

RESULTS-ORIENTED CARE FOR CONSTANT & CHRONIC PAIN IMPROVED BY THE INTRODUCTION OF... COLD LASER

I've been keeping my ears opened for years about the results of using cold laser, also called low level laser (LLL). The research for it is quite compelling in terms of its healing ability. The laser that will be used in our office is FDA-approved for decreasing pain and inflammation. It proved 60% more effective than placebo. That is pretty impressive.

There are many kinds of lasers and without getting into the physics of different light wavelengths that are available, the important information to know is this: I will be using a 635 nm (nanometer) infrared light laser. This frequency has been found highly effective in the research for promoting healing and decreasing inflammation...*with no side effects.*

Laser makes changes right down at the level of the mitochondria. The mitochondria have receptors that are activated by a wavelength of 635 nm. The laser's light biologically stimulates reactions in the cell that otherwise would happen too slowly or not at all.

There are some factors that will undermine the effectiveness of the laser's work. Smoking, first of all. Smoking reduces the oxygen available in the cells, which are necessary for the final reaction in the mitochondria to occur. Taking anti-inflammatory medications (prescription or over-the-counter) blocks the receptor sites that are activated by laser. And statin drugs (cholesterol medications) steal lots of ATP from the cells and would frankly make laser treatment minimally effective.

However, there are things that will enhance the effects of the laser: breathing exercises that increase oxygen intake; mild to moderate exercise; ingesting substances used by the mitochondria to make ATP and clean up free radicals (see the next article); a host of minerals for accelerating cellular reactions; detoxification via supplements or detoxification via ionic foot bath. Even chiropractic adjustments improve the overall response due to the anti-inflammatory effect the adjustment provides.

The use of the laser can help reduce the frequency of exacerbations some people's conditions have had. I think it will reduce patient's need for adjustments in the long-run. The great part about using the laser is there are NO side effects. There is no chance of burns with this therapy. Depending on what the complaint is will depend on how things feel different afterwards.

But the very limited experience I've had as a laser patient is this: I got treated at a laser seminar. It turned out the traps muscle on one side showed up needing to be treated. It is frequently tight! The nature of my work certainly messes things up in my back. That seminar was a month ago and that muscle hasn't tightened back up. I don't generally have complaints of pain anyway. But I will tell you (I thought) I had been struggling with getting my pillow height just right. I was waking up in the morning with my arm going numb (too frequently). My bed and pillow hadn't changed and shouldn't have been the culprit (the typical area I will troubleshoot when a patient wakes up with pain exacerbated). Since that seminar, I can't recall that arm going numb again. I got treated once with the laser. And I wouldn't attribute the difference in adjustments because I've only seen my chiropractor once since that seminar and the numbness hadn't come back by that next adjustment.

So I want existing patients to know that even if they aren't receiving the laser as part of their care, that it will be part of new patient's care plans. So it might make referring people different because you won't know what to tell them to expect.

But watch your mail. There will be a couple of promotions to introduce existing and inactive patients to the benefits of laser. Then you WILL be able to tell your friends about the difference in my already amazing adjustments and how the laser makes them even more unbelievable :-)

Doctors I've talked to who have used the laser say things short of miracles happen, like a diabetic lady getting her first period in over 7 years once he started treating her. Our focus for treatment will be for pain and inflammation and range of motion. But if other things get healed in the process, then kudos to the body for working better!!

Cosmetic surgeons are using cold laser to improve outcomes for elective procedures. The company who manufactures the laser that will be used in our office also has FDA clearance for lasers that treat acne and reduce pain and speed healing from plastic surgery. That laser won't be available in our office. But I thought you might be interested to note lasers are increasingly being used in medical procedures. I recently found out that a patient's husband who is a dentist is using laser to treat patient's gum disease in lieu of having painful gum surgery. Even dentistry has found an application for lasers.

Yours in Health, Dr. Erica

Array of Antioxidants for Anti-aging

Centennial —

I know that “getting older” is on LOTS of people’s minds because they always tell me that “getting older is for the birds.” I wanted to draw your attention to how aging is believed to occur as written about in medical research.

I’ve been writing about glutathione and fish oils over the last year. And periodically I’ve written about certain antioxidants. Many people are vaguely familiar with what an antioxidant is: **Vitamin C**, for instance is one. “Antioxidant” means this: anti—is *against*; oxidant—*oxygen product*. So an antioxidant is *trying to prevent certain oxygen by-products in the cells*. Oxygen by-products are called free-radicals. They disrupt the molecular structure of whatever is nearest to them in a cell.

