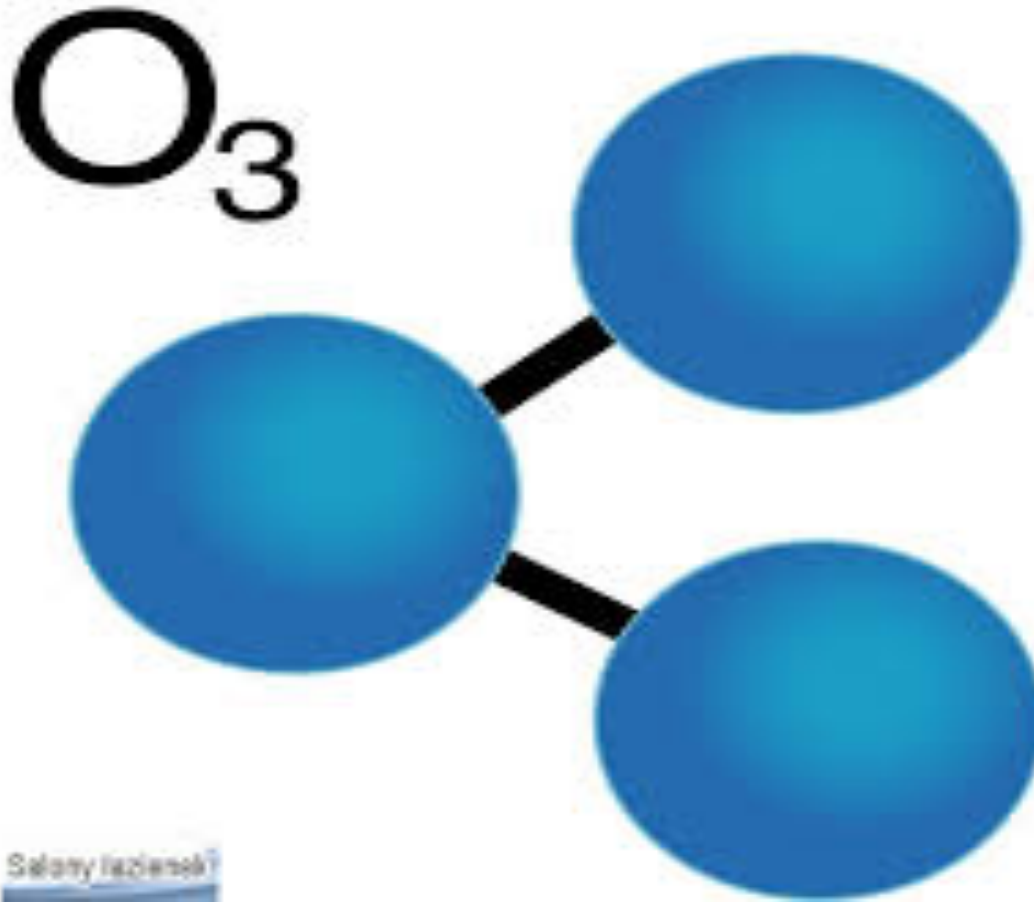


Ozone as a Naturopathic Healing Modality





What is Ozone?

*In nature ozone is created when UV light from the sun comes in contact with oxygen. The energy from the UV is imparted into the oxygen, creating O_2 and some O_3 .

*The ozone layer is created by the UV light's interaction with oxygen. The ozone protects us on earth from the sun's powerful UV rays.

*Without the ozone life on earth could not exist as we know it.

*At ground level ozone is created when UV light interacts with water spray ,foam, and waterfalls.

What Ozone Isn't



Ozone is NOT SMOG

- Unfortunately over time the word ozone has become interchanged with the word smog.
- Smog is an ever changing complex mixture of toxic gases and particles. Because the constituents of smog are changing all the time it can be very challenging to actually measure the smog.
- When smog levels are high, so are ozone levels.

Ozone is NOT SMOG

- The ozone is higher with increased smog as it is Mother Nature's way to help counterbalance the impact of the smog.
- The ozone is there to oxidize and destroy the toxins, helping to create air that is more breathable.
- Since ozone is much easier to measure than the toxic gases & particles that make up the smog, scientists simply started to measure the level of the ozone present.

