

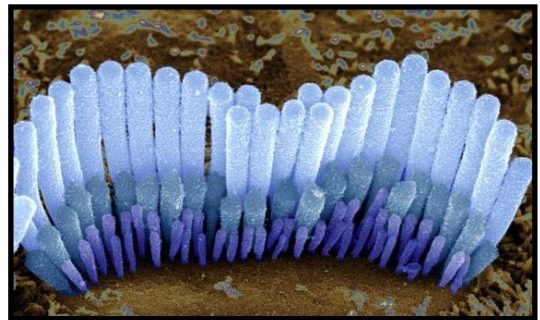
*Sensory Rejuvenation **Fast***

*for the **Inner Ear***

Over the last 20 years, I have been able to successfully treat conditions that have been considered incurable. Hearing loss and tinnitus are two conditions that I have seen great results with, especially using the combination of key modalities along with endo-nasal balloons.

A properly functioning cranium is flexible and moves in a rhythm. It flushes oxygen and nutrient-rich cerebrospinal fluid (CSF) that bathes the central nervous system, keeping it free from toxic buildup and able to deliver “the groceries”. I like to say, “*bring in the groceries and take out the garbage*”.

Circulation isn't just limited to the CSF and directing blood supply to the brain and into the ears; it's also lymphatics that help clear fluid from tissues. You have two key systems that work with the inner ear. The lymphatic system (which drains down through the neck) and the glymphatic system are the primary gutter systems that clear waste from tissues in the brain and inner ears. In this chapter, we will cover some key therapies and strategies specifically for the inner ears which support recovery from such afflictions to the inner ear as vertigo, Meniere's disease, tinnitus and hyperacusis.



To understand how these treatments work, you need a good understanding of hair cells.

Hair cells in the inner ear are the nerve cells that allow us to perceive sound waves. They are essential for our balance, hearing, and proper brain function. Without them, we would be deaf and disoriented. If hair cells are damaged in any way, we suffer permanent hearing loss or debilitating balance disorders. Such insufficiencies are also intimately connected to our brain function and can cause issues with proper coordination of the eyes and movement of the body. Since the autonomic nervous system is also wired through these pathways, functions of the gut, heart, liver, kidneys, and bladder can all suffer from issues involving your hair cells. With these little cells being so important, you would think this would be a major area of new medical breakthroughs... but it's not really compared to other areas of medicine!

What are hair cells?

Under a microscope, these cells look as though they have a tiny hair protruding from them; hence the name “hair cells”. Stereocilia are the organelles of hair cells, and they bend in response to sound or other mechanical influences. There are two types: auditory and vestibular. Auditory hair cells, located in the cochlea of the inner ear, detect sound. Movements of the auditory stereocilia are transmitted to the brain and interpreted as sound. Vestibular hair cells, located in the vestibular organs, control our sense of balance. Loud noises, ototoxic drugs (drugs that damage the hearing), Lyme disease and other bacterial and viral infections, and trauma can all damage hair cells.

Laser Therapy & Photo-Bio-Modulation for the Ear

If you modulate your inner ear structures to support them to be stronger and more resilient, they will function better and can even repair damage. Laser therapy is the use of specific and concentrated light parameters to promote cellular repair and vitality. Just like red light, laser therapy involves the activation of the mitochondrial respiratory chain using the cytochrome complex. Low-level laser or photobiomodulation involves the use of the energy within the laser to enhance cellular functions for clinical benefits.

Lumomed is a protocol created by Dr. Kaiser in Germany. He and his father pioneered the use of laser for inner ear conditions over the last 30 years. I was introduced to Dr. Kaiser by a mutual patient, for whom I performed FCR (functional cranial release) to treat her Meniere's disease. She had great results with FCR for her balance issues; however, she had limited improvement in her tinnitus as well as her hearing. It was common in my practice that balance improved much more rapidly and consistently with the endo-nasal balloon releases along with functional vestibular-based neurological therapies. She was extremely excited with her results after traveling to Germany to receive the Lumomed protocol. She told me if I integrated the Lumomed with FCR, that I would have the most cutting-edge program in the world for inner ear treatment. A few years later, I happened to be in Germany, and I posted on Facebook. This patient responded to my post to say I was very close to Dr. Kaiser's clinic in Baden Baden, Germany. I called Dr. Kaiser and was welcomed to his clinic for a meeting. We agreed to bring Lumomed to the US, with my clinic in Sarasota, Florida being the first US-based center.

