This rehabilitation program is designed to return the individual to their full activities as quickly and safely as possible following a patellar/quadriceps tendon reconstruction. Modifications to this guideline may be necessary dependent on physician specific instruction or other procedures performed. This evidence-based patellar/quadriceps tendon reconstruction guideline is criterion-based; time frames and visits in each phase will vary depending on many factors. The therapist may modify the program appropriately depending on the individual’s goals for activity following patellar/quadriceps tendon reconstruction.

This guideline is intended to provide the treating clinician a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient’s post-operative care based on exam/treatment findings, individual progress, and/or the presence of concomitant procedures or post-operative complications. If the clinician should have questions regarding post-operative progression, they should contact the referring physician.

**General Guidelines/Precautions:**

* Monitor of patellofemoral irritation and arthrofibrotic knee
* Avoid aggressive knee flexion during first 6 weeks.

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| **Phase** | **Suggested Interventions** | **Goals/Milestones for Progression** |
| **Phase I** *Week 0-3* | *WB Status:** WBAT, brace locked in full extension; sleep in locked brace

*Therapy:** Begin supine exercises including: Ankle pumps, isometric quad sets, hamstring sets, heel slides with passive knee extension (0-45°); hip abd/adductions; at end of week one initiate gravity eliminated SLR flexion (ASSISTED)
* Gait Training for stairs and ambulation as needed
* Pain and edema control, modalities PRN
 | *Goals of Phase:*1. Skin healing
2. Control pain and swelling
3. Knee ROM 0-45 degrees
 |
| **Phase II***Weeks 3-6* | *WB Status:** Continue WBAT, brace locked in full extension.

*Therapy:** Begin extension stretching with prone hangs and heel props
* Nustep, assistance from upper extremities for knee extension.
* Patellar mobilizations
* Gait training
* 4-way hip strengthening
* Balance and proprioception: wt shifting, single leg stance
* initiate mini squats (0-45 degrees)
* active knee extension 90 to 30 degrees
* Multi angle isometrics – knee extension
* Initiate pool exercise program if incision is fully healed
 | *Goals of Phase:*1. Healing
2. Pain and edema control, modalities PRN
3. Full wt bearing by 6 weeks

*Criteria to Advance to Next Phase:* 1. Knee flexion ROM 0-90°
2. Good patellar mobility
3. SLR without extensor lag
4. Pain-free WBAT AT 0° extension
 |
| **Phase III***Weeks 6-12* | *WB Status:** WBAT, brace unlocked, begin with crutches and progress out as able.

Criteria to discontinue brace:* Good quad control (20 SLR without lag) and cleared by surgeon

*Therapy additions:** Restore knee flexion ROM to 0-125°
* Stationary bike
* Forward step ups
* Knee extension 0-90°
* Mini squats to 70 degrees knee flexion
* Leg press
* Wall squats
* Front lunges
* Lateral lunges
* Calf raises
* Hamstring curls (restricted ROM)
* Core strengthening
* BAPS
* Proprioception drills
 | *Goals of Phase:* 1. Full ROM 0-125°
2. Normalize gait without assistive device
3. Able to ascend 8” step

*Criteria to Advance to Next Phase:* 1. Normal Gait pattern
2. Pain control
3. Edema managed
4. Full knee flexion
 |
| **Phase IV***Weeks 12-16* | *WB Status:** Full; patient should exhibit normalized gait

Exercise additions:* Descending stairs, working up to 8”
* Lateral step ups
* Backward lunges
* Walking program
* Advance squat training
* Advance closed chain program
* Elliptical Training
* Agility Training
 | Goals of Phase: 1. Return to normal ADL’s
2. Able to descend 8” step

*Criteria to Advance to Next Phase:* 1. Able to control descent of 8” step
 |
| **Phase V***Weeks 16-20* | Exercise additions:* Plyometric program
* Forward running
* Agility and sport specific training
* High level proprioception drills
* Impact control exercises begin 2 feet to 2 feet, then 1 foot to other foot, then affected foot to affected foot.
 | Goals of Phase: 1. Restore strength and ROM
2. Pain-free Running
3. Improve tensile strength properties of patellar/quad tendon

*Criteria to Advance to Next Phase:* 1. 85% limb symmetry with hop test and isokinetic testing
 |
| **Phase VI***Weeks 20+* | Exercise additions for high level sport specific training:* Twisting jumps
* Backwards running up to 20-30% incline
* Lateral hops over cones, blocks, etc.
* Single leg jumps up to 6 inch box
* Figure 8 running
* Zigzag cutting (45 degree angles)
* Lateral shuffles with resistance
* Single leg plyometrics
* Sport specific training including full speed running, cutting, and stopping.
* Return to play testing if returning to sport
 | Goals of Phase: 1. Return to prior level of function.

*Criteria to Return to Play*1. Pass return to play testing
	1. Physician Approval
	2. Full ROM
	3. No pain or swelling
	4. Normal running
	5. Adequate drop jump mechanics
	6. Adequate lateral shuffle mechanics
	7. Adequate cutting mechanics
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