see also speech discrimination test.

Hearing loss is the result of damage to your ears. As a result, a person with a hearing loss needs more volume in order to hear the sounds that people with normal hearing can hear.

In contrast, speech discrimination is a measure of how well you understand what you hear when speech is loud enough to hear comfortably.

Audiologists measure speech discrimination in percent. If your discrimination scores are 100%, you understand everything you hear. At the other end of the spectrum, 0% discrimination means you can't understand a single word that is spoken, no matter how loud it is.

Unfortunately, speech discrimination and hearing loss generally go hand in hand. For example, the last time I had my hearing tested, my hearing loss stands at 75 dB (a severe loss). Fortunately my speech discrimination is still relatively good at 80%. This means that, on the average, I understand 4 of every 5 words that are spoken if the volume is loud enough. That fifth word, however, just sounds like so much gibberish. This is one of the reasons I don't depend on my hearing alone, but speechread the person at the same time. As a result, I have more difficulty understanding a person on the phone because I can't speechread them.

If you have a hearing loss and your discrimination is good (80% or higher), typically you will find hearing aids very useful. However, if your discrimination is poor (below 40%), hearing aids will just make louder gibberish and thus are basically a waste of money <sup>1)</sup>.

There are patients who have normal hearing below 3,000 Hz and normal speech discrimination who still complain of hearing difficulty, especially when background noise is present.

The objective of a study was to document the fact that these individuals have a significant hearing impairment that is not detected with routine testing.

Kenyon et al. retrospectively reviewed 67 audiograms selected for 50-dB loss or greater at 3, 4, 6, and 8 kHz and speech discrimination scores better than 80%. Patients in this group had also previously undergone speech discrimination testing in the presence of 50-dB calibrated cafeteria noise at the time of the initial audiogram. Identical testing was carried out on 48 control subjects without hearing loss. The speech discrimination scores of the hearing-impaired group were lower than in the control group when tested in a quiet booth (88.2 and 98.2%, respectively). The significant finding was the change in the speech discrimination score when tested in noise. We found that the study group had a 33.1% loss in speech discrimination when tested in the presence of background noise. The control group had only a 5.2% loss in speech discrimination in the presence of the same noisy background; this was statistically different (p = 0.001). Our conclusion is that patients complaining of hearing loss who have normal low- to mid-frequency hearing and good speech discrimination should be tested in the presence of noise to adequately document their degree of impairment. Our findings also support the theories of signal attenuation and secondary auditory pathway distortions as causes of the loss of speech discrimination<sup>2</sup>.

1)

http://hearinglosshelp.com/blog/what-is-speech-discrimination/

## 2)

Kenyon EL, Leidenheim SE, Zwillenberg S. Speech discrimination in the sensorineural hearing loss patient: how is it affected by background noise? Mil Med. 1998 Sep;163(9):647-50. PubMed PMID: 9753995.

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