Lumomed Inner Ear Protocol

Lumomed uses a special high-powered laser, which puts out 25,000mW. It's generally done over a 2-3-week period where daily laser treatments are given to each ear. The therapy lasts about 1 hour, with 30 minutes for each ear. A general series is 10-20 treatments. Pre and post audiometric exams are conducted, and we often observe statistically significant improvements in hearing. However, I don't find the vertigo cases to do well with only Lumomed. The integration



Image shows laser therapy to the patient's inner ear.



Amon Keiser ND,
Lumomed Founder

of endo-nasal and functional neurology is important for these cases and Lumomed seems to speed this process up by supporting the inner ear. The laser supports the energy through the mitochondria as well as enhances lymphatic drainage from the inner ear. You are either a swamp or a river, and a river is much cleaner and free of microbes. Tinnitus is a common inner ear condition that is often caused by damaged hair cells. Due to the central integration of the sound through the inferior colliculus located within the brain stem, tinnitus can become a problem resulting from the sensory mismatch from the ear to the brain. As a result, it can take longer to see results using Lumomed for tinnitus. Sometimes 4-6 months is needed.

Importance of Ear Protection & Inner Ear Relaxation

Stress is the inner ear's nemesis. Mental-emotional stress seems to bring on inner ear disease such as vertigo, tinnitus and hearing loss. Working on reducing these stresses is emphasized with my patients. There is, however, a stress that the ears never get a break from: sound.

Consider a runner and how the knee joints take on physical stress due to the constant pounding each time the foot strikes the ground. If you had a knee problem and you came into my office, I would suggest switching to cycling or using an elliptical machine, both of which have far less impact stress.

Think about the inner ear and how it never gets a chance to rest as it's constantly processing sound, even while we sleep. How do we give these hair cells a break so they can use the energy required to process sound to instead repair themselves? The answer is simple: avoid loud environments and wear ear protection.

I suggest that ear protection be worn for a few hours each day (or as long as can be tolerated each day) as part of a program to heal the inner ears. This allows a deep relaxation to the inner ear cells. It reduces the stress and burden of supplying the mitochondrial energy to process that sound. This can be combined with what I call a “Sensory Rejuvenation Protocol” to gain maximum benefit from Lumomed, Endo-nasal therapy, and any other therapy that you might consider.

The following section will have some repeat information from my Fast Track Fast™ as it is an identical protocol. The language within the description and a few studies have been added.



Sensory Rejuvenation Protocol

The Amazing Weekly (6-Day) Protocol to Invigorate Your Inner Ear and Overall Energy Reserves.

“Sensory Rejuvenation Protocol” is a technique to invigorate your inner ears. This is done through improving and renewing your mitochondria. One third of your body weight is made up of the mitochondria within your cells. These little structures convert glucose and oxygen to create energy. This energy is needed to run every aspect of all your cellular functions, including your inner ear. They keep your brain running, your hormones secreting hormones, your heart

beating, your lungs absorbing vital air, your immune system functioning to protect you from all the virus, bacteria, and molds in our environment, your gut absorbing nutrients, and your ears working 24/7.

Your mitochondria create the energy needed for all functions of the body. You should appreciate your mitochondria and take care of them, but we don't always get practical ways to do this. Our Sensory Rejuvenation Protocol provides a way, based on science, for you to care for your mitochondria. Taking care of your mitochondria will make positive changes in your health and longevity, including your hearing and inner ear health! Studies show mitochondrial function can greatly impact the quality and length of your life. A worthwhile effort indeed! We will dig into a few technical subjects such as Autophagy, Mitophagy, Cellular Senescence, and NAD⁺.

