

Music and Cerebral Palsy

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Abstract

Cerebral Palsy is a very uncommon condition that many people know of, but don't know a lot about. This condition has a wide array severity levels, and is virtually untreatable. This condition deals with a hinderance in the cerebral cortex and prohibits the functioning of some to many, basic operations. Such a severe condition would call for a special type of treatment, and there's only one type of treatment that could speak with enough volume to get through these tough conditions. Music has proven, in many cases, to be one of the most important aspects of life for all people and especially students. Using music as a tool to give direction and aid those individuals as they go along with their life and school, the stress and suspense of cerebral palsy can be greatly soothed.

What is Cerebral Palsy?

Cerebral Palsy is a rather complex condition, and like many disorder, each case is completely unique to itself, only about 2 in every 1,000 people are born with this condition. This condition can vary greatly in what it encompasses, but usually implies forms of movement and posture disadvantages, caused by a “defect or lesion of the immature brain” (Reddihough and Collins, 2003). The impairments a child with this disorder face, could stay with them throughout their life. Many times the individual will not overcome certain obstacles, and or they’re parents won’t know how to adjust the world around them. If this should happen the conditions and impairments could become permanent, with little to no chance of progression (Dodd and Imms, 2010). While there is no known specific cause of this disability, contributing factors can be birth-defect/abnormal birth, infection or injury that affect and or damage the cerebral cortex, or a developmental abnormality in the womb, congenital brain malformations, and possibly genetics. There are many possible causes that have been reported, but only those few have hard evidence to support them (Reddihough and Collins, 2003). There are four main components when determining for cerebral palsy; motor abnormalities, anatomical and neuroimaging findings. Associated impairments, and causation and timing of the neural injury (Dodd, Imms and Taylor, 2010). This condition deals with a hinderance in the processes of the brain, not the development of muscles or the body, but rather those symptoms are caused by the malfunctions of the brain. Individuals with cerebral palsy can have disadvantages such as loss of movement in some or many of their limbs, required wheelchair users, and along with the loss of motor skills, could come some to full loss of fluent speech ability. While there is much speculation, there is much

speculation and inferences, the definition of the condition is constantly changing (Panel Discussion, 2007).

Cerebral Palsy in Academics

Due to the condition having an effect on the brain and its development, there are often a lot of obstacles that a student with this condition must face. The motor dysfunctions, and absence of speech impairments can complicate the ways in which these students can be assessed and or prove their knowledge. With difficulties writing, and diminished abilities to speak, these students can have difficulty doing school work. Accommodations in communications can be made, such as adapting signals and signs for yes or no, and other “one or the other” questions (Holt, 1998). In cases of extreme motor dysfunction, healthcare options may provide the possibility a mechanical aid or apparatus for the individual to manipulate with a working limb (Reid & Sochaniwsky, 1992). If the student is able to write or communicate using speech, it’s common to give them more time to complete an assignment, so they can still have the opportunity of answering the questions. Reducing the amount of material is another possible accommodation that could be used to allow students to be proficient in their class. This makes the load more manageable and attainable for the student. “Regular academic settings” can be challenging and intimidating for some students, but it’s important to allow for as much independence as possible, so that there is as a little of a gap between the adversary of students and those with disabilities as possible (Holt, 1998).

Music Therapy: An Overview

Music therapy is a time-old method of healing and soothing. This is thought to have gone back to ancient times, where specific songs and music was played for more than just specific occasions, but even illnesses and conditions. This is a newly popular approach that has found a place in modern medicine, and is slowly but steadily finding its place in common practice medical institutions as time progresses. Music therapy can be described as “the use of music in clinical, educational and social situations to treat clients or patients with medical, educational, social and physiological needs” (Wingram, 2000). The healing qualities of music can be used to soothe the souls and minds of humans simply through listening, and especially through getting involved in with oneself. The spike in popularity has gotten more attention in several areas of the medical field, including those with disabilities. Music allows people of all kinds to find the tranquility in in life, the trick is to find which type of music affects a person the most (Blonde and Wigram, 2002). Methods such as listening, improvising and performing/creating music are just a few of the ways people can engage with this type of therapy. The nature of music makes this a very friendly and painless way of finding help and peace with one’s situation. Some of the exact same elements of music therapy are used for patients of completely contrasting personalities and situations.