As a result the word **ozone** became synonymous with the word **smog**

- Ozone



- Smog



Ozone from Thunderstorms



Ozone is also created when the energy of lightning contacts the air and this is one of nature's powerful ways of creating ozone. The fresh, clean smell following a thunderstorm is actually ozone 😊

Making Ozone

In 1857 the first superior ozone induction tube.

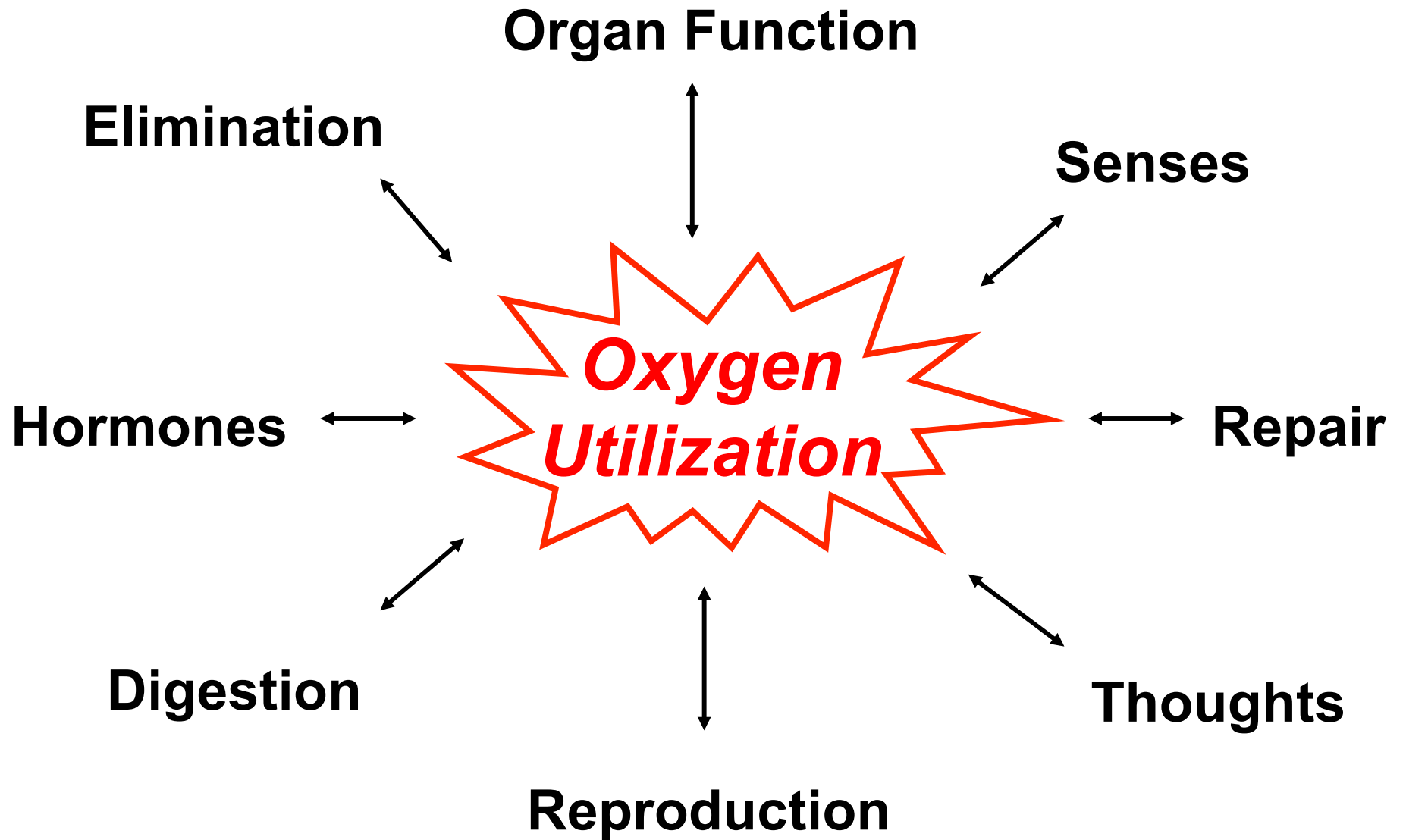
In 1873 it the ability of ozone to eliminate microorganisms was discovered.

In 1881 the disinfecting properties of ozone are referred to in Dr Kellogg's book on diphtheria.