Sensory Rejuvenation Fast™ is a six-day program where the first two days are focused on Cellular Energy loading with NAD⁺ and methylene blue (Lumetol Blue™). The next two days are focused on activating autophagy and mitophagy with the senolytics in plant polyphenols (Lucitol™), and the final two days are focused on generating stem cell growth with StemTOR™. It is optional to make the fasting phase a 24 hour fast from lunch to lunch.”

Phase 1: Cellular Energy Loading Phase with NAD⁺ & Methylene Blue

There are 2 molecules that are important to provide cellular energy, NAD⁺ and methylene blue. NAD⁺ (nicotinamide adenine dinucleotide) is a sister to niacin, a vitamin you cannot live without. NAD⁺ is a critical coenzyme found in every cell in your body, and it's involved in hundreds of metabolic processes. Maintenance of an optimal NAD⁺/NADH ratio is essential for

mitochondrial function. The maintenance of the mitochondrial NAD⁺ pool is of crucial importance.

From plants to metazoans (multicellular animals), an increase in intracellular levels of NAD⁺ directs cells to adjust to ensure survival. These NAD⁺ mechanisms include increasing energy production and utilization, boosting cellular repair, and coordinating circadian rhythms. By the time we are middle-aged, levels of NAD⁺ will have fallen to half of our youthful levels. In recent years, several studies have shown that treating older mice with precursors to NAD⁺ can greatly improve health. Observed effects include increased insulin sensitivity, a reversal of mitochondrial dysfunction, reduced stem cell senescence, and lifespan extension. ¹

Here are a couple of studies on NAD⁺ and Hearing Loss. Short-term NAD⁺ supplementation prevents hearing loss in mouse models. [Ref 15](#). Vitamin Supplement with NR, a precursor to NAD⁺, Successfully Prevents Noise-Induced Hearing Loss. [Ref 16](#). Euler-Chelpin, in his 1930 Nobel Prize speech, says, “NAD⁺ is one of the most widespread and biologically most important activators within the plant and animal world.” ²

NAD⁺ levels are related to the expression of NF-κB ([Tirumurugaan et al., 2008](#)) ⁶, and low-grade inflammation is a primary driving force of aging. A possibility is that addressing inflammation is the answer to slowing the aging process. Both doctors and scientists in the field conclude that molecules that maintain NAD⁺ levels allow people to celebrate many more anniversaries. Inflammation is not just linked to aging but is involved in almost all disease processes.

NAD⁺ levels naturally decline with age, and various stressors can deplete your NAD⁺ at a more rapid rate. Poor restorative sleep and alcohol use are the top two stressors that deplete NAD⁺; however, any stressor will drain NAD⁺ levels. When there is immune activation due to infections or mental, emotional, physical, structural, electromagnetic (EMF's), or chemical stress, there is a higher energy demand. This demand taxes our NAD⁺ levels, creating a need to replace NAD⁺.

In this article titled, “Why NAD⁺ Declines during Aging: It's Destroyed,” the author states, “NAD⁺ is required not only for life but for a long life...the decline of NAD⁺ during aging, with implications for combating age-related diseases.” ⁴

I don't advocate ignoring underlying stressors driving inflammation and only supplementing with NAD⁺ but approaching it from both sides. You might be looking at the future of medicine.

Methylene Blue (MB) is the second molecule used in Phase 1 of our Sensory Integration Fast™. MB is a brilliant blue salt that was first used as a dye. It improves mitochondria respiration and may very well be a magic bullet within metabolic medicine. MB provides energy to the electron transport chain by recycling electrons and it works through the cytochrome complex. This shifts your cells into a very efficient energy production.



Methylene blue is anti-inflammatory, anti-microbial, mitochondrial enhancing and neuroprotective, showing promise in treatment of diseases such as stroke, Alzheimer's disease, and Parkinson's disease. [Ref.](#) Both MB and NAD⁺ can be used together or separately with good results. You can find more information about NAD⁺Max™ and Lumetol Blue™, our MB product, at MitoZen.com.

