MIDLANDS orthopaedics & NEUROSURGERY

Pioneering past.
Progressive future.

Post-Operative Rehabilitation Protocol

Endoscopic or Open Proximal Hamstring Repair

Phase I: Weeks 0-6

Goals	• Initiate home exercise program, including DVT prevention and isometric exercises, allowing for optimal healing • Protection of the repaired tendon(s) and pain control

Brace / Precautions / Crutch Use	• **Weight Bearing** - use crutches for up to 8 weeks
	  ○ Weeks 0-2: TTWB
	  ○ Weeks 3-6: PWB (50%)
	• **Brace**:
	  ○ Weeks 0-2: hinged knee brace locked at 30 degrees at all times
	  ○ Weeks 3-6: hinged knee brace locked at 30 degrees only while ambulating
	• **AVOID** hip flexion coupled with knee extension (hamstring stretch)
	• **AVOID** unsafe surfaces and environments

Strengthening	• Formal PT deferred until week 3
Home Instructions	• Keep surgical dressings clean and dry • Change surgical bandages on the 2nd day after surgery (keep covered until first clinic visit) • Avoid getting sutures wet until at least 5 days after surgery (do not scrub, soak, or submerge the incisions) • Note DVT (blood clot) prophylaxis medications provided by your surgeon to take following surgery – follow those instructions carefully.
Suggested Exercises	• Quad sets • Ankle pumps • Abdominal isometrics • Prone passive knee ROM • Side-lying hip abduction • Active assisted ROM of knee and hip • Scar mobilizations • Cardiovascular Exercise: Upper body circuit training or upper body ergometer (UBE)

Phase II: Weeks 6-12

Goals	• **Progress to WBAT** and **wean off crutches over 2 weeks** • **Wean out of brace** as tolerated • Normalize gait • Good control and no pain with functional movements, including step up/down, squat, partial lunge (do not exceed 60° of knee flexion)
Brace / Precautions / Crutch Use	• **AVOID** dynamic stretching • **AVOID** loading the hip at deep flexion angles • **NO** impact or running
Suggested Exercises	• Non-impact balance and proprioceptive drills – beginning with double

	leg with gradual progression to single leg • **Stationary bike** • Gait training • **Begin hamstring strengthening** – start by avoidance of lengthened hamstring position (hip flexion combined with knee extension) via working hip extension and knee flexion moments separately • Begin with isometric and concentric strengthening with hamstring sets, heel slides, double leg bridge, standing leg extensions, and physioball curls • Active-assisted hip extension with progression to active hip extension • Hip and core strengthening • Cardiovascular Exercise: Upper body circuit training or UBE • **Progression Criteria** o Normal gait on all surfaces o Ability to carry out functional movements without unloading the affected leg or pain while demonstrating good control o Single leg balance >15 seconds o Normal (5/5) hamstring strength in prone with the knee in a position of at least 90° knee flexion

Phase III: Weeks 12-16

Goals	• Good control and no pain with sport/work specific movements (including impact activities)
Brace / Precautions / Crutch Use	• Do not push through pain during strength training • Post-activity soreness should resolve within 24 hours
Suggested Exercises	• Non-impact balance and proprioceptive drills – beginning with double Continue/advance hamstring strengthening – progress toward strengthening in lengthened hamstring • positions o 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: 2 feet to 2 feet → 1 foot to the other → 1 foot to same foot • Movement control exercises: low velocity / single plane activities → higher velocity, multi-plane activities • Initiate running drills (**NO sprinting** until Phase IV) • Cardiovascular Exercise: Biking, elliptical machine, Stairmaster, swimming, and deep water running • Progression Criteria o Dynamic neuromuscular control with multi-plane activities at low/medium velocity without pain or swelling o < 25% deficit for side to side hamstring comparison on Biodex testing at 60° and 240° per second

Phase IV: Weeks 16-24

Goals	• Good control and no pain with sport and work specific movements, including impact
Brace / Precautions / Crutch Use	• No pain during the strength training • Post-activity soreness should resolve within 24 hours

Suggested Exercises	• Continue/advance hamstring strengthening – progress toward higher velocity strengthening and reaction in lengthened positions, 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 / sprinting mechanics and drills
	• Hip and core strengthening
	• Impact control exercises: 2 feet to 2 feet → 1 foot to the other → 1 foot to same foot
	• Movement control exercises: low velocity/single plane activities → 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
	  ○ < 10% deficit for side to side hamstring comparison on Biodex testing at 60° and 240° per second
	  ○ < 10% deficit on functional testing profile