

Clinical Considerations **(PTOT-2.0)**

Pediatric Neurodevelopmental Considerations (PTOT-2.5)

PTOT.2.5.A

v1.0.2023

Neurodevelopmental conditions disrupt typical growth and development, usually characterized by abnormal motor and sensory skills presenting as limitations in mobility, strength, coordination, balance, mental processing, sensory processing, behavior and essential functions of daily living. These restrictions lead to functional deficits in essential life roles. Progression of the condition may occur as the child ages. Gross, fine, and/or perceptual skills can be limited with varying severity.

Severity of the developmental disability is determined through standardized testing and lack of or delay in reaching developmental milestones.^{78,79} Baseline standardized testing of milestone attainment and deficits in essential tasks should be assessed at the initiation of an episode of care.⁷⁸⁻⁸⁰ The diagnosis and age of the child are also taken into consideration when determining severity. Severity of the child's disability may be expressed through specific levels or stages of disease/condition [i.e. Gross Motor Function Classification System, Duchenne muscular dystrophy stages 0-5, and Congenital Muscular Torticollis grade 1-8]. It is the responsibility of the provider to know how to appropriately choose and administer standardized tests to determine the severity of a child's disability. There may be situations where standardized assessments are not available or appropriate. These situations should be documented clearly and alternative quantitative assessments of the child's ability provided. Appropriate measures should be used at regular intervals to track the response to care being provided (PTOT-2.0: Clinical Considerations). In special situations where these measures are not able to be performed, clinical observation and objective information may be provided to demonstrate the level of functional deficit.

Pediatric individuals with a disability/condition can present with varied complexities and complications. These complexities and complications may change as the child grows and matures. Periods of growth and development can present new challenges in the child's motor skills, ability levels and sensory processing.⁷⁸⁻⁸⁰ Complexities and complications may arise due to other medical procedures, surgeries or medication changes.⁸¹ Consideration of the need for the skilled care of a pediatric condition necessitates determining that an individual presents with a new specific problem that significantly limits their ability to achieve developmental milestones or their ability to perform essential functions of daily living.

Current peer reviewed guidelines recommend skilled care for individuals presenting with pediatric neurodevelopmental conditions should be task oriented.⁷⁸⁻⁸⁴ Strong evidence recommends goal directed approaches involving the whole task [i.e., if the goal was handwriting, the whole task of handwriting

should be addressed, not just focusing on finger dexterity].^{82, 84} Goals should be developed collaboratively with the child and parent/caregiver at increments appropriate for the child's level of ability and progress. The goal oriented skills can be practiced in the home and community environments and updated appropriately. Skilled care should be enjoyable and motivating to the child.^{78-80,82-84} In addition, there are strong recommendations for parents/caregivers to be taught appropriate play and developmental activity strategies through coaching and education.^{79, 84} Parent participation is essential. Treatment options that are more passive, such as therapist-controlled handling (i.e. passive stretching and range of motion) and sensory integration alone, are not well supported.⁸³ For children and young people who are considered to have a severe motor impairment, evidence is low in regards to the benefit from interventions to improve function. These individuals contribute to everyday tasks through small actions and changing environmental factors with the use of adaptive equipment to support function and inclusion.⁸² Adaptive equipment and assistive technology may be beneficial.