The real killer of our time

Shocking Statistics

- One in six South African men and one in seven South African women will get cancer during their lives. Cancer is a great equalizer. It knows no boundaries of class, race and gender, sex or age. It can strike anyone at any time.

- 195 people a day die due to some form of heart and blood vessel disease (cardiovascular disease) …of which about 33 people a day die due to heart attacks…About 60 people a day die due to strokes…About 37 people a day die due to heart failure.

- We currently have approx 6,5 million diabetics in South Africa, only 8 000 of whom are registered with Diabetes South Africa (DSA)

- Nearly 50% of adults in the developed world suffer from overweight or outright obesity and South Africa is on par with countries such as the USA and the UK, with up to 40% of women suffering from obesity.

- South Africa is currently experiencing one of the most severe AIDS epidemics in the world. At the end of 2007, there were approximately 5.7 million people living with HIV in South Africa, and almost 1,000 AIDS deaths occurring every day.

The real killer of our time - (Carine Visagie, Health24, December 2008)

Quick: what causes heart disease, diabetes and cancer? To everyone who said smoking, a poor diet, no exercise, genes: you're not wrong. But scientists are beginning to understand that inflammation may be the real culprit.

Groundbreaking research is at last piecing together the puzzle of how and why certain chronic diseases claim millions of lives every year. Scientists are excited: a large body of evidence indicates that the human body's inflammatory response – that essential body function that helps us heal and which is highly efficient in the short term – may be inherently flawed in the long term.

What the research shows is that, in the process of curing wounds and fighting infections, the body's metabolism is "upgeared" to meet the requirements of healing. In doing so, our infection-fighting white blood cells produce chemicals that are highly reactive. But while these chemicals do a good job of killing the germs, they also seem to damage our cells in the long run.

Projected over several years, this damage becomes highly significant, ultimately altering the functionality of our cells and setting the stage for chronic disease, whether in the form of cancer, heart disease or diabetes.

Fortunately, however, the science is also showing that we're all able to intervene: by simply eating foods that have anti-inflammatory properties, such as fresh fruits and vegetables, and making

certain other lifestyle changes, we can help our natural defence and healing mechanisms function optimally.

What is inflammation?

In its simplest form, inflammation is the body's response to injury, explains Prof Demetre Labadarios, an executive director at the Human Sciences Research Council (HSRC) and former head of the Department of Human Nutrition at the University of Stellenbosch.

If you take a look at a new, small cut on your finger, you'll notice that it's red, slightly swollen, hot and possibly a tiny bit sore. This is because white blood cells have zoomed in on the area to start the healing process and get rid of germs and other foreign particles. In other words, the area is inflamed.

Inflammation is essentially a good thing: it helps us heal and it keeps us alive after suffering injury. Whether the inflammatory response is triggered by a scratch, a burn or an infection doesn't really matter: the body reacts in exactly the same way, sending armies of white blood cells to deal with the problem.

Ageing: the end product of inflammation

Now, in your mind's eye, compare the skin of a new-born baby to that of a 90-year-old grandpa. There's a huge difference in what their skins look like, but there's also a big difference in what's happening underneath the skin. "You'll find literally no inflammation under the baby's skin," Labadarios says. "But the 90-year-old's skin will be full of it." So, inflammation also has a role to play in ageing.

This same principle can be applied to the blood vessels. Most of us regard high cholesterol and hypertension as the primary contributing factors to heart disease, which is correct in terms of increased risk for developing the disease. But, mechanistically, they have little in common on their own in predisposing to the disease. Instead, chronic inflammation seems to be the underlying mechanism.
It's also here where the recently publicised link between heart-disease risk and gum disease comes in. "We now know that gum disease is a source of chronic inflammation, and that this is why it's associated with an increased risk for heart disease," Labadarios explains.

The link to cancer

In terms of cancer, groundbreaking research is also underway, and inflammation has already been linked to cancers of the liver, oesophagus, stomach and colon.

