



ETERNAL HEALTH

with
Dr. Michael Elstein

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In order to understand how sterols and sterolins impact positively on the immune system it is important to outline some of the key aspects of the body's defence structure.

A normally functioning immune system relies on a healthy supply of B-cells and T-cells. The B-cells have a relatively simple task and they are responsible for producing antibodies which destroy invading micro-organisms be they bacteria, viruses or parasites.

T-cells have a far more complex function in controlling and regulating the immune response. T-cells can be viewed as the generals of the immune system whereas the B-cells are merely the combat soldiers.

There are three main types of T-cells:

- * cytotoxic T-cells
- * suppressor T-cells
- * helper T-cells.

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T-cells also secrete cytokines which regulate the immune response. Examples of cytokines include the different interleukins and interferons as well as tumour necrosis factor.

Shortly we will discover how the balance of these cytokines is critical to a healthy immune response. Cytotoxic T-cells are designed to deal with infected or cancer cells and they also secrete interferons which prevent the replication of viruses.

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Suppressor T-cells shut down the immune system once an infection has been effectively neutralised. Suppressor T-cells tell the immune system that it is time to take a breather and if the levels of these cells are reduced B-cells will continue to operate unabated which will lead to disastrous consequences.

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Helper T-cells assist the cytotoxic T-cells and also instruct B-cells to commence antibody production. Helper T-cells can further be divided into TH1 and TH2 cells. These cells produce different types of cytokines and there needs to be a balance between TH1 and TH2 cells if health is to be sustained.

TH1 cells secrete cytokines which enhance the ability of the immune system to deal with viruses, fungi, bacteria and parasites. TH1 cells also initiate the activity of cytotoxic and suppressor T-cells as well as controlling the function of TH2 cells.

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TH 2 cells increase antibody production and stimulate the release of pro-inflammatory cytokines. It is when TH1 is undeactive and TH2 takes over that these pro-inflammatory cytokines and antibodies are released. This is thought to result in autoimmune diseases whereby your immune system is involved in attacking your own body. This is thought to be the explanation for the development of rheumatoid arthritis, lupus and other autoimmune diseases.

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If we could find the means to correct this imbalance then we could possibly have the key to unlock the secret of this baffling phenomenon. Research work performed in Stellenbosch, South Africa by professor Bouic and his team has revealed that when sterols and sterolins are given in combination this imbalance of TH1 and TH2 cells can be reversed.

Cytokines of the TH1 variety were increased while the TH2 cells were inhibited or remained the same. By increasing TH1 cells abnormal pathogens that invade the body could be eliminated while reducing TH2 cells would reduce the inflammatory response so typical of autoimmune disease.