

QUADRICEPS TENDON/PATELLAR TENDON CLINICAL PRACTICE GUIDELINE



General Precautions

- WBAT with knee brace locked at 0 degrees for 6 weeks
- ROM during first 6 weeks based on stability of repair as tested in the OR—usually between 0-60 degrees
- Progress ROM 10-20 degrees every 4-5 days with the goal of 90 degrees flexion by 6 weeks postop
- Brace unlocked for weightbearing at 6 weeks postop, and discontinued once full flexion achieved and patient can perform straight leg raise without extensor lag
- For quadriceps repair, no terminal/end-range quad stretching x 8 weeks
- No isolated, open-chain isotonic quadriceps strengthening for either repair x 8 weeks

Weeks 0-2	<ul style="list-style-type: none"> • Weight-bearing as described above • Prone knee passive ROM per restrictions • Supine passive knee extension to 0 degrees • Gentle medial and lateral patellar mobilizations • Ankle pumps, gluteal sets, hamstring sets • Modalities to control pain and edema • Goals: <ul style="list-style-type: none"> ○ Protect repair ○ Control pain and edema ○ Fair to good volitional quad activation
Weeks 2-4	<ul style="list-style-type: none"> • Continue weight bearing as described above • Continue focus on passive knee extension to 0 degrees • Passive ROM for knee flexion per surgeon guidelines • May progress to active-assistive knee flexion (heel slides) • Gentle grade I- II patellar mobilizations. <ul style="list-style-type: none"> ○ ***Gently progress to superior and inferior mobilizations. • Ipsilateral calf, hamstring and hip stretching (passive), with brace locked in extension. • Quadriceps sets – Begin with sub-maximal, progressing gently per patient tolerance. • Progress to 4-way SLR with brace locked in extension. • Seated ipsilateral hamstring curls, no resistance, within ROM restrictions • Continue modalities as indicated • Goals: <ul style="list-style-type: none"> ○ Protect Repair ○ Continue to manage pain and edema ○ Extension ROM to neutral, flexion to 45-60° ○ Normalization of gait, brace locked per physician, WBAT ○ SLR without extensor lag
Weeks 4-6	<ul style="list-style-type: none"> • Continue weight bearing as described above

	<ul style="list-style-type: none"> ● PROM/AAROM/AROM for knee flexion per surgeon guidelines ● Gently progress patellar mobilizations, all directions. ● SLR may be performed without brace if patient can perform without extensor lag ● Seated ipsilateral hamstring curls, progressing to light T-band within ROM restrictions ● Begin gentle core stabilization activities – abdominal brace with use of biofeedback as needed ● Continue modalities as needed ● Goals: <ul style="list-style-type: none"> ○ Continued ambulation with appropriate mechanics and without reactive effusion ○ Knee ROM to physician limits ○ Good scar quality and mobility
Weeks 6-8	<ul style="list-style-type: none"> ● Wean from extension brace per physician guidelines above ● Progress flexion ROM as tolerated to full flexion ● AROM knee extension and flexion ● Stationary bike ● Begin closed chain quadriceps strengthening- bilateral ● Weight shifts, progressing to single leg stance/ proprioceptive activities on firm surface ● Progress core and hip stabilization ● Goals: <ul style="list-style-type: none"> ○ Restore full AROM and patellar mobility of the knee ○ Normalize gait without brace or assistive device ○ Initiation of resistive exercises without reactive effusion or pain
Weeks 8-12	<ul style="list-style-type: none"> ● May initiate terminal/end-range quadriceps stretching for quad tendon repairs ● Continue stationary bike for cardiac conditioning ● May initiate elliptical and/or stairmaster at 10 weeks ● Progress closed chain strengthening, bilateral to unilateral, eccentric to concentric ● Isolated isotonic quadriceps strengthening- leg extensions in protected range ● Proprioceptive activities - single leg stance on various surfaces ● Continue and progress core and hip stabilization ● Goals: <ul style="list-style-type: none"> ○ Full ROM ○ Single leg stance for 30 seconds with good quad control ○ 5/5 strength of all other lower extremity musculature
Weeks 12-16	<ul style="list-style-type: none"> ● Continue lower extremity endurance exercises ● Continue quadriceps PRE's per patient tolerance ● Initiate partial weight bearing plyometrics (e.g. shuttle)- bilateral to unilateral, straight plane to rotational ● May progress to bilateral FWB step downs, beginning with 2 inch block, if patient performs partial weight bearing plyometrics with good mechanics and no reactive effusion/pain ● Slideboard ● Goals: <ul style="list-style-type: none"> ○ Appropriate mechanics with above activities, without pain or reactive effusion
Weeks 16-24	<ul style="list-style-type: none"> ● May initiate recreational swimming ● Initiate sports-specific exercise ● Progress hop downs bilateral to unilateral – progress step height per patient tolerance and upon demonstration of normal mechanics/control

	<ul style="list-style-type: none"> ○ Initiate jogging progression ● Criteria to begin jogging: <ul style="list-style-type: none"> ○ 20 single leg squats with good mechanic ○ 5/5 isometric strength ○ Perform 10 FWB single leg hops with good control, symmetric bilaterally ○ >7/10 on IKDC confidence scale ● Progress to dynamic functional activities: Figure-8, zig-zag, side shuffle, grapevine. Begin at 25-50% intensity.
Criteria to return to sport-specific drills and activities	<ul style="list-style-type: none"> ● Full ROM and 5/5 lower extremity strength ● >85-90% performance of involved side versus uninvolved on functional hop testing, e.g., single leg hop for distance; single leg 3-hop crossover test; 6-meter timed hop test