



TINNITUS EVALUATION AND TREATMENT

The onset of tinnitus raises many questions for those affected. Primary amongst those is the matter of causation. Much effort can be expended in seeking an answer and it is only very rarely that a specific disease state is held accountable. Most often no definitive cause can be determined.

What we do know however is that the problem usually originates from damage to the cochlea. By some unknown mechanism the tinnitus is then generated at a neurological level. Some have hypothesized that in the absence of a signal from the damaged part of the cochlea a neurological pathway generates a replacement stimulus much like that of a “phantom limb” pain.

Some evidence for this theory is that the pitch of the tinnitus correlates closely with the part of the cochlea that is most damaged. A central neurological role is also inferred from tinnitus persisting after surgical severance of the acoustic nerve, obviating the cochlea as the generator of the tinnitus.

For most individuals tinnitus is only a mild annoyance and can be dismissed amidst the clatter of daily living, only to be evident in quieter times. Others can however have a severe reaction to their tinnitus and require intervention to assist them to manage the condition.

The sounds we hear do not only connect to the auditory cortex. There are projections to many other parts of the brain. Music, for example, can make you feel sad, relaxed or excited as it impacts upon the emotive parts of our make-up. Importantly some sounds we associate with danger, such as the hissing of a gas pipe or that of a predator is necessary for survival to enable us to escape or defend. Our pulse races and we become agitated. A similar mechanism can be invoked in tinnitus where it is perceived as a threat at a subconscious level creating anxiety and stress just like our inbuilt biological defence systems are intended.

Breaking out of this inbuilt reaction is best managed via a combination of strategies. Informational counselling so that the sufferer has an excellent grasp of the condition, helps build a confidence that there is no danger to be associated with the condition. In addition to counselling use of a masking device is therapeutic. It can give relief from tinnitus under personal control by covering up the tinnitus with a replacement sound that is more palatable. Across time the tinnitus needs to be heard so the sufferer progressively dissociates danger from the perception of their tinnitus.

Long term research has demonstrated that these approaches work well in diminishing the disturbance of tinnitus to manageable levels across a period of several months.

Modern advanced hearing instruments also contain a tinnitus masker in their circuitry that can be turned on or off or up and down by the wearer. As tinnitus is associated with hearing loss the instrument then serves two purposes, one to provide amplification for general hearing and the other therapeutic for the tinnitus distress.

ACE Audiology conducts Tinnitus matching for pitch and loudness, examines outer hair cell function with Otoacoustic Emissions and measures the degree of disturbance after which a customised program of treatment can be discussed with the affected individual.