

# How Hearing Aids Help

No two people have exactly the same hearing loss. But pioneering research and development in the hearing aid industry, has led to the design of a very wide selection of technologically advanced hearing aids and other hearing support systems to help people meet the challenge. Approximately 10 percent of hearing losses may be helped medically. And the remaining 90 percent may benefit from hearing aids. Solutions well-matched to individual needs are now possible.

Hearing aids can help you re-establish connections to the world. They are made to selectively increase the volume of the sounds you want to hear. They can make soft sounds audible, while at the same time making moderate or loud sounds comfortable. Hearing aids are designed to provide relief in both noisy and quiet situations. Wearing hearing aids can put you at ease during conversations and make you less likely to have to ask others to repeat themselves.

No hearing aid can solve every hearing problem or restore normal hearing, but they are designed to provide amplification so that you can hear and understand better.

## Binaural Amplification – the use of 2 aids

### Two Ears Are Better Than One

We have two ears for a reason. Hearing with both ears is what nature intended; it allows the brain to process sounds naturally so we hear sounds accurately and get a sense of balance and direction. Hearing loss causes the brain to misinterpret sounds. Binaural amplification (wearing two hearing instruments) can help us hear as nature intended.

- Approximately 80 percent of those with hearing loss have hearing loss in BOTH ears
- Amplifying only one ear makes it more difficult to hear in noise, understand speech and detect where sounds are coming from
- The ear not amplified can become fatigued and strain to hear
- Studies show that even when a hearing loss is worse in one ear, wearing two hearing instruments produces the most benefit

Years of clinical research have shown the benefits of binaural amplification.

- Increased Speech Understanding in Noisy Environments
  - Binaural amplification allows a hearing aid user to perform better in noisy settings than if they wore only one hearing aid or none at all.
- Enhanced Sound Quality
  - When wearing two hearing instruments, volume levels can be set lower, minimizing the risk of distortion and auditory fatigue therefore making sounds and the act of listening more comfortable and natural
- Improved Localization
  - When the brain receives sound from both the right and left ears it makes it easier to locate the direction of sounds (called localization), important in daily situations including being able to tell from which direction traffic is coming

## Hearing Aid Technology

Today's hearing instruments contain sophisticated digital circuitry available in all models from Behind-the-Ear to In-the-Ear and even In-the-Canal models that allow more functions and features than ever before.

### Digital Sound Processing

- Automatic sound processing
  - Incoming sound is continually analyzed and processed to best amplify speech while reducing unwanted noise
  - Soft sounds are given more amplification, while very loud sounds are given little or no amplification
  - Often creates hands-free operation with no need for external controls such as volume control wheels
  - Makes hearing instruments simple to use and comfortable for the wearer
- Directional microphone systems
  - Proven to improve speech understanding in noisy environments
  - Helps you focus on sound coming from in front of you, by reducing sound coming from the side and behind you
  - The latest directional microphone systems automatically adapt and reduce multiple noise sources around you
  - New directional technology includes systems that use three microphones
- Speech & Noise management technology
  - Helps minimize or reduce background noise in many situations
  - Allows for special listening programs to be set that offer personalized sound processing for specific listening needs such as listening to music

- Feedback Cancellation
  - Continually analyzes incoming signals and adjusts seamlessly and instantaneously to minimize feedback (whistling)
  - Maintains excellent sound quality
  - Advanced systems avoid unnecessary cancellation of high-pitched external signals like music or the beeps from a microwave oven
- Multiple Listening programs
  - Adjusts the way sound is processed to adapt to specific listening situations including listening on the telephone or to music
- Intelligent features and accessories
  - Remote control
    - Allows volume and listening mode changes to be done discreetly, without having to touch the hearing instrument
    - Enables volume change and multiple listening programs on instruments too small for push buttons or volume control wheels such as with Completely-in-the-Canal models
  - Telecoil
    - Special feature that amplifies only telephone signals and not other sounds
    - Operated automatically when telephone is placed near hearing instrument or manually by a push button or switch
  - Audio input
    - Allows attachment, either with or without a wire, to FM systems (assistive listening devices used by children with hearing loss in schools), televisions, tape recorders and other devices.