The most recent seminar I attended emphasized **aging** and **degeneration** being caused by **oxidation**. Free radical production leads to cellular damage. Once enough damage has occurred, then disease occurs (Alzheimer’s, cancer, cardiovascular problems). The most susceptible area for damage of this kind is the central **nervous system (brain and spinal cord)**. *This is obviously important for a chiropractic patient to be familiar with and take into account when seeking the best possible results.* The 2nd most susceptible areas are heart and skeletal muscles. Next are kidneys and then hormone-producing tissues.

A small amount of free radical formation is normal. In the course of converting oxygen and sugar inside of the cell into the energy unit that the cells use (called ATP), it is OPTIMAL if only 5% of the sugar from food is converted

to free radicals, while 95% is converted to energy (ATP).

It is important to consume external antioxidants for cleaning up the free radicals made in this process—this is your vitamins like A, C, E, & D; these come from fruits and vegetables but supplementation is considered essential in today’s world of quickly-ripened foods and nutrient-depleted soils.

However, there are ALSO antioxidants that your body **can** make. They are called *glutathione peroxidase, catalase, and superoxide dismutase*. Okay, don’t phase out at the thought of re-visiting biology and chemistry. I’ll make it simple!

Production of *Glutathione peroxidase* requires the ingredient called **N-acetyl cysteine**. Trace amounts of **selenium** are required for *glutathione peroxidase* to properly remove free radicals. Glutathione is crucial for targeting toxic materials for elimination like mercury, lead and arsenic. In fact, researchers at the University of Arkansas have determined that the common link in autism is a genetic defect that doesn’t code for enough *glutathione peroxidase*, leaving the body susceptible to toxicity of ANY levels of heavy metals. Production of *superoxide dismutase* requires three trace minerals: **zinc, copper** and **manganese**. Together, this is the mechanism that eliminates the free radical called superoxide.

Catalase is considered a minor player in your array of antioxidants.

These antioxidants function inside the cell in the mini-organ called the **mitochondria**. Mitochondria have a large surface area where

Array of Antioxidants for Anti-aging, cont.

sugar and oxygen perform their conversion into free radicals and ATP.

A focus in anti-aging is keeping the free-radical exposure in the cell to a minimum while maximizing ATP production. So you get a double bang for your buck when focusing on both of these processes. As you are probably aware, the energy isn't quite the same as one gets older. So a good strategy is to provide your cells with building blocks to boost all of your **internal** and **external antioxidants**. This means the ingredients for making the antioxidants themselves; ingredients that are needed in the reaction to eliminate antioxidants; and ingredients needed to make ATP.

These ingredients were described by researcher Bruce Ames in findings presented to the Proceedings of the National Academies of Science (2002). He showed how feeding older rats two chemicals that are usually found in the mitochondria (**alpha lipoic acid** & **L-acetyl carnitine**) helped the rats to perform better on problem solving and memory tests and also move around more easily and with more energy (Newsweek 2005 "A Wrinkle in Time") [Anyone involved in geriatrics would sure like to see THAT outcome for their patients!] According to this article in Newsweek, other studies had linked diseases like *Alzheimers*, *Type II Diabetes*, *Parkinson's* and other degenerative diseases to **unhealthy mitochondria**.

So according to Ames, it was felt that repairing the mitochondria or staving off the damage would be beneficial in slowing down aging.

Finally, an important substance called co-enzyme **Q10** (also known as CoQ10 or ubiquinone) drastically improves the efficiency of making glucose into ATP.

So there are a few recommendations for improving your antioxidant array

1. **Vitamins A, C & E** as well as **selenium** are crucial.
2. But **N-acetyl cysteine** should be supplemented with **selenium** for improving glutathione production and function.
3. And the following important trio is considered crucial for mitochondrial health: **L-acetyl carnitine**, **alpha lipoic acid** and **CoQ10**. Trace minerals **copper**, **manganese** and **zinc** are also mandatory for proper function of these antioxidants.

To summarize, this antioxidant array protects the mitochondria from damaging oxidation. Its DNA is not protected the way cellular DNA is and highly prone to being denatured from free radicals. Cold laser also improves the reactions in the mitochondria. So supplementing with the above antioxidants as well as using the laser provides a very synergistic effect in healing.

The supplements we recommend in our office target these areas for improvement. **Complete Glutathione** by Nutriwest and **Complete A-G** provide a well-rounded approach to combining these necessary antioxidants which will promote healing and improve inflammation by neutralizing damaging free radicals.