Phase 2 - Autophagy, Clearing & Cleaning

Mitochondrial dysfunction is a hallmark of metabolic decline (vitality) during aging. [Ref.](#) We are constantly replacing our old, weak, dysfunctional mitochondria with new healthy fresh mitochondria. The population of all the mitochondria of a given cell constitutes your Chondriome. Like your microbiome, we either have a healthy bacterial pool of mitochondria or an unhealthy pool. This will dictate how functional they are. The average cell in your body has between 1,000-2,000 mitochondria. As cells get old, they are recycled, through the gene modulation process ruled by [mTOR](#).

The **mTOR** pathway is a central regulator of metabolism and vitality. When mTOR is inhibited, we shift into a cleaning and recycling phase where we see autophagy and mitophagy.

[Autophagy](#) is a Latin word that means “self-eating.” [Autophagy](#) is the body's way of cleaning out damaged cells to regenerate newer, healthier cells.

Mitophagy is the selective degradation of mitochondria by autophagy. It often occurs in defective mitochondria following damage or stress.¹⁰

Remember all the types of stress? These ALL have an impact on the demand for mitophagy to be activated through mTOR!¹¹ Fasting is the primary activator of this process, and methylene blue will further activate autophagy and mitophagy. Poor autophagy, which leads to the accumulation of senescent cells, has a detrimental effect on health and life span. The goal is converting these senescent cells into fresh, healthy cells.

Cellular senescence is an irreversible cell-cycle arrest mechanism that acts to protect against cancer. [Ref.](#) Basically, cellular senescence is a permanent state of sleep a cell goes into. This state is associated with a release of inflammatory products and higher energy consumption, pulling it away from your healthy cells.¹² They are zombies in the literal sense!

Production of pro-inflammatory cytokines and chemokines is emerging as a common feature of senescent cells irrespective of the senescence-inducing stressor or mechanism.

Cultured cells usually reach senescence within several weeks after exposure to senescence-inducing stressors but remain viable for months after that. [Ref](#)

These “zombies” will float around, spewing inflammation and sucking the life out of your body, by deferring vital energy that would normally be going to healthy cells. In this study scientists found fasting reduced hearing loss through autophagy. ***The Antioxidative Role of Autophagy in Hearing Loss.*** [Ref](#) 14

So, what is the answer? How do you clear these senescence cells from the body?

It happens to be the same process involved with autophagy and mitophagy, where mTOR is involved. Fasting and senolytics are the best answer to clean, clear, and recycle these “zombie”

cells. This is why we stack the most powerful senolytics on the planet with a 24-hour lunch to lunch fast that can be done each week or pulsed as directed by your health care provider.

Phase 3 - Stem Cell Activation

In Phase 3, the body (and your inner ears) are ready for growth and repair through the activation of mTOR. MTOR positively regulates cell growth and proliferation by promoting many anabolic processes, including biosynthesis of proteins, lipids, and organelles such as mitochondria. [Journal \(1\)](#)

Growing new mitochondria is called mitochondrial biogenesis, and mTOR activates this very powerfully!

Mitochondrial metabolism and biogenesis are both regulated by mTOR activation. ([Schieke et al., 2006](#))

Protein is the most effective activator of Phase 3. I suggest you increase your protein intake with highly absorbable form of protein such as fish, chicken, and steak at each meal. In addition, I recommend supplementing with quality essential amino acids, the building blocks of protein. Perfect Aminos is a highly absorbable form of protein, and it's well tolerated by most. Four scoops per day is the recommended amount. The amino acid leucine, in particular, activates growth and repair. We have a product called StemTOR™ which activates mTOR. StemTOR™ is very bioavailable and a great way to get leucine into your blood stream. In addition to leucine, there are a few nutraceuticals that have been shown to be great activators of growth and repair, including the following:

HMB- Hydroxymethylbutyrate is a powerful activator of mTOR. Studies indicate supplementation with HMB shows a significant increase in the anaerobic peak power, average power, maximum speed, post-exercise lactate concentrations, and a significant increase in fat-free mass and a reduction in fat.([3](#))

Rhodiola- Rhodiola encourages a healthy response to physical activity and mental/emotional stress by supporting stress hormones such as cortisol. Rhodiola enhances the anabolic effects of training and exercise and minimizes the catabolic (tissue breakdown) effect of the high stress hormones, cortisol.



