



## Proximal Hamstring Primary Repair

<b>Applicability:</b> Physician Practice	<b>Date Effective:</b> 03/2017
<b>Department:</b> Rehabilitation Services	<b>Date Last Reviewed / or Date Last Revision:</b> 03/2017
<b>Supersedes:</b> Proximal Hamstring Primary Repair (Dr. Beattie)	
<b>Administration Approval:</b> Amy Putnam, VP Physician Services	

**Purpose:** Define the protocol to be followed for all patients referred from Northwestern Orthopedics after the above procedure has been performed.

**Policy Statement:** Treatment will follow the defined protocol below and be carried out by Physical Therapist, Athletic Trainer and/or Physical Therapy Assistants.

**Background:** N/A

**Definitions:** N/A

**Procedure: Phase 1: (0-6 weeks post surgery)**

Rehab appointments to begin 7-10 days after surgery anticipate 1x/week during phase 1 or as clinically indicated.

*Goals:*

- Protection of the repaired tendon(s)
- Pain Control
- Edema control
- Gait progression

*Precautions:*

- Avoid hip flexion coupled with knee extension
- Avoid unsafe surfaces and environments

*Brace:*

- The use of a brace is determined by the surgery at the time of surgery, which is based on the time of year, timing of surgery and associated injuries, please refer to MD orders.

**Week 0-6:**

*Weight Bearing:*

- Use axillary crutches for up to 6 weeks
  - 0-2 weeks post op: Touch down weight bearing
  - 3-4 weeks post op: 15% to 40% weight bearing progression
  - 5-6 weeks post op: Weight bearing as tolerated and wean from crutches

*Edema Management:*

- Ice/cryocuff
- Elevation
- Tensogrip/kinesiotaping
- ESTIM as indicated

*Suggested Therapeutic exercise:*

- Quad set
- Ankle pumps
- Passive knee range of motion (ROM) with no hip flexion during knee extension
- Abdominal isometrics
- Scar mobilization
- Post-op weeks 3-4: Begin pool aquatic ex consisting of walking, hip abduction, hip extension, and balance exercises.
- Cardiovascular exercises:
  - Upper body circuit training or upper body ergometer (UBE)

**Phase 2: (Begin after meeting Phase 1 goals and at least 6 weeks after surgery)**

*Rehab appointments:* once every 1-2 weeks or as clinically indicated

*Goals:*

- Normalize gait
- Resolve pain and edema
- Good control and no pain with functional movements including step up/down, squat, partial lunge (do not exceed 60° of knee flexion during these activities)

*Precautions:*

- Avoid dynamic stretching of the hamstring
- Avoid loading the hip at deep flexion angles
- No dynamic impact or running activities

*Suggested Therapeutic exercise:*

- Non-impact balance and proprioceptive drills – begin with double leg and gradually progressing to single leg
- Stationary bike
- Gait training
- Begin hamstring strengthening – start by avoidance of lengthened hamstring position (hip flexion combined with knee extension) by working hip extension and knee flexion movements separately; begin with isometric and concentric strengthening with hamstring sets, heel slides, double leg bridge, standing leg extension, and physioball curls.
- Hip and core strengthening
- Cardiovascular exercises:
  - Upper body circuit training or UBE

*Progression Criteria:*

- Normal gait on all surfaces
- Ability to carry out functional movements without unloading the affected leg or pain while demonstrating good control
- Single leg balance greater than 15 seconds
- Normal (5/5) hamstring strength in prone with knee in a position of at least 90° knee flexion

**Phase 3: (Begin after meeting Phase 2 criteria and 3 months after surgery)**

*Rehab appointments:* once every 1-2 weeks or as clinically indicated

*Goals:*

- Good control and no pain with sport or work specific movements including impact

*Precautions:*

- No pain during strength training
- Post-activity soreness should resolve within 24 hours

*Suggested therapeutic exercise:*

- Continue hamstring strengthening – progress towards strengthening in lengthened hamstring positions; begin to incorporate eccentric strengthening with single leg forward leans, single leg bridge lowering, prone foot catches, and assisted Nordic curls.
- Hip and core strengthening
- Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to the other then 1 foot to the same foot
- Movement control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities
- Initiate running drills, but no sprinting to Phase 4
- Cardiovascular exercises:
  - Biking
  - Elliptical machine
  - Stairmaster
  - Swimming or deep water running

*Progression Criteria:*

- Dynamic neuromuscular control with multi-plane activities at low to medium velocity without pain or swelling

**Phase 4: (Begin after meeting Phase 3 criteria, usually 4-5 months after surgery)**

*Rehab appointments:* ideally patient performing exercise program independently in gym setting with follow up rehab appointments for progression as indicated.

*Goals:*

- Good control and no pain with sport or work specific movements including impact

*Precautions:*

- No pain during strength training
- Post-activity soreness should resolve within 24 hours



*Suggested therapeutic exercise:*

- Continue hamstring strengthening – progress towards higher velocity strengthening and reaction in lengthening position, including eccentric strengthening with single leg forward leans with medicine ball, single leg dead lifts with dumbbells, single leg bridge curls on physioball, resisted running foot catches, and Nordic curls
- Running and sprinting mechanics and drills

*Suggested therapeutic exercise:*

- Hip and core strengthening
- Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to the other and then 1 foot to the same foot.
- Movement control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities
- Sport/work specific balance and proprioceptive drills
- Stretching for patient specific muscle imbalances
- Cardiovascular exercise
  - Replicate sport or work specific energy demands

*Return to Sport/Work Criteria:*

- Dynamic neuromuscular control with multi-plane activities at high velocity without pain or swelling

**Note Well:** Variances will be communicated by the surgeon directly to Rehabilitation Services.

**Monitoring Plan:** Rehab Chart Audit

**Related Policies:** N/A

**References:** N/A

**Reviewers:** Rehab and Ortho

**A. Key Stakeholders:** Michael Barnum, Ortho Medical Director

**B. Committees:** N/A

**C. Key Process Owner (KPO):** Kristy Cushing, Manager Rehab Services. Karen Staniels Director of Ortho and Rehab

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*Not part of policy:* [ADD Key words for policy search if end user didn't know the name]