

Aukerman Rehabilitation Guidelines for Hamstring Repair 10/2014

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).

PHASE I (surgery to 6 weeks after surgery); DOS: _____

Appointments	Begin 7-10 days po and continue once every 7-10 days
Rehabilitation Goals	Protection of the repaired tendon(s); pain control
Weight Bearing	Use axillary crutches up to 6 weeks; <ul style="list-style-type: none"> • PO weeks 0-2: TDWB'ing • PO weeks 3-4: 15-40% WB'ing progression • PO weeks 5-6: WBAT, wean from crutches
Braces	Determined by the surgeon based on time of year, timing of surgery and associated injuries; clarify w/ surgeon
Precautions	Avoid hip flexion coupled with knee ext; avoid unsafe surfaces and environments
Suggested Therapeutic Exercises	<ul style="list-style-type: none"> • Quad sets, ankle pumps, abdominal isometrics, passive knee ROM without hip flexion during knee extension • PO week 3-4: begin pool walking drills when incision fully healed (excluding hip flex coupled w/ knee ext) • Scar mobilizations
Cardiovascular Exercise	Upper body circuit training or upper body ergometer (UBE)
Progression Criteria	6 weeks post-operative

Phase II (begin after meeting Phase I criteria) Date: _____

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 degrees of knee flexion)
Precautions	Avoid dynamic stretching – Avoid loading the hip at deep flexion angles – No impact or running
Suggested Therapeutic	Non-impact balance and proprioceptive drills – beginning

Exercise	with double leg and gradually progressing to single leg; Stationary bike; gait training; Begin hamstring strengthening – start by avoidance of lengthening 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 physio ball 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 degrees knee flexion.

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

Date: _____

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
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 to 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

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

Date: _____

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 1 foot 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
Cardiovascular Exercise	Replicate sport or work specific energy demands
Return Sport/Work Criteria	Dynamic neuromuscular control with multi-plane activities at high velocity without pain or swelling; less than 10% deficit on functional testing profile