**Free Report**

**Nutrition for the Ear**

The remarkable science of audio biochemistry

Excerpt from Triumph Over Tinnitus

Let us now look at the specific nutritional needs of the ear and how you as an individual can most easily address these on an ongoing basis. Often what sends a person to seek the help of a practitioner is a condition which has arisen out of a nutritional deficiency. Armed with the right knowledge, we can prevent many of these deficiencies from occurring in the first place. In the 15th to 18th centuries over two million sailors died from scurvy due to ignorance of a nutritional deficiency, the need for vitamin C.[[1]](#footnote-1)1 Environmental doctors agree that today we may be facing a similar epidemic in many of the “21st century diseases” that could be prevented with adequate nutritional supplementation. Tinnitus may be one of those conditions.[[2]](#footnote-2)2

# The ear’s role

Innovative doctors are making radical new discoveries about the resilience of the ear and its vital role in our overall health. Dr Paul Yanick Jr has travelled a personal journey to discover the biochemical functioning of the ear. He describes the ear as a miraculous organ combining hydraulic and electrochemical energy systems, which are far more complex than the latest space age computer devices.[[3]](#footnote-3)3 Dr Alfred Tomatis, through fifty years of clinical research concluded that the ear serves not only as the organ of hearing and balance, but also plays a vital role in recharging and replenishing our brain’s energy. Through its connections with our cranial nerves, the ear interchanges with many other organs, serving as a telephone linkup system to other parts of the body. The ear cannot be looked at in isolation, as it is part of our incredible biochemical complexity, a fragile and vital component, and one which often signals when there are problems in other areas.

## The ear needs nutrients

The ear is often referred to as the most energy hungry organ of the body. All parts of the ear require high quantities of nutrients to function properly. Lined, as it is, with supersensitive receptor cells, delicate hydraulic systems and fluid chambers, it is a wonder of electrochemical and mechanical micro-engineering. Only if the right chemicals and enzymes are present can the nerves successfully fire the precise signals at millisecond intervals required to accurately transmit sound.

All the chemical reactions of the cells require oxygen and rely on the tiny electron processors or energy generators called mitochondria. There are over 100,000 mitochondria in each cell of the body. For the required energy reactions to occur, a sequence of enzymes must pass electrons down from one mitochondrium to the next. This assembly line is called the electron transport chain or ETC. The energy result of this process is to produce changes in electrons so that glucose molecules are converted into high energy compounds such as triphosphate or ATP. Coenzyme Q10 is an essential component of virtually every cell in the production of ATP.[[4]](#footnote-4)4

Unwanted chemical reactions may be caused by unstable molecules called “free radicals.” If there are too many free radicals in the body, the electrons are unbalanced and the chain is upset just as if an influenza epidemic went through a factory. The stealing of electrons from other molecules causes serious disturbances in the delicate mechanisms of the inner ear. Too much noise exposure or pollution causes these free radical chain reactions and brings about damage to the delicate cells in the inner ear.[[5]](#footnote-5)5

## Tinnitus

While noise damage plays a major role in many tinnitus cases, other very common contributing causes are lymph and liver toxicity and biochemical imbalances caused by diet, stress, drugs and digestive disorders. All parts of the ear require highly concentrated nutrients to effectively deliver accurate sound signals to the brain. Nowhere in our bodies do nutritional deficiencies produce more obvious or annoying results than in our ears.

The inner ear cells require a very delicate chemical balance for sound to be successfully conveyed to the brain. If the nerve cells are not receiving the necessary nutrients to keep them in balance and functioning correctly, they become deprived of oxygen. They then become blocked up with calcium, just as unhealthy arteries do, and die. But before the cells die they send out disturbed electrical signals resulting in tinnitus.

## The chemical basis of hearing

In a normal, healthy ear the otoacoustic emissions are inhibited by a chemical messenger called acetylcholine. This chemical messenger travels to a nerve receptor site composed of five proteins arranged like a five petalled flower. These proteins enclose a central channel that penetrates the core of the flower-shaped nerve receptor sites. A reaction is triggered when an acetylcholine molecule binds to two of these proteins. Like a camera shutter, the channel then opens for a thousandth of a second, allowing 10,000 positively charged sodium ions to rush through the channel into the nerve cell. Their arrival changes its electrical state, thus prompting sound to be transmitted to the brain for interpretation. A defective acetylcholine receptor will adversely affect the fidelity of the sound signal received.