Study results published in a 2006 edition of the *Archives of Internal Medicine* found that an elevated white-blood-cell count was associated with cancer mortality in older Australians, independent of smoking, diabetes, fasting glucose levels and other related factors.

The body of research on cancer furthermore suggests that inflammation boosts the development of cancer by damaging the DNA – a process that makes our cells "turn over" more rapidly and which increases the development of blood vessels that allow cancer cells to develop and spread.

"The concept of inflammation isn't new," Labadarios notes. "However, a better understanding of its role in terms of chronic disease is developing every day."

Built-in protective mechanisms

We all know the process of ageing is inevitable and, at some stage, we all have to die of something, right? But if we can find ways of slowing down this life course, of preventing the

inflammatory response from being activated over and over again throughout our lifetime, we might just be able to add years to our lives.

Our bodies already have built-in mechanisms to protect us – it's simply a question of activating them. Something as simple as eating more of the right foods can have a major impact. For example, eating at least five fruits and vegetables, as well as other anti-inflammatory foods, every day is one way of counteracting the inflammatory response. Unhealthy eating habits, however, have the opposite effect.

When foods are metabolised to produce the energy we need to keep us alive and enjoy daily activities, the process results in the production of free radicals. These are reactive compounds that inherently cause chronic inflammation, Labadarios explains. A diet poor in variety, excessive eating of refined and fatty foods, and consumption of nutrient-poor foods compromises the body's natural mechanisms that protect against these dangerous compounds.

"The daily choices we make affect the balance of inflammation, healing and protection," he says, noting that this makes the case for eating fruit, vegetables and other anti-inflammatory foods so much stronger. "It's fundamentally important and the beginning of our understanding of what makes food so important in terms of disease patterns and longevity," Labadarios says.

Other lifestyle factors that have been linked to chronic diseases of lifestyle, such as smoking and physical inactivity, also seem to disturb this delicate balance. Scientists worldwide are currently doing research to understand exactly how these factors have an impact.

It's also in your genes

Of course, your individual response to lifestyle factors is also determined by your genes. For example, some people can get away with eating unwisely; others can't. Your body's inflammatory response depends on your genetic make-up. "But this doesn't mean the person who eats poorly won't suffer harm," Labadarios says. "He or she will, but it might not be to the same extent.

To complicate matters further, genes also appear to determine the ill effects of obesity on health. Obesity is now considered to be a pro-inflammatory condition. "However, the concept is emerging that, in people with a certain genetic background, obesity may not necessarily be associated with ill health effects," Labadarios says. Whether this means that obesity can be healthy for some isn't certain at this stage, but the possibility is certainly there.

GNLD Recommendations by Lyn Banks

Follow a healthy diet consisting of vegetables and fruits (mostly with colours), Fish, Nuts + seeds … Limit refined sugar and refined carbohydrates which can cause considerable inflammation. Drink loads of filtered water… and stay off the booze! Limit yourself anyway!

Supplement with your 'Anti-inflammatory' Nutritionals… such as GNLD's Omega 3 Salmon Oil Plus, GNLD's Tre-en-en, Vitamin C Sustained Release, and Flavonoid Complex (which is also in GNLD's Phytodefence), which all have anti-inflammatory properties.

Supplement with Antioxidants such as the Phytodefence (Carotenoid Complex, Flavonoid Complex and Cruciferous Complex) which neutralise free radical activity which is known to cause inflammation. Vitamins A, C and E are also antioxidants…

Supplement with nutrition that will enhance your Digestive System such as Acidophilus Plus, Digestive Herbal Formula and Aloe Vera Plus… Bad digestion and poor absorption will

result in inflammation… Vitamin B Complex and/or Lipotropic Adjunct also assist with digestion …
Improve your Circulation … with Vitamin E, Omega 3 Salmon Oil Plus, Tre-en-en and/or Lipotropic Adjunct. Poor circulation will also lead to inflammation in the body. In General, Exercise, eat healthy + Supplement!