glycation that occurs naturally in the body. This process also occurs in cooking as the browning reaction between sugars and proteins due to high or prolonged temperatures. Roast meats, chargrilled foods, chips and baked goods are the result of glycation.

Glycation occurs in our body slowly over time, in fact the longer a protein lives, the more chance it will be exposed to the glycation process. In reality, we are all slowly roasting away at 37°C much the same as a rotisserie chicken!

When a sugar molecule binds to a protein, fat or nucleic acid, it creates a mutated molecule that is not recognised by the body and therefore can't be metabolised normally. These mutated or damaged molecules are acted on by free radicals to form advanced glycation end products (AGEs). As the sugar molecules bind with proteins, the cells become stiffer, less pliable and prone to damage.

Acrylamide is a carcinogenic chemical that naturally occurs during high temperature cooking such as roasting, grilling, frying and baking. This chemical process, or browning process, is called the Maillard Reaction. The darker and crispier the food, the more acrylamide it contains. This particularly affects collagen and elastin, leading to premature ageing (lines, wrinkles, sagging skin), joint and cartilage stiffening and hardening of the arteries. It also happens to proteins and fats in foods via cooking techniques such as barbecuing and chargrilling, and affects our skin externally through environmental factors such as UV exposure. The more AGEs or mutated molecules we eat, the more we age on the inside. Makes you think twice before you eat your burnt toast doesn't it?

The amount and variety of AGEs and AGE-stiffened tissue gradually increases over a lifetime. High blood sugar levels, high body fat and increased oxidative stress all combine to accelerate the formation of AGEs.

AGEs - related disorders are also linked to telomere shortening or damage. Telomeres are DNA protein structures that are located at the end of chromosomes. Telomeres shorten with cell replication, leading to ageing and cell damage. Shortened telomeres impair cellular function, which leads to ageing.

Not only do AGEs lead to ageing of the skin, they damage the structures in the eyes, leading to poor vision and, even worse, damage to the blood vessels increasing the risk of strokes, heart attacks and dementia.

AGEs interact with receptors of advanced glycation end products (RAGEs). These receptors stimulate a response of adverse biochemical reactions, such as increased free-radical stress and inflammation. This is what can lead to ageing of the brain cells and atherosclerosis (hardening of the arteries. RAGEs reduce

insulin function, therefore making glucose even more available for glycation. This also explains why diabetics will experience glycation at a faster rate and why a diabetic's skin shows early signs of glycation.

Early signs of glycation, or cross-linking of collagen, can be seen as a criss-cross or grid-like pattern in the skin commonly seen in the corners of the inner eyes or around the sides of the mouth. Skin that has been exposed to extreme oxidative stress, such as sun, a poor diet high in sugar or processed foods, drugs, alcohol, medication and stress, will also show early signs of glycation and pigmentation (browning of the skin).

Another way to slow down the ageing process is to protect our telomeres via an antioxidant-rich diet and limit our intake of AGEs.

Common foods that we eat on a daily basis contain AGEs and we are happily eating them oblivious to the fact they may be assisting with the formation of lines and wrinkles. Many foods are made to look appealing using the browning process to give the food an enticing colour, texture or flavour. There is a strong relationship between the levels of AGEs in our blood and AGEs consumed in our diets. Heating foods at high temperatures increases the production of AGEs in food, and eating heat-treated foods readily transfers AGEs to the body. In short, the more AGEs-rich foods you eat, the higher your AGEs levels will be.

Foods that are high in AGEs are those that are grilled, fried, roasted, pasteurised or sterilised. Any food that's browned or chargrilled, particularly high-fat, high-protein food, is also likely to be high in AGEs.

Eating a low-AGEs diet can reduce levels of chronic inflammation and therefore reduce the risk of age-related disease in your body.

