

Mobility Disorders

Loss of movement can make even the most ordinary of daily activities impossible to accomplish. People who suffer from loss of mobility from brain injury or other neurological disorders such as stroke, polio and cerebral palsy may not be able to walk and may live without being able to wash, dress or feed themselves.

The Neuro-orthopaedic Program is a unique program that combines the talents and resources of MossRehab rehabilitation specialists with orthopaedic specialists throughout Philadelphia. Working closely together to evaluate and jointly determine the appropriate treatment strategy for each patient, they employ reconstructive surgery and non-surgical techniques to correct spasticity, heterotopic ossification (a joint bone growth) and other restrictive limb problems. This partnership provides successful treatment results to patients who have been previously considered untreatable.

Spasticity and contracture are complications that often result from neurological injury and are a main cause of mobility disorders. They occur when electrical messages from the brain are not received by the muscles correctly. Muscles move joints; for each muscle, there is a "gas pedal" and a "brake pedal" on each side to extend or contract. Sometimes with brain injury, the messages are disrupted and cause one side of the muscle to be over stimulated. This "frayed wire" interrupts the "electrical conduction" and effects the control of muscle movement. If the correct neurological message isn't received, muscles can overreact. Spasticity is an increase in the normal reactivity of muscles, leading to unequal forces on the joints. It can create contracture—fixed muscle shortening. When this happens, arms and legs stiffen and "freeze" in one position.

We successfully treat a wide range of upper-and lower-limb conditions, including:

- Adducted/internally rotated shoulder
- Clenched-fist and thumb-in-palm deformity
- Bent-elbow deformity
- Stiff-knee gait
- Scissoring gait
- Walking problems due to abnormal postures of the foot
- Heterotopic ossification

Choosing the best treatment option for each patient is a function of medical teamwork, with the patient's symptoms comprehensively evaluated by an assessment team including a doctor specializing in rehabilitation, a neuro-orthopedic specialist, physical and occupational therapists, a nurse and a social worker and, when needed, an orthotist.

Patients and their caregivers are the most important members of the team, as they help identify the problems and treatment goals that help determine the interventions. This team approach has had proven success in establishing personal treatment plans that achieve optimal patient outcomes.

MossRehab developed Save Our Shoulders, a manual to help polio survivors, and others who experience shoulder problems, become more aware of their behaviors that can cause shoulder overuse. This guide provide tips and techniques to help relieve stress on affected areas of the shoulder. To download the Save Our Shoulders PDF (1.48 MB), [click here](#).