

Hearing in Noisy Conditions

Audiologists and physicians frequently hear patients complain that although they can hear, they cannot understand what people are saying. People who have problems understanding speech may have one or more types of hearing problems. Fortunately, there are options for treating these difficulties.

It is often not easy for some people to hear soft speech. Many patients believe that when hearing begins to fail, it is simply a matter of increasing loudness. Unfortunately, improving a person's hearing may not be simply a matter of making soft sounds louder by increasing the volume of an electronic device or a person's voice.

Others have challenges with hearing the parts of speech that carry most of the information, like the consonants ("t," "p," "s," "th," "f," etc.). Unfortunately, consonants are frequently high-pitched sounds, and many people have difficulty hearing them. With a high-pitched hearing problem, it becomes hard to tell the difference between words like "cat" and "cap," or "sit" and "sip."

Understanding Speech

Hearing in noise is also something that is tough for many to do, even if they have little problem hearing speech in quiet conditions. There are two major reasons why people at any age can have difficulty hearing speech in noise:

1. Unwanted low-pitched sounds cover the



Noisy restaurants and other public places often present difficulties for people with hearing loss.

(Photography by Todd Gerber)

higher-pitched consonant sounds that contain critical information to understand speech.

2. Most people who have hearing loss have more loss in the higher pitches than the lower ones. Higher-pitched sounds containing the consonants listeners so desperately need to hear are barely heard because of the dominating low-pitched noise.

It is common for most people to experience these hearing problems. Audiologists and physicians are concerned with how frequently, and to what extent, inability to hear in noise impacts the quality of a person's life.

Improve Understanding in Noise

To increase your understanding of speech in noisy conditions, there are three options:

1. Have an audiologist check your hearing. These professionals diagnose hearing loss and make recommendations to maximize your hearing ability.
2. Lower your voice during conversations. Some people respond positively to hearing speech in noise by lowering their voices during a conversation.^{1,2}
3. Reduce the number of people who are participating in a conversation.

Technological Solutions

An audiologist may need to fit hearing aids on the patient to help. The following hearing aid features can improve hearing in noise:

- automatic volume control;
- adaptive noise suppression, which detects the characteristics of the background noise and automatically changes tone controls;
- automatic program switching;
- frequency transposition, which moves sounds from poor hearing to better hearing; and
- spectral enhancement, which automatically detects important speech sounds and provides extra amplification to frequencies on which important sounds exist. ■

References

1. Acoustical Society of America, "Kids+Cafeteria=NOISE!" Accessed online via www.acoustics.org/press/143rd/Bridger.html
2. Oticon A/S. "Communication difficulties." Accessed online via adapto.oticon.com/eprise/main/Oticon/com/SEC_AboutHearing/LearnAboutHearing/Products/SEC_Adapto/AboutHearing/IfYouThinkYouHaveAHearingLoss/REUSE02_CommunicationDifficulties

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