



Contact Centre Acoustic Safety & Comfort: An Employer's Responsibility, an Employee's Prerogative

Acoustic Shock Injury – Causes, Symptoms and Impact

With human resource as a contact centre's most important asset, the benefits of creating a safe work environment and in identifying the importance of employees' acoustic health are numerous, including an increase in employee productivity and retention rates in an industry with high attrition.

The rapid growth in the early 1990s of the contact centre industry, both in Australia and overseas, coincided with increased numbers of contact centre employees reporting "an unusual cluster of symptoms following exposure to a sudden unexpected loud sound" or an acoustic incident transmitted through the call handler's headset (Westcott, 2006, p. 54; Lawton, 2003, p. 249). The term 'acoustic shock' was developed to explain such a sudden and unexpected burst of noise. Usually high frequency, an acoustic shock may be caused by interference on the telephone line, misdirected faxes, smoke or fire alarms from the caller's end, power supply failures or by man-made sources such as crying babies or "malicious callers blowing whistles into the sending handset" (Lawton, 2003, p. 249; Groothoff, 2005, p 335). These sudden loud shrieks can cause the headset wearer to experience physical symptoms including:

- Headaches;
- Facial numbness;
- Tingling;
- A hollow feeling in the ear;
- Pain in the neck or jaw;
- Tinnitus;
- Loss of balance or vertigo;
- And dizziness, with all these symptoms suggesting a "degree of insult or damage to the inner ear" (Lawton, 2003, p. 249; Westcott, 2006, p.55).

"I eventually got tinnitus six months later and, two years on, I still have it ... it has got louder and my concentration is seriously affected. I carried on using a headset and became so ill I had to give up work for a long time ... [I] had to change careers because of it." (Anon., Call Centre Helper.com: forum, 2008).

But it is not just the physical symptoms that need to be of concern to headset users and their employers. A range of emotional symptoms have also been identified as a result of acoustic shock injury, particularly in patients who have pre-existing stress or anxiety. These reactions include:

- Feelings of vulnerability;
- Teariness;
- Apprehension about returning to telephone duties;
- Hyperacusis – an "undue sensitivity to everyday sounds" (Lawton, 2003, p. 252);
- Depression;
- Hyper vigilance;
- And anger (Groothoff, 2005, p. 336; Westcott, 2006, p. 55).



While some symptoms may be “resolved within a few hours or days”, they can persist for months or indefinitely (Westcott, 2006, p.55).

Where an acoustic incident occurs in a workplace, a ‘ripple effect’ through the surrounding staff can be observed, leading to increased vulnerability in a workplace already characterised by a stressful, competitive and repetitive environment (Westcott, 2006, p. 55).

Industry Confusion and Standards

One important aspect of acoustic safety that is causing immense confusion and misunderstanding in Australian contact centres relates directly to the standard requirements and recommended guidelines of telephone equipment. Australia’s industry standard, the AS/ACIF S004:2008, limits maximum output sound pressure levels in headsets to 118dB (AS/ACIF S004, 2008, p. 15), while the ACIF G616:2006 Acoustic Safety for Telephone Equipment Guideline suggests an output limit level of 102 dB.

This output limit level has been used as ‘evidence’ by some manufacturers and vendors who, preferring to simplify the process, say that their product complies with the G616 limit level of 102 dB and, thus, provides the maximum safety possible. This is most certainly inaccurate and only misleads end-users into thinking that by installing a device that claims to be G616 compliant that they are protected from acoustic shock. The G616 limit level of 102 dB does not protect headset users from sudden and unexpected loud sounds which are responsible for acoustic shocks.

The “dominant factors” of acoustic shock injury are related to the “sudden onset, unexpectedness and impact quality” of sounds outside the individual’s control rather than to “high volume levels alone”.

(Westcott, 2006, p. 57)

A limitation of 118 dB or even 102dB on the maximum output levels in headsets does not protect or prevent acoustic shock.

Because acoustic shock symptoms are “involuntary and subjective”, with even medical specialists having “difficulty in assessing the emotional stability and employment prospects of acoustic shock claimants”, and because the shock complained of is “in the past and may be unique and unrepeatable”, there remain acoustic shock sceptics (Lawton, 2003, p. 256; Westcott, 2006, p. 56). Research and observations, however, point to the contrary and confirm that acoustic shock injuries are very real for both the employee and employer (Lawton, 2003, p. 256).

The Solution – Prevention vs. Cure

That old cliché; prevention is better than a cure, certainly rings true here. It is better for contact centres to take steps to prevent acoustic shock injury from occurring rather than having to face the costly and time-consuming steps needed to rehabilitate an injured staff member or when confronted with compensation claims. Contact centres must have certain systems in place to address and prevent, if not eliminate, the potential for acoustic shock.



