

Reducing hearing damage

Construction Occupational Health case study COH08

The problem

Construction sites can be very noisy. The main sources of noise include pneumatic tools (eg concrete breakers), impulsive tools (eg demolition hammers, cartridge tools) and internal combustion engines (eg compressors and generators).

Construction workers may also be exposed to high levels of background noise from other work on site.



Figure 1 Hydraulic ring saw and power pack. The use of long hoses allowed the cutting equipment to be used 20 m away from the generator, enabling a major noise source to be located away from the operator and others working in the area

The risks

Symptoms of damage to hearing include sounds appearing muffled, tinnitus (ringing in the ears), and with prolonged exposure, total deafness can occur. Noise can also interfere with communication and make warnings harder to hear.

The solution

One company implemented a number of measures to reduce the risks to their workers' hearing:

- **Purchasing policy:** the company checked noise data before purchasing new tools. Their policy was to use the tools with the lowest noise levels. The company also gave preference to suppliers that could provide additional technical support and training. Close relationships with tool manufacturers and suppliers helped the company to keep abreast of product

developments, including low-noise designs and more effective ways to use tools.

- **Tool maintenance:** workers carried out a 'toolbox check' each week, which took only a few minutes. They checked pneumatic silencers, anti-vibration mounts, tool sharpness, lubrication, and the condition of hearing protection. This was based on an expectation that well-maintained tools were likely to operate more efficiently and produce less noise.
- **Training:** Workers received additional training to enable them to use specific tools and work equipment more safely.
- **Personal protective equipment (PPE):** each employee was issued with hearing protection and told how it should be used, cleaned and stored. Reasons were explained. Each worker was given a hearing checklist to help them identify any health problems associated with noise exposure.

The benefits

- The life span of equipment was extended through correct use and an effective maintenance programme.
- Proper and regular maintenance of tools reduced the risk of them becoming noisier, which can occur over time.
- Appropriate use of suitable, well-maintained, hearing protectors reduced the risk of hearing damage from all noise sources on site.

Notes

- Implementing new policies for training, purchasing, and the use of PPE can be challenging and initially costly. However, there are long-term benefits, including the potential for repeat business, preferred subcontractor status, no claims against the company, and a more stable workforce.
- The company recognised the need for noise risks to be managed at all phases of any construction project. This included active participation of designers and effective coordination of contractors during construction.