

# Safe use of portable music players and headphones



Listening to loud music through earbuds connected to portable music players such as Smartphones, iPods and other devices can damage hearing if they're used carelessly.

An iPod's maximum volume is more than ten times the recommended listening setting. The damage caused by prolonged listening is irreversible. Even if you're listening to classical music not hard rock, if it's loud, you're doing damage that can't be undone.

Portable music players can cause hearing damage very quickly as:

- they produce loud sound
- headphones send the sound directly into the ear
- they are frequently played for considerable periods of time.

## Loudness

The risk of permanent hearing loss increases the higher the volume is increased.

The loudness of sound is measured in units called decibels (dB):

- conversation is generally 60dB
- traffic noise is around 80dB
- a plane taking off, a motorcycle or firecrackers range from 120-140dB
- the volume on some iPods can reach more than 130dB.

The Australian Medical Association advises that listening to music at levels above 80dB is going to damage hearing. It is also cumulative, so the more you do it, the sooner the damage will occur. The damage can happen when you are a teenager and will never repair – ever.

## Headphones

Whilst listening to loud music in any environment has the potential to harm hearing, devices such as Smartphones and iPods pose an additional danger as they are typically sold with ear buds/tiny headphones which are little speakers.

Placing these in the ear enables loud sounds to be directed straight into the ear canal in direct proximity to all of the important hearing apparatus.

The quality of the ear buds sold with many devices can be poor and leak significant amounts of sound letting in background noise. As a result, the sound is turned up in order to hear the music properly.

Headphones that fit over or on the ear are a better choice than ear buds. Over-ear headphones put the source of the sound farther away from your inner ears. This extra space can protect your eardrums from the strain and subsequent damage caused from listening to noise directed straight into the ear canal.



The best choice is to upgrade to noise-cancelling or sound-isolating headphones because as background noise increases, listeners increase the volume of their music players, i.e. listeners who normally set their iPods at moderate volume levels choose higher levels when they are in a noisy environment. By using noise-cancelling headphones to reduce or block background noise the volume directed into the ears can be kept lower.

## Listening time

You can't toughen your ears up by listening. If it's loud enough for long enough, you're going to cause permanent damage to your hearing.

Portable music devices have been around for decades but we are now seeing school aged children with greater hearing loss than their grandparent's generation

- iPods store thousands of songs and batteries can last up to 12 hours without needing to be recharged so users tend to listen continuously for hours at a time
- Ear buds commonly used with iPods deliver the sound directly into the ear canal
  - at 85 decibels, eight hours of listening can cause measurable permanent hearing loss
  - at 88 decibels, four hours of listening can cause the same amount of damage
  - at 100 decibels, 15 minutes of listening can cause permanent hearing loss

For example, a student walking to school listens to their iPod – competing traffic noise is around 80dB, if they like to listen to their iPod 20dB above that, then they are listening to around 100dB. At that sound level after 15 minutes hearing damage occurs.

## Hearing loss goes unnoticed

Noise induced hearing loss would be easier to prevent if loud noise made the ears ache or bleed, but the early symptoms of hearing loss come on gradually.

Signs of hearing loss can include:

- voices sound less clear, they are muffled or distorted
- difficulty understanding speech
- a reduced ability to follow a conversation in a noisy environment (classroom or staffroom)
- vague feelings of pressure or fullness in the ears
- ringing sound in the ears (tinnitus) when in a quiet place.

There is a general misconception that doctors can fix hearing problems, once your hearing is damaged it will never come back:

- there is no surgery or implants or transplants that will fix it
- there is no repair or healing over time
- there is no medication.

# Protect your hearing – general guidelines

## 1. Lower the volume and listening time

If you can hear the music from headphones that are in someone's ears then it is too loud.

It's a bit like setting 'speed limits' for your music listening.

Volumes on iPods/Smartphones should be locked to safe listening levels (no more than 80dB)

- Go to 'Settings' and select 'Volume Limit' under Music. Set it at 60% of the full volume, that way you can't accidentally turn your music up too high.

Hearing experts recommend the 60/60 rule – listening to Smartphones/iPods for no more than 60 minutes at a time at 60% of maximum volume.

If you turn the volume down lower, you can listen longer.

Be careful not to fall asleep while listening to music, especially if you are wearing ear buds. Your Smartphone/iPod can't tell if you are actually listening to the song or not, but if you have music playing in your ears for hours at a time, you are putting yourself at risk of permanently damaging your hearing

## 2. Switch to headphones

Over-ear headphones are less damaging than in-ear headphones or earbuds.

## 3. Take a break

Limit listening time – give ears a rest every hour.

## 4. Have a hearing check

Contact an audiologist for a hearing check if you notice any signs of hearing loss listed above or if you are concerned or you just want to check your hearing health.

**Noise induced hearing loss is PREVENTABLE.**  
**Once your hearing is gone it will never come back.**  
**PROTECT your hearing – you won't get a second chance.**

## Further information

Further information on noise is available from the [Creating Healthier Workplaces website](#).