POST-OPERATIVE PROTOCOL · PHASE 1 · PAGE 1 OF 4

ACHILLES 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	NO RUNNING	CLEARANCE
WEEKS 0–6	**WEEKS 7–12**	**MONTHS 4–6**	**4 MONTHS**	**9–12 MONTHS**
Immediate post-operative	Restore ROM & gait	Strength & return to run	Until after 4 months post-op	Collision sport / full duty

1 IMMEDIATE POST-OPERATIVE PHASE · GENERALLY 0–6 WEEKS POST-OP

GOALS Protect the surgical repair · avoid a "stiff" ankle · attain DF ROM to neutral at 6 weeks post-op · minimize pain, swelling, muscle atrophy and deconditioning · independent gait without assistive device

PRECAUTIONS

- **ALWAYS** wear ankle CAM boot for ambulation
- Limit ankle DF to 0° until 6 weeks post-op

BRACE & CRUTCHES

- Per orthopaedic surgeon (typically):
  - Weeks 1–2: ½-inch heel lift; toe-touch WB at 0–10% body weight while in post-op splint for 10 days; progress to WBAT
  - Weeks 3–4: ¼-inch heel lift; WBAT
  - Weeks 5–6: ⅛-inch heel lift as needed; WBAT
- **Note:** may progress earlier based on orthopaedic preference
- D/C crutches when gait is normalized; goal is between 4–6 weeks post-op

WOUND

- Shower after post-op day 2 (cover splint / cast when showering)
- **DO NOT SUBMERGE** ankle in tub or pool for 4 weeks
- Suture removal at 10–14 days post-op per orthopaedics
- Begin scar massage after the incision site has healed and the scar is formed

REHABILITATION

- Keep LE elevated as much as possible; ice ankle when applicable
- Ankle pumps while in splint
- Begin the exercises listed below

WEEKS 1–2 — PROTECT

- Hip and knee AROM exercises
- Quad sets and glute sets
- Intrinsic foot strengthening / toe posture and short foot exercises (resisted towel curls, toe yoga)
- Knee and hip supine / seated open kinetic chain (OKC) strengthening as tolerated (SLRs, LAQs, SAQs)
- Ankle isometrics as tolerated
- Non-resisted active calf pumps (neutral to PF as tolerated) once splint is removed (50–100 reps, 5–6× per day)
- HS stretching

REHABILITATION PROTOCOL

WEEKS 3–4

BEGIN ROM

- UBE for aerobic strength / endurance and seated UE weight lifting
- Recumbent bike as tolerable while donning CAM boot
- Intrinsic foot strengthening / toe posture and short foot exercises
- Gentle, seated Achilles towel stretch (**pain-free at tendon**)
- Ankle ROM exercises (ankle pumps, alphabets, CW/CCW circles)
- Ankle isometrics as tolerated
- Non-resisted active calf pumps once splint is removed (50–100 reps, 5–6× per day)
- Knee and hip supine / seated OKC strengthening as tolerated
- LE stretching: HS, glutes, ITB, piriformis, quads
- AAROM self-mobs for PF · OKC proprioceptive exercises
- Manual therapy: ankle / foot mobilizations as needed; limit DF to 0° until 6 weeks post-op

WEEKS 5–6

LOAD & BALANCE

- Low-intensity stationary bike with light resistance (5–10 minutes)
- Pain-free ankle isometrics
- Active calf pumps (neutral to PF as tolerated) once splint is removed (50–100 reps, 5–6× per day)
- AAROM self-mobs for PF
- Ankle strengthening with light tubing, all directions as tolerated
- Seated SL heel raises
- Continue hip and knee supine / seated OKC strengthening as tolerable
- Manual therapy: ankle / foot mobilizations as needed; limit DF to 0° until 6 weeks post-op
- Beginner-level pool exercises (**after** incision is healed)
  - Chest-deep water walking and exercises, within precautions

FOLLOW-UP	◆ Supervised rehab: 1–2× per week ◆ PT re-eval: every 2–4 weeks as needed ◆ Ortho re-eval: 2 weeks post-op and 6 weeks post-op
DOCUMENTATION	◆ Precautions, pain level, medications and modalities ◆ Ankle ROM & gait ◆ Observation: incision sites healing well? signs / symptoms of infection? effusion? ◆ Neurovascular status: distal pulses? motor / sensation nerves intact? presence of calf pain?