Music therapy can be used in accordance with other practices as well, such as playing an instrument while getting a scan to see the level of brain engagement, while creating music, as well as during and or with other procedures. Music allows people to better discover and control their emotional challenges and changes. Music Therapy applies control and organization in a natural way to the lives those with cerebral palsy, in a way that is easy fathom and execute

(Saperston, West and Wigram, 1995). The field of music therapy is still small, but very innovative, providing all sorts of insights in the world of health and wellness. This trend is gaining momentum for very obvious reasons as it breaks through the doors of standard practice medication, and is considered to be one of the best treatments for disabilities of this type.

Implements of Music Therapy on Individuals with Cerebral Palsy

As discussed earlier, it can be difficult to gauge a response from someone with cerebral palsy. Music has been used from therapeutic approaches to see provoke and encourage those individuals to respond to their environment by using Rhythmic Auditory Stimulation (RAS). Rhythm is one most important and most natural elements of music. By allowing the individuals an opportunity to listen to the music, their bodies would naturally respond to what they hear, much like any person would. This basic type of therapy is used for patients who have spastic cerebral palsy (Kwak, 2007). This is a good approach because it shows that an individual is processing basic information and is expressing something that they feel on the inside of them, which is a very important step with someone with a severe case of this condition. The use of RAS has shown to improve a person's gait, which is an element of the condition that was once thought to be at a permanent and fixed ability level. Almost every aspect of a person's walking habits are improved, steadiness (reflected in a constant beat or rhythm, velocity, cadence, stride-length, symmetry (balance), have all shown to be enhanced in patients with cerebral palsy who have undergone RAS therapy. This type of innovating treatments can greatly aid in bettering the health and quality of life, not only in the lives of those with cerebral palsy, but with all types of disabilities.

Music can be used as a way of allowing one's mind to escape reality and find comfort. This is one of the principals and "main ideas" of modern music therapy. While not a direct approach of music therapy, the use of music to sooth the mind and soul has been proven to reduce the amount of pain a patient feels while undergoing another treatment or procedure. Patients with cerebral palsy can be known to have serious cases of anxiety for their various types of treatments (though this is not a situation that is in any way unique to CP), music has been a proven factor to reduce the level of anxiety these patients feel going into and during a nerve-wracking event (Yu, Liu and Li, 2009). In no cases where music is introduced, was the a negative response or continuation. Music has positive influence in people with cerebral palsy, providing comfort and assurance in ways that aren't possible with any other approach.

The Music Classroom and Individuals with Cerebral Palsy

A small breakthrough in both therapeutic and educational approaches, a device of music therapy known as a "TouchTone". This instrument was designed for students with cerebral palsy and have little sensori-motor coordination to be able to play and still be apart of a group/ensemble and make music with others. The ideals behind music therapy of finding a gateway that allows all people to be expressive with music, and the inspiration of music education by seeking the accommodations to be involved are really what made this possible. The TouchTone allows the user to create a variety of sounds from familiar instruments all from a small box on their lap. This electronic instrument is digitized and has pressure sensitive, textured pads that allow for different notes/sounds with another button to change the octave of the sound> The instrument is modeled after a class of instruments used in early music classrooms known as

“Orff instruments” that are rather simple to play (Bhat, 2010). This one is perfect for a student with cerebral palsy because it offers the maximum amount of aural satisfaction with even the least amount of physical command, which is much less difficult and not as complex that standard instruments.

While this doesn't directly relate to strictly the education portion of music, the use of music as a form of creation by playing instruments, has proven to bring those individuals together better as a group (Krakouer, Houghton, Douglas and West, 2001). The unifying nature of music brings people together, allowing those exceptional individuals to “lose themselves” in the music and become the music. Though this exercise was originally used as a tool to improve coordination and ease spastic movement/tension, it brought along with it group communication skills, even though they may have been nonverbal. Music is able to bring together all people through its extraordinary healing powers.

Conclusion

Cerebral palsy is very unique condition that can call for a lot of special accommodations and attention in specific ways. The obstacles presented by this condition are in no way out of reach, or “hopelessly untreatable”. With the aid of music, any ailment can be subsided into a simple fragment, at least for a few moments. The power of music and music therapy is a rising force in the medical field, and will soon be taking everyone by surprise. Individuals with cerebral palsy can reach their full potential by finding the audacity within themselves only through the inspiration of music.

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