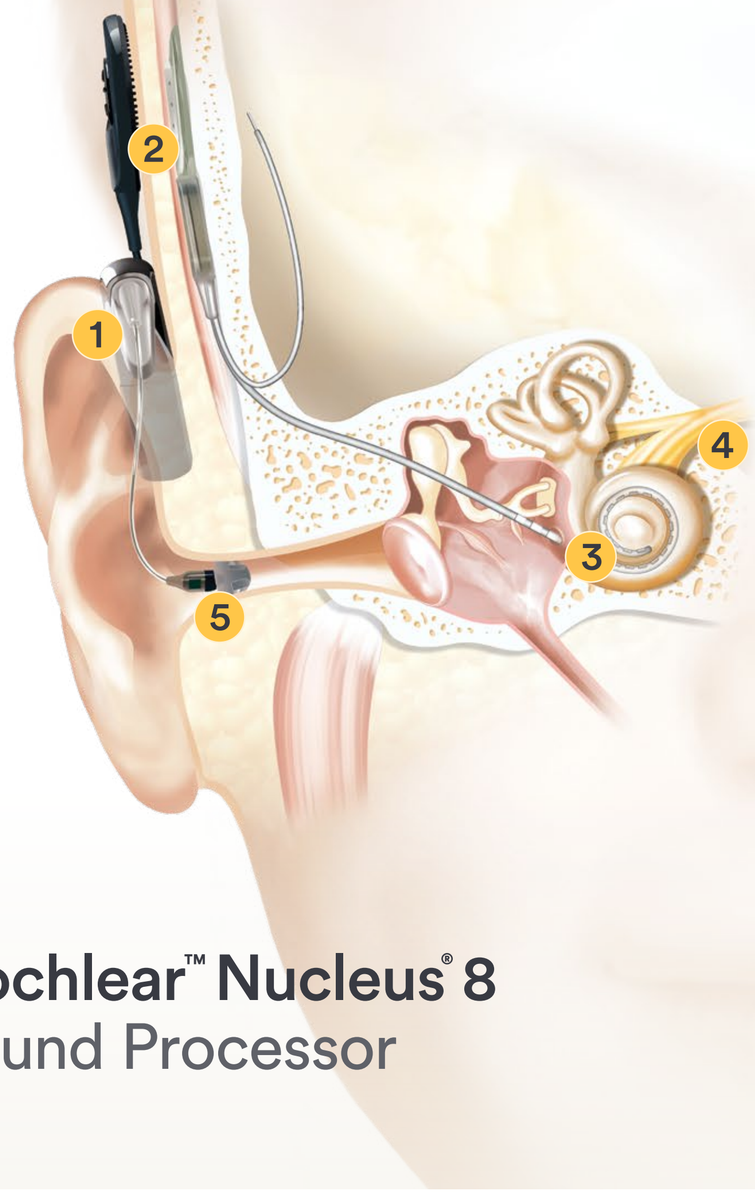
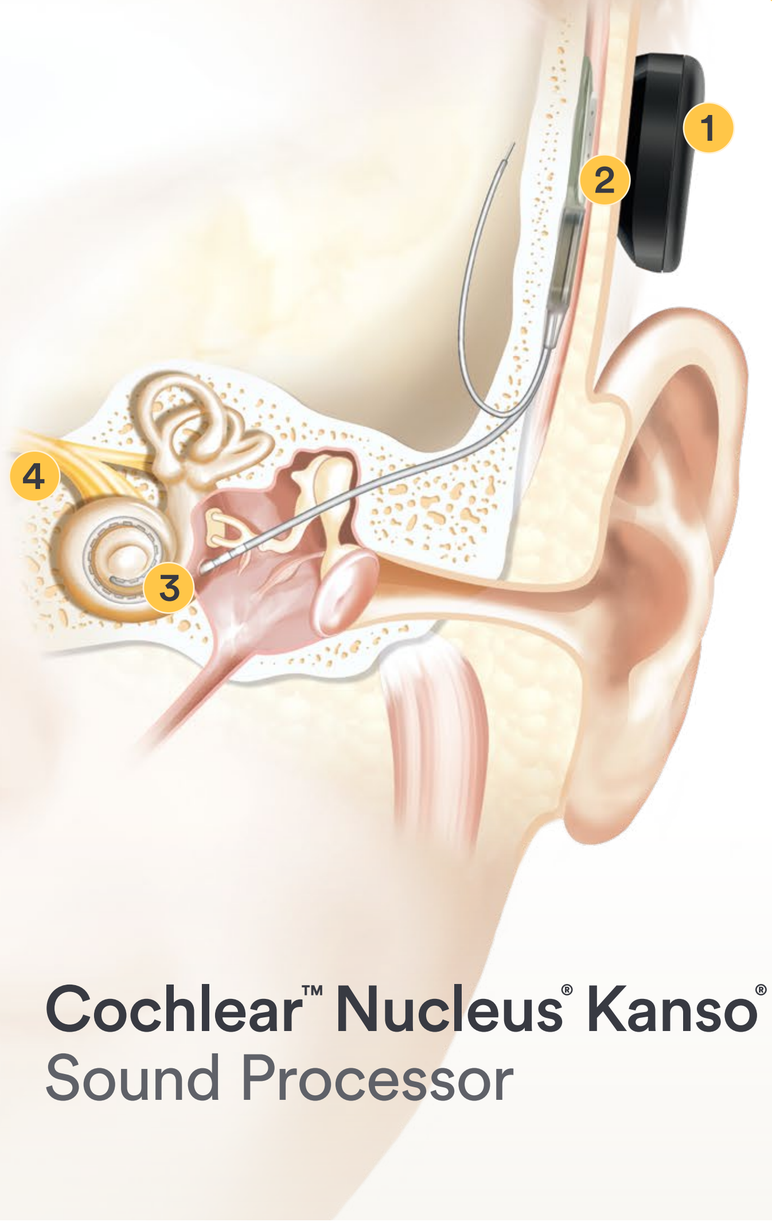
Cochlear®
Hear now. And always