WAYS TO REDUCE AGES, PROTECT TELOMERES AND PREVENT ACCELERATED AGEING:

The following foods can be pro inflammatory in the body and are not recommended to be eaten every day:

- **Refined sugar**. Too much sugar can triggers inflammation,

weight gain, ageing, and possible diabetes. It is important to avoid refined sugars like white sugar, brown sugar, corn syrups, jams, chocolate, lollies, confectionery, etc. Avoid artificial sugar sweeteners which can be full of chemicals. Options for natural sweeteners include honey, stevia and fresh fruits.

- **Reduce intake of refined white flour,** cakes, pastries, cookies, durum wheat, refined breakfast cereals (e.g. nutrigrain, coco pops), and choose wholegrain options as an alternative such as oats, whole wheat, brown rice, rye and buckwheat.
- **Oils like sunflower, corn, soy, safflower and peanut** contain high linoleic acid, which can have an inflammatory influence on the body. Also, many vegetable oils contain a high amount of omega-6 fatty acids, and very less of omega-3. Too much of omega-6 and less of omega-3 in body promotes inflammation and increases the risk of chronic diseases. Avoid regularly cooking with these oils and check ingredient labels on plant milks, granola, muesli bars, snack foods etc. for hidden oils.
- **Artificial trans fats** increase the level of bad cholesterol, promote inflammation, and obesity. Processed foods contain some amount of trans fat e.g. burgers, pizzas, hot dogs, hot chips etc. Avoid food products which contain trans fat, vegetable shortening, margarine or hydrogenated oil in them.
- **Avoid deep fried**, fatty foods, fast foods, junk foods.
- **Processed meat and meat products.** Cut back on processed meats such as salami, bacon and ham. Processed meat is classified by the World Health Organisation (WHO) as a Group 1 carcinogen to humans. Eating red meat once to twice a week is ample. A lot of commercially produced poultry and meat eat corn and soy in their diet. This means a lot of omega-6 which can be pro inflammatory. Where possible choose grass fed meat which is higher in anti-inflammatory omega 3's and free range or organic poultry.
- **Alcohol, fizzy drinks**
- **Processed and packaged foods** can be high in sodium and sugar, low in nutrients and high in food additives such as artificial chemicals, flavours and preservatives. These can all trigger inflammation within the body.
- **Dairy products** contain valuable nutrients and when eaten in

moderate amounts make up a balanced healthy diet. Milk and milk products may trigger inflammation in the body if you have an allergy or intolerance so if your diet is very high in dairy and you are experiencing inflammatory conditions such as acne, eczema or IBS you may do well in cutting back and monitoring symptoms. It is important to only cut out food groups if there is evidence of allergies and always under the guidance of a qualified health care professional.

- **Natural live yogurt tends** to be more gut friendly due to containing beneficial bacteria and is well tolerated by most people. Fermented products help to reduce inflammation in the stomach.
- **Avoid self-medicating and pill popping**. Only take medication that is prescribed by your G.P or health care professional.

ANTI-INFLAMMATORY FOODS TO EAT REGULARLY:

- **Anti-inflammatory vegetables** such broccoli, beetroot, cabbage, garlic, green leafy vegetables, spinach, leeks, green beans, Brussels sprouts, bok choy, spring onions, etc. Aim to eat 7 – 10 servings per day of different coloured vegetables.
- **Choose antioxidant rich foods** such as blueberries, blackberries, raspberries, grapeseed, coloured fruits and vegetables. Aim to eat 2 portions of fruit every day.
- **Include extra virgin olive oil, macadamia oil and avocado oils.** These oils have a good ratio of omega-6 and omega-3 fatty acids. Also, these oils help to reduce cholesterol levels. Extra Virgin Olive Oil contains potent antioxidant compounds and has long been used as a staple ingredient in some of the healthiest diets in the world. It contains potent cell protecting antioxidants and it is one of the very few oils to contain phenolic anti-inflammatory compounds, such as oleocanthal.
- **Include fresh anti-inflammatory herbs** such as turmeric, rosemary, garlic and ginger.
- **Choose grass fed lean meats and organic chicken**. Grass fed meat also contains anti-inflammatory omega 3 as opposed

