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Developed By: Medical Criteria Committee	

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Description:

A cochlear implant is an electronic prosthesis that stimulates cells of the auditory spiral ganglion to provide a sense of sound to persons with hearing impairment. The device is made up of external and internal components. The external components include a microphone that picks up sounds from the environment, an external speech processor that arranges the sound transmitted by the microphone and an external transmitter. The internal components are surgically implanted. They include an internal receiver that is implanted in the temporal bone and receives signals from the external transmitter. The receiver converts the signals into electrical impulses. The impulses are collected by an electrode array that extends from the receiver into the cochlea. Cochlear implant devices are available in single-channel and multi-channel models. The cochlea is the part of the internal ear that is responsible for hearing. Audiologic criteria for children follow guidelines similar to those for adults. For adults and children able to respond reliably, standard pure-tone and speech audiometry tests are used to screen potential candidates.

Auditory brainstem implants (ABI) are another electronic prosthesis used in patients who have had surgical removal of auditory nerve tumors and as a result have total hearing loss. Like a cochlear implant, ABI's have several components including a microphone, a speech processor, a transmitter coil worn behind the ear, and an implant which is embedded in the skull. The implant relays signals to an electrode placed on the brainstem near the severed auditory nerve. After implantation, the ABI is programmed and tested and the individual must undergo training to recognize sounds and facilitate communication with the device.

Hearing loss is rated on a scale based on the threshold of hearing. Severe hearing loss is defined as a bilateral hearing threshold of 70-90 decibels (dB) and profound hearing loss is defined as a hearing threshold of 90 dB and above.

Criteria:

Note: ODS does not consider a cochlear implant to be an implantable hearing aid. It is the position of ODS that bone-anchored hearing aids (BAHA) and temporal conduction implants are considered hearing aids. Plan benefits for hearing aids would apply.

- I. ODS will provide coverage of an auditory brainstem implant when **all** of the following criteria are met:
 - A. The member is 12 years of age or older; and
 - B. The member has been diagnosed with neurofibromatosis type 2; and
 - C. The member is completely deaf as a result of bilateral resection of neurofibromas of the auditory nerve, or the member is undergoing bilateral resection of neurofibromas of the auditory nerves and it is anticipated that the member will become completely deaf as a result of the surgery.

- II. ODS will provide coverage for unilateral or bilateral cochlear implantation for children (age 12 months to 17 years) when it is determined to be medically necessary and **all** of the following criteria are met:
 - A. Children 12 months to 17 years of age with profound, bilateral sensorineural hearing loss; and

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- B. Child has limited benefit from appropriately fitted binaural hearing aids
 - i. For children 5 years of age or younger, limited benefit is defined as lack of progress in the development of simple auditory skills in conjunction with appropriate amplifications and participation in intensive aural habilitation over a 3-6 month period.
 - ii. For children older than 5 years of age, limited benefit is defined as less than 20 percent correct on open-set sentence discrimination (e.g., Multi-syllabic Lexical Neighborhood Test (MLNT) or Lexical Neighborhood Test (LNT), depending on the child's cognitive ability and linguistic skills).
 - C. A 3-6 month hearing aid trial is required for children without previous experience with hearing aids. Children need to be receptive to wearing a hearing aid before implantation because all current implants require an external processor; and
 - D. Child meets the FDA age indication for the specific device; and
 - E. Child has no contraindications to surgery (listed below); and
 - F. Child has had an assessment by an audiologist and otolaryngologist experienced with cochlear implants
- III. ODS will provide coverage for unilateral or bilateral cochlear implantation for adults (age 18 and older) when it is determined to be medically necessary when **all** of the following criteria are met:
- A. Adults age 18 and older with severe to profound bilateral sensorineural hearing impairment; and
 - B. Member is unable to benefit from appropriately fitted binaural hearing aids; and
 - C. Member has no contraindications to surgery (listed below); and
 - D. Member has had an assessment by an audiologist and otolaryngologist experienced with cochlear implants

For adults and children, a post-cochlear implant rehabilitation program is necessary to achieve benefits from the cochlear implant. The rehabilitation program consists of six to ten sessions that last approximately two and a half hours each, and may include long term speech therapy. (Note: ODS does not provide coverage for therapy that exceeds the limits of the plan benefit)

Contraindications for the Cochlear Implant:

1. Deafness due to lesions of the acoustic nerve or central auditory pathway
2. Otitis media or other active, unresolved ear problems
3. Radiographic evidence of absent cochlear development
4. Inability or lack of willingness to participate in post-implantation aural rehabilitation

Upgrades for the Cochlear Implant:

1. If an original implant is working, a replacement or upgrade to another device would not be a covered benefit.

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2. Upgrades of an existing, functioning external system to achieve aesthetic improvement, such as smaller profile components, or a switch from a body-worn, external sound processor to a behind the ear model are considered not medically necessary.

Replacement Parts for the Cochlear Implant:

ODS will cover replacement parts, such as batteries and microphones, when:

1. The part is not repairable; and
2. The member has a benefit for a cochlear implant

Information to be Submitted with Pre-Authorization Request:

1. Medical records from the requesting specialist
2. Assessment by an audiologist and otolaryngologist
3. Appropriate hearing and speech test results

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