Sensory Rejuvenation Protocol:

Purpose: Amplifying Regeneration to the Inner Ear.

- *Build back cellular NAD⁺ levels & increase MB for mitochondrial support.*
- *Assist the autophagy & mitophagy signaling response using Senolytics.*
- *Stimulate a growth phase via stem cell and hormetic response.*
- *Stimulate microbiome swarming and bacteria diversity post-fast.*

PHASE 1 (Days 1-2) - Methylene Blue & NAD⁺ Loading to Support Mitochondrial Health & Cellular Energy.

(Can be helpful leading into a fast for strong autophagy signaling).

- 1. Take NAD⁺Max™ and Lumetol Blue™ suppositories. 2 suppositories of each per day for 2 days. (NAD⁺Max™ Ultra liposomal can be used in place of the**

suppository.)

2. NeuroNAD⁺™ Nasal Spray or Lumetol Blue NS (coming soon)- 2 sprays each nostril 3 times a day.

PHASE 2 (Days 3-4) – Lucitol™ and Lumetol Blue™ to Maximize Autophagy.

- 1. Do a minimum of a 24 hour fast. Extended or intermittent fasting works at different signaling strengths.**
- 2. Consume senolytics like fisetin, quercetin and resveratrol which can be taken as liposomal and suppositories for better absorption. Use MitoZen's Lucitol™ Ultra (10ml 2 times a day for 2 days) or Lucitol™ Suppository (2 times a day for 2 days).**
- 3. Methylene Blue can also be taken to promote autophagy. MitoZen's Lumetol Blue™ can be taken once a day during this phase.**
- 4. Exercise can promote autophagy.**
- 5. Consume foods, spices, and teas to promote autophagy like ginger, coffee, green tea, elderberries, turmeric, ginseng tea, garlic, chaga, reishi, pomegranate and Ceylon cinnamon.**
- 6. Use ozone to increase mitophagy in the form rectal insufflation, ozone sauna or IV ozone while in a fasted state.**

Phase 3 (Days 5-6) – StemTOR™, High Protein and Perfect Aminos to Maximize mTOR After a Fast.

- 1. Consume more protein. Break your fast with a shake versus steak, which might be too difficult to break down. Take 20 gm (4 scoops) of Perfect Aminos for 2 days and consume fish, chicken, or beef for 2 meals a day for 2 days.**
- 2. StemTOR™ is another MitoZen product that can support the mTOR signaling in Phase 3. Take StemTOR™ 2 times a day for 2-3 days following your fast.**
- 3. Take supplements such as leucine, rhodiola, and HMB to further activate mTOR.**

I recommend this protocol weekly for 3 months, with a stronger 3 day fast one week each month. This longer fast is called the Fast Track Fast™ and is done for 3 days for each of the 3 phases. Phase 2 is done with a 3-day water fast (a 4-hour feeding window is always an alternative).

Before you start this protocol, consult your health care provider, and use their guidance, as this article is not meant to be medical advice.

If you are looking to be better, think clearer, have more energy, function at a higher level, and have healthier ears, these metabolic-based strategies for better mitochondrial health can't be ignored. Restoring youthful NAD+ levels, supplementing with methylene blue, using fasting to promote cellular clean up and recycling through autophagy and mitophagy, and ending with a strong stem cell activation can be a great strategy. The Sensory Rejuvenation Protocol is easy to do and well-tolerated by most. The Sensory Rejuvenation Protocol for any inner ear program using endo-nasal therapy and/or Lumomed can be done once a week for 3 months, followed by once every 3-4 months.

