SKYLINE ORTHOPEDICS
Orthopedic Surgery, Sports Medicine & Arthroscopy Specialists

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REHABILITATION PROTOCOL- Nonoperative ACL tear

The rehabilitation guidelines are presented in a criterion based progression program. Individual patients will progress at different rates depending on their age, associated injuries, pre-injury health status, rehab compliance, tissue quality and injury severity. Specific time frames, restrictions, and precautions may also be given to protect healing tissues and the surgical repair/reconstruction. The therapist should consult the referring physician with any questions or concerns.

INDIVIDUAL CONSIDERATIONS

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PHASE 1 (~0-3 weeks)

REHAB GOALS	1. Minimize swelling & pain 2. Normalize gait
PRECAUTIONS	1. Crutches for weight bearing if extensor lag/painful weight bearing 2. Ice as needed for pain
RANGE OF MOTION EXERCISES	○ Soft tissue mobilizations/techniques as tolerated ○ Hamstring, quad, calf, IT band stretches ○ Prone hangs, heel slides
SUGGESTED THERAPEUTIC EXERCISES	○ As above ○ Heel lifts, quad sets, seated knee extension ○ Weight shifts ○ Gait training ○ Sit to stand, leg press, wall sits as tolerated if no extensor lag
CARDIOVASCULAR EXERCISE	UBE, stationary bike
PROGRESSION CRITERIA	○ Minimal/no effusion ○ Symmetric ROM ○ No/minimal pain

PHASE 2 (~4-8 weeks)

REHAB GOALS	1. Restore normal knee flexion 2. Minimize pain and swelling
PRECAUTIONS	1. Functional knee brace for agility activities 2. Ice as needed after activity
RANGE OF	○ Continue phase 1 exercises ○ Modalities as needed (esp NMES)

MOTION EXERCISES	
SUGGESTED THERAPEUTIC EXERCISES	○ Continue phase 1 exercises, progress weight/resistance ○ LE, core- step downs (Lateral & forward, begin at 4 in) ○ Balance/proprioception- perturbations (See below), rocker/roller board ○ Agility- side shuffles, carioca, shuttle runs, cutting/pivoting (start drills half speed & progress)
CARDIOVASCULAR EXERCISE	Continue phase 1 Stationary bike (increase resistance) elliptical, stairmaster
PROGRESSION CRITERIA	○ No effusion/pain ○ Full ROM ○ Quad strength 90% of contralateral

PHASE 3 (~9-12 weeks)

REHAB GOALS	○ Progress strengthening ○ Minimize pain, inflammation
PRECAUTIONS	○ Continue phase 2
RANGE OF MOTION EXERCISES	○ Continue exercises from phase 2. ○ Mobilizations/soft tissue technique as needed
SUGGESTED THERAPEUTIC EXERCISES	○ Continue exercises from phase 2 ○ LE, core- progress weight/resistance. Add squats, lunges, heel raises ○ Balance/neuromuscular-progress ○ Sport specific- progress to sport/work specific activities
CARDIOVASCULAR EXERCISE	Continue phase 2, walk/run progression
PROGRESSION CRITERIA	○ 90% quad strength ○ Hop tests 90% of contralateral ○ Full ROM ○ No effusion ○ No apprehension/instability ○ Completion of sport specific program ○ Physician clearance

PERTURBATION TRAINING

	Early (Estimated Treatment 1–3)	Middle (Estimated Treatment 4–7)	Late (Estimated Treatment 8–10)
Roller Board	1. Position: Patient on board (bilateral 1st treatment, progress to unilateral) 2. Application: Slow application of force, low magnitude, Straight plane of movement (do all A/P reps before you begin M/L) 3. Observe: Cue patient to avoid massive cocontraction at knee. Do not overstress beyond limit of stability (do not induce fall)	1. Position: Unilateral 2. Application: Unexpected forces with rapid increasing magnitude force application with added rotatory and diagonal motions 3. Distraction: Add distraction (ball toss, stick work) 4. Observe: Observe difficulty with recovery but few to no falls	1. Position: Unilateral 2. Application: Increased magnitude of force application with random direction movements 3. Distraction: Increase speed and magnitude of distraction in sport specific positions 4. Observe: Look for disassociation of hip, knee, and ankle
Rocker Board	1. Position: Begin bilateral, progress to unilateral 2. Application: Slow application of force, low magnitude with less force medial than lateral 3. Observe: Cue patient to maintain equal weight bearing bilaterally and	1. Position: Unilateral 2. Application: Unexpected forces with rapid increasing magnitude force application 3. Distraction: Add	1. Position: Unilateral with foot on a diagonal 2. Application: Increased magnitude force application with random direction movements

	Early (Estimated Treatment 1–3)	Middle (Estimated Treatment 4–7)	Late (Estimated Treatment 8–10)
	avoid massive cocontraction at the knee	distraction (ball toss, stick work) 4. Observe: Look for a rapid return to a stable base after perturbation	3. Distraction: Increase speed and magnitude of distraction in sport specific positions 4. Observe: Look for minimal sway from stable stance at rest or following any perturbation
Roller-board and Stationary Platform	1. Position: One foot on the roller board, one on the platform with equal weightbearing on both lower extremities 2. Application: Slow application of force, low magnitude in all directions 3. Observe: Cue patient to maintain equal weightbearing bilaterally (watch for unweighting of the involved limb as level of difficulty increases). Do not overpower the patient. Patient should	1. Position: One foot on the roller board, one on the platform with equal weight bearing on both lower extremities 2. Application: Unexpected forces with rapid increasing magnitude force application with added combined movements 3. Distraction: Add distraction (ball	1. Position: One foot on the roller board, one on the platform with equal weightbearing on both lower extremities 2. Application: Increased magnitude force application with random direction movements 3. Distraction: Increase speed and magnitude of distraction with

	Early (Estimated Treatment 1–3)	Middle (Estimated Treatment 4–7)	Late (Estimated Treatment 8–10)
	match therapist's forces without excessive movement of roller board	toss, stick work) 4. Observe: Cue patient to maintain equal weightbearing bilaterally. Cue patient to react as you remove force (avoid rebound board movement)	added diagonal/sport specific stance (forward split, backward split) 4. Observe: Cue patient to maintain equal weight bearing bilaterally. Cue patient to react as you remove force (avoid rebound board movement)
1. Time: 3 sets of 1 minute of each with 30 to 60 seconds rest periods 2. Phases: 10 treatments total			