

Oxidation and its Affect on Your Health

Oxidation occurs when elements or materials are exposed to free radicals in the environment. We have all seen examples of this in nature.

- Metals Rust
- Plants Wilt then Decay
- Proteins Putrefy
- Oils get Sticky and Rancid

The actual process of oxidation occurs when free radicals scavenge these materials for electron donors. So let's take a small detour here to understand how free radicals are created.

- Free radicals are created when an atom or a molecule loses 1 or more electrons producing an instability in the overall electrical charge of that atom or molecule.
- Free radicals are the normal by-products of chemical chain reactions as well as mechanical processes. So things like manufacturing processes, engines running, burning wastes, producing electricity and burning fossil fuels are a few of the ways that free radicals are produced in our environment every day.
- Free radicals are also produced in our cells as by-products of cellular respiration on a continual basis.
- Free radicals multiply rapidly the longer food is stored before it is consumed.

Once these free radicals have been produced they begin to wreck havoc on our bodies. Each free radical that we ingest through the air we breathe, the water we drink and the food we eat can result in damage to our cells. Let me explain how this happens.

- These unstable free radicals seek stability. The only way for them to become stable once again is to "recapture" their missing electrons.
- This is accomplished by scavenging electrons from healthy tissues in the body.
- As electrons are scavenged from body tissues those tissues become unstable and begin to either break down or mutate.
- These unstable or mutated tissues contain more free radicals and they begin to scavenge more electrons from surrounding tissues.

Eventually this can lead to a major change in the tissue as this destruction continues. In fact, this is the process that is responsible for all diseases.

When you consider that our bodies are all made from basic minerals, plant matter, proteins and fats, as these substances begin to oxidize they begin to rust, rot, decay and go rancid. This is the systematic destruction of the body.

This destruction creates a biological aging of the body that is evident through a microscope as well as the naked eye. This destruction of oxidation results in wrinkles, degeneration of our bones, muscles, organ and glandular systems, a weakening of cellular membranes and a loss of vital energy. It ultimately leads to diseases and eventually death.

Halting or Reversing the Destruction of Oxidation

Anti-oxidants are electron donors that counteract the destruction of oxidation. The greater our intake of both simple and complex anti-oxidants the faster this destruction is slowed or stopped altogether.

Vitamins A, C & E have long been extolled for their high levels of anti-oxidants. Super foods like blueberries, goji berries, acai berries, kale algae and seaweeds are now in the health news regularly because of their A, C & E contents. These nutrients are very complex and carry molecular weights that vary between 150 microns for A, 176 microns for C and 153 microns for E.

Enagic's Ionized Kangen Water™ actually carries the highest anti-oxidant potential delivered in a simple molecular structure carrying the very low molecular weight of 18 microns. The anti-oxidant potential of water can be measured in millivolts (mV) with an Oxidation-Reduction Potential Meter. The higher the positive meter reading the greater the oxidation potential it carries. The higher the negative meter reading the greater the reduction or anti-oxidant potential it carries.

In very simple terms Oxidation-Reduction Potential is the potential of a fluid to either increase oxidation or reduce oxidation.

Within the cells (especially in the mitochondria) it is essential to have a high number of negatively charged electrons (electron donors). This condition

sets the stage for 2 very important functions, optimal production of energy on a cellular level and neutralization of free radicals produced through normal cellular respiration. Conversely, a high number of positively charged ions (free radicals) create a very undesirable condition known as oxidation which results in cellular destruction.

Change your water . . . Change your body.

Human bodies are composed of roughly 70-100 trillion cells which are primarily water – up to 98% depending on the function of the cell. So it only stands to reason that the water we consume is the water that makes up those cells.

Surprisingly, water can be one of the most corrosive substances that we ingest every day, yet it is absolutely essential for life. Below is a chart outlining the oxidative values of typical water sources available throughout the US.

| Water Type or Source | MilliVolt Reading | Rate of Corrosion |
|-----------------------------|--------------------------|--------------------------|
| Tap* | +576 | High |
| Steam Distilled | +755 | Extremely High |
| Pur Filter* | +588 | High |
| Britta Filter* | +622 | Very High |
| Carbon Filter* | +596 | Very High |
| Softened | +791 | Extremely High |
| Aquafina by Pepsi | +542 | High |
| Dasani by Coke | +521 | High |
| Penta | +613 | Very High |
| Evian | +404 | High |
| Perrier | +457 | High |
| Propel Fitness Water | +656 | Very High |

*This is an average of the values gathered from source waters in cities across the US – Dallas, Los Angeles, New York City, Santa Fe, Seattle and Spokane.
Bottled water readings vary from one bottling run to the next. These are the *lowest readings* measured over a 3 year period.

| Water Type or Source | MilliVolt Reading | Rate of Anti-Oxidants |
|-----------------------------|--------------------------|------------------------------|
| Kangen Water™ | -883 | Extremely High |

This is also the average values of water gathered from the same sources as the tap water readings above.

These charts point out the dramatic differences between various types of water and Kangen Water™. Keep in mind that the higher the positive

number the more oxidative or corrosive potential the water has. While the higher the negative number the more anti-oxidants the water contains. The anti-oxidant potential of Kangen Water™ is the secret behind Enagic's phrase, "Change your water . . . Change your body."

As a Biological Medicine Physician, I have been measuring the levels of oxidation in bodily fluids for about a decade using a very sophisticated piece of lab equipment called the QFA (Quantitative Fluid Analysis). Based on the rate of oxidation in these fluids this measurement device calculates a person's biological age. For most people this biological age is generally 20-50 years older than their actual chronological age. Since it is our biological age that determines the length of our life, that number is quite significant. More than 3 years of testing and research have led me to the discovery that drinking Kangen Reduced Alkaline Water is the most effective tool for quickly, easily and economically changing the rate of oxidation on cells that I have ever encountered.