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

GOALS Full ankle ROM · independent ambulation with level walking and stair negotiation without any observed gait deviation

PRECAUTIONS	◆ **NO RUNNING** until after 4 months post-op
BRACE & CRUTCHES	◆ Transition from ankle boot to brace during weeks 7–8 as appropriate ◆ D/C crutches when gait is WNL
CRYOTHERAPY	◆ Cold with compression / elevation (ice with compression wrap)
REHABILITATION	◆ Continue Phase 1 exercises and scar massage as needed ◆ Progress to the following exercises and increase intensity gradually as tolerated (minimal to no increase in ankle pain, stiffness or edema since the previous session) ◆ All strengthening should start with low weights and high reps before progressing resistance

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VANDERBILT HEALTH

WEEKS 7–8

GAIT TRAINING

- Stationary bike for conditioning; resistance as tolerated
- Ankle ROM exercises (add mobilizations / manual stretching as needed)
- Seated wobble board
- Gait training (cone taps, marching, retro-walking, cariocas, shuffles)
- Ankle strengthening with tubing
- DL squats to depth of tolerance (add resistance gradually)
- Forward, lateral and retro step-ups (start with 4″ step and progress as tolerated)
- Standing DL heel raises · standing gastroc / soleus stretches
- Progressive hip / knee strengthening (knee extensions, leg press, HS curls, hip ABD/ADD)
- Manual therapy: ankle mobilizations in all directions until ROM is WNL

WEEKS 9–12

PROGRESS LOAD

- Elliptical / stationary bike with progressive resistance
- Progress DL squats as tolerated; add resistance gradually
- Progress forward, lateral and retro step-ups as tolerated
- Standing heel raise progression from DL → SL as able
- Progressive hip / knee strengthening (knee extensions, leg press, HS curls, hip ABD/ADD)
- Standing balance progression from DL → SL as able
- Standing gastroc / soleus stretches
- Intermediate-level pool exercises

FOLLOW-UP	◆ Supervised rehab: 1–3× per week as needed ◆ PT re-eval: every 2–4 weeks as needed	◆ Ortho re-eval: 3 months post-op
DOCUMENTATION	◆ Precautions, pain level, medications and modalities ◆ Ankle ROM, strength and gait	◆ Observation: incision sites healing well? signs / symptoms of infection? effusion?

3 STRENGTH & RETURN TO RUN · GENERALLY 4–6 MONTHS POST-OP

GOALS Full ankle ROM · 20+ SL heel raises to ≥75% height of the contralateral limb · hop for distance >90% of the uninvolved side · jog at own pace and distance without pain · meet occupational requirements at 6 months

PRECAUTIONS	◆ **NO RUNNING** until after 4 months post-op
BRACE	◆ Ankle lace-up brace as needed
REHABILITATION	◆ Continue Phase 2 exercises as needed ◆ Progress to the following exercises, gradually increasing intensity and duration as tolerated, as long as there is no increased ankle pain or edema

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VANDERBILT HEALTH

WEEKS 13–16

AGILITY BASE

- Gradually add stairmaster to the low-impact conditioning regimen
- Progressive LE strengthening (calf press, leg press, squats, HS curls, hip ABD/ADD)
- Light agility exercises as tolerated (fitter, slide board, figure 8s, gentle loops, large zig zags, agility ladder)
- Progressive balance training as needed
- Progressive pool program as tolerated

WEEKS 17–24

RETURN TO RUN

- Progressive jogging program
  - May begin each session with jogging on treadmill for 5 minutes
  - Increase time and/or distance no more than 10–20% per week
- Progressive agility / functional training
  - Begin at 25–50% intensity and progress gradually
  - Jumping, hopping, directional jogging, cariocas, shuffles

FOLLOW-UP

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

DOCUMENTATION

- Pain level and medications
- Ankle ROM and strength
- Hop test for distance
- Functional activity tolerance (stairs, jogging)

DISCHARGE GOALS

- Hop test and Y-balance limb symmetry ≥90%
- Isokinetic testing limb symmetry ≥85%
- Hand-held dynamometer ≥85% for PF
- Injury-Psychological Readiness to Return to Sport Scale (≥50% indicates readiness)

BEYOND 6 MONTHS

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 6–9 months
- Progress activities for return to sport, collision sports or aggressive military training (e.g. airborne school) based on functional performance and endurance — directed by the orthopaedic surgeon and physical therapist; **may require 9–12 months before clearance without restrictions**

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