

Article

Hearing Loss

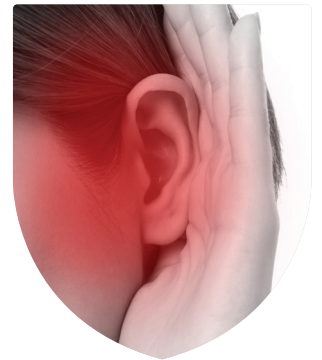
Dental professionals today have more personal protective equipment and regulations in the dental clinic space than ever before, yet one issue has continued to remain ignored; hearing loss.

If hearing loss were 'officially' considered a disability, it would rank as the highest disability class in the world.¹ Hearing loss ranks as the second most common work-related illness/injury and in New Zealand alone has affected nearly 20% of the population with a yearly cost of approximately \$5 billion.²

Dentists today can directly relate and identify colleagues who have suffered hearing loss in one or both ears, yet what have they done about it? We all accept greying hair as a result of aging, so too have we accepted the notion that our hearing will slowly fade as we age as a result of being a dentist. However this thinking is flawed; hearing loss, specifically noise-induced hearing loss (NIHL) which affects our profession is 100% preventable. Given the option of protecting one of our five senses from permanent and irreversible damage or doing nothing, many dentists have chosen inaction (to their detriment), and our governing and regulatory bodies have not taken a clear stance and advocated the use of hearing protection. It is common sense that dentists should take practical steps to prevent avoidable hearing damage. In addition, noise that can lead to hearing damage is a workplace health and safety matter and under the Health and Safety at Work Act (2105) practitioners have an obligation to act.³

Compared to other health professionals, dentists have significantly worse hearing levels.⁴ This holds true for all ages and genders when compared to the general population.⁵ NIHL causes permanent damage as soon as 10-15 years from exposure, and studies have shown the hearing capacity of dentists to be equivalent to people decades older, age-for-age. One of the biggest reasons NIHL affects dentists so directly is that hearing loss is a cumulative issue.⁶ Small exposures to damaging sounds for short periods may seem harmless at first, however over time this exposure has the potential to damage hearing as much as having a bullet fired next to the ear. Consider the cumulative effect of 25 minutes using the high-speed handpiece, suction and/or ultrasonic use per patient, multiple times each day, 4-5 days a week, over a 35-year career. In fact, over the course of one's career a dentist likely spends more hours in the dental environment than anywhere else, and even when outside the office often engages in noise 'rich' activities. This accumulative noise exposure slowly damages hearing and often is not noticed until it's too late. Sound familiar?

The damaging effects of noise go beyond the ear. Exposure to chronic high levels can directly lead to significant systemic health issues like cardiovascular disease and depression.⁷ Chronic noise exposure may reduce productivity, increase stress, and interfere with communication and concentration. The body's response to chronic noise exposure can cause sympathetic and endocrine responses which may adversely impact sleep patterns with detrimental effects on overall health and well-being.⁴ One of the easiest and accessible ways of protecting against hearing loss is through the use of hearing protection.



by **Dr Sam Shamardi**





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Several published studies have demonstrated the risk to dental practitioners of NIHL.^{8,9} The American Dental Association recommended the use of hearing protection in the dental operator, and many other publications have highlighted the risks and made similar recommendations.⁸ These recommendations should not be ignored.

Traditional foam ear plugs result in muffling of sounds and compromise the ability to communicate with patients and staff. Studies have shown that these issues are the primary reason why hearing protection is not used.¹⁰ Other solutions like noise-cancelling headphones are not practical in the clinical environment as they are big, bulky, and compromise effective communication, while “passive” ear plugs with filters help with decibel exposure but still create muffling and lack clarity. Conversely, “active” ear plugs are now an available solution which offer protection without the challenges posed by other forms of hearing protection.^{11,12} Active hearing protection utilizes electronic microchip technology to isolate and compress high level damaging sounds while still maintaining an “open ear” response to enable ‘normal’ hearing. Communication remains clear and unaffected, and hearing damage is prevented, an ideal scenario for the dental environment.

Practicing dentists are strongly urged to consider the long-term detrimental effects of dental clinic noise exposure and to take the simple, practical step of protecting themselves and their staff from this workplace hazard.

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BIOGRAPHY

Dr Sam Shamardi, DMD

Dr Sam Shamardi was born in Malaga, Spain and raised in Newport Beach, California. He earned his DMD degree at Tufts University School of Dental Medicine, where he had the honor of being elected Class President for each of his 4-years.

Dr Shamardi trained for his Periodontal certificate at the University of Pennsylvania and after became a Diplomate of the American Board of Periodontology. He currently works full time in Boston and teaches part time as a Clinical Instructor at the Harvard University Periodontics Department, and launched Dental Innovations LLC, a dental startup company, in 2014.