

Noise in the entertainment industry

Guidance for the safe management of sound and volume

Noise in music and entertainment sectors (Reproduced from HSE myth buster)

1. Workers

So everyone will have to wear ugly ear defenders at concerts in future?

Not at all, It is perhaps worth reminding ourselves that the Control of Noise at Work Regulations 2005 only require hearing protection for workers and then only where, despite other controls in place, the worker's average daily or weekly exposure is at or above a particular threshold.

For workers, there are many discreet hearing protection options, including in-ear monitors, flat response earplugs specially designed for musicians or normal earplugs for those who do not need to hear the music. Headsets have their place e.g. for security, where this can usefully combine communications capability. By protecting workers' hearing they will hopefully have a long and prosperous career. With damaged hearing this will be more difficult to achieve.

Members of the public are at reduced risk from exposure to noise since they attend concerts relatively infrequently when compared to workers who may be exposed regularly to high noise over a lifetime.

It's a free country. I don't have to wear hearing protection if I don't want to!

Often, if noise can be controlled at source or by other means, you won't need to. Under the Control of Noise at Work Regulations 2005, as an employee you have a legal duty to wear hearing protection in a hearing protection zone or where instructed by your employer. You may also have a duty to report any defects you find in the hearing protection provided. Failure to comply with these legal duties is an offence under the law.

I'll only be in this area for a minute or two.

Everyone must wear their hearing protection before entering a hearing protection zone (e.g. the stage pit areas at pop concerts), no matter how long they intend to stay there. This applies to everyone; e.g. staff, managers, contractors. It is better to avoid having a thoroughfare through a hearing protection zone.

Foam earplugs are useless!

Properly worn, earplugs have their place in protecting people's hearing, assuming exposure cannot be reduced by other means. If earplugs are needed, the important thing is to choose the right type, many of which are now specially designed for musicians so that the full range of frequencies can be heard. For example while compressible (disposable) earplugs may be OK for glass collectors where sound quality is less of an issue, uniform attenuation (flat response) earplugs are likely to offer more suitable protection for live music performers. We recognise that it takes time to adjust to wearing earplugs in an orchestra but the Association of British Orchestras recognises the possible need for them as a last resort.

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I can't hear people speaking to me when I'm wearing earmuffs or earplugs.

It should be easier to make out speech in a noisy environment, because much of the background noise is screened out. There are also flat response earplugs so that you can still hear all frequencies and, if required, earmuffs that block background noise but allow the sound from human speech to pass through.

Wearing hearing protection has given me ear infections.

The wearing of ear defenders is unlikely to be the cause of ear infections if good hygiene is adhered to. This means that hands should be clean when inserting and removing plugs, disposable plugs should be discarded after each use and reusable plugs washed in warm soapy water and thoroughly dried before reuse. Earmuffs are less likely than earplugs to contribute to ear infections although the cushions should be periodically wiped or washed clean. Workers who are suffering from an ear infection or are susceptible to infections should wear earmuffs. Workers should be able to choose which hearing protection is most suitable for them and feedback from workers should be considered in purchasing hearing protection devices.

If I have hearing checks or admit to hearing loss I'll lose my job.

As a worker, we would urge you to see hearing checks as a positive way of preserving your hearing at an early stage, and seeing how well any actions to control noise risks are working. For some the test will reveal no problems; for others that hearing is in the early stages of damage; and for some the results may confirm their own fears. However, any disciplinary action or dismissal cannot be based on the results of a hearing test.

Many in the music and entertainment industry are self-employed. While they are not required to provide themselves with health surveillance, it is strongly recommended that all freelancers have regular hearing checks e.g. through Musicians' Hearing Services or NHS Plus. Results would go to the freelancer rather than an employer.

There were new laws introduced in 2008.

No. It is simply that the Control of Noise at Work Regulations 2005, which have been in force since April 2006 for general industry, had a two-year delay built in before they came into force for the music and entertainment sectors. Exactly the same law will apply in the music and entertainment sectors as elsewhere, but you will have the benefit of sector-specific practical guidelines drafted by your industry representatives. This will not modify the law or the central guidance in 'Controlling noise at work' (L108), but will simply outline good practice in achieving compliance.

HSE is imposing yet more guidance on the music and entertainment industry.

HSE has worked with industry representatives over the drafting of this practical guide that offers a wide range of helpful ideas, rather than being prescriptive. It has been out for consultation to share good practice and learn from others who have already solved some of the issues faced.

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Orchestras regularly play at 90-95 dB - so no more Wagner then?

The tighter noise exposure action values will not outlaw particular pieces from orchestras' repertoires but the loudest pieces may be played less often. The aim is to protect musicians' hearing so that they can continue in their profession and go on providing pleasure to the public. The Royal Opera House for example will still do the Ring Cycle, but schedule the performances to allow the musician's recovery time in what is anyway a physically demanding work. The draft practical guide offers other suggestions in relation to suitable venues, orchestra layouts and elevating the brass so that they can be heard without having to play through five rows of fellow musicians.

Surely there's no evidence of damage to hearing in orchestras?

A study published in 2006 of hearing protection and hearing symptoms in Danish orchestras suggests more than 27% of musicians suffer hearing loss, with 24% suffering from tinnitus (ringing in the ears), 25% from hyperacusis (increased sensitivity to sound), 12% from distortion and 5% from diplacusis (ears hear two distinct tones).

Hearing aids can restore hearing.

Hearing aids can be a great help to many deaf or hard of hearing people, but they cannot restore hearing that has been lost. About 2 million people in the UK use hearing aids.

2. Public

All loud leisure noise is dangerous noise.

No. There is a tendency when talking about the risk, for the less well informed, to consider only the level of noise exposure and not the duration of exposure. There is also a tendency to sensationalise the risks of non-occupational exposure. For example, a story may warn that rock concerts are typically '130dB SPL' (sound pressure level). This is one of the highest levels reported for rock concert noise. The mean of published sound levels from rock concerts is closer to 100 dB.

There is also confusion over the annoyance and temporary effects of a loud exposure (e.g. TTS or temporary threshold shift), which are widespread, and the risk of permanent hearing damage, which is minimal. Studies show that most listeners sustain moderate TTS and recover within a few hours to a few days after exposure. The risk of sustaining permanent hearing loss from attending rock concerts is small, and limited to those who frequently attend such events.

So audiences will have to wear ugly ear defenders at concerts in future?

No. The Regulations do not apply to members of the public. When attending concerts they are making an informed choice to do so. They attend relatively infrequently when compared to workers. However, members of the public can and do buy their own earplugs.

If I like music, it is less damaging to my ears.

If your ears are regularly exposed to the equivalent of excessive industrial noise levels you are at risk of hearing damage, irrespective of whether music is enjoyable or not. While music we like may be less stressful, that in itself does not act as a mechanism to prevent hearing damage. The volume of sound and the duration for which it continues determines noise exposure.

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