

Spatial Processing

What is spatial processing? Spatial processing is the ability to use the cues that tell us where sounds are coming from. This ability allows us to attend to one sound while ignoring sounds coming from other directions. This is one of the main skills we rely on when trying to listen in noise. If you have a spatial processing disorder (SPD) you may notice that you have more difficulty understanding speech in noise than your friends or family do.

Does everyone with a hearing loss have problems with spatial processing? Research conducted at the National Acoustic Laboratories (NAL) has shown that the vast majority of hearing-impaired people will have some degree of SPD as well.

Can hearing aids fix my problems hearing in noise? Hearing aids work by making the sounds you hear louder. Therefore, hearing aids will make it easier for you to hear in many situations. However, they cannot completely overcome the difficulty caused by SPD. This is because hearing aids cannot separate exactly what you want to hear from other sounds in the background. Some hearing aids have directional microphones, which will be more helpful in noisy places than those without.

What can I do to hear better in background noise? Even though your hearing aids cannot overcome all the difficulties caused by SPD, the importance of using your hearing aids shouldn't be underestimated! The voice of the person you are trying to listen to must be made loud enough for you to hear. You can also help yourself to hear in noisy situations by using compensation strategies such as:

- Look at the person you are talking to,
- Move away from noise when possible,
- Let other people know that you have difficulty understanding in noise,
- Ask people to repeat themselves when needed.

However, the most beneficial option is to use a frequency modulation (FM) system. An FM system makes the speech of the person you are trying to hear louder than the background noise. It is more effective at overcoming noise than any hearing aid processing technology available.

How does an FM system work? An FM system is made up of two parts; a transmitter and a receiver. The transmitter is placed close to the person you are trying to hear and the receiver is worn around your neck. The transmitter picks up the voice of the person you are listening to and this is sent wirelessly to the receiver. You then hear the signal through your hearing aids. Simple!



What situations would an FM system help in? An FM system can be used in a wide variety of situations, nearly any situation where you are trying to listen in background noise. For instance people have used FM's:

- In the car
- At meetings or lectures
- At church
- Out to dinner with family
- At home, for situations such as watching television.