

**Anterior Cruciate Ligament Reconstruction
Hamstring and Patella Tendon Grafts
Dr. Volkan Güzel**

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 (FLEX, ADD, ABD) • 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:	Weeks 6-9:
<p>Dates: _____</p> <p><u>GOALS</u></p> <ul style="list-style-type: none"> ROM 0-130° Minimize pain, swelling, and effusion Increase lower body strength and endurance Progress with balance and proprioception <p><u>EXERCISES</u></p> <p>ROM:</p> <ul style="list-style-type: none"> Gastroc / Soleus / Hamstring stretch Heel and wall slides Bike (increased resistance) <p>Strength:</p> <ul style="list-style-type: none"> 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 <p>Balance:</p> <ul style="list-style-type: none"> Single leg stance (eyes closed) Single leg balance on foam Airex OLB on Feldenkraise ½ roll 2 legged balancing on wobble board <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"> FWB / normal gait Restore full knee ROM (0-135°) Increase strength and endurance 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 exercises from week four Smith Machine squats Leg press-single leg HS curls single leg Diagonal lunges <p>Cardio:</p> <ul style="list-style-type: none"> Bike for endurance Stairmaster <p>Agility:</p> <ul style="list-style-type: none"> 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 <p>Balance:</p> <ul style="list-style-type: none"> One legged on balance board Single leg ball toss on rebounder Trampoline / foam work. <p>Modalities:</p> <ul style="list-style-type: none"> 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



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Date of Surgery: _____

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. Kent'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



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