

Why Can't I Understand Speech?

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It is common to attribute difficulties in understanding speech to hearing loss, but as we age, changes in the pathways that deliver the sound from the ear to the hearing centers of the brain may influence our ability to process the speech we hear. Most of us think of hearing as a function of the ear, but hearing does not take place only in the ear. Just as food enters the mouth and is broken down into smaller parts to be processed further throughout the digestive tract to make it useful to the body, so speech enters the ear where it is broken down into individual sounds of speech that make up words, and continues along neural pathways for further processing. Any limitations or deficits along the pathway from the ear to the cortex can cause a breakdown in the ability to understand speech.

Difficulty hearing....

Hearing loss can, of course, affect our ability to hear some or all of the speech sounds (consonants and vowels), but some speech sounds are affected differently than others. This is because there are usually different degrees of hearing loss in different frequency (pitch) regions. That is, hearing loss that occurs in the high frequencies, affects the ability to hear consonants because consonants tend to consist of high frequency sounds compared with the lower-frequency vowel sounds. High frequency consonant sounds are not as loud as vowels either. This type of hearing loss is typically associated with aging. Persons with high-frequency hearing loss may mistake the sentence "What kind is it?" for "What time is it?" or vice versa because the consonants "t" and "k" aren't heard correctly. This phenomenon accounts for the complaints of

some older listeners that people “mumble.” When noise is present, these weaker, high frequency consonants are even more difficult to hear because they are the sounds that are most easily obscured by the noise.

Difficulty processing....

Another common complaint, particularly among people with hearing loss and especially among older people, is that some people talk too fast. When we read, we have the advantage of being able proceed at a rate of speed that is comfortable for the reader and we can review what we read to clarify what we don't understand immediately. When we listen, however, we must be able to understand at the rate the speech is being presented. While we can sometimes control the loudness of the speech (TV or radio), we are rarely able to control the speed with which people talk. In order to understand what we are hearing, we must be able to process the speech fast enough to keep pace with the incoming information at the speech rate of the talker. This may be especially difficult when listening to news broadcasts, TV shows, and lectures, but can also have serious effects on daily communication. Some individuals require more time to perform the mental processes that are necessary to understand a rapid stream of verbal information. Most of these processes take place automatically, and they involve certain cognitive or mental functions that tend to slow with normal aging. So, how fast the speech occurs as well as how much we are required to process in a given period of time can have a profound effect on understanding. If hearing loss is present, then the speech signal that is sent along to higher levels for processing is not optimal, making the job even more difficult.

What to do....

Of course, if you are having problems understanding speech clearly, you should contact an audiologist and obtain a comprehensive hearing test to identify any problems that interfere with

clear reception of the speech signal at the ear. If no hearing loss is present, or if a hearing aid does not provide adequate assistance, you will need to consult with an audiologist to help you develop appropriate listening strategies. Recent research shows that our brains are more adaptable, even as we age, than previously suspected. It is not impossible to “teach an old dog new tricks” after all! Research into methods of enhancing our mental processes is advancing rapidly as we learn more and more about the aging brain. Learning is a lifetime experience and you can apply your ability to learn new things to help you overcome many of the barriers to clear speech understanding.