

Neurologic Music Therapy® (NMT™) for Autism Spectrum Disorder (ASD)



Autism Spectrum Disorder (ASD) is a neurodevelopmental condition that appears on a spectrum. Current research shows that those with ASD have differences in brain connectivity resulting in over-wired as well as underwired connections that impact skill demonstration, self reliance/independence, and effective engagement and communication with others. Individual with ASD experiences their own unique strengths, symptoms, and challenges; and advances in understanding autism, its symptoms, and comorbidities has improved outcomes for individuals with autism.

Common Challenges in Autism

- Initiating functional speech
- Initiating purposeful movement
- Emotional Regulation
- Over reliance on the visual and/or tactile systems
- Lack of sensory system coordination resulting in the inability to demonstrate true cognitive abilities
- Restricted repetitive patterns of behavior
- Difficulty developing and maintaining relationships

NMT™ Professionals, in collaboration with care teams, utilize standardized assessments and identify relevant treatment areas to **optimally support individuals with ASD**. Music has a direct impact on the brain and functional behaviors like **movement, communication, cognition, and mental health**.

Sensorimotor Techniques within the NMT™ System use rhythm, melody, and harmony to cue and support movements to improve walking and mobility.

Speech and Language Techniques within the NMT™ System use singing, playing of wind instruments, and rhythmic cues to support the development of speech.

Cognitive Techniques within the NMT™ System use structured active and receptive musical exercises, discrimination of components of sound, and improvisation and composition exercises to address a variety of cognitive functions.



Common Goals

Motor

- Fine Motor Dexterity
- Coordination
- Movement Symmetry

Communication

- Pragmatics of Speech
- Developmental Language
- Motor Planning
- Articulation, Intelligibility
- Vocal Quality, Fluency

Cognition

- Arousal Optimization
- Sensory System Coordination
- Emotional Regulation
- Attention
- Executive Function

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Examples of NMT™ Techniques:

NMT™ Cognitive Techniques:

Musical Sensory Orientation Training (MSOT)® uses live or recorded music to stimulate arousal and recovery of wake states and to facilitate meaningful responsiveness and orientation to time, place, and person.

Auditory Perception Training (APT)™ focuses on auditory perception and sensory integration exercises that help to identify, discriminate, and improve one's acuity in the perception of different components of sound such as time, tempo, duration, pitch, rhythmic patterns, and speech sounds.

NMT™ Speech and Language Techniques:

Developmental Speech and Language Training (DSLTM)® is the specific use of developmentally appropriate musical materials and experiences to enhance speech and language development through singing, chanting, playing musical instruments, and combining music, speech and movement.

Rhythmic Speech Cuing (RSC)® is a rate-control technique that uses auditory rhythm (metronome form or embedded in music) to cue speech.

NMT™ Sensorimotor Techniques:

Rhythmic Auditory Stimulation (RAS)® uses rhythmic motor cuing to facilitate training of movements that is intrinsically and biologically rhythmical.

Patterned Sensory Enhancement (PSE)® integrates the rhythmic, melodic, harmonic and dynamic-acoustical elements of music to provide temporal, spatial, and force cues for movements which reflects functional movements of activities of daily living.

Therapeutic Instrumental Music Performance (TIMP)® uses playing of musical instruments to exercise and simulate functional movement patterns in motor therapy.

Sources:

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World Health Organization. Autism. World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>

This resource was created by the Advisory Council of the Academy of Neurologic Music Therapy™. To read more about the NMT™ System of Techniques, please go to nmtacademy.co. This is for informational and educational purposes only. It does not constitute and should not be used as a substitute for medical advice, diagnosis, rehabilitation, or treatment. Patients and other members of the general public should always seek the advice of a qualified healthcare professional regarding personal health and medical conditions.