In 1885 the Florida Medical Association published the first book on the medical application of ozone.

Rich history of the evolution of medical ozone. 1957 the first modern ozone generator which today's generators are based on.





What Is Health?

- Not the absence of symptoms.
- Not the absence of disease.
- Not the absence of abnormal tests.
- Not the absence of anything – health is the presence of something – Optimum Oxygen Utilization.

Oxygen – The Forgotten Nutrient

- The most critical nutrient.
- It's not what you take in, it's what you utilize.
- The difference between you at 20 and you at 70 is your level of oxygen utilization.
- The key to the treatment and prevention of disease is optimum oxygen utilization.
- Local and systemic oxygen utilization.
- Oxygen utilization can be measured and improved.

Aging and Oxygen Utilization

Nothing is as consistent and as predictable as the gradual, linear decline in oxygen utilization seen in all aging populations. It starts early!

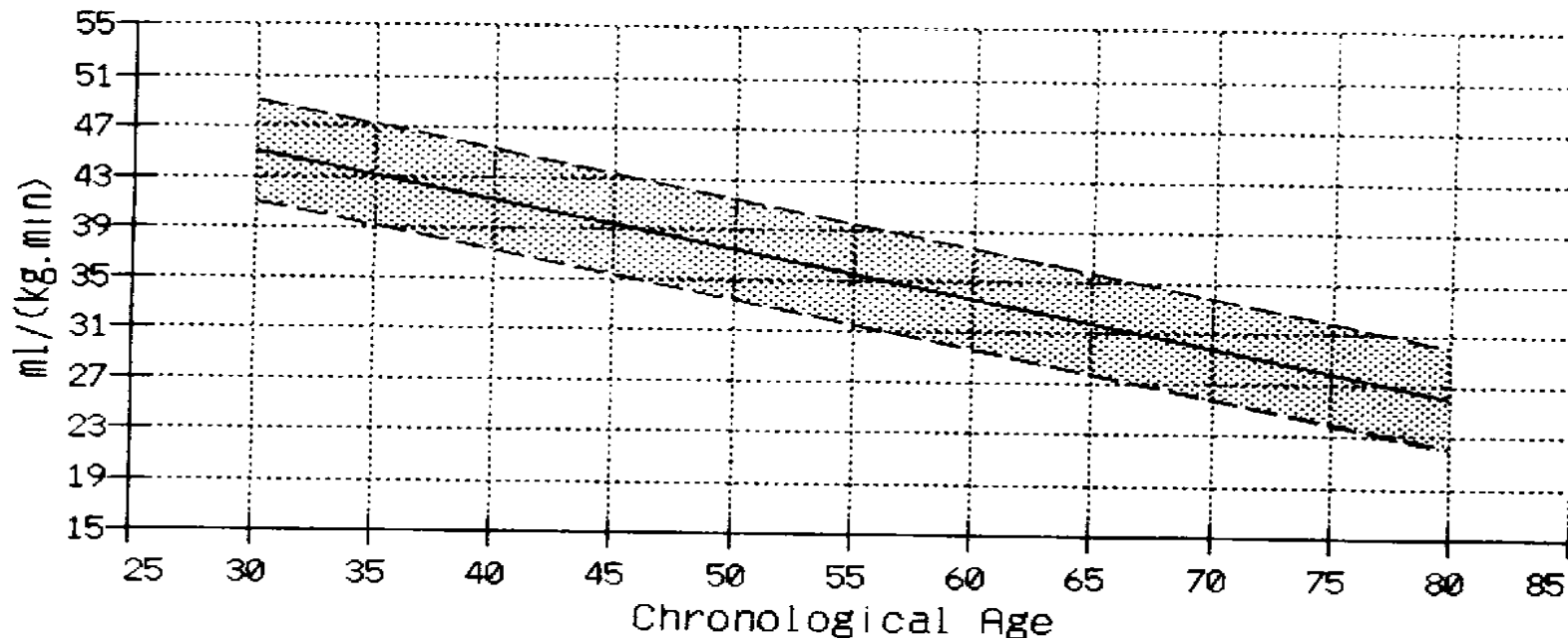
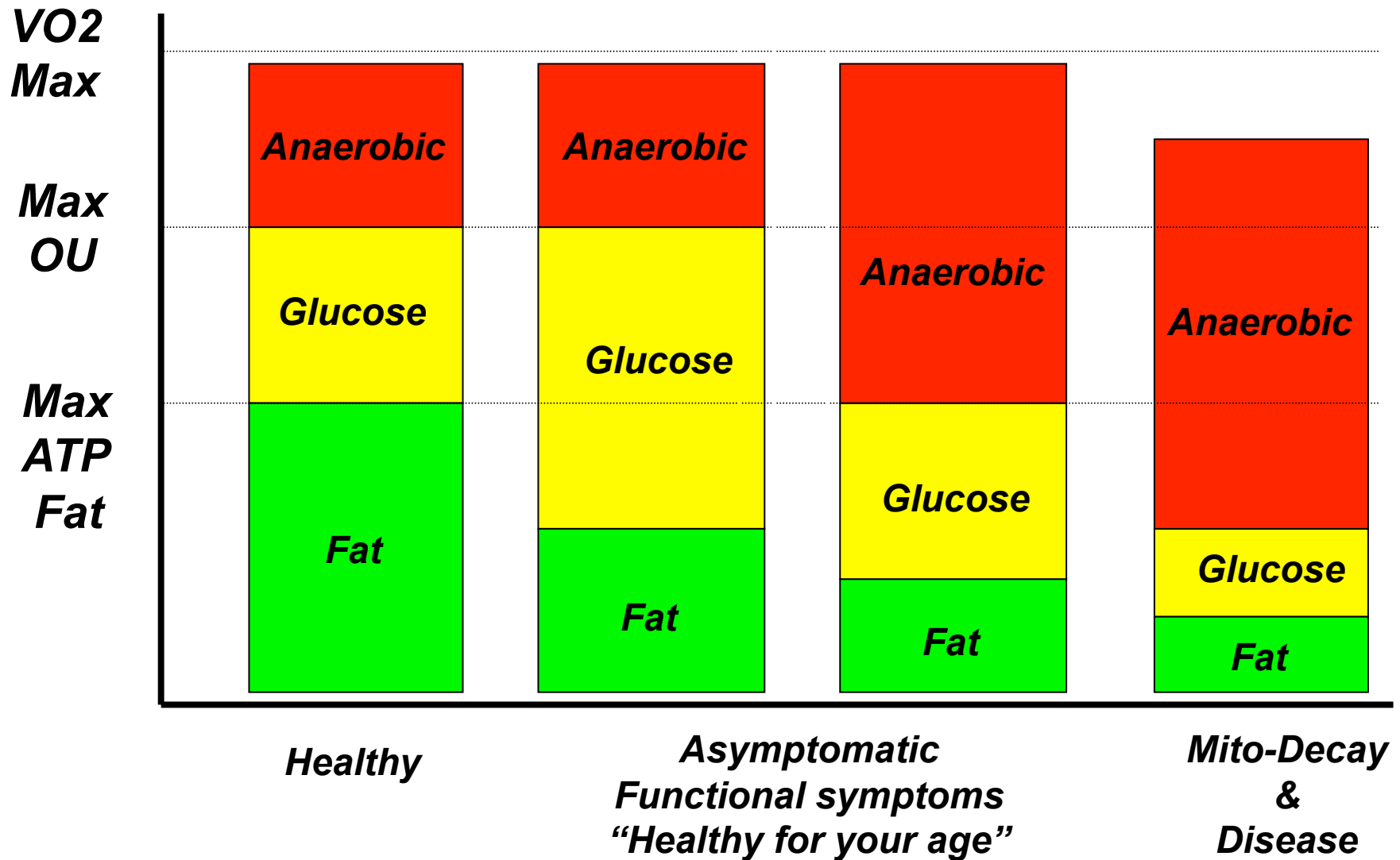
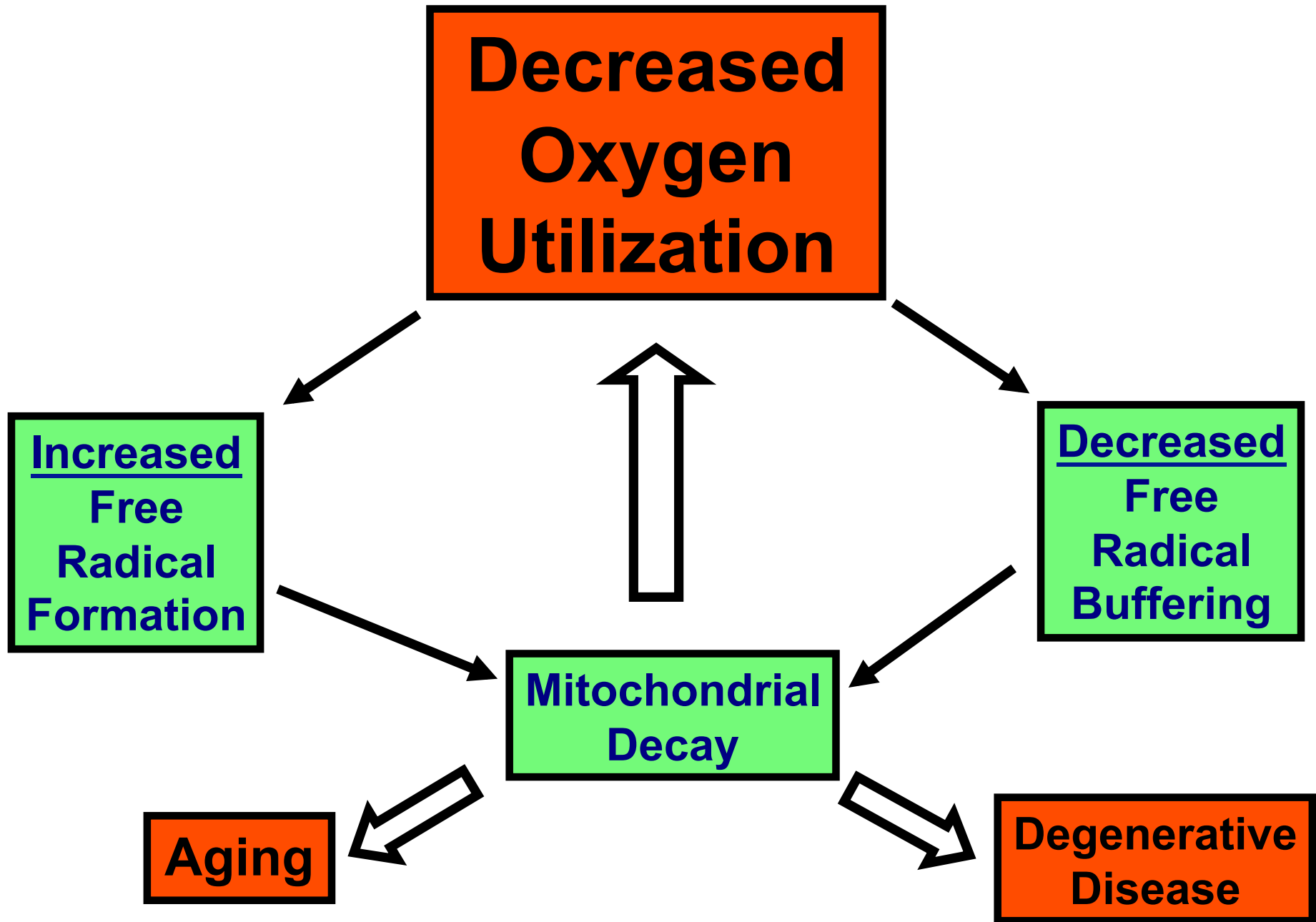


