

## **Surgery in the Child with cerebral palsy**

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Cerebral palsy is a life-long condition; affecting the child as well as the caregiver. While it may be non-progressive in the brain, there are progressive changes in the musculoskeletal system as the child grows. Early intervention therapy can minimize these physical progressive abnormalities.

Surgery has a minimal role in the management of the CP child when there is an early intervention program; when rehabilitation therapy is optimized, and when doctor and parents are made aware of unrealistic expectations in regard to results of surgical intervention.

The specific goals of surgery are to enhance the child's physical abilities to the maximum capability in each case; to allow the patient and the caregiver more functionality, as easier life in ADL activities, and a better QoL.

Locations of surgical procedures and frequency/priority are different for the upper and the lower limbs. In the lower limb, this would be the hip, knee, ankle, and foot. In the upper limb, it would be the reverse – the hand, wrist, elbow, and shoulder.

Specific surgical procedures for each tissue in focus would be the following:

- Skin contracture - Z-plasty
- Tendons – aponeurotic lengthening, z- lengthening, release, transfer
- Joint contracture – capsular release, reduction and capsular placcation
- Bone – corrective osteotomy

Surgery for the hip

- Correct /prevent subluxation and dislocation
- Improve abduction for hygiene/ perineal toilet and ease of pampers change
- Improve scissoring gait and posture
- Correct flexion deformity and rotation of the limb

Surgery for the knee

- Correction of flexion contracture
- Improvement in gait and energy expenditure during walking

Surgery for the ankle and foot

- Correction of equinus hind foot
- Correction of varus/ valgus heel
- Correction of the adducted forefoot

Surgery for the hand and wrist

- First Web contracture release
- Tendon transfers to improve wrist posture and hand functions

As the team considers the surgical options, one should look at long term projection. It would be appropriate to ask, “What would be the impact of the procedure when the child continues to grow and develop, when the child becomes an adult? What would be the impact if these are left alone?”