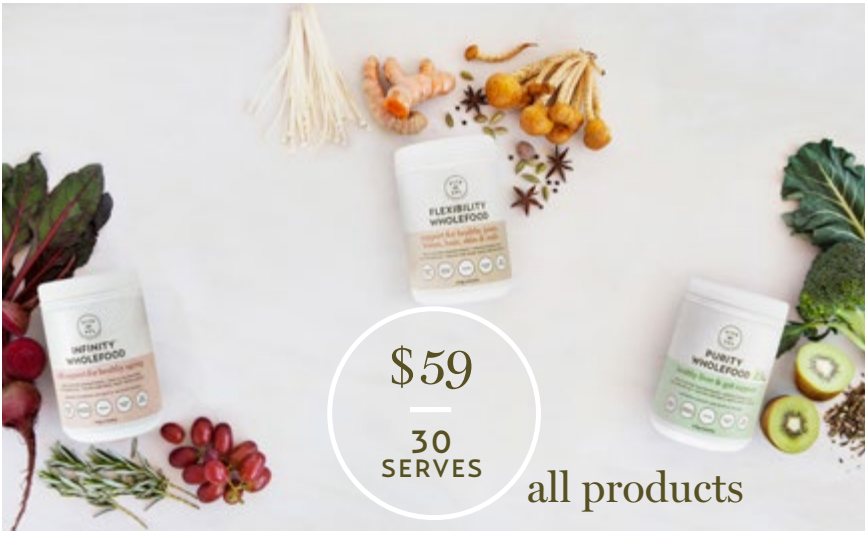
to grain fed meat which contains higher levels of inflammatory omega 6.

- **Fresh fish**, particularly oily fish such as sardines, salmon, mackerel, are actually a great anti-inflammatory food high in omega 3.
- **Eat raw nuts and seeds** for essential oils and important nutrients such as flaxseeds, walnuts, brazil nuts. Avoid roasted and salted nuts which are inflammatory and damaging to our bodies.
- **Eat whole grains and high fibre foods** such as legumes, leafy vegetables, fruits and oats which are rich in vitamins and minerals. Choose unpolished and unrefined grains such as quinoa, buckwheat, brown rice.
- **Include herbal teas**. Green tea, White tea and Roibus tea are high in cell protecting antioxidants whilst Cammomile is soothing and calming.
- **Coffee and tea** contain polyphenol antioxidant compounds which may also have anti-inflammatory benefits. Limit intake to 1–2 cups of good quality tea or coffee per day.
- **Get a good night's sleep.** Avoid bright lights, stimulants and loud TV and music right before bedtime. Try a warm mineral rich soothing Chai Flexibility Latte before bed to soothe and calm the muscles and nervous system.

Click here for the Chai Flexibility Latte recipe!

- **Manage stress**. Try hatha yoga, gentle walking or deep breathing meditation.

