

### PT04: Hamstring lengthening, Open z-plasty and Fractional

Indications: Hamstring contracture and crouch gait in the ambulatory patient

Procedure: Z-plasty lengthening of the gracilis and semitendinosus, fractional intramuscular lengthening of semimembranosus and biceps femoris if indicated.

Casting: Long leg or cylinder cast with the knee extended for 4-6 weeks, weight bearing as tolerated/ as specified by the MD

Healing Time: Approximately 6 weeks

Precautions:

- Protected weight bearing for 3-4 weeks post-op/ per MD recommendation
- recommend knee immobilizers at night after casts are removed
- possible post-op dysesthesia in the calf and foot which lasts for several months which may limit rehab, contact MD if this occurs

Contraindications:

- no forceful, resisted muscular contraction of the hamstrings for 6 weeks post-op
- no impact activities for 6 weeks post-op

Phase 1: Post-op day 1-7

- Goals:
- protect the surgical site including the incision and underlying surgical tissues
  - 10 minutes of sustained/uninterrupted long sitting every hour the child is awake
  - home exercise instruction including positioning, stretching, ADL function
  - isometric contraction of the gluts, quads, AROM of ankles

Criteria to Progress:

- safe mobility for ADL completion
- able to demonstrate understanding of home exercises and precautions

Phase 2: Post-op day 8-21

- Goals:
- begin sub maximal (<50%) isometric hamstring contraction if able
  - begin SLR, all planes with assistance

Criteria to Progress:

- uneventful healing of surgical tissues

Phase 3: Post-op 22 to completion of PT care

- Goals:
- surgical incision scar mobility once good wound closure has occurred (Approx. 4-6 weeks post-op)
  - increase knee extension at terminal swing and initial contact when walking
  - upright posture when walking, avoid crouch position, full knee extension at terminal stance
  - increase hamstring flexibility
  - improve total leg strength including the hip extensors, hamstrings, quads, calf
  - independent management with home exercises

**When multiple procedures are performed at the same surgical event, the post-op physical therapy care needs to default to the most conservative time frames and guidelines.**