Esteem Totally Implantable Hearing System (Envoy Medical Corp.) for treatment of moderate to severe sensorineural hearing loss in adults

Record Status
This is a bibliographic record of a published health technology assessment. No evaluation of the quality of this assessment has been made for the HTA database.

Citation

Authors’ conclusions
Hearing loss can be broadly classified as sensorineural (inner ear), conductive (external and middle ear), or mixed hearing loss. In sensorineural hearing loss (SNHL), the auditory cranial nerve or part of the bone of the inner ear (cochlea) is defective due to aging, birth defects, trauma, heredity, loud noise, infection, fluid in the middle ear, or a benign tumor in the inner ear. In conductive hearing loss, the sound waves’ path through the ear canal, past the ear drum, and into the inner ear is impeded by a physical or mechanical blockage, e.g., atresia, tumor, infection, or severe dermatitis in the ear canal. Mixed hearing loss is a combination of both conditions. The degree of hearing loss is defined as mild (26 to 40 dB [decibels]), moderate (41 to 55 dB hearing loss), moderately severe (56 to 70 dB hearing loss), severe (71 to 90 dB hearing loss), and profound (91 dB or more hearing loss). Approximately 17% (36 million) of American adults report some type of hearing loss. There are three major types of hearing aids: those that aid air conduction of sound, those that aid bone conduction of sound, and those that are implanted in the middle ear. Air conduction hearing aids (ACHAs) are the standard treatment for SNHL, mixed hearing loss, or conductive hearing loss that does not respond to medical treatment or surgery. Middle ear hearing aids are only indicated for SNHL and are available as semi-implantable and totally implantable. Bone conduction devices are primarily indicated for conductive hearing loss and mixed hearing loss. Implantable middle ear devices are available in two types: electromagnetic and piezoelectric.

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Address for correspondence
HAYES, Inc., 157 S. Broad Street, Suite 200, Lansdale, PA 19446, USA. Tel: 215 855 0615; Fax: 215 855 5218 Email: hayesinfo@hayesinc.com

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