Antioxidant Theory for Inner Ear Health.

Many researchers have proven that including certain antioxidants in the diet improves inner ear function. The mitochondria can become dysfunctional with stress and build ups of senescent cells. Old mitochondria can lead to a higher spillover of oxidation. Having poor health and a diet devoid of antioxidants can result in a deficit that creates a high oxidation environment. Stack onto this poor sleep and lower melatonin as we age, and we have a perfect storm. My book, **Melatonin: Miracle Molecule**, which you can find at MelatoninBook.com, gets into detail about how melatonin supports these types of stresses. Let's consider some of the research on this subject.

Antioxidants like glutathione can be incredibly important in supporting the inner ear. The best ways to support glutathione levels is to reduce the stress in your life and to consume glutathione as either a suppository or as an IV at a doctor's clinic. Personally, I think the suppositories are going to be the best option for most people. Ref

<http://www.sciencedirect.com/science/article/abs/pii/S0378595597001548>

“Oxidative stress is an important mechanism underlying cellular damage of the inner ear, resulting in hearing loss. To prevent hearing loss, a number of antioxidants have been investigated. Several experiments have shown their ability to effectively prevent noise-induced hearing loss, age-related hearing loss, and ototoxicity in animal models.”

<https://www.mdpi.com/878230>

In this study, “Effects of antioxidants on the aging inner ear”, the researcher found a diet containing antioxidants reduced the magnitude of cochlear degeneration.

<https://www.sciencedirect.com/science/article/abs/pii/S0378595506001237>

Some of the antioxidants that support the inner ear are vitamin E, vitamin C, acetyl-L-carnitine, alpha-lipoic acid, and melatonin.

Enhanced Circulation Theory for Inner Ear Health with Herbs and PEMF.

Nutrients that support improved circulation, such as vinpocetine and ginkgo biloba, are two key nutrients that have been shown clinically to improve the inner ear function. Ref. I always say, “You're either a swamp or a river.” Tissues can be swampy and congested or clear and flowing like a river. This concept applies to the inner ear, as it does to every part of the body. Enhanced circulation will “bring in the groceries and take out the garbage”. There are a variety of herbs that



My PureWave Mat is under my covers so I can sleep on it every night. I travel with it too!

can help with circulation to explore with your health care provider.

I want to share one of my favorite therapies you can do right at home! It's called PEMF. I sleep on a PEMF mat every night. It helps to reduce the stress on and stickiness of the red blood cells, which enhances circulation, among many other benefits. PEMF stands for pulsed electromagnetic frequency. I personally use the Purewave PEMF Mat. I will share a link to this mat with you. The PureWave Mat is a very advanced system which is much more effective than any other Mats due to the

quality of pulses it produces. I have done my research and found that this mat is far superior, plus it has attachments for the ears, eyes, and acupoints. If you want to deep dive into this, you can always email me.

Here is the link to explore the Purewave PEMF mat as well as a discount when you buy through this link.
<https://www.purewavenow.com/?ref=4f-73DYxh7CT8>



Conclusion

We have covered a lot of ground when it comes to caring for your inner ears. The inner ears are an extension of the health of the individual. Because the cells in the inner ear are so delicate and have such a high demand for continuous energy, their health reflects the overall health and vitality of the body. Therefore, treating the whole body with systemic applications such as the Sensory Rejuvenation Protocol, makes good sense. These applications are geared towards metabolic care specifically to enhance mitochondria and the energy potential of the cell.

In addition, circulation is important to bring those different nutrients into the tissues that reside in the inner ear. Therapies such as PEMF, specific herbal preparations, cranial rhythm, and removing restrictions and adhesions to the normal movement of the skull, can all support healing in the inner ear. And protecting the ear from excessive sound stress is very important.

My hope is that at some point in the future there are more doctors that are treating the inner ear with the systems we described in this article. I anticipate doing more training in the future and will update on the website, www.ultimatecellularreset.com. Feel free to contact me if you are looking for a practitioner that is in line with the principles outlined in this article.