



The Children's Hospital



Affiliated with

University of Colorado at Denver
and Health Sciences Center

CGMA

Center for Gait and Movement Analysis

PT03: Rectus femoris transfer to medial hamstrings

Indication: Stiff knee gait with consistent rectus femoris activity during swing phases, reduced knee flexion slope below 160°/sec. (norm value 240°/sec), delayed peak knee flexion, (+) Ely test

Procedure: Distal rectus femoris insertion is dissected from quadriceps and transferred medially to the semitendinosus

Casting: Long leg or cylinder cast with knee flexed to 20° for 4-6 weeks, non weight bearing
****The surgeon may elect to use a CPM immediately post-op instead of long leg casts to minimize surgical tissue scarring. The CPM can be used in 2-4 hour intervals with a goal of 6-8 hours per leg per day. If this procedure is completed bilaterally, one CPM can be alternated between both legs.

Healing Time: Approximately 6 weeks

Precautions:

- 12-15% resulting reduction of quadriceps strength

Contraindications:

- No forceful, resisted muscular contraction of the quads for 6 weeks post-op

- Avoid impact activities for the first 6 weeks post-op

Phase 1: Post-op day 1-7

Goals: -protect the surgical site including the incision and underlying surgical tissues
-long sitting while in the casts or with the knee immobilizers to stretch the hamstrings
-safe transfers and mobility for ADL completion
-begin isometric contraction of the gluts, hamstrings, begin AROM ankle dorsiflexion/
plantar flexion

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% effort) isometric quad contraction

- continued independence with ADLs

Criteria to Progress:

- uneventful healing of surgical tissues

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

Goals: -passive hip and knee ROM with PT once the casts are removed, work toward full knee flexion to minimize scarring within the extensor mass

- active ROM 2 weeks after cast removal

- try treadmill walking at a slow speed to work on **quality** of gait pattern

- achieve full knee extension at terminal swing, initial contact and terminal stance

- achieve a trailing limb posture and improved hip flexion velocity

- improve magnitude and timing of peak knee flexion in swing

- total leg strengthening exercises – emphasize quad strengthening, mini squats, SAQ,

- step ups with full knee EXT, backward step ups, heel walking, include hip flexion and

- extension strengthening exercises, OK to use Total Gym, theraband, sport cord ex's,

- open chain SLR all planes, **hip flexion SLR with no quad lag**, hamstring strengthening

- transverse soft tissue scar massage after incision healing (approx 4-6 weeks)

- independent management with home exercises including quad isometrics, hill walking,

- stair climbing, **SLR with no quad lag**, scar management

-anticipate return to full pre-op level at ~ 3 months post-op

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.

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