Acoustic incident in contact centres

Contact centre workers may experience an acoustic incident from using telephone headsets that may lead to a startle response.

**What are acoustic incidents?**
An acoustic incident is defined by ACIF G616:2006 as:

> The receipt by a telephone user of any unexpected sound that has acoustic characteristics that may cause an adverse reaction in some telephone users.

Examples of acoustic incidents are sudden, unexpected loud noises, such as crackles, hisses, whistles, shrieks or high pitched noises, occurring during telephone use.

Workers who wear telephone headsets are more likely to be affected by the sudden noise than workers who use handsets as it is easier to remove a handset from the ear.

Sources of acoustic incidents in contact centres can come from within the transmission system or from the caller end (see table 1).

An acoustic incident is usually experienced as a loud noise such as a shriek, screech, squawk or howl. The severity of the outcome is usually the result of a combination of the unwanted interference on the telephone line and the physiological and psychological response to the acoustic incident.

<table>
<thead>
<tr>
<th>Within the transmission system</th>
<th>From the caller end</th>
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<tbody>
<tr>
<td>• Faulty or damaged networks, telephones and headset equipment.</td>
<td>• Feedback oscillation from some cordless phones.</td>
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<td>• Broadband and narrowband interference.</td>
<td>• Alarm signals.</td>
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<td>• Mobile phones or fax machines used in call centres.</td>
<td>• Phone receivers slammed or dropped.</td>
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<td>• Tones from misdirected facsimiles and modems.</td>
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<td>• Noises made close to the receiver e.g. whistling.</td>
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Table 1: Sources of acoustic incidents

**What is the immediate response to an acoustic incident?**
The immediate response to an acoustic shock is caused by the reflex action of the muscles in the middle ear in response to a loud squawk or shriek through the telephone handset or headset.

The affected call handler’s automatic reaction to a sudden loud noise is to remove the headset or handset as quickly as possible. Some call handlers have reported non-specific symptoms such as headache or nausea, and others complain of ringing in the ears. These symptoms are usually short-lived.
Permanent hearing loss does not appear to be a feature of exposure to acoustic incidents. However, hearing loss is difficult to detect unless a comparison of the person’s hearing ability is made against baseline audiometric testing conducted before the person starts work in a contact centre.

What is the relationship between stress and symptoms following an acoustic incident?
Pre-existing stress, either due to work or other personal factors, has been shown to be a major influence in people experiencing chronic symptoms after an acoustic incident shock.

Call handlers may experience high levels of stress because of:
- the way in which the work is carried out
- workplace provisions and conditions
- performance monitoring systems
- high work demands
- low control over the way work is done.

An acoustic incident may stimulate or activate the call handler’s reflex and this takes time to return to its normal state. Generally a stressed person’s response will be more severe than a person who is not under stress. The startle reflex threshold is lower in people who are anxious or stressed.

How to manage symptoms following an acoustic incident
Where a call handler has experienced an acoustic incident, is clearly affected by the incident and has reported the incident to the supervisor, the worker should be referred to an audiologist or an ear, nose and throat (ENT) specialist for examination as soon as possible after the incident. The examination should establish whether or not damage to hearing has been sustained. This process is assisted by accessing the results of baseline audiometric testing where available.

Depending on the outcome of the examination, a rehabilitation program will be implemented. Avoiding all sound by wearing ear plugs or ear muffs can make symptoms worse and increase intolerance to loud sounds. Specialist advice should be sought.

What are the control measures?
Control measures to prevent or minimise the risk from acoustic incidents include:
- attaching acoustic limiter devices to headsets to prevent potentially damaging acoustic levels or content reaching the headset wearer’s eardrum (the Industry Guideline—ACIF G616:2006 Acoustic Safety for Telephone Equipment sets out principles for acoustic protection)
- reducing the level of background noise in the contact centre
- ensuring call handlers do not use phones during electrical storms
- ensuring damaged equipment and network faults are repaired promptly
- ensuring call handlers are trained in the proper fitting and use of headsets to reduce feedback
- implementing policies and procedures for identifying and removing faulty headsets
- implementing a mobile phone policy that prevents the use of mobile phones in the contact centre
- developing and implementing a procedure for managing an acoustic incident and ensure call handlers are trained in these procedures
- training call handlers and supervisors in identifying an acoustic incident including what steps to follow in the event of a sudden loud and unexpected sound, causing pain
- control those risk factors for occupational stress to reduce the risk of workers developing symptoms following an acoustic incident.