Guides to safety in contact centres advocate certain steps for employers to take to ensure the acoustic safety and comfort of their employees, in particular:

- Attaching an acoustic shock protection device to “prevent potentially damaging acoustic levels or content reaching the headset wearer’s eardrum” (*Workplace Health and Safety Queensland, 2003, pp. 17 – 18*);
- Ensuring workers “are trained in the proper fitting and use of headsets” (*ibid.*);
- The implementation of policies/procedures to identify and remove faulty headsets and to review acoustic safety procedures already in place (if any);
- The implementation of a mobile phone policy that “prevents the use of mobile phones in or near the call centre area” (*ibid.*);
- Development of a procedure for managing acoustic incidents including necessary referral and rehabilitation for affected employees;
- Training of staff “in identifying an acoustic incident including what steps to follow in the event of a sudden ... and unexpected sound causing pain” (*ibid.*);

“I will only recommend the Polaris Soundshield with Soundstat and would strongly advise if you have telephone agents that use headsets that you remove your amp or limiter and install a Soundshield. If you want to see the difference, call a fax machine with both devices.” (A. Reilly, Workplace Health & Safety Manager, IBM, 2008).

As mentioned previously, because the main factors of acoustic shock injury are related to the sudden onset of an unexpected, unpleasant sound rather than to high volume levels alone, technology that completely prevents acoustic shrieks or high-pitched tones from reaching the ear of a headset user is essential in contact centres. Such a technology, the Soundshield developed by Polaris Communications, does exist. A worldwide first in acoustic safety for headset users, this digital Acoustic Shock Protection Device has become the ultimate benchmark for acoustic safety and subsequently implemented by some of the major players in Australia’s contact centre industry.

The Soundshield device is the safest solution for headset users.

When a high-pitched tone does occur, “the device measures its frequency, and blocks the transmission of any sound at this frequency .. the tone is typically detected and blocked within a few hundredths of a second.” (Dillon, 2010, p 4).

Not only is it used and endorsed by contact centre industry heavyweights, but the benefits of the Soundshield have been recognised by experts who see its ability to “monitor worker noise exposure through the working day” as indispensable in protecting headset users and in providing “on-going risk assessment across the entire call centre workforce” (Jenkins, 2006, p. 2).

Acoustic shock injury is not a malingering or imaginary condition. It has very real impacts not only on the individual worker’s physical and emotional condition but also on the employer and the industry as a whole who must handle compensation claims as well as worker absence and sick leave.



Because contact centre business is conducted entirely on an auditory basis, it is essential that employers acknowledge the prevalence and impact of acoustic shock injury and take steps to train staff in recognising and managing these symptoms. By only meeting the standard legal minimum output level of 118 dB in phone equipment (or the G616's recommended 102 dB) and saying it is providing acoustic safety for employees is simply not good enough. Staff must be supplied with the appropriate equipment to minimise, if not eliminate, the risk of acoustic shock.

Copyright © 2011 Polaris Communications Pty Ltd

Polaris Communications Pty Ltd

www.polaris.com.au

Phone: 1800 626 505

References

AS/ACIF S004: 2008, *Australian Standard: Voice Frequency Performance Requirements for Customer Equipment*, Communications Alliance Ltd., Australia.

business.gov.au, *Occupational Health and Safety*, Australian Government's principal business resource, URL: (<http://www.business.gov.au/BusinessTopics/Occupationalhealthandsafety/Pages/default.aspx>).

Call Centre Helper.com, 7 February 2008, *Tips for Dealing with Acoustic Shock (including forum)*, URL: (<http://www.callcentrehelper.com/tips-for-dealing-with-acoustic-shock-513.htm>).

Dillon, H., 2010, 'Acoustic Shock Outlined', *National Acoustics Laboratories*, pp. 1 – 6.

Groothoff, B., 9 – 11 November 2005, 'Acoustic shock in call centres', *Australian Acoustical Society: Proceedings of Acoustics 2005*, Lutwyche QLD, pp. 335 – 340.

Hester, N., 2001, 'Acoustic Shock Cases Tip of the Iceberg', *Workers Online*, Issue No. 85, URL: (http://workers.labor.net.au/85/news6_call.html).

Jenkins, P., 2006, 'Acoustic Shock in Headset Wearers: The Medical and Legal View', *Connections Magazine*, Peter DeHaan Publishing Inc.

Keeling, D., July 2001, 'The shriek returns for 21st century hit', *On The Line: a magazine for CEPU members*, vol. 3, p. 3.

Lawton, B. W., 2003, 'Audiometric Findings in Call Centre Workers Exposed to Acoustic Shock', *Proceedings of the Institute of Acoustics*, vol. 25, part 4, pp. 249 – 258.

Milhinch, J., PhD, 2001, *Acoustic Shock Injury*, Milhinch Audiology, Melbourne, Australia.

Westcott, M., 2006, 'Acoustic Shock Injury', *Acta Oto-Laryngologica*, Taylor & Francis Group, vol. 126, pp. 54 – 58.

Workplace Health and Safety Queensland, 2003, *A Guide to Health and Safety in the Call Centre Industry*, www.whs.qld.gov.au or Goprint, Brisbane.

Customer Testimonial: Alan G Reilly, Workplace Health & Safety Consultant, Brisbane City Council, June 2010