

5 Reasons Music Therapy Works for Neurological and Neurodevelopmental Disorders

1. Music has a Profound Impact on the Brain

"Nothing activates the brain so extensively as music," – Oliver Sacks, M.D.

"The brain that engages in music is changed by engaging in music." -Michael Thaut, Ph.D, Professor of Music and Professor of Neuroscience at Colorado State University

Our brains are readily equipped to respond to music! Research has revealed that music stimulates all areas of the brain. Because of this, music directly affects our senses, making it a multi-sensory experience, involving the auditory, visual, and tactile senses. As a result, music can have a direct impact on an individual's physical, emotional, and cognitive functioning. Neurologic music therapy has shown to be an effective treatment for individuals with neurological disorders because research has shown that music enhances neuroplasticity in the brain. Neuroplasticity refers to the natural ability of our brain to change, the ability for it to create new neural pathways in order to adapt to changes. Enhancing neuroplasticity through music can aid in helping patients who suffer from language, cognitive, and motor deficits by using rhythm, melody, and other musical elements to stimulate non-damaged brain areas and promote brain recovery.

2. Music Increases Dopamine Production in our Brains

Dopamine, sometimes known as a "motivation molecule", is a pleasure-related neurotransmitter in the brain that is released when our senses are stimulated. Music listening, art-making, and eating good food are all examples of positive experiences that stimulate our senses, and trigger the release of dopamine as a reward and reinforcement for appropriate responses to certain stimuli. Research has shown that low dopamine levels are associated with poor attention skills, memory, and self-control. In fact, dopamine levels have found to be deficient in individuals suffering from Parkinson's Disease and ADHD. Music therapy can be an effective treatment for these individuals, increasing dopamine production, and aiding in improving mood, enhancing learning and focus, and promoting overall well being.

3. Music Provides an Outlet

Music taps into our emotions and creates a non-threatening, non-invasive atmosphere where individuals are provided an outlet to be creative, have opportunities for control over their environment, be social, and express their emotions. As a result, children and adults who suffer from anxiety and mood disorders may benefit from music therapy to improve coping skills, reduce anxiety, improve self-regulation, self-esteem, self-awareness, and increase their verbal and non-verbal expression of feelings.

Examples of music therapy interventions might be:

♪ facilitating song writing with a patient who suffers from anxiety due to a particular fear, to help them become more aware of their feelings and have a better understanding of their fears and emotions.

♪ facilitating a relaxation intervention such as MAR (music assisted relaxation) or PMR (progressive music relaxation) to reduce tension and anxiety and improve self-regulation.

♪ facilitating improvisational music making with various instruments to prompt creativity, exploration, nonverbal expression, and opportunities to control their environment.

4. Music Provides Structure

Music provides a structured beginning, middle, and end that is appealing to our brains! It provides predictable and organized outcomes through steady rhythm, melodic phrases, and form. Structure and familiarity through music can be very soothing and coordinating for the brain. Because of this structure, music therapy interventions can be beneficial for individuals with ADHD and Autism Spectrum Disorder by providing music to encourage relaxation, promote self-regulation, reduce hyperactivity, adjust to changes and transitions, and improve attention.

5. Music Encourages Communication

Music therapy can be used for the treatment of voice, speech, and language. Singing and speech are interconnected, sharing similar roles and foundation in our brains. In fact, when we speak, we naturally use musical elements such as rhythm, tempo, and pitch. Music Therapy can be an effective tool in encouraging communication in individuals with various diagnoses including ASD, Stroke, Parkinson's Disease, Traumatic Brain Injuries, and more.

For example, an individual may be diagnosed with Aphasia after suffering from a stroke (damage to the parts of the brain that control language). Neurologic Music Therapy techniques can facilitate relearning how to speak through the power of song.

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