

LISTEN, HEAR!

by Geoff Plant



hear **LIFE**

Music for Adults with Cochlear Implants

INTRODUCTION

I have just returned from an extended work trip to Europe, during which I visited Athens for the first time. This was a memorable experience in many ways, but the highlight, perhaps, was the opportunity to attend a ballet performance in the 2,000 year old Herodus Atticus Amphitheatre at the foot of the Acropolis. Although I was sitting towards the back of the amphitheatre, I could hear, not only every note played by the orchestra, but also the sound of the dancers' feet as they moved across the stage. The acoustics in this ancient structure were perfect, and I was reminded, as I often am, of the importance of music in my life, and in the lives of most people.

WHY MUSIC MATTERS

Even before the building of the amphitheatre, the Chinese philosopher Confucius (K'ung Futzu) observed that, "Music provides a kind of pleasure which human nature cannot do without," and in my dealings with adults with cochlear implants I often see support for this view. Many adults with an acquired hearing loss express dissatisfaction with the sound of music through their implants. They are, not surprisingly, very happy with the speech information provided, but many indicate that music is, at best, a disappointment for them.



I've looked at a number of studies that have investigated the reactions of implanted adults to music, and there seems to be an almost perfect 50/50 split in their responses. Around 50% express satisfaction, while the remaining 50% express dissatisfaction. Ask the same people how they feel about speech, and the vast majority will be very happy with the signal provided by their implants, but music remains a difficulty for very many people.

I wouldn't be so concerned about this, if I believed the view expressed by the Harvard psychologist Steven Pinker, who dismisses music as "auditory cheesecake." Pleasant enough in its own way, he seems to believe, but really just "empty calories." Every time I see a reference to this quote, I wish that Pinker could meet and talk with some of the adults that I have worked with over the past ten or so years. Many of them have astonishing speech perception skills, but still they express some dissatisfaction with their implants. What's the cause of their concern? They want to have better access to music. Music was very important to them before they became deaf and they want it back now that they have an implant.

MUSIC IN REHABILITATION

Music and rhyme has been an integral part of my approach in working with children for many years, but I paid little attention in it in my adult work until I met Richard. He had been a professional musician for many years, but in the early 1990's he was deafened by ototoxic drugs. The drugs saved his life, but they also destroyed his hearing, and it was nine years before he made the decision to have an implant.

The results were amazing. He talked on the phone to friends on the night that he was "switched on," and when I saw him a few weeks later, he was able to understand almost everything that I said. He was thrilled with the outcome, but he wished that music could once again be part of his life. We did a few simple music exercises on that first meeting, and it was apparent that some musical cues were available to him.

The next time I saw him, I sang an unfamiliar song to him, and he was able to copy the tune almost perfectly. That was enough to encourage me to include music in my work with him, and it gave Richard some hope that music would once again be an important part of his life.

Now, about four years later, Richard is playing music again. There are still some difficulties, since some sequences of notes on the keyboard sound the same, but he is able to remember their differences, and "plays through" these problems. We often talk about music, and it seems that, although not perfect, music is now an important part of his life. It has also become an important part of the rehabilitative approach that I adopt with adults with cochlear implant. This includes incorporating music in my 1:1 training sessions, and running Music Focus Groups for adult CI users.

MUSIC FOCUS GROUPS

Over the past two years, my wife Kerryn, an accomplished keyboard player, and I have run several Music Focus Groups at the Hearing Rehabilitation Foundation in Somerville, MA. They are meant to run from 1:00 – 4:00 on Saturday afternoon, but we've never managed to keep them to three hours! They usually run well over time, and I believe that this is because those attending are "starved" for musical experiences. Not starved for "cheesecake," mind you, they are starved for something far more substantial and nutritious.

Each session starts with those attending talking about their own musical experiences before and after the onset of hearing loss, and after receiving their implant. The participants seem to greatly enjoy hearing about each other's musical experiences and observations. Almost all of those attending the groups have reservations about the quality of music with their implants, but none are prepared to give up on music. They want to improve their musical "quality of life," and are eager to find out how to do so.

Another part of the program presents the group with a series of simple musical exercises. For example, Kerryn will play three notes on the keyboard, the first two always the same, while the third is the same, higher, or lower. The group are asked to judge which of the three alternatives occurred. In another exercise, Kerryn plays the melody of some well-known songs such as "The Wedding March" and "Twinkle, Twinkle, Little Star," and the group members have to try to identify them. These exercises could be rather intimidating, but we try present them in a relaxed fashion and stress that it's not a competition, rather it's an attempt to find out what they can and can't hear.

Kerryn also plays a well-known piece of music such as "Yankee Doodle," and gradually increases its complexity. At first it's just the melody, right hand only, but she gradually brings in her left hand and some simple chords. This "step-by-step" approach means that the group members have a better chance of appreciating the more complex musical sequences.

We also play a variety of recorded music to the group and ask them to rate each on a 7-point scale ranging from “terrible” to “excellent.” We provide the lyrics to each song, as I want the group members to concentrate on the song, not struggle to pick up the words. Some music is always rated highly, so we include these items in every session we run. For example, Johnny Cash’s “I Walk the Line” is always rated very positively, as is Arlo Guthrie’s “City of New Orleans.” One group member observed that the songs they all liked were “stories with a beat,” and I felt that this was an excellent description of the preferred musical style.

