

Why Do I Have Difficulty Understanding in Noisy Places?

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Throughout my career of 26+ years, the greatest challenge that my patients tell me about is the difficulties they have with **Hearing In Noise**. Not being able to understand in background noise is a huge problem, if not the *biggest* problem for those with short-term and long-term hearing loss.

Hearing loss is a progressive, degenerative health issue that affects more than 50+ million people in the USA alone. There are degrees of hearing loss such as mild stage-1, moderate stage-2, moderately severe stage-3, severe stage-4, profound stage-5, and high frequency loss. With every stage of hearing loss, the common symptom is difficulty with understanding speech. This is especially difficult in situations where there are competing sounds such as television, multiple voices, the clamor of restaurants and dining rooms, social events, as well as ambient noise in shopping environments.



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Noisy environment situations can be incredibly challenging for people with hearing loss, because the brain is not always able to separate speech from the background noise and fill in the blanks of those missed words. The **Cognitive Fatigue** that we undergo in these situations can be exhausting. People with hearing devices who have a severe hearing loss often experience more difficulty with understanding later in the day due to the **Cognitive Fatigue** from listening so intently throughout the day.

If you have a high frequency hearing loss, you may notice problems understanding speech even in a relatively quiet environment, but when background noise is present, or several people are talking at once, it can become nearly impossible to follow a conversation without relying on watching people's lips and faces. People with hearing loss that has gone untreated for many years sometimes begin to avoid active social situations or public places they once enjoyed because interacting with others is too difficult.

Background noises can be particularly bothersome to new hearing aid users. During the first few weeks of use they will hear sounds they may not have heard for years; everyday noises such as screeching brakes, clattering dishes, and rustling papers.

Most long-time hearing aid users will tell you that the sudden ability to hear annoying noises-loud and clear-is challenging, but the ability to tolerate these noises does get better with time. Remember, you probably have not been hearing much background noise since the onset of your gradual hearing loss. It takes the brain some time to start filtering-out the sounds that are “background” and those that have significance.

If you are having trouble in several different environments where the background noise is too loud, then a hearing evaluation is in order. When you have a hearing loss, it is usually the softer high-frequency consonant sounds which become very hard to distinguish- the “s”, “f”, “v” “ch” types of sounds- the sounds that give words their clarity and meaning.

Background noise is most often more powerful low-frequency sounds which drown-out softer high frequency sounds that are harder to hear, such as female voices. When you or someone close to you notices that you are struggling in several environments with background noise, it is likely that your hearing loss is also affecting your comprehension in other environments as well.

The ability to understand speech in the presence of background noise can be assessed and measured by a test we do called the **Quick Speech-in-Noise** or **Quick SIN test**. This test helps provide a more accurate measurement of how a patient will perform in everyday realistic listening environments.

During the **Quick SIN** test, a patient will hear a series of sentences that they repeat back to the Specialist. As each sentence is presented, background noise begins to increase. The louder the background noise gets, the more the patient’s auditory system is challenged. Once the test is completed, our Specialist calculates how much the patient’s ability to understand speech is affected by the presence of background noise. The results of the **Quick SIN**, along with the results of the comprehensive hearing evaluation, provide a functional assessment of how a patient can perform in a real-life settings. The **QuickSIN** test results help establish realistic goals and expectations for hearing loss correction.

Our Specialists will recommend the most appropriate treatment solution for each patient’s specific hearing prescription. Many of today’s Advanced Neurotechnology hearing loss treatment systems feature **Automatic Noise Management** with **Speech-Enhancement Processing** and **Noise-Filtering technology** that helps improve listening performance in the presence of background noise.

Automatic Noise Management helps the processing system of the hearing devices automatically identify noise. Once the noise is identified, the system will **Automatically** reduce amplification of that noise and “Filter Out” some of the noise while enhancing the speech sounds.

Binaural Speech Enhancement Processing allows the hearing system to wirelessly communicate back and forth between the devices in each ear. When they recognize that background noise is present, the right and left devices automatically adjust the microphones into a directional mode. This directional mode helps the microphones pick up the speech signal coming from in front of the listener while picking up less background sounds.

Factors for Improving Hearing in Noise: As experts in the field, we recommend the level of technology that will best fit the hearing loss and the lifestyle, activity level and environments of the patient. The higher the level of technology used to treat the hearing loss, the greater the understanding improvement will be in noisy environments.

Other Factors to Consider:

1. No hearing system will filter-out **all** background noise. Hearing systems are not designed to ‘eliminate’ background noise, but today’s Advanced Neurotechnology devices help bring clarity to speech comprehension in difficult listening environments.
2. Automatic Sound Processing compression algorithms in today’s Advanced Neurotechnology devices permit more audibility and clarity of speech.

It is important to realize that reduced or declining Cognitive Function in the Central Auditory Processing system of the brain can **never** be restored to “Normal”. Our goal with hearing loss treatment is to maximize the remaining hearing and auditory processing that a patient has.

In Summary: Hearing loss treatment technology is much better than it used to be. There’s no doubt you will have positive improvement with Advanced Neurotechnology hearing devices. However, the most important factor is getting a hearing evaluation to determine if help is needed. If a hearing loss is discovered, begin immediate treatment in order to improve speech understanding and reduce Cognitive Decline and Auditory Deprivation.

Enjoy hearing the Sounds of Life again, because ***LIFE IS WORTH HEARING!***
