



Rehabilitation Guidelines for ACL- Hamstring Reconstruction

Phase I (Surgery to 2 weeks postoperative)

Appointments	<ul style="list-style-type: none"> • Home exercise program will begin after surgery – 2 weeks
Rehabilitation Goals	<ul style="list-style-type: none"> • Protection of the post-surgical knee • Range of motion: full extension – 100 degrees flexion • Normalize quad activation • Eliminate effusion
Precautions	<ul style="list-style-type: none"> • Crutches for the first 48 hours if obtained nerve block • WBAT after 48 hours • Remain in brace to protect graft
Suggested Therapeutic Exercise	<ul style="list-style-type: none"> • Ankle pumps • Passive knee extension to zero • SLR 4 directions with brace • Knee extension 90-40 degrees • Quad sets • Hamstring stretches • Patellar mobilizations • Standing weight shifts/mini\squats
Cardiovascular exercise	<ul style="list-style-type: none"> • Upper body circuit training or upper body ergometer (UBE)
Progression Criteria	<ul style="list-style-type: none"> • 0-90 degrees range of motion • No effusion

Phase II (weeks 2-8)

Appointments	<ul style="list-style-type: none"> • Rehabilitation appointments are 1-3 times per week
Rehabilitation Goals	<ul style="list-style-type: none"> • Absolute control of external forces and protect graft • Nourish articular cartilage with motion • Decrease swelling • Prevent quad atrophy
Precautions	<ul style="list-style-type: none"> • WB as tolerated, discontinue crutches • Avoid hyperextension

Suggested Therapeutic Exercise	<p>Week 2</p> <ul style="list-style-type: none"> • Continue previous exercises • Multi-angle isometrics • Mini-squats 0-40 degrees • Lunges • Leg Press 0-60 degrees • ROM 0-105 • Proprioception training • Well leg exercises • PRE with 1 pound progression per week <p>Week 4</p> <ul style="list-style-type: none"> • ROM 0-125 degrees • Bicycle for ROM stimulus and endurance • Aquatic program if available • Eccentric quad 40-100 (isotonic only) • Closed kinetic chain exercise <p>Week 6</p> <ul style="list-style-type: none"> • Light hamstring curls • ROM 0-125 degrees • Increase aquatic program if available <p>Week 8</p> <ul style="list-style-type: none"> • Increase PRE exercise program
Cardiovascular exercise	<ul style="list-style-type: none"> • Upper body circuit training or UBE • Week 4: Stair climber, elliptical
Progression Criteria	<ul style="list-style-type: none"> • Normal gait on level surface • Good leg control without extensor lag, pain, or apprehension

Phase III (10-16 weeks post-operatively)

Appointments	<ul style="list-style-type: none"> • Rehabilitation appointments are once every 1-2 weeks
Rehabilitation Goals	<ul style="list-style-type: none"> • Maximal strengthening for quads/lower extremity • Protect patellofemoral joint
Precautions	<ul style="list-style-type: none"> • Avoid impact activities • Continue to protect graft • Protect patellofemoral joint

Suggested Therapeutic exercises	<p>Week 10</p> <ul style="list-style-type: none"> • All previous exercises • Lateral step ups • Calf raises • Wall squats • Lunges • Pool running • Continue PRE with no weight restrictions <p>Week 12</p> <ul style="list-style-type: none"> • All previous exercises • Isokinetic test (180/300 degrees per second 10-15 rep)
Cardiovascular exercise	<ul style="list-style-type: none"> • Aqua jogging, stair master, bicycle, UBE
Criteria for Progression	<ul style="list-style-type: none"> • Dynamic neuromuscular control with multi-plane activities without pain or swelling • ROM 0-125 degrees • Quad strength 70% of contralateral side, knee flexor extensor rated 70-79% • Minimal effusion • Satisfactory clinic exam

Phase IV (4-5 months)

Appointments	<ul style="list-style-type: none"> • Rehabilitation appointments are once every week
Rehabilitation Goals	<ul style="list-style-type: none"> • Development of strength, power, and endurance • Begin gradual return to functional activities
Precautions	<ul style="list-style-type: none"> • No active reactive swelling or joint pain that lasts more than 12 hours
Suggested Therapeutic exercises	<ul style="list-style-type: none"> • All previous exercises as appropriate • Eccentric quad work • Initiate plyometric program • Initiate running program • Sport specific training and drills • High speed isokinetic training • Isokinetic testing 180/300 degrees/second 10/15 reps
Cardiovascular exercise	<p>Criteria for running</p> <ul style="list-style-type: none"> • Isokinetic test 85 % of opposite quad; 90% opposite hamstring • Isokinetic test- quad torque/body weight 60% males and 50% females

	<ul style="list-style-type: none"> • No pain/swelling • Satisfactory clinical exam <p>Functional drills:</p> <ul style="list-style-type: none"> • Straight line running • Jog to run • Walk to run
Progression/ return to sport	<ul style="list-style-type: none"> • Dynamic neuromuscular control with multi-plane activities, without pain, instability or swelling • Physician and rehabilitation specialist approval

Phase V (6-7 months)

Appointments	<ul style="list-style-type: none"> • Rehabilitation appointments are once every week
Rehabilitation Goals	<ul style="list-style-type: none"> • Achieve maximal strength and endurance • Return to sport/work activities
Precautions	<ul style="list-style-type: none"> • No active reactive swelling or joint pain that lasts more than 12 hours
Suggested Therapeutic exercises	<p>Quads:</p> <ul style="list-style-type: none"> • Knee extensions • Wall squats • Leg press • Step-ups <p>Strength</p> <ul style="list-style-type: none"> • Hamstring curls • Calf raises • Hip abduction • Hip adduction <p>Stability</p> <ul style="list-style-type: none"> • High speed hamstrings • High speed hip flexion/extension • Balance drills • Backwards running
Cardiovascular exercise	<ul style="list-style-type: none"> • Bicycle • Stair climber/elliptical • running • Swimming

