POST-OPERATIVE PROTOCOL · PHASE 1 · PAGE 1 OF 3

PATELLAR TENDON REPAIR

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These guidelines are a **framework** for the post-operative rehabilitation program. They **do not** substitute for any specific restrictions or requirements determined through the necessary shared decision-making and collaboration between the operating surgeon and the treating rehabilitation team.

PHASE 1	PHASE 2	PHASE 3	JUMP TRAINING	CLEARANCE
WEEKS 0–6	**WEEKS 7–12**	**MONTHS 3–6**	**24 WEEKS**	**9–12 MONTHS**
Protect the repair	Gait & full ROM	Return to run	Not before	Collision sport / full duty

1 PROTECT THE REPAIR · GENERALLY 0–6 WEEKS POST-OP

GOALS Protect the surgical repair · minimize pain and swelling · activation of the quadriceps muscle · ROM 0–90°

PRECAUTIONS
- Range of motion:
  - **Weeks 1–2:** 0–30°
  - **Week 3:** NWB, knee ROM 0–60°; progress by 10° each week
- Follow weight-bearing restrictions at the discretion of orthopaedics

BRACE
- Wear the brace locked in extension for ambulation
- May unlock or remove for rehabilitation

WOUND
- Post-op dressing remains intact until post-op day 3 (~72 hours after surgery)
- Shower after post-op day 4 (no need to cover the incision site)
- **DO NOT SUBMERGE** the knee in water until authorized by orthopaedics
- Suture removal at 10–14 days post-op per orthopaedics

CRYOTHERAPY
- Cold with compression / elevation (ice with compression wrap)

REHABILITATION
- Begin scar massage after the incision has healed and the scar is formed
- Begin patellar mobilizations

WEEKS 1–2 — ACTIVATE THE QUAD

- Quad, glute and HS isometrics (sub-maximal contraction intensity); use e-stim if needed
- Multi-directional open chain hip muscle endurance exercises
- Calf pumps with theraband
- Heel slides (assisted as needed)
- Supine passive extension to 0°

WEEKS 3–6 — BUILD TO 90°

- Continue exercises from weeks 1–2 as appropriate
- Gradually increase knee flexion to a goal of **90° by week 6**
- Multi-directional open chain hip muscle endurance exercises with increased resistance
- Progressive plantarflexion strengthening
- Short arc quads
- General LE stretching
- Stationary bike within the limits of ROM
- Beginner-level pool exercises when incisions are fully healed; primarily in the sagittal plane (no breaststroke or whip kick motion)

FOLLOW-UP
- Supervised rehab: 2–3× per week
- PT re-eval: every 1–2 weeks
- Ortho re-eval: ~2 and ~6 weeks

2 GAIT & FULL MOTION · GENERALLY 7–12 WEEKS POST-OP

GOALS Normal gait and stair ambulation · >80% quadriceps and HS strength relative to the uninvolved limb · full ROM

PRECAUTIONS

- **Avoid tendon overload** — squatting, deep knee bends and lunges
- Be careful walking up and down steps or inclined surfaces
- **NO RUNNING**
- **NO PARTICIPATION** in contact / collision sports or military schools

BRACE

- Discontinue the brace and crutches when gait is normal and 120° knee flexion is achieved

REHABILITATION

- Continue Phase 1 exercises as needed
- Progress to the following exercises and increase intensity gradually when the patient is ready (no increase in knee pain or effusion since the previous session)

WEEKS 7–8 — GAIT & STEP-UPS

- Stationary bicycle or elliptical for conditioning
- General LE strengthening with a **very gradual** increase in loading of knee extension exercises (squats, lunges, leg press)
- Gait training as needed (cone walking, marching, retro-walking, cariocas)
- Forward, lateral and retro step-ups (start with a 2″ step and progress as tolerated)
- Continue beginner-level pool exercises (no breaststroke or whip kick motion)

WEEKS 9–10 — BALANCE & LOAD

- Continue progressing exercises from weeks 7–8 as appropriate
- DL balance and proprioceptive exercises; progress to SL
- General LE stretching
- Elliptical: add gradually alongside the stationary bike for conditioning
- Progressive LE strengthening (calf press, leg press, squats 0–45°, HS curls, hip abductors / adductors)
- Progressive pool program as tolerated

WEEKS 11–12 — PROGRESS ROM

- Continue progressing exercises from weeks 9–10 as appropriate
- Progress the ROM of squats, leg press and similar while being mindful of ROM restrictions and pain

FOLLOW-UP

- Supervised rehab: 2–3× per week
- PT re-eval: every 2–3 weeks
- Ortho re-eval: ~12 weeks post-op

3 RETURN TO RUN · GENERALLY 3–6 MONTHS POST-OP

GOALS Full ROM · jog at own pace and distance without pain · >90% quadriceps and HS strength return · >90% of the uninvolved limb on the hop test battery · meet occupational requirements at 6–8 months

PRECAUTIONS

- Minimal to no pain at the repair site

REHABILITATION

- Continue Phase 2 exercises as needed
- Progress to the following exercises and increase intensity gradually when the patient is ready (no increase in knee pain or effusion since the previous session)
- Build up resistance and repetitions gradually

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VANDERBILT HEALTH

WEEKS 13–16

STRENGTH BASE

- Swimming
- Step-up progression
- Gradual quad stretching
- Progressive SL balance and proprioceptive training as needed
- Progressive LE strengthening (calf press, leg press, squats 0–60°, HS curls, hip abductors / adductors)

WEEKS 16–20

WALK TO JOG

- Progressive strengthening of the quadriceps while monitoring symptoms closely
- Step-down progression
- Initiate walk-to-jog progression

WEEKS 20–26

SPEED & AGILITY

- Progressive speed / agility training beginning at 25–50% intensity and progressing gradually (jumping, hopping, directional jogging, cariocas, shuffles)
- **Jump training initiated after 24 weeks**

FOLLOW-UP

- Supervised rehab: 1–2× per week
- PT re-eval: monthly
- Ortho re-eval: ~6 months post-op

MISCELLANEOUS

- After 6 months post-op, Phase 3 exercises are continued and gradually increased in intensity and duration as tolerated
- Pass service fitness test at 9–10 months
- Progress activities for return to sport, collision sports or aggressive military training (e.g. airborne school) based on the patient's functional performance and endurance. This will be directed by the orthopaedic surgeon and the physical therapist and **may require between 9–12 months before clearance without restrictions**.

REFERENCES

1. Myer GD, Paterno MV, Ford KR, Quatman CE, Hewett TE. Rehabilitation after anterior cruciate ligament reconstruction: criteria-based progression through the return-to-sport phase. *J Orthop Sports Phys Ther.* 2006; 36(6): 385–402.
2. Myer GD, Paterno MV, Hewett TE. Back in the game: a four-phase return-to-sport program for athletes with problem ACLs. *Rehab Management.* 2004; 17(8): 30–33.

Adapted from the Patellar Tendon Repair Rehabilitation guideline in the *Tri-Service Post-Operative Rehabilitation Guidelines*, Defense Health Agency, May 2020.

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