The delicate balance of this system can be upset by:

* insufficient oxygen due to poor circulation in the inner ear;
* a deficiency in the trace minerals essential for enzyme activity;
* a toxic overload being carried by the body; or
* excessive free radical activity.

## The middle ear

Most middle ear problems are due to imperfect performance of either the bones or the muscles of the middle ear. The common bone disorder, otosclerosis is actually a misnomer, most ENT doctors agree. The problem is not that the bones harden but that they become porous and spongy. Research into this condition has revealed deficiencies in amino acids and minerals. The preferred medical approach of cutting out and replacing the bones could be avoided if this nutritional deficiency had been addressed earlier.[[6]](#footnote-6)6

Calcium supplementation only works if it is combined with the right trace minerals, vitamins and enzymes and is in a naturally derived and easily bio-available form.[[7]](#footnote-7)7 It is also important to ensure that calcium is not being leached from the bones faster than it is being absorbed. There is no point bolting the door after the horse has bolted! Too many processed foods and accumulations of toxic metals destroy phosphorous which is necessary for the absorption of calcium. For example, aluminium causes the body to dump large amounts of calcium in the urine. Most westerners consume up to 20 mg of aluminium per day, in baking powder, deodorant, drugs, food additives and through using aluminium cookware. Avoiding aluminium wherever possible is an essential part of metabolic ear treatment.

Lead toxicity is another cause of calcium deficiency.[[8]](#footnote-8)8 There is a high lead content in hair dye, so to be safe, go natural. Many other chemical toxins are found in common bathroom products and may lead to long term diseases.[[9]](#footnote-9)9 Make sure your bathroom is safe by buying products form a company informed by biochemical research and a commitment to non-toxic ingredients.

## The cochlea

The cochlea is the spiral shaped inner ear chamber containing the hearing organ, which relays sound directly to the auditory nerve. The cochlea deals with electrochemical processes in which electrically charged ions interact in complex ways between the various fluid-filled compartments to generate electrical charges. The electrical stability of the cochlea depends upon the presence of minerals such as magnesium and calcium, and on a correct balance of necessary enzymes, fatty acids and amino acids.

The tiny, hair-like cells called cilia are the final stage of sound transmission before the charge is relayed to the auditory nerve. Slight disturbances in the equilibrium of enzymes can lead to the death of a cilia. This is the beginning of what is known as sensorineural hearing loss or nerve deafness. Tinnitus can also be caused by cilia damage, because when the hair cells lack certain nutrients they produce continuous noises like the feedback from a microphone. In most cases, these conditions can be reversed, at least to some extent, by consistent, significant dietary changes combined with Sound Therapy.

Much ear damage is due to the process called oxidation which results from free radical activity. It is caused by environmental pollution, biochemical imbalances and loud noise. Free radicals are unpaired electrons, which in turn steal electrons from other cells. This causes a chain reaction of cellular breakdown called oxidation, which is similar to the process of rusting on metal. Another familiar example is the way an apple turns brown when cut. This can of course be prevented by the application of an antioxidant – lemon juice – which contains Vitamin C. This oxidization – breakdown of cells – causes serious electrical disturbances in the inner ear, causing great harm to the delicate filaments and membranes of our hearing organ. It can be counteracted by avoiding toxic substances and taking sufficiently high doses of antioxidants.

## The lymphatic system

The incredible complexity of the ear, which is still being unravelled, stems in part from its interconnection with the lymphatic system. The mechanical bone and muscle chain of the middle ear interacts with the hydraulic lymph system in the inner ear. The meeting point is at the oval window where the stirrup bone presses in like a piston, impacting on the pressure of the inner ear fluid. The ear contains various types of lymph fluid, each consisting of a particular combination of electrolytes or mineral elements. A major function of the lymph system is to carry toxins out of the organs and deliver them into the colon. For the lymph fluid to circulate easily, it must be of a thin, watery consistency. However, it can become congested with mucous if the digestive system is working inefficiently and overloading the lymphatic system with waste products. This can result in swollen lymph glands and sensations of pressure or fullness in the ear. Then we have to ask, is the colon doing its job?

## The colon

The colon is meant to absorb the remaining fluids and simple proteins, but if the colon wall is obstructed by excess mucous and fatty, dietary garbage, its walls become coated with a hard covering which is impenetrable. The colon must be cleansed and nourished to remove waste matter and make it receptive to the healthy bacteria which perform digestive functions. To maintain colon health, one must follow a diet high in natural fibres such as fruits, vegetables and whole grains. There are many herbal cleansing programs and methods available to begin the process of removing old waste from the colon.

