

**Anterior Cruciate Ligament Reconstruction
Hamstring and Patella Tendon Grafts
Dr. Trenton Carlyle**

The goals of this rehab protocol are as follows:

- Control and reduce joint pain and swelling.
- Return knee to normal range of motion.
- Return patient to normal gait pattern.
- Return patient to normal lower extremity muscular strength and endurance.
- Return patient to normal level of proprioception, balance, and coordination.
- Return patient to normal level of function.

Patient Name: _____ **ID#** _____

Date of Surgery: _____

Weeks 0-2:	Weeks 2-4:
<p>Dates: _____</p> <p><u>GOALS</u></p> <ul style="list-style-type: none"> • Achieve 0-90° ROM • Control pain, inflammation, and effusion • Adequate quadriceps contraction <p><u>EXERCISES</u></p> <p>ROM:</p> <ul style="list-style-type: none"> • Heel slides • Knee wall slides • Gastroc / Soleus stretches • Patellar mobs • Ankle Pumps <p>Strength:</p> <ul style="list-style-type: none"> • Quad sets • SLR (flexion, abduction, adduction) • Ankle pumps with t-band • Weight shifts • Standing heel raises • Total gym squats / heel raises • TKE • Gait training with cones <p>Modalities:</p> <ul style="list-style-type: none"> • E-stim (IFC) and/or muscle re-ed • Ice 15-20 minutes • Intermittent pneumatic compression as needed for swelling 	<p>Dates: _____</p> <p><u>GOALS</u></p> <ul style="list-style-type: none"> • ROM to 120° of flexion and 0° of extension • Diminish pain, swelling, and effusion • Improve quad control to allow improved gait <p><u>EXERCISES</u></p> <p>ROM:</p> <ul style="list-style-type: none"> • Passive ROM to tolerance • Heel slides/wall slides • Patellar mobs • Ankle pumps • Gastroc / Soleus stretching • Hamstring stretching • Prone knee hangs • Heel and wall slides • Bike (light resistance) <p>Strength:</p> <ul style="list-style-type: none"> • SLR (Flex, ADD, ABD) • Wall squats • Heel / toe raises • Leg Press squats • Mini squats / wall squats with GB • Prone HS curls <p>Balance:</p> <ul style="list-style-type: none"> • Weight shifts (side to side, fwd-back) • Single leg balance on floor • Single leg balance with plyo-back <p>Modalities:</p> <ul style="list-style-type: none"> • E-stim/biofeedback as needed • Ice 15-20 minutes

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Weeks 4-6:

Dates: _____

GOALS

- ROM 0-130°
- Minimize pain, swelling, and effusion
- Increase lower body strength and endurance
- Progress with balance and proprioception

EXERCISES

ROM:

- Gastroc / Soleus / Hamstring stretch
- Heel and wall slides
- Bike (increased resistance)

Strength:

- Continue SLR with ankle weights
- Heel raises
- Chair scoots
- Hamstring curls with resistance progressing to seated curls
- Multi hip machine in four planes
- Leg press squats (single leg)
- Stairmaster / retro treadmill
- Lateral / forward step ups
- Lateral step downs
- Lunges- forward

Balance:

- Single leg stance (eyes closed)
- Single leg balance on foam Airex
- OLB on Feldenkraise ½ roll
- 2 legged balancing on wobble board

Modalities:

- Ice 15-20 minutes

Weeks 6-9:

Dates: _____

GOALS

- FWB / normal gait
- Restore full knee ROM (0-135°)
- Increase strength and endurance
- Enhance proprioception, balance, and neuromuscular control

EXERCISES

ROM:

- Passive stretching 0-135°
- Gastroc / Soleus / Hamstring stretch

Strength:

- Continue exercises from week four
- Smith Machine squats
- Leg press-single leg
- HS curls single leg
- Diagonal lunges

Cardio:

- Bike for endurance
- Stairmaster

Agility:

- **At week 8**—Initiate controlled movements – Control feet with platform--(up and over step platform touching both feet on step then on other side of step and then back—start slow and increase speed per pt comfort)
- Control feet with cones (fwd pedal, backward pedal)
- Jump rope

Balance:

- One legged on balance board
- Single leg ball toss on rebounder
- Trampoline / foam work.

Modalities:

- Ice 15-20 minutes

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Weeks 9-12:	Weeks 12-16:
<p>Dates: _____</p> <p><u>GOALS</u></p> <ul style="list-style-type: none"> Normal gait Increase strength and endurance Begin straight ahead jogging in brace at 12th week Enhance proprioception, balance, and neuromuscular control <p><u>EXERCISES</u></p> <p>ROM:</p> <ul style="list-style-type: none"> Passive stretching 0-135° Gastroc / Soleus / Hamstring stretch <p>Strength:</p> <ul style="list-style-type: none"> Continue progressing with resistance on previous exercises. Week 12 – Initiate jogging, progress to treadmill Progress with proprioception training Bicycle for endurance Standing BAPS <p>Modalities:</p> <ul style="list-style-type: none"> Ice 15-20 minutes 	<p>Dates: _____</p> <p><u>GOALS</u></p> <ul style="list-style-type: none"> Restore full knee ROM (0-135°) Restore functional capability and confidence Enhance lower extremity strength and endurance <p><u>EXERCISES</u></p> <p>Strength:</p> <ul style="list-style-type: none"> Continue ex from week 11 Bike for endurance Initiate plyometric training drills Single leg jump rope Dot drills Sports cord shuffle Platform hops Progress jogging program Initiate isokinetic training <p>Functional Program:</p> <ul style="list-style-type: none"> Sport specific drills Lateral movements Figure of 8 drills Ladder drills Slide board <p>Modalities:</p> <ul style="list-style-type: none"> Ice 15-20 minutes

Richmond
Bone & Joint Clinic, P.A.

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Weeks 16-20:	Weeks 20-36:
<p>Dates: _____</p> <p><u>GOALS:</u></p> <ul style="list-style-type: none"> Progress skill training Enhance neuromuscular control Continue all stretching activities Maintain muscular strength and endurance Perform sport specific activity <p><u>EXERCISES</u></p> <p>Strength:</p> <ul style="list-style-type: none"> Continue all ex from week 15 Progress plyometric program Box jumps Increase jogging program Backward running <p>Functional Program:</p> <ul style="list-style-type: none"> Sport specific drills Lateral movements Figure of 8 drills <p>Modalities:</p> <ul style="list-style-type: none"> Ice 15-20 minutes 	<p>Dates: _____</p> <p><u>GOALS:</u></p> <ul style="list-style-type: none"> Return to unrestricted sporting activity (per Dr. Breeze's orders) Achieve maximal strength and endurance Progress independent skill training <p><u>EXERCISES</u></p> <p>Strength:</p> <ul style="list-style-type: none"> Continue advanced strengthening program <p>Functional Program:</p> <ul style="list-style-type: none"> Progress running program Progress sport training program Progress neuromuscular program <p>Modalities:</p> <ul style="list-style-type: none"> Ice 15-20 minutes