Occupational noise induced hearing loss and audiometry

Update of a prior report (Schaafsma, Benke, Radi, & Sim, 2010) with consideration of research evidence from the review of studies published in the last 10 years in English.

TYPE OF PROJECT

Rapid review

AIM OF THE PROJECT

To identify the current evidence relating to the diagnosis, treatment and evaluation of work related noise induced hearing loss in a compensable environment.

PUBLICATION DETAILS

Developed with funding from and at the request of, SIRA in 2020.

STAKEHOLDERS INVOLVED

- John Walsh Centre for Rehabilitation Research
- The University of Sydney
- SIRA

Background

- Occupational noise induced hearing loss (ONIHL) occurs from continuous exposure to excessive noise at work
- It's one of the world's most reported occupational diseases
- The effects of noise exposure are permanent and additive so early detection is vital
- Differentiating between ONIHL and age related hearing loss is difficult, especially by the age of 50
- Age correction using National Acoustic Laboratories tables is adopted when assessing workers compensation claims in NSW

Results

- Pure tone audiometry (PTA) is the 'gold standard' for diagnosing ONIHL
- Ear, nose and throat specialists (ENTs) and audiologists can assess and diagnose ONIHL
- ONIHL is characterised by bilateral symmetric hearing loss with a notch over 3,4 or 6kHz
- Best practice treatment of ONIHL is hearing aids and audiological rehabilitation, although rehabilitation is underutilised
- Support, training, counselling and auditory rehabilitation are of equal importance to maximise hearing aid use and communication outcomes

Discussion

- Management should be person-centred with recommendations for hearing aids not influenced by anything other than the client's needs
- Clinicians must account for confounding factors (eg. age)
- Compliance with hearing aids remains low – changes in attitudes and increased acceptance of hearing aids is necessary
- It is important clinicians discuss the rehabilitation options and benefits with workers
- Outcome measurement should reflect the impact of the use of hearing aids on levels of function

Recommendations

- The choice of hearing aids should be based on PTA results, lifestyle, communication goals and ability to manage the hearing aid
- Both the physical and emotional well-being of people with ONIHL should be the focus to improve compliance with hearing aid use and communication
- Clinicians and consumers should be offered comprehensive and impartial information on choosing a hearing aid that meets their need and budget
- Outcomes of using hearing aids should be measured through self-report or interview at the time of supply and after 12 months

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