Redox:
The answer to ageing and degenerative illnesses.

“ All of our health problems are due to cells that are unable to maintain a healthy Redox potential” Dr R.Ward

Biochemical reactions that generate energy and new cells are complicated processes that take place continuously in our body, or rather in your cells. The cells contain mitochondria, which are biochemical factories that allow countless biochemical reactions to take place every second. Food and oxygen are converted into energy, CO2 and water. Did you know that the electric potential in your cells is of great importance in this? Redox signalling molecules play an important role in maintaining the electrical voltage (potential). Do you suffer from oxidative stress (rusting) (heavy metals, overweight, candida) or inflammation (asthma, allergy, Lyme, cancer)? Then read on.

I will take you through the explanation of these particles, which two major processes cause the body to age and which diseases can arise from a lack of them. Everyone can improve this fundamental process. There is a supplement that structurally increases redox signalling molecules in your body so that cells can function optimally again.

REDOX

Redox is the contraction of **red**uction and **ox**idation, a chemical reaction in which an electric charge in the form of an electron is transferred from the reducer to the oxidizer. This principle is applied, for example, in batteries and accumulators. Rusting is also a redox reaction, in which iron (the reducer) oxidizes. A redox reaction can be any reaction between two oppositely charged particles, for example in salts such as sodium chloride, magnesium oxide or zincorotate.

These kinds of reactions take place continuously in your body and a potential is created: an electric voltage. That is the electrical "tone" (comparable to muscle tone) that cells must have to get one substance into another cell or to get it out. Very useful when you consider that in this way heavy metals and toxins can be removed from your body and, on the other hand, the body can be optimally fed. As Doctor Tennant wrote in his book: *HEALING is VOLTAGE*. In other words, our cells benefit from a good redox potential, which in turn depends on the amount of redox signalling molecules. Muscle cells, especially those of the heart muscle, have significantly more mitochondria and therefore more signalling molecules than connective tissue. The heart muscle always works through.

With oxidation you usually immediately think of a reaction with oxygen (oxygen). Oxygen is therefore a strong oxidizer. Now oxygen, along with water and nitrogen, is the most abundant element in your body. Water is the conductor and sensor and oxygen is the reactor. We know the oxidation of iron as rusting. Oxidation in the cells (oxidative stress) reflects a similar process that causes your body to age slowly. A bad redox system in your body or a redox reaction with toxins or heavy metals (such as mercury and cadmium) results in damaged cells. When this oxidative stress becomes chronic, it directly leads to aging and dehydration. But mental stress, poor nutrition, little exercise, and little fresh air or sunlight aggravate this problem.

Redox signalling molecules
Redox signalling molecules have the special property that they can reduce (the loss of electrons) or oxidize (the absorption of electrons). Among other things, they regulate the redox potential in the cells. A good redox potential in the cells is of primary importance for a healthy body and is the basic condition for proper functioning. All health problems are due to cells unable to maintain a good potential. You see this in diseases that arise after mental / physical trauma in combination with a shortage of nutrients (vitamins, minerals), an excess of toxins (particulate matter, protein particles, heavy metals) and possible accretion / invasion of pathogens (viruses, bacteria, fungi or parasites).

From the site www.theredoxdoc.com

Disease due to a lack of Redox
There are two general causes of diseases, under which all other known conditions can be classified. That is oxidative stress (rusting) and inflammation (inflammation). With oxidative stress, there is an accumulation of waste in places where it does not belong. When heavy metals accumulate in your brain, cognitive disorders arise. When the walls of the blood vessels ignite, cholesterol comes to dampen the fire. The accumulation of cholesterol is a form of oxidation.

Inflammation involves free radicals that cannot, or only partially, be rendered harmless. In the case of rheumatism, the joints are always inflamed due to a lack of antioxidants that absorb the free radicals. Recovery of the redox potential may relieve the symptoms. With a viral or bacterial outbreak, there is visible inflammation (cold sore, psoriasis). **Redox recovery stimulates self-healing ability.**

There is now a practical solution available, namely stabilized redox molecules, present in salt water solution. For more information send me an e-mail.

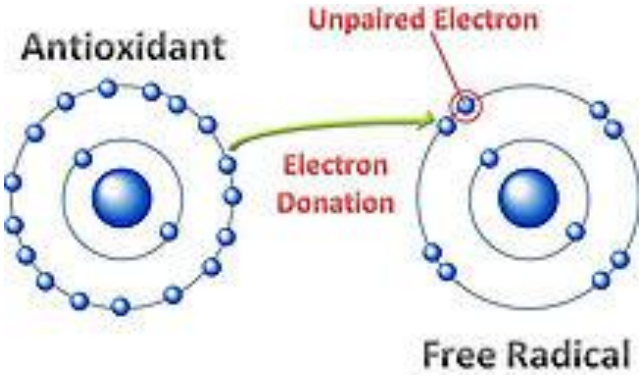
Oxidative stress or "rusting" includes the following diseases:

Diabetes
Hypertension
Arthritis
Thrombosis
Alzheimer's / Parkinson's disease
Overweight
Macular degeneration
Heavy metal load
Mould load

On the other side of the coin are the disorders with a reactive inflammatory character, mainly caused by chronic low-grade inflammation, such as

Rheumatism
Asthma / COPD
Allergies and hay fever
Lyme disease
PMS, menopausal symptoms, hormonal imbalance
Thyroid / adrenal gland problems
Chronic fatigue
Skin complaints
Cancer
Autoimmunity complaints
Ulcerative colitis and Crohn's disease

Oxidative stress and inflammation can also occur emotionally / mentally. Anxiety, depression and worse are manifestations of inflammation or oxidation of the brain itself or of the organs in the trunk that give a disturbed signal to the brain. A good example of this is an inflammation-reduced serotonin production in the intestines, which leads to a deficiency in the brain, which may lead to depression. Serotonin reuptake inhibitors are then regularly given to keep the little serotonin in the brain functioning for as long as possible. This is not a solution because the inflammation in the intestines is not addressed.



Electrons and ions: The antioxidants
Electrons are the smallest particles that orbit the nucleus of an atom and carry a negative charge. Ions are particles (atoms or molecules) with a charge: there are either too many or too few electrons. Substances that have an electron surplus are substances with an antioxidant effect. Examples of antioxidants are:

Vitamin C
Vitamin E
Astaxanthin, Lutein, Theine
Bamboo salt 9x roasted
Gluthation
MSM

With the current way of life and the chemical processing of the food, the number of free radicals in the body increases. If you are under stress, it will cost you vitamin C - short cut. If you breathe in fine dust, if you eat too much sugar and bad fats, it will cost you your buffer of antioxidants in the body.

Redox signalling molecules, which you can add as a supplement, ensure a continuous availability of antioxidants. They also help with methylation: an equally important process in the body that stands or falls with sufficient voltage in the cells.

I can no longer emphasize that cell tension is just as important as muscle tension. If the muscle tension disappears, you will feel weak on all fronts. At the cellular level, the voltage

has literally drained from your cells. You can call this acidification after intensive exercise or feeling bad when you are under stress. It's about the same thing: the loss of natural electricity in your cells, which causes all biochemical processes to deteriorate.

What to do?
Cell voltage or the cell voltage, the force that a cell can apply depends on redox signalling molecules. There is a new supplement on the market with very interesting possibilities for people who find that the current treatments regular or complementary yield insufficient results. Redox recovery may be the body's defining condition for tackling disease on its own. Because the latter is what should be pursued by every person: Stimulate the self-healing ability and the miracles are not yet out of the world.

For definition of the terms go to::
https://referentiemateriaalvo.noordhoff.nl/nectarnet/6vwo/REF/1/hs180.html#redoxsysteem

http://www.theredoxdoc.com/redox-basis-of-illness/

Do you want to continue reading?

Ground breaking research into the Redox relationship with cancer: Cancer a Redox Disease

Journal of Cell Science sol:10.1242/jcs.098475 February 15, 2012 J cel Sci 125, 801-806.
It is now clear that RSM such as hydrogen peroxide can act as messengers, both in the extracellular environment and within cells. REDOX molecules to and from mitochondria help integrate cell functions.

Robertson, William 2010 More Chemistry Basics ISBN 978-1-936137-74-9
Redox chemistry controls the basic movement of all resources at the base of our biology.

Campbell, Neil A. ; Brad Williamson; Robin J. Heyden 2006. Biology: Exploring Life ISBN 0-13-250882-6
Cellular respiration (converting food into energy) is fundamentally a combustion response led by RMS. Aerobic or Anaerobic reactions are guided by the movement and influence of RSM.

Antioxidants and Redox Signalling. January 15 2011, 14(2) : 275-287.
Caloric Restriction Has Dramatic Change In Oxidative Damage, Inflammation And Insulin Sensitivity That REDOX Mediated Biochemical Reactions Critical In Understanding Obesity.

Free Radical Biology and Medicine Vol 50, Issue 5, March 1 2011, Pg 567-575
Oxidative cellular environments lead to consequences such as insulin resistance, B cell dysfunction, and decreased glucose tolerance. This will lead to a diabetic state.

J Endocrinology March 1 2005 184 455-465
Selenium exerts multiple actions on cells. It can act indirectly as an antioxidant and alter REDOX status and thyroid hormone metabolism. This is done by modifying more than 30 selenoproteins.

PNAS April 12 2005 Vol 102 5618-5623
Age-related muscle wall mitochondrial dysfunction is related to reduced mitochondrial DNA

abundance (with aging) and ATP production. This study supports the oxidative damage theory of aging.

Bio-gerontology. April 2015;249-64
Aging is associated with various physiological deteriorations in the musculoskeletal system (muscle function and mass). Exercise-induced mitochondrial remodelling is mediated by upstream redox signalling events that converge on downstream transcription co-factors.

From the newsletter of:
Hayo Bol, Naturopath.