Fact Sheet

Health Food Store Preparations and Hearing Loss

It has recently been discovered that certain pharmaceutical drugs can reduce the damage to the ear caused by loud noise; this has to do with altering the metabolic by-products of cells. When a person is subjected to loud noise or music, the metabolism of the cells in the inner ear increases and generates a form of oxygen that contains free radicals. This is called Reactive Oxygen Species or ROS. This can be quite toxic to the structures of the inner ear. One strategy that appears to offer some relief is to use "antioxidants" that serve to mop up the toxic oxygen molecules and thereby preserve hearing.

In some research studies using animals the antioxidant is injected directly into the inner ear. However this is understandably not clinically feasible for humans. Other research has looked at antioxidant medication taken orally which is then absorbed by the entire body, in hopes that some of it will find its way to the inner ear. One such antioxidant is called L-N-acetyl-L-cystine, or more simply "L-NAC" and may be found as an ingredient in over the counter supplements sold in health food stores. Early results of an oral antioxidant (such as L-NAC) appears quite promising.
However it should not be considered a cure for inner ear hearing loss or to be used as a substitute for hearing protection or other methods to minimize exposure to loud noise. L-NAC has been used for years in hospital emergency departments to treat Tylenol overdose that can be quite toxic to the liver.

There are a few other pharmaceutical routes being investigated such as medications that prevent inner ear cell death (prevention of apoptosis or necrosis) from loud noise, however the research is still in the early phases and none of these approaches have received approval from the Food and Drug Administration (FDA) in the United States or through Health Canada.

Consumers should be cautious when it comes to seemingly outrageous advertising claims on the labels of uncontrolled pharmaceuticals. Claims such as "Will cure ringing in the ears" or "will prevent hearing loss" is simply not substantiated by the research literature.