Fig. B. 1-8. Maximal oxygen uptake – men, in ml/kg min (Dehn and Bruce).

The Stages Of The Aging Process

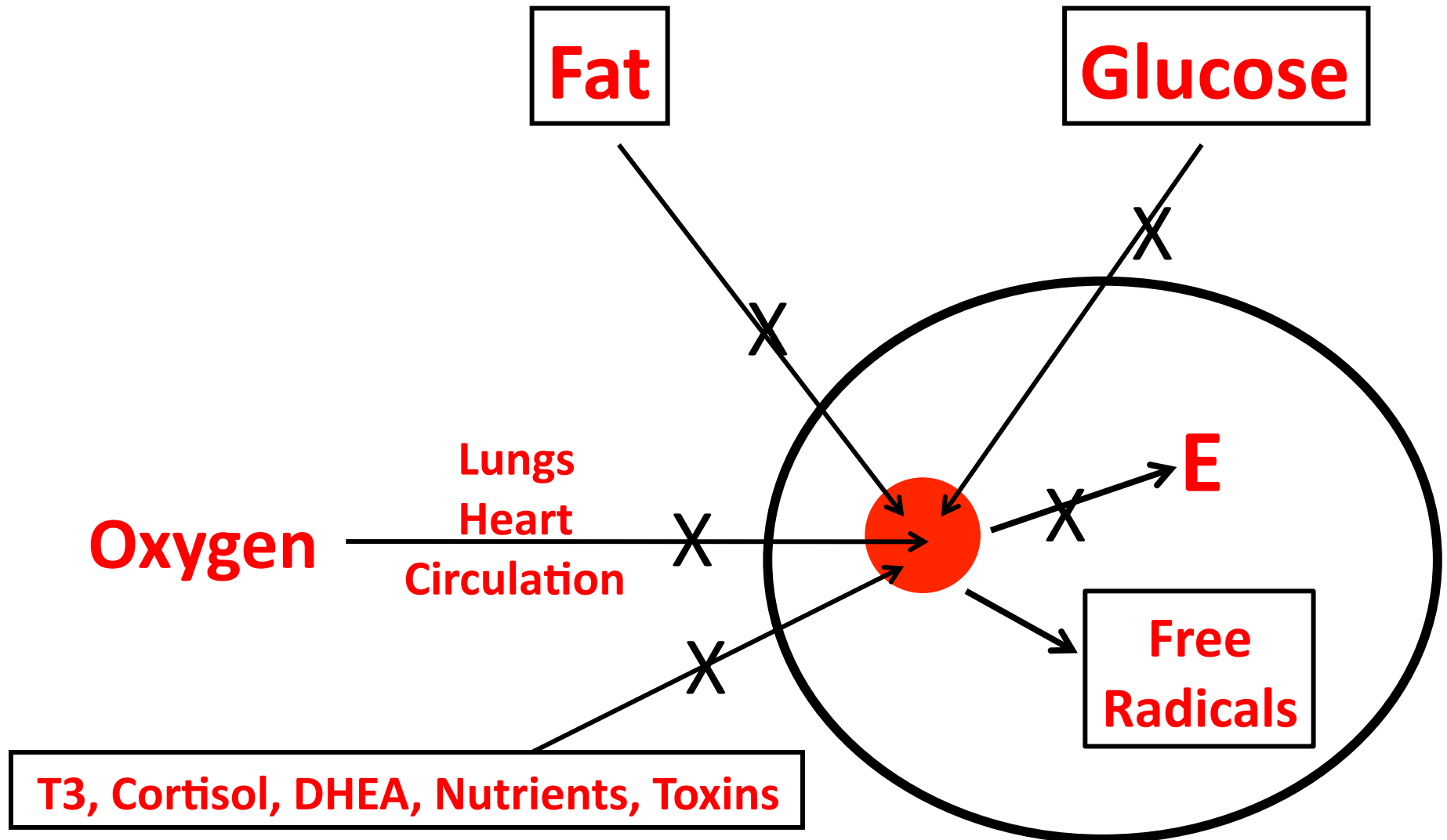




What Causes Decreased Oxygen Utilization?

- **Pre-Mitochondrial Factors** - Decreased lipolysis, Hypoglycemia, Ischemia, Hypoxia, Inflammation.
- **Mitochondrial Factors** – Toxicity, Infections, Stress, Nutritional deficiencies, Hormonal deficiencies, Decreased methylation, Decreased fitness.

