

More about...ENT

Hearing aids

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In South Africa an estimated 20% of the disabled population is hearing impaired.¹ This implies that a significant proportion of the population is in need of hearing amplification.

Hearing loss, depending on the age of the person, can affect the emotional, psychological, physical and developmental well-being of an adult or a child. It is important to have a good understanding of the hearing loss, e.g. whether it is permanent or temporary, conductive, sensori-neural or mixed, and what the benefit of a hearing aid will be.

The person with hearing loss frequently asks what the benefit of a hearing aid is. A hearing aid will help the person to hear and understand speech better and to participate more effectively in different communication situations. However, it is important to realise that hearing aids cannot 'cure' hearing loss and do not restore hearing to normal. Hearing aids will, through a process of amplification of sound, improve hearing and listening abilities. 'The function of a

hearing aid is to amplify sounds to a degree and in a manner that will enable a person with hearing impairment to use his or her remaining hearing in an effective manner.'²

Hearing aids should never be bought online or ordered by mail. A qualified audiologist follows a sequential process of fitting a hearing aid.² During diagnostic evaluation the nature and extent of the hearing loss and candidacy for amplification are determined. In selection, numeric targets for hearing aid electro-acoustic performance are calculated and appropriate hearing aids are chosen. Hearing aids are selected to meet the different and typical communication needs of a person with hearing loss. In the verification stage the hearing aids are adjusted to provide the desired electro-acoustic performance. Finally, during informational counselling and follow-up, hearing aid orientation is provided and hearing aid use is monitored.

Various types and styles of hearing aids with additional features are available. The different styles of hearing aids include custom-molded (completely in the canal, in the ear), behind the ear or bone conduction hearing aids. They are further divided into those with analogue and digital technology. Table 1 compares the different technologies.³

Optional features to assist in different communication situations are available for many hearing aids. Some options are directional microphone, telephone (telecoil) switch and direct audio input. The directional microphone responds to sound coming from a specific direction while the omni-directional microphone equally amplifies sound from any direction. This is especially helpful in a noisy environment. Switching from the normal microphone to the telecoil setting allows the

patient to hear better on the telephone, with limited feedback. A hearing aid can be directly connected to a device that is audio-input compatible, i.e. TV and computer.⁴

'Hearing aids are technologically advanced electronic instruments designed to give you long-term sound pleasure and improved communication ability.'³ Good care and maintenance is the responsibility of the user and will contribute to a prolonged lifespan for the hearing aid.

The ultimate goal is not only that the hearing aid should fit well, but that it should be used successfully. Successful hearing aid use depends on the presence of the following:⁵

- acceptance of hearing loss
- positive attitude towards hearing aids
- education on hearing aids and hearing loss
- realistic expectations of a hearing aid
- practice and patience.

Combined with well-designed evaluation, appropriate technological use, counselling, therapy and follow-up procedures, early and successful intervention with amplification can be provided. Medical professionals involved in the management of patients with a hearing loss should be educated and have a basic understanding of hearing aids and hearing aid features. This knowledge can add to promote effective use and care of hearing instruments.

Living with a hearing loss can potentially have a serious impact on a patient's quality of life. Hearing aids and hearing aid technology can lessen this limiting effect and when used consistently and correctly can make a world of difference.

References available at www.cmej.org.za

Table 1. Hearing aid technology

Analogue hearing aids

Use conventional electronics to convert acoustic waves into electrical signals
Programmed for different listening environments
Amplifies all sounds
Usually less expensive

Digital hearing aids

Use digitised sound processing to convert acoustic waves into digital signals
Improved programmability and greater precision in fitting
Improved amplification of speech sounds through noise reduction
Usually more expensive