Tinnitus SA

Noise and tinnitus

Noise and tinnitus

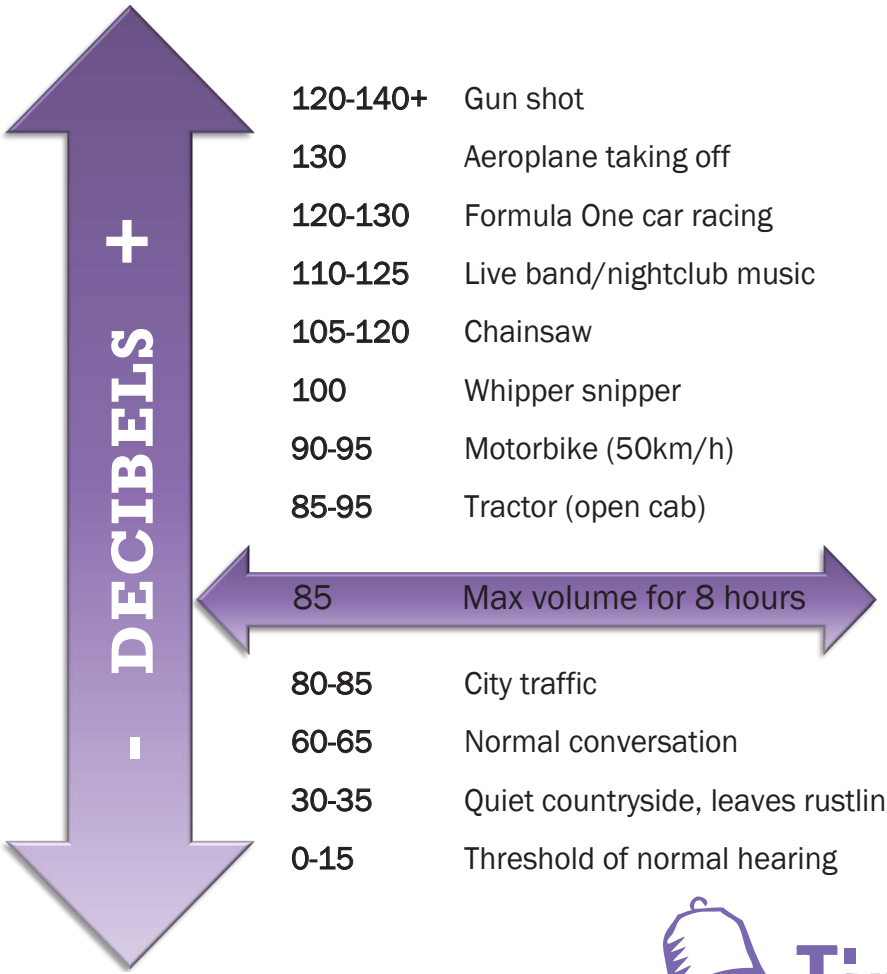
Exposure to loud noise is one of the most common causes of tinnitus and hearing loss. Excessive loud noise exposure can damage the auditory system in a slow and unnoticeable way over a long period of time, or suddenly as a result of exposure to extreme impulse noise. Noise can also make existing tinnitus louder and cause hearing to get worse.

Sometimes the auditory system can partly or completely recover from noise-related tinnitus or hearing loss. However, repeated exposure to high level sounds will eventually result in permanent damage to the inner ear, leading to permanent hearing loss.

Sound is transmitted by vibrations through the outer and middle ear to the inner ear. The inner ear, or cochlea, is made up of three chambers. The middle chamber is lined with tiny hair cells and filled with fluid. The hair cells of the inner ear are stimulated as the fluid is moved by the vibrations sent from the middle ear. Each stimulated hair cell sends a message to the brain.

Noise exposure

Below are some common sounds and the measure of their average volume in decibels.



About Tinnitus SA

Tinnitus SA is a web based tinnitus information service designed to provide awareness, factsheets and information about management options for people with tinnitus and health professionals alike. Tinnitus SA services are provided by non-profit South Australian Audiology business Can:Do Hearing on behalf of the South Australian Government.

tinnitussa.com.au

Tinnitus SA
Lightens the load

Tinnitus SA

Noise and tinnitus

Excessive exposure to noise damages these inner ear hair cells. The damage is permanent and the hair cells cannot be replaced and do not regrow. Hearing sensitivity is therefore affected and tinnitus can begin as a result of the damage. The commencement of tinnitus can be gradual or sudden and in some cases the tinnitus will start before any loss of hearing is noticed. Some people can find the tinnitus more disturbing than any hearing loss itself .

The degree of damage caused by noise exposure is determined by the intensity level of noise and the length of exposure time. Sound intensity level is measured in decibels (dB). This is not a linear scale so the danger of noise can be easily misinterpreted. For example an increase in intensity level from, say, 40 dB to 43 dB actually represents a doubling of the physical intensity. However, when listening to sound we actually need a change of about 10dB before we perceive the sound to be twice as loud. Generally, 85dB is the maximum allowable level at which you should be exposed to noise for an eight hour period, as illustrated by the diagram on the previous page (as a rough guide 80-85dB is about the noise level on a busy road). If you are exposed to sound louder than this, then the time you are subjected to the noise will need to be reduced to avoid hearing damage. The cumulative effect of ALL noise exposure results in damage to the auditory system.

Everyday indicators that may suggest damage to the auditory system include:

- Dull hearing – feeling 'deaf' after noise exposure or at the end of the day
- Tinnitus or noises in the head after exposure to loud noise
- Muffled or distorted hearing
- Thinking that people are mumbling
- Loud sounds feel painful

Also if you notice:

- The car radio needs to be turned down in the morning – i.e. it was set louder when you last drove the car after work
- As general rule, if you need to shout or use a raised voice in order to speak to someone at an arm's length, the noise in that area is possibly dangerous to the ear

Remember, noise does not need to be unpleasant to cause damage to the auditory system.

What Action Can You Take?

There are many ways to avoid hearing loss and tinnitus caused by too much loud noise. Firstly, eliminating the noise source should be considered. Removing or reducing the level of the noise at its source is the preferred and best option; alternatively, increase the distance between the noise source and the listener. This may be a simple as moving noisy equipment away from your work area, e.g. moving air compressors into an adjacent room, turning down the level of your home stereo or ipod. Always consider the noise levels when purchasing new equipment.

Purchasing quieter equipment can save workers' hearing in the long term. Noise barriers or other controls can also be considered to alter the noise pathway.

Sometimes, however, the above actions are not possible. In these cases implementing job rotation can reduce the period of exposure in the workplace. Job rotation, or simply having a break, is an excellent way of reducing the amount of time spent in noisy areas. This can also reduce workers' fatigue levels.

You should wear personal hearing protection whenever you work around intense noise. There are many ear muffs and ear plugs available to protect ears from harmful noise. When selecting hearing protection consider its comfort, correct fit, the amount of blockage required to protect your ears and communication issues.

There are customised and specialised plugs available for musicians, motor bike riders, night-shift workers and industrial workers. An Audiologist will be able to help you choose the correct style and fit for your needs.

Tinnitus SA
Lightens the load

services proudly provided by

Can:Do Hearing

Contact Us

We would love to hear from you. For further information about our services and to discuss your needs please contact us on;

Email: info@tinnitussa.com.au
Web: tinnitussa.com.au
Phone: (08) 8100 8209
Office: 59-61 Grange Road, Welland SA 5007

Can:Do Hearing would like to acknowledge the work done to develop theses factsheets by David May and Judith Boswell