

Managing noise in manual arts/industrial technology and design workshops

Manual arts/ITD teachers and teacher aides have been identified as being at risk of exposure to excessive noise, and therefore are part of the Department of Education's Hearing Conservation Program.

Hearing Conservation Program

The Hearing Conservation Program is aimed at achieving the safe management of noise within a workplace. In response to the mandatory requirements of the [Work Health and Safety Regulation 2011 \(Qld\)](#), the program includes audiometric assessments (hearing tests) upon appointment to the department and ongoing at two yearly intervals.

[Attune Hearing](#) is currently the approved provider to conduct the hearing tests for all departmental employees. Education and instruction regarding healthy hearing including the appropriate use of hearing protection will be provided by Attune Hearing when staff have their hearing test. More detail about the program is provided in the [Hearing Conservation Program fact sheet](#).

There are control measures that can be introduced to effectively manage noise (e.g. 'buy quiet' programs when purchasing equipment, reducing noise at the source through motor encapsulation and optimal maintenance, etc.) However, in the manual arts/ITD environment, personal hearing protection is often the most practical form of control measure to protect hearing.

Hearing protection is provided by the school and as part of the Hearing Conservation Program, schools need to review the current hearing protection that they have in place for their manual arts/ITD teachers and teacher aides.

Managing hearing protection for staff and students

Hearing protection will only protect against unwanted noise exposure if it is worn and **worn consistently**.

Schools need to have systems in place to manage the wearing of hearing protection in manual arts/ITD workshops. This includes ensuring the proper use of hearing protection through active supervision. Many schools have created a culture where it is standard behaviour to always wear hearing protection, and this is promoted and reinforced by both staff and students.

It is not appropriate for staff to remove hearing protection for any length of time when noise is being generated in workshops (e.g. to talk to students) as this reduces the effectiveness of the hearing protection and exposes the teacher to unwanted noise.

If staff at the school find themselves in the circumstance where they are struggling to wear hearing protection at all times, the school needs to evaluate why this is occurring and review current workshop practices. There may be a range of reasons including hearing protection not fitting well, habits about hearing protection, or even the way that communication is managed during workshop activities.

Any ongoing issues should be discussed with the HOD/principal to determine the best option for the ITD department and the school. Alternative hearing protection options may be a solution. Staff and supervisors should be mindful that these options are still completely reliant on compliance by the individual to wear the hearing protection consistently and correctly.

Hearing protection

Earmuffs

As a general practice, staff need Australian Standard approved hearing protection (earmuffs) that are commonly used in industry and readily available in both metropolitan and regional areas. This form of hearing protection is adequate for the levels of noise manual arts/ITD teachers are being exposed to in their work environment.

Earplugs are not recommended because:

- earplugs are difficult to insert accurately – the wearer never gets the advertised protection
- it is harder to detect if students/staff are actually wearing them
- when inserted with dirty hands, they may cause ear infections.

Hearing protectors (earmuffs and earplugs) must be rated at Class 5 (for exposure up to 110dB). Earmuffs that meet Australian Standard requirements start at approximately \$40.



Noise-cancelling earmuffs

Noise-cancelling earmuffs are an active type of hearing protection. Standard earmuffs are a passive form of hearing protection in that the material the earmuff is constructed from (such as high-density foam) provides protection for the ear by creating a barrier to block out unwanted sound waves. Active noise-cancelling earmuffs add an extra level of noise protection by erasing lower frequency sound waves. This is achieved by generating sound waves that mimic the incoming sound waves from incoming noise. In essence, the two waves cancel each other out – this is called 'destructive interference'. The result is that the listener can focus on the sounds they want to hear. In practical terms, this means the ambient noise is reduced so the wearer is able to communicate effectively in a conversation without removing their hearing protection. The approximate cost of this type of earmuff is \$150.

Individually moulded earplugs

Individually moulded earplugs are made by an audiologist taking an impression of the wearer's ear and making the earplugs to fit only the individual wearer. Their benefits are a superior fit and comfort in the heat compared to the clamp force of earmuffs upon the head. They are attenuated to enable the wearer to hold conversations in noisy environments without having to remove the earplugs. Attune Hearing can fit and supply these earplugs at a starting cost of \$150 + GST.



Pro Impulse earplugs

Pro Impulse earplugs protect hearing from equipment such as drop saws, hammers, riveting, nail guns etc. This earplug enables damaging noise to be blocked out whilst still being able to communicate with students. Earmuffs are required to be worn over the top of the earplugs for extra protection if exposed to continuous, non-impact noise over 100dB such as drop saws, grinders, routers, table saws etc. An impression of the ear is not required.

Attune Hearing can supply these earplugs at a starting cost of \$100 + GST.



When should hearing protection be worn?

All staff and students undertaking curriculum activities in manual arts/ITD facilities and classes must wear hearing protection when:

- noise producing equipment is used i.e. router, bench grinder
- power tools are used
- hand tools produce impact noise i.e. hammering on metal, teacher aides perform prep work.

Maintaining hearing protection

Hearing protection only works when it is worn, is the right type, and is well maintained. It is important to manage it properly to ensure maximum protection.

- Earmuffs need to be replaced immediately if they are damaged
- Earmuffs should provide a firm but comfortable seal around the ear
- Cushions on earmuffs should be soft and supple and replaced as soon as they begin to harden or crack
- Earmuffs should be replaced if the outside cups are indented, cracked or damaged
- Bands of earmuffs should not be stored or stretched over equipment when not in use
- Earmuffs should be stored away from direct sunlight when not in use, the band can become distorted when exposed to heat and humidity
- Earmuffs can be wiped clean with wipes or cleaned with soap and water.

Establishing hearing protection areas

Areas where staff and/or students may be exposed to excessive noise should be clearly signed as a 'Hearing Protection Area' at every entry point to the area.



The boundaries of these areas should be clearly defined.

No person (including administration staff, visitors, etc.) should enter a hearing protection area during normal activities unless they wear appropriate hearing protection, regardless of how long the person spends in the hearing protection area.



Managing hearing protection for students

There needs to be a system in place to manage the wearing of hearing protection in manual arts/ITD workshops for students as well as staff. This means ensuring students are wearing the hearing protection, and wearing it properly through good supervision.

Earplugs are not the best option for students because:

- earplugs are difficult to insert accurately so the wearer never gets the advertised protection
- it is harder to detect if students are actually wearing them
- when inserted with dirty hands, they may cause ear infections.

Schools manage the cost of hearing protection for students in a variety of ways such as school book lists and internal budget allocation.

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

- For information regarding exposure to noise, hearing protection and healthy hearing access the [Creating Healthier Workplaces website](#).
- For hearing test appointments contact: Attune Hearing on 1800 344 677
- For questions regarding the Hearing Conservation Program contact: Organisational Safety and Wellbeing hsw@qed.qld.gov.au