## Antioxidants

## The vitamin antioxidants, vitamin C, A and E are important parts of an antioxidant supplement. However, these only stay active in your system for about three hours. Recent discoveries have found much more powerful antioxidants which will work for up to three days. These include ginko biloba, grape seed extract, pine bark extract and circuminoids. A highly effective antioxidant supplement should include all of these ingredients.[[10]](#footnote-10)10

## Minerals

The four minerals most essential for balanced ear health are calcium, magnesium, potassium and phosphorus. It is best to take these macro minerals in a chelated form (bound to protein molecules) and combined with vitamin D3 for better absorption. To fully meet the body’s mineral requirements, these must be combined with at least sixty trace minerals. To be easily absorbed by the body these minerals should be in a colloidal (liquid) form with fulvic acid.

## Diet

Acidic Ph levels are the cause of many digestive and metabolic deficiency imbalances.

Long term imbalances in these essential nutrients may take up to a year to be corrected by correct diet and supplementation. This is because there are thousands of metabolic processes dependent upon particular enzymes and the fact that these enzymes cannot be manufactured by a body deficient in one or more trace minerals, or other essential nutrients. Now we understand the crucial role that balanced nutrition plays in our hearing as well as our overall health.

Some basic dietary guidelines:

* Cut down on salt and use sea salt instead
* Reduce intake of acid forming foods, meats, refined flour, starch
* Increase alkaline foods, fresh fruits and vegetables.
* Reduce saturated fats and replace with cold pressed olive oil, safflower, sunflower and flax seed oil.
* Eat less meat and dairy products and more fruit and vegetables
* Obtain protein from fish, seeds, nuts and tofu
* Eliminate or reduce intake of refined sugar or artificial sweeteners (aspartame). Replace with naturally sweet fruits or honey.
* Increase intake of complex carbohydrates, whole grains.
* Eat more foods in their whole, raw, unadulterated state.
* Supplement with minerals, vitamins, antioxidants and amino acids.

Some points to remember:

1. Good diet is absolutely essential for balanced good health

2. Diet alone, without supplementation is insufficient to correct serious health problems for the following reasons:

* Our world and our bodies are becoming laden with toxic chemicals, which we need additional help to discharge.
* Foods today are lacking in essential minerals and vitamins because of depleted soils and forced agricultural practices, pollution, transportation, chemicals, hormones and genetic modifications.

Numerous studies have verified that dietary changes can result in hearing improvement and the decrease of tinnitus. [[11]](#footnote-11)11

1. 1 Brown, Stephen R, *Scurvy,* Viking, Penguin, Australia, 2003. [↑](#footnote-ref-1)
2. 2 Day, Phillip, *Cancer, Why We’re Still dying to know the Truth,* Credence Publications, Tonbridge, Kent, 2000. [↑](#footnote-ref-2)
3. 3 Yanick, P., Jr., *Natural Relief from Tinnitus,* Keats Publishing Inc, 1995. [↑](#footnote-ref-3)
4. 4 Neways International, *Some Facts, Atrimax with Coenzyme Q10*, Australia, 2001. [↑](#footnote-ref-4)
5. 5 Marzini, Andreas, Video, “Surival Guide for the 21st Century*”*, Health Revolution Series #1, 1998. [↑](#footnote-ref-5)
6. 6 Diplock, Anthony T., “Antioxidant nutrients and disease prevention: an overview”, *Supplement to the American Journal of Clinical Nutrition*, 53:1, January 1991, 190S. [↑](#footnote-ref-6)
7. 7 Yanick, *Ibid.* [↑](#footnote-ref-7)
8. 8 *Ibid.* [↑](#footnote-ref-8)
9. 9 Day, Phillip, *Cancer, Why We’re Still dying to know the Truth,* Credence Publications, Tonbridge, Kent, 2000.

 Epstein, S. *Unreasonable Risk: How to Avoid Cancer From Cosmetic and Personal Care Products: The Neways story*, Chicago: Environmental Toxicology, PO Box 11170, Chicago Illinois 60611, USA, 2001. [↑](#footnote-ref-9)
10. 10 Richards, G.B., Richards, P.J and Joudry, R., “The Therapeutic Effect Of High Band Pass Classical Music And Antioxidant Supplements” Presented to Australian Audiological Society Conference Brisbane 2004, cited on [www.soundtherapyinternational.com](http://www.soundtherapyinternational.com)

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11. 11 Yanick, *Ibid.* [↑](#footnote-ref-11)