Cochlear™ Nucleus® 8
Sound Processor



Cochlear™ Nucleus® Kanso® 2
Sound Processor

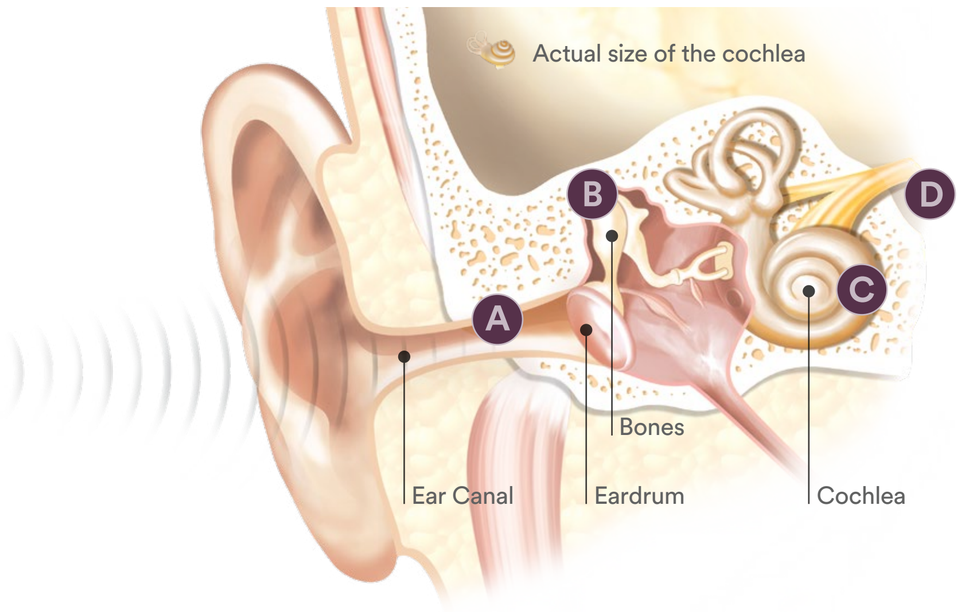
Hearing with a cochlear implant

How hearing works with a cochlear implant

The Nucleus® cochlear implant bypasses parts of the ear that no longer work properly by sending signals directly to the hearing nerve.

1. Microphones on the sound processor pick up sounds and the processor converts them into digital information.
2. This information is transferred through the coil to the implant just under the skin.
3. The implant sends electrical signals down the electrode into the cochlea.
4. The hearing nerve fibres in the cochlea pick up the signals and send them to the brain, giving the sensation of sound.
5. **Optional** In case there is residual hearing left in the implanted ear, options are available for an additional acoustic component that is worn in the ear canal.

For many, use of a hearing aid in one ear and a cochlear implant in the other can provide enhanced hearing performance.[1] This combination is referred to as bimodal hearing.



How natural hearing works

Sound is perceived naturally by way of air and bone conduction.

A. Sound waves travel through the ear canal and strike the eardrum.

B. These sound waves cause the eardrum and the three bones within the middle ear to vibrate.

C. These vibrations are transferred to the fluids in the inner ear – known as the cochlea – and cause the tiny hair cells in the cochlea to move.

D. The movement of the hair cells produces neural impulses which are sent along the hearing nerve to the brain, where they are interpreted as sound.

www.cochlear.com

Reference: 1. Sammeth CA, Bundy SM, Miller, DA. Bimodal Hearing or Bilateral Cochlear Implants: A Review of the Research Literature. Semin Hear. 2011; 32:3-31.