The shocking reality of sudden noises

Interpreters are especially at risk of damage from acoustic shock, and the effects can be enduring and devastating.

Gillian Misener.
Published: May 29, 2019 Last updated: May 31, 2019

With the advent of teleconferences, videoconferences and other forms of distance interpreting, acoustic shock is unfortunately becoming more and more of a reality. The ITU (International Telecommunication Union) and the ETSI (European Telecommunications Standards Institute) define it as:

Any temporary or permanent disorder of the ear or auditory nervous system caused by an abrupt and unexpected increase of the acoustic pressure in a telecommunication system.

Myriam Westcott, an Australian audiologist specializing in acoustic shock disorder assessment and management, defines it as follows:

Acoustic shock disorder (ASD) is an involuntary response to a sound perceived as traumatic (usually a sudden, unexpected loud sound heard near the ear), which causes a specific and consistent pattern of neurophysiological and psychological symptoms. These include aural pain/fullness, tinnitus, hyperacusis, muffled hearing, vertigo and other unusual symptoms such as numbness or burning sensations around the ear.

Typically, people describe acoustic shock as feeling like they have been stabbed or electrocuted in the ear. If symptoms persist, a range of emotional reactions including post-traumatic stress disorder, anxiety and depression can develop.

Interestingly, concussions also give rise to very similar symptoms.

Luckily, we have a muscle called the tensor tympani, which does its best to protect our ears from acoustic shock by contracting against loud sounds. This tympanic reflex helps prevent damage to the inner ear by muffling the transmission of vibrations from the tympanic membrane. But this reflex has a response time of 40 milliseconds, which is unfortunately not fast enough to protect the ear from sudden loud noises like feedback.

Recent experiences in Canada

In Canada, the federal government Translation Bureau, along with AIIC Canada and the Technical and Health Committee of AIIC, sponsored audiological testing by Neumann and Müller of two portable hearing protection devices: the PreservEar and the LimitEar limiters. Testing of the PreservEar device gave rise to favourable results in terms of hearing protection.
However, testing of the LimitEar devices showed that although they do provide protection against acoustic shock, the reaction time is too long and the maximum sound level is too high to ensure adequate protection. Additionally, there is no limitation function when the battery is dead.

Given the results of the tests, in consultation with AIIC Canada, the Bureau is contacting all interpreters who have been provided LimitEar devices to exchange them for a PreservEar device. For a more detailed analysis and discussion of these results, we remind you that AIIC Canada is hosting an outreach event on 23 August 2019, in Montreal, which will focus on acoustic incidents and interpreter health and safety. This event will be held in conjunction with the PRIMS meeting.

Preventative measures

On May 7, 2019, Translation Bureau CEO Stéphan Dery and Member of Parliament Steven MacKinnon, Parliamentary Secretary to the Minister of Public Services and Procurement and Accessibility, appeared before a parliamentary committee to discuss workplace safety for federal government staff interpreters.

Parliamentary Secretary MacKinnon recognized the hard work and expertise of the parliamentary interpreters, referring to them as “world-class.” His statement continued as follows:

*With the technological advancements made in recent years, more and more people are able to attend meetings remotely. This means that an increasing number of clients are requesting interpretation of teleconferences, often using cell phones and hands-free devices. However, these devices do not comply with ISO standards governing simultaneous interpreting, resulting in a substantial increase in the number of health and safety incidents among interpreters. Henceforth, remote participants in teleconferences must send their questions and comments by email or chat. Furthermore, all TB clients must upgrade their interpretation systems to the ISO standard, and confirm in writing that a sound technician will be on-site for the duration of the event and that compressor limiters will be installed on the interpretation consoles.*

*The Translation Bureau is also working closely with the parliamentary multimedia service to improve audio quality, thereby ensuring the safety of the working conditions for interpreters. Both the House of Commons and Senate chambers now have simultaneous interpretation systems and consoles that meet the ISO standard, with built-in compressor limiters to protect interpreters from acoustic shock injuries. This summer all of Parliament's committee rooms are scheduled to be fully upgraded to ISO-compliant consoles. Until then, all interpreters have been provided with portable sound limiters.*

Future initiatives

A Canadian audiologist — a post-doctoral Fellow at the Laboratoire des Neurosciences Sensorielles et Cognitives (LNSC) at Université d’Aix Marseille and the CNRS — has requested that AIIC collaborate on a research project. The research group is investigating symptoms of acoustic shocks, namely, the characterization of tinnitus and hyperacusis mechanisms. They are interested in better understanding the symptoms of auditory hypersensitivity (hyperacusis), tinnitus, and ear pain, and conference interpreters is a new target group for them, which should help them increase their study sample.

Certainly such research will be particularly valuable, especially if it raises awareness of the dangers of acoustic shock, and thereby contributes to better prevention and protection. As
experience has shown, interpreters are especially a risk, and the effects can be enduring and devastating.

Gillian Misener (EN A, FR B) is a staff interpreter at the Canadian Parliament and a trainer with the University of Ottawa MCI program. She is currently completing the Masters of Advanced Studies in Interpreter Training at the University of Geneva.

Recommended citation format: