ifferent Brains® Menu BLOG The Benefits of Music for Therapy and the Neurodiverse Martha Summa **August** 18, 2016 Alzheimer's Disease, Asperger's Syndrome (ASD), Autism, Dementia, Neurodiversity, parkinson's, stroke By Martha Summa-Chadwick, DMA Music is a joyful gift to our sensory systems and can also be a powerful tool to help improve the physical and cognitive hardships faced by those in the neurodiverse community, such as individuals with autism, stroke, Traumatic Brain Injury, or Parkinson's disease. Evidence-based research shows that music for therapeutic use can be valuable in working with people who have motor, speech, and cognition challenges. Music therapists are accomplishing wonderful outcomes in their work with those who have neurodiversity, but unfortunately board certified music therapists may not be available everywhere. If a credentialed music therapist is not accessible, here are some ideas that parents or caregivers can try at home. Many individuals who have neurodiversities experience irregularities in their walking gait; steady rhythmic music is a great accompaniment to use with gait exercises for various challenges including autism, Parkinson's disease, Cerebral Palsy, and others. Rhythm is a wonderful tool to help facilitate motor movement since rhythm already exists internally in the body's heartbeat. The body will tend to automatically move to a beat; typically, young children will have a "functional tempo" in their bodies of 120 to 132 beats per minute, whereas adults will move slower, at 92 to 100 beats per minute. To facilitate a gait exercise, choose a piece of music favored by the individual that also has the right "beats per minute" count to match their functional tempo. For example, a child with autism who walks with a kinetic stutter might enjoy keeping pace to a children's tune played at a sprightly tempo. Click the arrow to play example: 00:00 00:00 An adult classical music lover recovering from a stroke might not be able to walk at their normal speed, but the music can encourage them to keep pace. Click the arrow to play example: 00:00 00:00 An older adult who loves the Monty Python movies and is affected with freeze of gait from their Parkinson's disease could be helped by walking along with music that creates a natural neural support network to replace the normal "Stop/Go" initiative affected by the Parkinson's. Click the arrow to play example: 00:00 00:00 Music can also create interesting melodic patterns designed to mirror other kinetic movements. A child with autism who has the self-stimulating behavior of flapping the hands tends to only use the forearms on down, rather than developing the important large muscle groups between the shoulder and the elbow. In order to help the child with an exercise to build these muscles, create a musical pattern as follows: the child slowly reaches up and overhead as the musical notes ascend, wiggles the fingers for a few seconds, and then slowly lowers the hands back down as the music descends. The entire pattern then repeats. Click the arrow to play example: 00:00 00:00 Instead of wiggling the fingers, a small percussive instrument like a drum or small set of chimes could be used to create a target for the child to reach for as he strikes it with his hand or a mallet, making the exercise more fun and engaging. For those experiencing speech and language problems, rhythmic singing can provide pathways to circumvent damaged neural networks. This is possible because music is received by both hemispheres in the brain and can be incorporated into therapy for challenges such as apraxia, aphasia, stuttering, or even getting a nonverbal child to utter their first syllable. To illustrate, a nonverbal child might try to hum or sing (possibly on "la la") two notes of the singsong notes of childhood. Click the arrow to play example: 00:00 00:00 A person with apraxia who says "Yegg" instead of "Yellow Egg" can practice a repeated sing-song version of "Yellow Egg, Yellow Egg" at one syllable per note, such as... Click the arrow to play example: 00:00 00:00 ...and the speaking version will eventually become easier. For individuals with dementias, musical memory can be more lasting than the cognitive memory associated with it. An Alzheimer's patient can be brought back into the present moment on hearing a favorite piece of music and may even sing along or move to the rhythm. If the person is no longer capable of communicating musical preferences, try using songs or music that would have been popular during their high school or college years. Also be aware that sometimes the progress into advanced stages of dementia leads to the point that only children's songs, such as "Twinkle Twinkle Little Star" remain in the memory to elicit a response. Click the arrow to play example: 00:00 00:00 Music can also assist with cognition challenges. A lack of attention focus is often present, whether it's in a child with ADHD or an adult recovering from a stroke. To provide some attention training, try using a musical "game" in which two different songs are associated with two separate tasks appropriate for the individual, such as moving to a different area of the room or solving a math problem on a cue card, etc. For example, two songs appropriate for a child are "Mary had a Little Lamb" and "Wheels on the Bus." When "Mary Had a Little Lamb" is played, have the child walk around the room. When "Wheels on the Bus" is played, have the child touch their toes or perform some other body movement while standing in place. When the child has mastered focus on associating the correct task with the correct music, add a third song and task into the mix. The brain is practicing actual attention focus with this game; the music assists the process. Martha leading a session of music therapy The above examples represent a few ways to use a musical task to help influence a nonmusical behavior. Remember that each person is individual, and what works for one may not work for another and, of course, that there can be good days and bad days where a particular approach may or may not be effective in evoking a nonmusical behavior. It's well worth the effort. Music is a very effective way to help with so many challenges, and with a resourceful guide, it can produce wonderful results. Martha gave a recent TED talk about the power of music in therapy. Take a look-TEDX Dance of the Neural Tan... Martha Summa Martha Summa-Chadwick, DMA, has achieved a wide reputation as a performer of chamber and solo works for piano and also as an advocate of the use of music in therapy. She holds a Bachelor of Music degree from the Hartt School of Music, a Master of Music degree from the University of Tennessee at Chattanooga, and a Doctorate of Music Arts degree from the University of Kansas. Dr. Summa-Chadwick has performed in roles of both piano and harpsichord soloist with orchestras in New York, Connecticut, Massachusetts, Maine, and Alabama, and has also specialized in performing 20th century chamber and solo works. She is currently on the faculty of the Cadek Conservatory in Chattanooga and is the Executive Director of the nonprofit organization Music Therapy Gateway In Communications, Inc. http://www.marthasumma.com **Related Posts ADHD** and Friendships Self-advocate Cynthia Hammer, MSW highlights challenges people with ADHD can have with friendships, and offers tools to help. 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