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Rehabilitation Guidelines Following Proximal Hamstring Primary Repair

PHASE I (surgery to 6 weeks after surgery)

The timeframes for each phase may be extended if the repair is delayed or the injury included other associated injuries (such as a hip adductor tear).

Appointments	 Rehabilitation appointments begin 7-10 days after surgery and are once every 7-10 days
Rehabilitation Goals	Protection of the repaired tendon(s) Pain control
Weight Bearing	 Use axillary crutches for up to 6 weeks Post-operative weeks 0-2: Touch down weight bearing Post-operative weeks 3-4: 15% - 40% weight bearing progression Post-operative weeks 5-6: Weight bearing as tolerated with weaning from crutches
Brace	The use of a brace is determined by the surgeon at the time of surgery, which is based on time of year, timing of surgery and associated injuries
Precautions	Avoid hip flexion coupled with knee extension Avoid unsafe surfaces and environments
Suggested Therapeutic Exercise	 Quad sets Ankle pumps Abdominal isometrics Passive knee range of motion (ROM) with no hip flexion during knee extension Post-operative weeks 3-4: Begin pool walking drills (without hip flexion coupled with knee extension), hip abduction, hip extension, and balance exercises Scar mobilizations
Cardiovascular Exercise	Upper body circuit training or upper body ergometer (UBE)
Progression Criteria	6 weeks post-operative



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PHASE II (begin after meeting Phase I criteria, usually 6 weeks after surgery)

Appointments	Rehabilitation appointments are once every 1-2 weeks
Rehabilitation Goals	 Normalize gait Good control and no pain with functional movements, including step up/down, squat, partial lunge (do not exceed 60° of knee flexion)
Precautions	Avoid dynamic stretching Avoid loading the hip at deep flexion angles No impact or running
Suggested Therapeutic Exercise	 Non-impact balance and proprioceptive drills – beginning 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 moments separately; begin with isometric and concentric strengthening with hamstring sets, heel slides, double leg bridge, standing leg extensions, and physioball curls Hip and core strengthening
Cardiovascular Exercise	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 the knee in a position of at least 90° knee flexion

PHASE III (begin after meeting phase II criteria, usually three months after surgery)

Appointments	 Rehabilitation appointments are once every 1-2 weeks
Rehabilitation Goals	Good control and no pain with sport and work specific movements, including impact
Precautions	No pain during strength training Post-activity soreness should resolve within 24 hours



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Suggested Therapeutic Exercise	 Continue hamstring strengthening – progress toward 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 and then 1 foot to 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 until Phase IV
Cardiovascular Exercise	Biking, elliptical machine, Stairmaster, swimming, and deep water running
Progression Criteria	Dynamic neuromuscular control with multi-plane activities at low to medium velocity without pain or swelling
	 Less than 25% deficit for side to side hamstring comparison on Biodex testing at 60° and 240° per second

PHASE IV (begin after meeting phase III criteria, usually 4-5 months after surgery)

Appointments	 Rehabilitation appointments are once every 1-2 weeks
Rehabilitation Goals	Good control and no pain with sport and work specific movements, including impact
Precautions	No pain during the strength training Post-activity soreness should resolve within 24 hours
Suggested Therapeutic Exercise	 Continue 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 and sprinting mechanics and drills
	 Hip and core strengthening Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to other and then 1 foot to 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
	Print Charles Charles Charles and Introduction Committee Charles (1997) 1997 (1997)



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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
	 Less than 10% deficit for side to side hamstring comparison on Biodex testing at 60° and 240° per second
	 Less than 10% deficit on functional testing profile