

CEREBRAL PALSY AND OTHER NEUROMUSCULAR DISORDERS

Neuromuscular conditions affect the nervous system's ability to control muscles, leading to muscle weakness, paralysis, or loss of muscle mass. Common conditions in children include:

1. Muscular Dystrophy (MD): Progressive muscle weakness and degeneration
2. Spinal Muscular Atrophy (SMA): Muscle weakness and wasting due to spinal cord nerve damage
3. Cerebral Palsy (CP): Movement and muscle tone disorders due to brain damage
4. Spina Bifida: Neural tube defect affecting spinal cord function

What is Cerebral Palsy?

Cerebral palsy (CP) is a group of permanent movement disorders that appear in early childhood. It's caused by abnormal brain development or damage to the brain before, during, or after birth. CP affects muscle tone, movement, and coordination, leading to difficulties with walking, balance, and overall mobility.

What are the common orthopedic manifestations of Neuromuscular disorders in children-

1. Spasticity-related deformities: Muscle stiffness leading to joint contractures, scoliosis, hip dislocation, and ankle/foot deformities.
2. Muscle imbalances: Weakness or tightness in muscles affecting mobility, posture, and gait.
- 3 . Gait abnormalities: like crouch gait and toe-walking. Difficulty walking due to spasticity, muscle weakness, or deformities.
4. Scoliosis: Abnormal curvature of the spine.
- 5 . Hip subluxation/dislocation: Partial or complete dislocation of the hip joint leading to painful hip movements and sitting
6. Clubfoot (Talipes Equinovarus): Twisted foot deformity.
- 7 . Ankle and foot deformities: Various deformities such as equinus (toe walking), varus (inward twisting), or valgus (outward twisting) and midfoot break and flat-foot
- 8 . Knee contractures: Stiffness and limited mobility in the knee joint leading to abnormal gait
9. Patellofemoral pain syndrome: Knee pain due to abnormal tracking of the kneecap.

How Can a Pediatric Orthopedic Surgeon Help?

A pediatric orthopedic surgeon can help children with neuromuscular conditions in several ways:

Most Importantly - Assessing and addressing muscle imbalances: Paediatric Orthopedic surgeons can identify muscle tightness or weakness that affects movement and mobility.

1. Surgical interventions: Correcting deformities, releasing tight muscles, or transferring tendons to improve mobility and function.
2. Orthotics and assistive devices: Recommendations for orthotics, braces, or assistive devices to support mobility and daily activities.
3. Multidisciplinary care: Collaboration with neurologists, physical therapists, and other specialists to ensure comprehensive care.
4. Management of muscle imbalances: Addressing muscle tightness or weakness to improve mobility and prevent deformities.
5. Improving quality of life: Enhancing mobility, reducing pain, and promoting independence to improve overall quality of life.

Early Intervention Matters

Early consultation with a pediatric orthopedic surgeon can make a significant difference in your child's life. It allows for:

- Timely interventions to address muscle imbalances and prevent deformities
- Personalized treatment plans to meet your child's unique needs
- Ongoing monitoring and adjustments to ensure optimal progress

Don't hesitate to seek professional help if you have concerns about your child's mobility or movement. A pediatric orthopedic surgeon can provide guidance, support, and treatment to help your child thrive.

YouTube videos

<https://youtu.be/6qbjTdg21X4>

<https://youtu.be/grfzSxmrVOc>

<https://youtu.be/G7UpTL6y73M>