



ACOUSTIC SHOCK

Revised Guidelines October 2004

Noise - Acoustic Shock

HSE is aware of new research which suggests that call centre operators may be exposed to noise levels and conditions that can cause problems with the hearing function.

It is currently studying the evidence and liaising with experts in other countries on this matter. It is too early to say whether HSE considers the findings to be correct - or whether it would be accurate to describe any such symptoms as 'acoustic shock'.

Background

HSE's initial thoughts on acoustic shock syndrome were based largely on physiological evidence for hearing loss, with a strong link between an individual's exposure to noise and the level of risk to their hearing (how loud the noise was and how long it lasted).

An [extensive HSE study](#) incorporating evidence from 15 call centres in the UK indicated that call centre workers were not normally exposed to levels of noise that were considered likely to cause permanent hearing loss. Even on those occasions where operators were exposed to high-intensity noise, which might cause permanent damage to hearing (such as loud screeches and alarms being let off down the phone), such noises would be excluded by the protection built into the operators' headsets. The associated risk was therefore considered to be low.

Since HSE carried out its research, new medical evidence from Australia and Denmark has emerged. This was presented at the first ever international seminar on acoustic shock in Fremantle, Australia in September 2001.

This evidence was based on symptoms found in Australian and Danish call centre workers claiming to suffer from acoustic shock. The symptoms ranged from numbness and tenderness around the ear, to hypersensitivity to sound in extreme cases.

The research concludes that noise of high intensity and high frequency might cause symptoms at exposure levels which are lower than was previously thought to be the case. In addition to loudness and the duration of exposure, the research identifies a range of previously unconsidered variables, which may affect whether exposure to high intensity noise might cause symptoms. This includes factors such as: the sudden onset of the noise, stress, and an individual's personal susceptibility.

Initial clinical suggestions as to the physiological causes of the symptoms include muscular spasms of the middle ear region.

Over a hundred cases have been recognised in Australia, and a lesser (but still significant number) have been reported in Denmark. On the other hand there have been few reported cases in other countries. It is possible that the few reported cases in the UK could have experienced symptoms as described by the Australians.

Prior to the new evidence from Australia and Denmark, HSE had no cases of acoustic shock reported to it. The only case to receive publicity was a claim by a BT operator for acoustic trauma; this was settled out of court. The initial exposure to high noise levels in this case occurred many years ago, possibly before headsets were built with protection as standard. With the later designs of headsets, which contain safety limiters, it was thought that such high noise events could not occur and could not cause damage. It is possible that in Australia there was not an initial association between the acoustic incident (a high short burst of noise caused by an electronic fault) and the various reported symptoms.

Current position

At this stage HSE is considering the new information and will remain in contact with experts from other countries - as well as the major interested parties in the UK - in order to form an opinion on the emerging evidence. Guidance may be issued if HSE gains further substantive evidence.

The vast majority of call handlers wear headsets. These contain, as previously stated, built in protection against high noise levels. HSE is aware that other 'acoustic shock protection' devices are being brought to market, but is not in a position to comment on any of these devices at this time. HSE has recently funded research to develop an in-line noise exposure monitor and acoustic shock limiter for headsets.

Current advice to call centres is that they should implement a traceable reporting system for headset users who may have been exposed to acoustic shock incidents. The following information should be reported:

- Date and time of the incident;
- Details of the source of the exposure;
- Description of the noise;
- Duration of the exposure;
- Details of the headset and telephone equipment used;

- Whether the incident was electronically recorded (a copy should be kept for future reference);
- Symptoms experienced by the operator directly related to the acoustic shock incident.

Operators should be trained to recognise such incidents and how to report them. Employers have a duty under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) to report certain types of work-related injuries, including those which result in a person being unable to carry out their normal work for more than three consecutive days, and those which result in admittance to hospital for more than 24 hours. Such reports should be made to the relevant enforcing authority.

Organisations that operate call centres are further advised that they should keep up to date with developments in this field through their professional associations and other representative bodies, as well as through their enforcing authority (usually the local authority) via the HSE website.

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