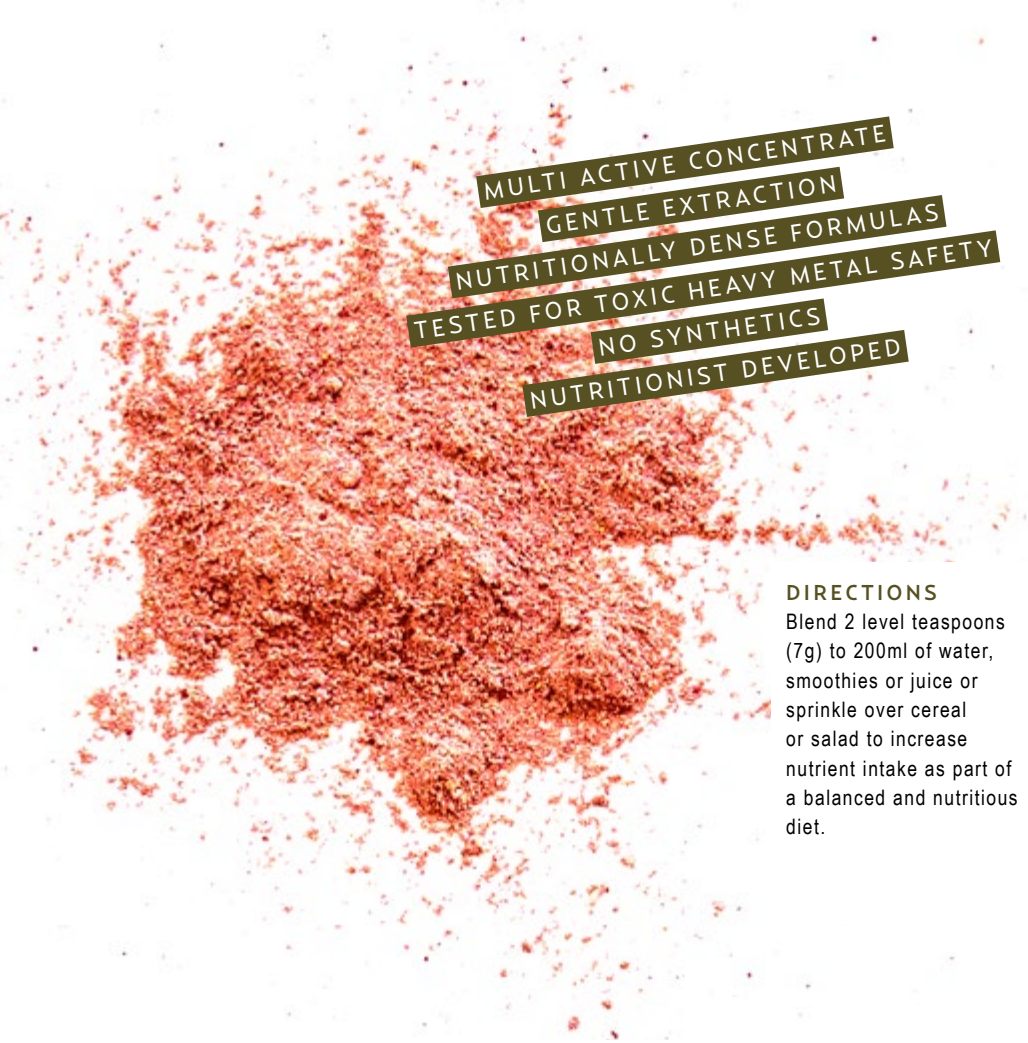
VITA-SOL WHOLEFOOD POWDERS



INFINITY WHOLEFOOD
cell support for healthy ageing

PURITY WHOLEFOOD
healthy liver & gut support

FLEXIBILITY WHOLEFOOD
support for healthy joints, bones, hair, skin & nails



DIRECTIONS

Blend 2 level teaspoons (7g) to 200ml of water, smoothies or juice or sprinkle over cereal or salad to increase nutrient intake as part of a balanced and nutritious diet.

About Vita-sol

At Vita-sol we specialise in healthy ageing and wellbeing. Practicing honest nutrition, our products are developed by leading Australian nutrition experts using the highest quality ingredients carefully sourced from around the globe. We use gentle ingredient extraction processes to retain purity and efficacy resulting in what we believe to be the highest standard available in nutritional wholefoods.

We believe nutritional products should: Be targeted for specific concerns, Based on latest nutritional research. Be free from artificial sweeteners, chemicals, pesticides or mass production processes.

Vita-sol is proudly Australian owned. All products are packed in Australia.

ORGANIC FRUIT & VEG · SOY FREE · VEGAN · GLUTEN FREE · DAIRY FREE · SUGAR FREE