



Try This at Home (or in a Restaurant)

While methods for speaking clearly may come naturally, you may still need to nudge conversational partners. Here's why, and how.

By Kathi Mestayer

JUST BEFORE THE START OF MY CHEMOTHERAPY for endometrial cancer last fall, I saw my audiologist for an exam. I had read and heard enough about chemotherapy's potential harmfulness to hearing that I wanted to have a baseline, just in case. I have worn hearing aids for over 20 years, to treat my moderate-to-severe bilateral loss.

After a couple of chemo treatments, I went back for a second hearing exam. The good news was that my audiogram hadn't changed measurably. But my word-recognition score had dropped by 25 percent. In addition to wondering whether my hearing would ever come back to pre-chemotherapy levels (the consensus is: not likely), I had a more basic question: What could I do about my decreased word-recognition ability?

Answering this took some detective work—and I'm still considering my options, which include new hearing aids or a cochlear implant—but during the months-long process, I discovered that there were solutions that had never occurred to me.

The Speech Signal

There's a long list of things that influence speech comprehension. Our brains depend on sound input (accounting for noise); visual data (speech-reading, body language); context and expectations; as well as complex social cues (taking turns to speak). There are so many

inputs that it can be cognitively stressful and exhausting to orchestrate them all.

But in my case, the only thing that had changed was my ability to make sense of auditory input in the form of words—in a soundproof booth, with no visual or other stimuli. It seemed like I was getting the same volume, but speech was somehow fuzzier.

I knew I could keep making use of communication tips I'd been employing for years: asking speakers to face me, to make sure they had my attention, and of course to avoid yelling.

But it turns out I could do more to improve the speech signal itself—coming directly from the person talking. This is because, as Donald Schum, Ph.D., puts it, "The sender is often ignored as a source of variability in speech communication."

Schum, the vice president of audiology and professional relations at hearing aid manufacturer Oticon, conducted a study in 1996 comparing the intelligibility of "natural speech" vs. "clear speech" for people with hearing loss.

First, recordings were taken of a group of test subjects using their natural speaking styles. Then they were given the following instructions: "Imagine that you are speaking to a person that you know has a hearing loss. I want you to speak as clearly and precisely as possible. Try to produce each word as accurately as you can."

And then all of the test subjects were recorded again. Those simple instructions resulted in a 19 percent average increase in intelligibility for the listeners with hearing loss, compared with their ability to understand the baseline “natural speech” recordings.

Clear speech is defined as:

- Accurate and fully formed.
- Naturally slower (meaning, this happens automatically when you attempt to be clearer).
- Naturally louder (meaning, your voice raises automatically when you attempt to be clearer).
- Lively, with a full range of voice intonation (tone) and stress on key words.
- Characterized by pauses between all phrases and sentences.

In other words, we already know how to speak clearly. We may just need a reminder from a conversational partner who has a hearing loss.

Consonants Are Key

Sandra Gordon-Salant, Ph.D., a professor of clinical audiology at the University of Maryland, studies how the speech signal changes when we try to speak clearly. In her research, Gordon-Salant has found that consonants play an important role in intelligibility.

“Consonants are briefer, in general, and have less intensity than vowels. When trying to speak more clearly, people naturally increase the duration and intensity of the consonants relative to the vowels,” Gordon-Salant says. “And those changes make speech more intelligible to the people we’ve tested, regardless of age or hearing loss.”

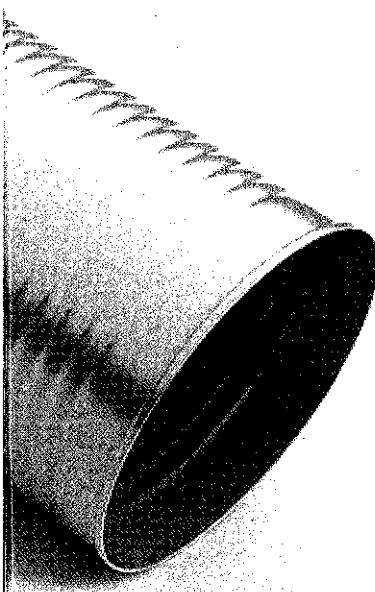
Pauses can play a role, too. For example: “Who ate the last piece of cake?” can sound like “hooate thlasspeesacake?” Pauses that are natural emphasize consonants: “Who aTe... the LasT PeeSe ov... CaKe?”

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Says Schum, “The way in which people slow down with clear speech enhances the stress pattern, while it still follows the natural course. Key words get more emphasis, which definitely helps with recognition.”

And while clear speech involves reducing the pace of speaking, slowing down too much, according to Schum, can distort the signal. “It can create an unnatural change in the rhythm and [word] stress patterns of speech,” he says. You may end up sounding even more confusing, rather than less. (Think of Dory imitating whale-speech in the “Finding Nemo” movies.)

Of course, adequate volume and less noise are both critical, especially for people with hearing loss. But according to Gordon-Salant, “Just ramping up the volume doesn’t always improve intelligibility. For example, an increase in overall volume might not be that helpful for someone with a high frequency hearing loss, because it’s mostly the low frequencies that are amplified when we speak too loudly.” Generally speaking, vowels occur at lower frequencies, while consonants, especially fricatives like /f/ and /th/ and plosives like /p/ and /k/, occur at higher frequencies.



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Clear Speech Tips

How can we encourage people to make the extra effort in the first place?

Get in the game. One of the most effective strategies is to provide feedback, or “back-channeling.” Back-channeling is when the listener gives the speaker verbal and nonverbal cues, like saying “right” or “okay,” nodding, maintaining eye contact, and paying attention.

“It’s a vital aspect of easing communication difficulties,” says Valerie Hazan, Ph.D., a professor of speech sciences in the division of psychology and language sciences at University College London. “Back-channeling encourages the speaker to keep on talking in an effective way, and gives them feedback on how well they’re being understood.”

Do it yourself. Another approach to try is “speech accommodation,” a sociolinguistics term for when people mirror each other’s speech behavior automatically. For instance, when one conversational partner slows down, the other person tends to match the pace, slowing down their own speech.

According to Kathleen Pichora-Fuller, Ph.D., a professor of psychology at the University of Toronto, individuals with hearing loss used this tactic when they participated in research she and her colleagues conducted at the University of British Columbia.

“Their approach was self-discovered and self-taught,” Pichora-Fuller says. “It was to talk the way they wanted their conversational partners to talk to them. By simply maintaining the desired behavior, they did not need to keep reminding conversational partners to modify their speech.”

Take a deep breath. Finally, a little patience comes in very handy on both sides of communicating with people with hearing loss. It’s tough to relearn how to interact on such a basic level, and when it gets tiring and frustrating, we need to take a break.

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The benefits of clear speech, and of encouraging people to use it more often, got my attention.

According to Schum, “The harder the listening condition, the greater the benefit.” So I’ve been conducting my own speech accommodation experiments in noisy settings. When I switch to clear speaking mode, I have noticed people following my lead, and becoming easier to understand, often after a brief look of puzzlement.

My observations continue. I plan to attempt, in a natural voice, to stress key words, insert pauses to emphasize breaks, express sounds clearly, and provide positive feedback when my conversational partners do, too. In Hazan’s words, “Successful communication is the greatest reward, really, for all parties involved in the interaction.”



Staff writer Kathi Mestayer serves on advisory boards for the Virginia Department for the Deaf and Hard of Hearing and the Greater Richmond, Virginia, chapter of the Hearing Loss Association of America. For references, see hhf.org/spring2018-references.

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