Guidelines for Musicians with Hearing Loss to Bring to Their Audiologist

This is a reprint of an article written by Nancy Williams based on an interview with me, for Grand Piano Passion, an online magazine for musicians with hearing loss. It blends practical articles with inspiration for its community of readers with hearing loss dedicated to making music. Founding Editor Nancy M. Williams is an ardent amateur pianist with hearing loss and President of Auditory Insight, the hearing healthcare strategy and marketing consultancy. Grand Piano Passion has provided permission to reprint this article intended for the hard of hearing musician to assist them in communicating with their audiologist.

The music programs in the major manufacturers' hearing aids can sometimes be "poorly thought out," with "very little effort and research" put into them, declares Dr. Marshall Chasin, a Toronto-based researcher and audiologist who specializes in musicians with hearing loss. Although this is improving, we are not quite where we should be …yet… Music programs generally do not take into account musicians' needs to hear unadulterated sound across the full frequency spectrum because hearing aids are optimized for listening to speech. "In speech, you can miss certain things, and you can fill in the blanks," explains Dr. Chasin. "But with music, we have to actually hear everything. So, we need hearing aids that replicate music precisely."

Interestingly, Dr. Chasin thinks, "It's best that the audiologist you see does not play any musical instruments. The moment you start playing a musical instrument you have these preconceived ideas and notions. It's better if you go to an audiologist who just understands the technical differences between music and speech."

Dr. Chasin's Checklist for Your Audiologist to Create a True Music Program on Your Hearing Aids:

1. **Start with Post-16-Bit Architecture**

What to tell your audiologist: First, be sure to select hearing aids that have 20-bit or 24-bit architecture to allow for a higher input level. Then start with the optimal "speech-in-quiet" program for the patient and make adjustments from there to create a custom music program.

Here's why: In some hearing aids, all sounds can't necessarily get into the hearing aid for processing because the old industry standard 16-bit systems have a maximum input level of 96 decibels. Music can be louder than speech with more dynamic peaks, so louder elements would be clipped or distorted. Many newer hearing aids do not have this problem, but it's important to make sure you're starting with an appropriate model. Its a "hardware" issue and not a "software" programming issue.

2. **Dial Down Compression**
What to tell your audiologist: A low compression ratio of 1.7 to 1 (or a maximum of 2 to 1) is best for music.
Here's why: The compression ratio represents the change in loudness that comes into the hearing aid versus the change in loudness that goes out of the hearing aid and into your ear. Too much compression essentially over-processes the sound, causing music to sound dull and lacking in dynamics.

3. **Turn Off Noise Reduction**
What to tell your audiologist: Disable the noise reduction system for the music program.
Here's why: The noise reduction system is designed to reduce the sound of the microphone inside your own hearing aid, but this feature sometimes has detrimental effects when used for music.

4**. Turn Off Feedback Management Circuit**
What to tell your audiologist: Disable the feedback management circuit when setting up the music program.
Here's why: The feedback management circuit is designed to prevent you from hearing the squeal of your own hearing aid. But sometimes it can't distinguish between the whistling of your hearing aid and a harmonic or a musical instrument.

5**. Turn Off Frequency Shifting**
What to tell your audiologist: Disable any frequency shifting or frequency transposition for the music program.
Here's why: Frequency transposition customizes sounds to your particular audiogram by moving some tones to a lower frequency. It can help a lot when listening to speech—but for music, it means your hearing aids can actually change the notes and octaves on you if this feature is turned on!

Should your audiologist have additional questions, Dr. Chasin refers them to **this article for practitioners**.

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