

Protecting workers from noise in the service industry

Noise surveys in pubs and nightclubs show that workers are often exposed to hazardous levels of noise. All sound, including music, can be hazardous noise. Regular exposure to noise levels above 85 decibels can cause permanent hearing loss, and venue sound systems can produce levels much higher than that. This bulletin explains the noise hazards and discusses employers' options for protecting workers' hearing.

Workers in the service industry are often exposed to hazardous levels of noise.

Many studies and noise measurements, including ones focusing on Vancouver and Victoria pubs and nightclubs, find that for much of a typical shift, the noise levels are 10 to 15 decibels above the safe limit of 85 decibels (dBA). That's up to 32 times the safe limit — a level that can start to cause permanent hearing loss in as little as 15 minutes.

Regular exposure to noise levels above 85 dBA can cause permanent hearing loss in unprotected workers. And few service industry workers wear hearing protection, so workers could end up with significant hearing damage. The risk of such damage is highest for workers who are often close to dance floors or DJ booths for lengthy periods.

How to reduce the risk

If noise levels exceed the **85 dBA L_{ex} limit** set by the Occupational Health and Safety Regulation (OHS), employers must have a noise control and hearing conservation program. Two important elements of such a program are hearing protection and annual hearing tests.

Maximum daily unprotected exposure time by noise level (in dBA)

16 hours	82	30 minutes	97
12 hours	83	15 minutes	100
10 hours	84	7.5 minutes	103
8 hours	85	3 min, 45 sec	106
4 hours	88	1 min, 50 sec	109
2 hours	91	1 minute	112
1 hour	94	30 seconds	115

The risk of hearing loss depends on the noise level and the duration of exposure. The table above shows how long unprotected workers can be exposed to certain levels of noise without harm.

Hearing protection

One key way to reduce the risk is to provide workers with the most effective hearing protection that meets their needs.

Bartenders, servers, musicians, and other workers are often reluctant to use hearing protection because they believe that it might make it difficult to communicate with customers or affect the

sound quality of the music. But studies show that when noise or music reaches 90 dBA or higher, workers' ears become overloaded with sound. This causes distortion, which makes it difficult to perceive specific sounds such as speech. Hearing protection reduces very loud noise levels to a more comfortable level. With less distortion, workers' ears are able to process conversation and music more normally.

As a result, hearing protection devices protect workers while still allowing them to hear clearly — usually even better than without them. Bartenders and servers should pick the style that they like and is most comfortable.

Musicians and sound engineers can select from styles that are designed for music. These devices, called flat- or uniform-attenuation protectors, are commonly known as “musician’s earplugs.” They are designed to provide nearly equal noise reduction at all frequencies. The result is a more natural but quieter sound.

Annual hearing tests

Annual hearing tests are vital because they identify noise-induced hearing loss long before workers notice it and let you know if the hearing conservation program is working. As an employer, you must ensure that workers receive an initial hearing test within 6 months of hiring and then annually.

Other program elements

In addition to [hearing protection](#) (section 7.7 of the OHS Regulation) and [annual hearing tests](#) (section 7.8), a [noise control and hearing conservation program](#) (section 7.5) must include the following:

- Noise measurement
- Education and training
- Engineered noise control



- Signage warning of noise-hazard areas
- Records of hearing tests and other elements of the hearing conservation program
- Annual program review

For more information

Visit the following pages on worksafebc.com for more information and additional resources.

- [Noise](#)
- [Hearing protection](#)
- [Hearing loss prevention](#)
- [Annual hearing testing](#)

Other useful resources include the following:

- [Noise Levels in Pubs and Nightclubs in Vancouver](#) (Eric M. de Santis and Mark L. Gaudet, *Canadian Acoustics*, Vol. 38, No. 3, 2010)
- [Occupational Noise Exposure in Nightclubs](#) (Andrew Dobson and William J. Gastmeier, *Canadian Acoustics*, Vol. 38, No. 3, 2010)
- [CSA Standard Z94.2-14, Hearing Protection Devices — Performance, Selection, Care, and Use](#) (CSA Group)