

## Clinicians' Perspectives on Hearing Protection Devices

### Abstract

Occupational noise-induced hearing loss is estimated to be the most common occupational disability in the United States. Although noise exposure in the dental office is typically intermittent, dental professionals have been shown to be at risk of hearing loss, as the noise generated by some dental equipment can approach established exposure limits. In addition to hearing loss, high noise levels caused by some dental equipment can create stress, and can interfere with a dental professional's communication and concentration. Wearing hearing protection devices (HPDs) is one way that dental professionals can reduce the harmful effects of office noise. There are two main types of HPDs available in the marketplace: 1) active sound control, which electronically modulates sound transmission, effectively reducing unwanted noise rather than blocking sound; and 2) passive noise control, which acts only as a physical barrier to the sound without the aid of sound waves.

This report from the Science Institute at the American Dental Association and the United States Department of Veterans Affairs (VA) assessed the performance of both active and passive sound control devices against identified characteristics, such as ability to communicate with others while wearing the device, comfort, and ease of insertion. Survey responses determined that when considering types of HPDs, a dentist's ability to hear patients and colleagues while wearing the devices was the top priority. Comfort, appearance and the ability to accommodate various ear shapes closely followed. When testing device options, practitioners found that active sound control HPDs met all of these requirements. The passive standard earplugs impacted the dentists' ability to hear patients and colleagues, and were least likely to be used or recommended by the dentists surveyed.

Hearing protection devices with active sound control can allow dental professionals to protect themselves from the potentially harmful noise levels generated by some dental equipment, without compromising a practitioner's ability to communicate with patients and colleagues.

- ▶ Hearing protection devices can be used while delivering dental care to patients.
- ▶ Dentists value ease of hearing, ability to communicate and comfort in a hearing protection device.
- ▶ Devices equipped with active sound control (electronic) performed better than the devices with passive noise control (physical barrier).
- ▶ Hearing protection devices could improve the patient's experience during the visit to the dental office.

**Communications Perception and Personal Preferences of Hearing Protection Devices**