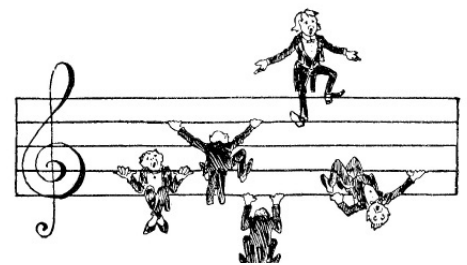
We’ve also found that group members respond very positively to DVD’s of live music performances. I’ve built up a large collection by artists such as Eric Clapton, John Denver, Nancy Griffith, Carole King, and James Taylor, and these are always rated highly. This is perhaps not surprising. We know that most people with implants perform best when they can both hear and see the speaker, so it follows that music will be enhanced by an auditory-visual presentation.

The feedback that we receive from participants is always very positive and indicates that they derived a great deal from the experience. Comments include:

“Thanks for the eye-opening (or ear-opening) experience.”

“I now realize that I’m not listening to as much music as I should.”

“The focus group removed my trepidation about listening to music, and allowed me to realize that there are other ways to appreciate music than trying to get it to sound the way I remember.”



MUSIC NOTES

These focus group experiences have been invaluable in planning musical activities for adults with CI’s, and led directly to a new MED-EL publication – “Music Notes.” This consists of two CD’s. The first contains the text of a book on various aspects of music and cochlear implants, while the second presents the melodies of 26 familiar tunes played on a keyboard.

The book covers a variety of topics, and is aimed at clinicians who want to incorporate music into their work with adults. I’ll provide a brief synopsis of each chapter.

Chapter 1 provides an overview of research conducted into music and cochlear implants. There is a great deal that has been done in this field, and I wanted to provide clinicians with an introduction to this important field of research. The studies cited look at areas of research including tempo and rhythm; pitch, interval and melody; and timbre and instruments. This chapter also looks at recent research that shows the great importance of music for people with normal hearing. There is rapidly accumulating evidence that music fulfills many important functions, so important that we devote parts of our brains to its perception, and this highlights the need to provide our clients with access to this important auditory experience.

Chapter 2 looks at “starting points,” and makes suggestions for a client’s first musical experiences with her/his implant. These include the use of

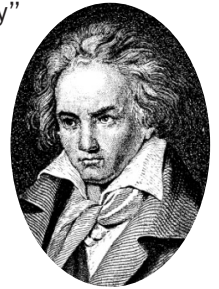
- :: simple music,
- :: familiar music,
- :: solo voice,
- :: “stories with a beat,” and
- :: auditory-visual musical experiences

Other topics include the listening environment, and the choice of equipment.

Chapter 3 provides suggestions for running Music Focus Groups. It looks at the types of activities that should be attempted, and provides a framework that clinicians can use in developing their own approach. I present the approach we adopt at the Hearing Rehabilitation Foundation as a model that clinicians can use in planning their first sessions. Over time, however, I would hope that clinicians will modify and adapt the approach to better fit their own “style.”

Chapter 4 provides clinicians with a number of resources that they can use in providing music training to adults. These include:

- :: a questionnaire that can be used to obtain information on the client’s musical “history” and preferences.
- :: suggestions for using the CD of familiar tunes
- :: background information on famous deaf musicians such as Ludvig van Beethoven (picture), William Boyce, and Bedrich Smetana. Obviously, few, if any, of our clients have the musical skills of these “giants,” but their stories can be of great interest. I have included the text of Beethoven’s tragic “Heilillgenstadt Testament,” in which he tells of his distress at discovering that he has lost his hearing, as this can serve as the starting point for discussing the effects of hearing loss.



Chapter 5 looks at music making, as this is an important part of the musical experience of many people. I’ve met a few people who started to play an instrument after they obtained their implants, and I would like to see more people attempting to do this. There is a great deal to be gained from playing an instrument even at the most basic level, and this is an area that needs to be investigated further. There are some instruments, such as drums, that would appear to be well suited to the processing of implants, while others such as the violin or cello, might create special difficulties.

I have a particular interest in the use of drums and other percussion instruments with implanted adults. I’m especially attracted to the idea of using “found” percussion instruments using empty containers, spoons, etc., instead of more expensive “formal” instruments. “Found” instruments offer implant users with the chance to explore music making without any real financial commitment, and may lead, in the long term, to satisfying musical experiences.

I hope that “Music Notes” will encourage many clinicians to incorporate musical activities into the rehabilitation programs they provide to their adult clients. If you would like to purchase a copy of “Music Notes,” please contact your local MED-EL representative, or go to our website: www.medel.com

CONCLUSION

There have been huge improvements in cochlear implant processing over the past twenty years, and we can look forward to even better systems in the future. Attempts to provide fine structure detail are ongoing, and when these are realized they may result in improved musical perception. It’s not good enough to wait for these improvements, however; we need to do something for our clients now. Incorporating music training in the rehabilitation process is the first step, and I hope that many clinicians will start to provide such services.

As always, I welcome any questions, feedback, comments, etc.

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I look forward to hearing from you.