Decreased Oxygen Utilization



Decreased Oxygen Utilization

aka

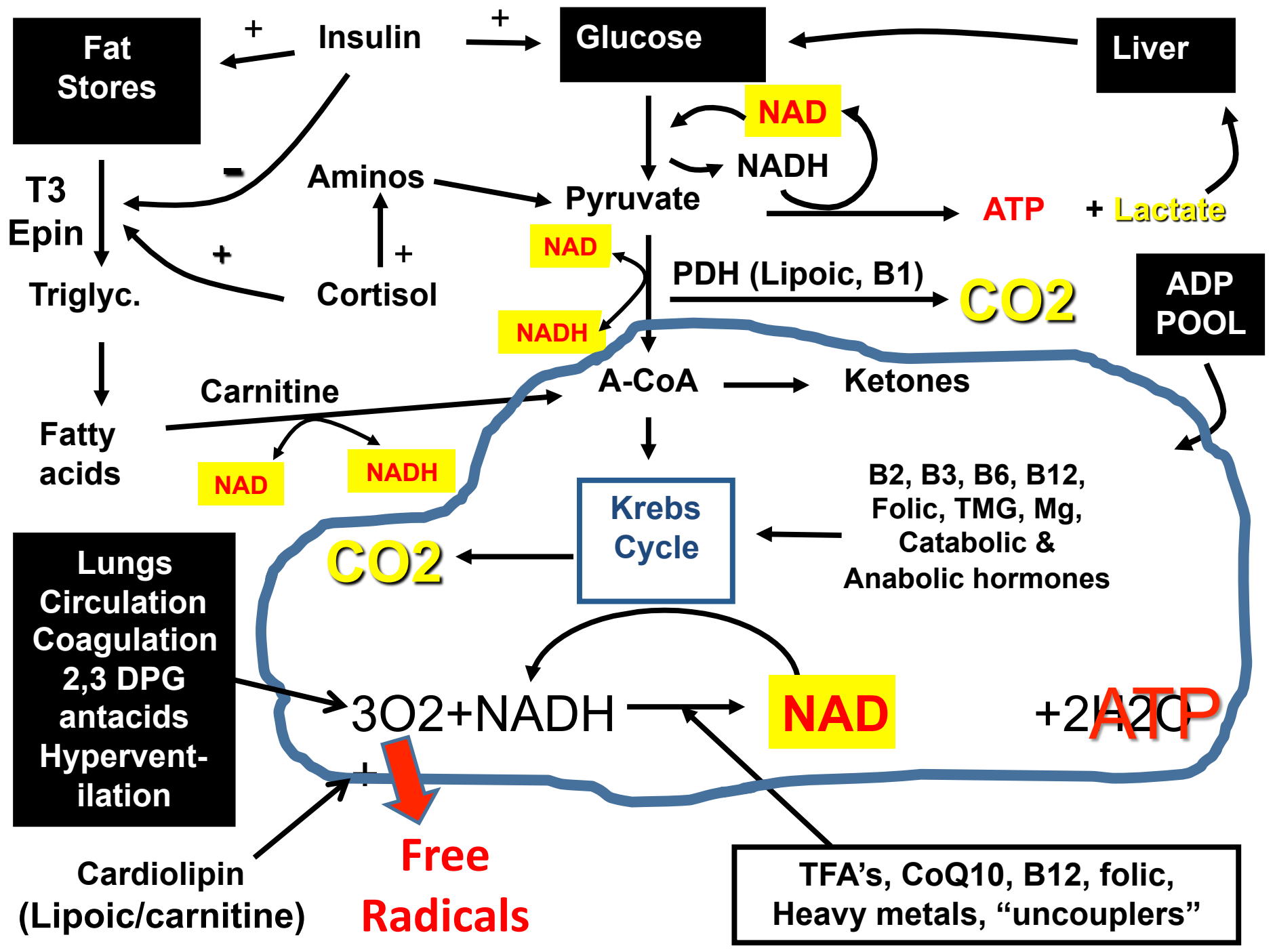
Decrease NAD/NADH Ratio

Ideal ratio

700/1

NAD and Cell Signaling

- NAD is rate limiting for cell signaling and the control of many intracellular processes including:
 - DNA repair
 - Apoptosis
 - Telomere maintenance.



The Cost of Reversing NAD/NADH Reactions

- Increased lactic acidosis – 19 times!
- Decreased apoptosis leading to cancer.
- Increased protein catabolism.
- Increased intra-cellular free radical stress.
- Increased extracellular free radical stress via PMOR (plasma membrane oxidoreductase) system.
- **The genesis of all chronic disease!**

Ozone Corrects The NAD/NADH Ratio

- Ozone therapy, by oxidizing NADH to NAD corrects the ratio and thus improves oxygen utilization by stimulating increasing levels of NAD:



- Oxidation therapies are enhanced with the addition of niacin, riboflavin, MethylB12, B6, folic acid (MTHF?), oral NADH.

