♫ Music Skills and Learning to Listen ♬

How music instruction can benefit children with cochlear implants and hearing aids

By Suzanne Schaafsma

Music is everywhere. The latest hit plays in the background as we do our shopping; popular culture and entertainment are infused with music and those who make it; students start every school day with the national anthem. Virtually every major milestone in life - be it a wedding, birthday, or graduation has an accompanying song. Music is the back-up track to everyday life in hearing culture. It can also be an incredible tool for children with cochlear implants and hearing aids to develop valuable listening skills.

Music training has been shown to improve listening skills in children with cochlear implants and hearing aids. Music training can help these children improve their perception of pitch, phrasing, timbre, and rhythm. These are skills that are readily transferable to language perception. Improved pitch perception can help individuals recognize the prosodic pitch contours in speech that communicate emotional subtext, questions, statements, and even word meaning in tonal languages. Skills in timbre discrimination help individuals perceive changes in spectral envelopes that relate to aspects of communication ranging from valence to vowels.

Music is a useful gateway to speech because the differences present in the various aspects of music (pitch, rhythm, timbre) are so much larger than in speech and therefore easier to perceive. Just as a parent helps their developing child learn the pitch contours associated with their language by exaggerating them, speaking in “motherese”, so music can present larger and more easily identifiable pitch contours and rhythmic patterns. Singing is also an effective, enjoyable tool to help children with cochlear implants or hearing aids develop speaking skills. Singing can aid in the development of breath management, intonation, vowel production, and pitch control.

Music is also a valuable tool for a number of other reasons. Music can be used to create games, which can make repetition fun when learning new skills. Music and song are adaptable for teaching a variety of skills, ranging from speech production and perception to vocabulary and lessons about life. Music is a learning tool that can also be easily used by parents with their children at home. Because music is knit into so much of the fabric of our every day lives, helping children develop musical skills will help them interact more fully with their auditory environment. The presence of music in life also means that daily encounters with music can be opportunities to practice listening skills in an enjoyable way.

Most young children with cochlear implants and hearing aids enjoy music as much as their peers with normal hearing. As young hearing children do not have fully developed skills in pitch, rhythm, and timbre perception, hard of hearing children and hearing children can often easily participate together in the same music programs for young children, with only a few adaptive measures. These types of classes can be an enjoyable way to introduce music to a young child. It is thus important that the instructor leading the class have a basic awareness of the unique needs of a child with a cochlear implant or hearing aid.
Considerations for Music Instructors:

1. The perception of an instrumentation or timbre as pleasing or harsh may differ between hearing children and those with assistive hearing devices. Become aware of which instruments are harsh sounding, and choose listening music accordingly.

2. Choose songs that have few intervals that are smaller than a tone. Larger intervals are easier to perceive than smaller intervals. Generally, individuals with hearing aids will have more consistent pitch perception than those using cochlear implants. Both groups can improve their pitch perception with training!

3. Sing songs naturally. Avoid over enunciation, which can obscure perception of the lyrics.

4. When introducing a new song, add or focus on one musical layer at a time. Choose musical examples with simple accompaniment or simple instrumentation. Teach songs without accompaniment before adding extra musical layers. Try teaching different musical aspects (ie. rhythm, melody, lyrics) separately before combining them.

5. Most frequently, rhythm is the strongest musical skill of children with cochlear implants and hearing aids. Rhythm is a great entry point to use when introducing music to these children – enjoy this strength together by clapping, tapping, or moving along to the rhythm of the music.

5 Creative Ways to Use Music to Learn to Listen:

1. **Songs and Vocabulary**: Use songs to teach new vocabulary or speech sounds. Many children’s nursery songs (ie. Teddy Bear, If You’re Happy and You Know It) have instructions in the lyrics. Perceive and follow the instructions in the song as you sing them together.

2. **Instruments**: Gather a basket of different small instruments. Play a guessing game to identify different instruments by listening to them. Talk about the instruments and their sounds. How is the sound produced? What instruments does the child like and dislike?

3. **Music and Movement**: Find a piece of music that has easily identifiable changes in rhythm, instrumentation, or even dynamics (volume). Create a game where the actions change when the music changes in a specific way. Embody the music. Pair movements with different rhythmic patterns, or instruments, smooth versus bouncy music, or high versus low pitch sections.

4. **Physically Represent Pitch**: Use Curwen hand signs and solfeggio syllables (used widely in elementary music instructions) to physically represent changes in pitch while singing a song. Begin by teaching the hand signs and syllables up and down the scale, then move to slow, simple songs as the child learns to mirror your movements.

5. **Breath Management**: Create rhymes or stories that use the directions “up” and “down”. When you say up, gesture up slowly, and vocally glide upwards in pitch as you say “up.” Do the opposite on the word “down.” Vocal glides help develop vocal agility and breath management skills. To help develop breath management over a phrase, have the child blow bubbles with a straw in a cup to match musical phrases. When your singing phrase starts, they blow bubbles. When your singing stops, they stop.
Suggested Resource:

References:


About the Author:
Suzanne Schaafsma is a music instructor based in Toronto who holds a master’s in voice pedagogy from the University of Toronto. Suzanne is a returning faculty member with the Qatar-Canada Health Partnership, where she helps professionals in the fields of audiology and speech language pathology develop musical skills and find ways to use music as a tool in their practice.