It Happens Locally

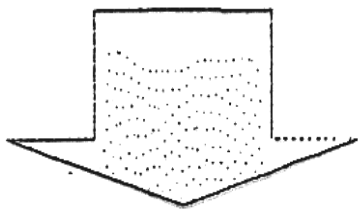
- Chronic localized pain is caused by localized areas of chronically decreased oxygen utilization.
- Vicious cycle starts with trauma or infection.
- Edema, inflammation, hyper-coagulation, and endothelial damage lead to a further localized decrease in oxygen utilization.
- Decreased oxygen utilization disables the healing mechanisms, and condition becomes chronic resulting in permanent edema, inflammation, hyper-coagulation, endothelial damage, and pain.

Mitochondrial rate of decay is determined by one thing: oxygen utilization. So the better your oxygen utilization, the longer and better your life will be.

- Mitochondrial rate of decay is determined by one thing: oxygen utilization, which is the same thing as your NAD/NADH ratio.
- So the better your oxygen utilization, the longer and better your life will be.
- If you are aging prematurely, chronically sick with anything, or have chronic pain your NAD/NADH ratio is decreased. **This can be reversed with ozone.**

Since decreased oxygen utilization is the primary cause of degenerative disease, the treatment of all diseases including aging, auto-immune disorders, cancer, ASCVD, etc. is maximally enhanced in the presence of optimal oxygen utilization. **This is why ozone therapy should be used in virtually every patient you see.**

ENERGY



Contra-indications

- Alcohol intoxication
- Recent M.I.
- Pregnancy
- Active Bleeding
- Hyperthyroidism
- Thrombocytopenia
- Ozone Allergy
- May cause hemolysis in patients with G6PD deficiency.

Published Effects of Ozonides

- Anti-bacterial – selective for anaerobes.
- Anti-fungal.
- Anti-viral.
- No resistance.
- Enhances chemotherapy and radiation.
- Activates Nrf2

Nrf2 is a “Master Regulator of CytoProtection”

Lewis et al (2010) Integr Comp Biol (May 6, 2010)

- Increases Detoxification
- Regulates production of Phase 2 Enzymes
- Enhances stability and turnover of proteins
- Reduces inflammation
- Protects against neurodegeneration
- Anti-tumorigenic
- Promotes apoptosis
- Promotes longevity

Primary Applications

- **Coronary artery and cardiovascular disease.**
- Claudication.
- **Gangrene.**
- **Macular degeneration.**
- Aging.
- Oncology.
- **Chronic infections.**
- **Herpes.**
- Chronic fatigue.
- Cutaneous fungi.
- **Interstitial cystitis.**
- **Dental ostitis.**
- Allergies.
- Auto-immune disease.
- Ulcerative colitis.
- Dermatitis

Ozone Therapy for Cancer

- By selectively increasing anti-oxidant enzyme activity in healthy cells, ozone protects against side effects of chemo/radiation.
- Increases chemo/radiation/vitamin C efficacy by adding additional oxidant stress.
- Decreases resistance to chemo.
- Induces anti-cancer cytokines: TNF, IFN, IL2.
- Direct contact kills cancer cells.
- May normalize “marginal” cancer cells by stimulating pyruvate to AcylCoA conversion
- May stimulate apoptosis
- Is **not** a stand alone therapy for cancer

Methods Of Administration

- Major AHT = MAH.
- Minor AHT = mAHT.
- DIV Technique
- CheZone Therapy.
- Rectal insufflation.
- Limb bagging.
- MAH/UBI.
- Prolozone
- Bladder insufflation.
- Ozonated water.
- Ozonated oil.
- Isode injections.
- Intra-arterial.
- Ozone Sauna
- Inhaled Therapy



The American Academy of Ozonotherapy (AAO) is an academy of health professionals dedicated to establishing standards for the art and science of Ozone Therapy, educating the public and other health professionals about the many uses of Ozone Therapy in medicine, and promoting research in Ozone Therapy. Our goal is to enhance the health and well being of people through this safe, inexpensive, and effective therapy. Newly founded in 2010, the AAO is the only professional academy dedicated to Ozone Therapy in the United States. Membership in the AAO is achieved by professionals with various credentials who have demonstrated a proven knowledge of the science and art of Ozone Therapy.

Ozone Applications

Limb Bagging



Sauna



Ozone Applications

Nasal Insufflation



Prolozone Injection



Ozone Applications

Ozonated Olive Oil



Rectal Insufflation



Ozone Applications

Auricular Insufflation



MAH



The Genius of Ozone

