POST-OPERATIVE PROTOCOL · TIBIAL TUBERCLE OSTEOTOMY · PAGE 1 OF 2

TIBIAL TUBERCLE OSTEOTOMY

Lance E. LeClere, MD • Professor of Orthopaedic Surgery · Chief, Orthopaedic Sports Medicine · Vanderbilt University Medical Center

A tibial tubercle osteotomy moves the tibial tubercle — where the patellar tendon attaches — toward the inside of the leg, correcting the pull on the kneecap and improving the way it tracks. Because the bone must heal in its new position, **the early weight-bearing and bracing restrictions below are not negotiable**.

GENERAL

- **Weight bearing as tolerated from post-operative day 1**, with the knee in full extension
- **Brace locked in extension** for ambulation only, for 6 weeks
- Stitches assessed and removed in clinic within **7–14 days**
- X-rays taken at **2, 6 and 12 weeks** after surgery

RANGE OF MOTION SCHEDULE

WEEKS AFTER SURGERY	PERMITTED RANGE OF MOTION
Weeks 1–2	**Full extension only**
Weeks 3–4	0–45°
Weeks 5–6	0–90°
Beyond 6 weeks	Range of motion **as tolerated**

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6
WEEKS 0–2	**WEEKS 2–5**	**WEEKS 5–10**	**WEEKS 10–12**	**WEEK 12**	**WEEK 16+**
Full extension only	Flexion to 45°, then 90°	Strength, low-impact cardio	Knee bends, treadmill	Return to run progression	Sport-specific training

1 PROTECT THE OSTEOTOMY · WEEKS 0–2

GOALS Protect the osteotomy · control swelling · maintain full extension

RANGE OF MOTION — WEEKS 1–2

- **Full extension only — no knee flexion in this phase**
- Prone hangs to achieve and maintain full extension
- Achilles, calf and hamstring stretching — sit and reach with a towel
- Ankle pumps

STRENGTHENING & SWELLING — WEEKS 0–2

- Hamstring sets
- Modalities as necessary to decrease swelling
- **Weight bearing as tolerated, with the brace locked in full extension for walking**

2 ADVANCE FLEXION · WEEKS 3–5

GOALS Maintain protection · advance flexion on schedule — 0–45° at weeks 3–4, 0–90° at weeks 5–6

RANGE OF MOTION — WEEKS 3–5

- Continue the weeks 1–2 activities
- **Weeks 3–4: 0–45°**
- **Weeks 5–6: 0–90°**
- Flexion work with **wall slides and sitting**, staying within the limit for that week

PRECAUTIONS

- Weight bearing as tolerated continues, **with the knee in full extension**
- Brace stays **locked in extension for ambulation through week 6**
- X-rays at 2 weeks confirm the osteotomy position

PROUD MEDICAL TEAM FOR

Lance E. LeClere, MD
Orthopaedic Sports Medicine & Shoulder Surgery

Appointments
615-936-7846

Website
LanceLeClereMD.com

Athletic Trainer
Justin Tatman · 615-421-4160

VANDERBILT HEALTH

REHABILITATION PROTOCOL

3 STRENGTH & LOW-IMPACT CARDIO · WEEKS 5–10

GOALS Restore quadriceps control · restore patellar mobility · build aerobic base without impact · range of motion as tolerated after 6 weeks

STRENGTHENING — WEEKS 5–10

- Continue previous exercises — **0–90° through week 6, then ROM as tolerated**
- **Patellar mobilization**
- Toe and heel raises; quad sets with straight leg raises

CONDITIONING — WEEKS 5–10

- Stationary bike with both legs, with gradually increased resistance
- Rowing or erg machine with a single leg
- Aqua jogging and aquatic therapy

4 KNEE BENDS & TREADMILL · WEEKS 10–12

GOALS Progress closed-chain quadriceps loading · begin graded treadmill walking

STRENGTHENING — WEEKS 10–12

- Terminal one-third knee bends
- Double knee bends
- Quadriceps-specific strengthening exercises

CONDITIONING — WEEKS 10–12

- Treadmill walking at a **7% incline**
- Swimming with fins

5 RETURN TO RUNNING · WEEK 12

GOALS Progress to single-leg loading · begin a graded return to running

STRENGTHENING — WEEK 12

- Single knee bends
- Outdoor biking

RETURN TO RUN PROGRAM — WEEK 12

- Elliptical → treadmill → outdoor running
- Progress only while mechanics stay symmetrical and the knee stays quiet

6 SPORT-SPECIFIC TRAINING · WEEK 16 ONWARD

GOALS Build loaded strength · graded return to agility · return to sport at 6 months

STRENGTHENING — WEEK 16

- Leg press to 90° with weights
- Leg curls with **no hyperextension**

RETURN TO SPORT

- Sport-specific training with a gradual return to agility
- **Return to sports at 6 months**

QUESTIONS ABOUT YOUR RECOVERY?

Call the office with any question about your protocol, your brace, or your incision.

LANCE E. LECLERE, MD

CLINIC LOCATIONS

Belle Meade Orthopaedics and Sports Medicine
6002 Highway 100, Nashville, TN 37205

Vanderbilt Orthopaedics Nashville West
6606 Charlotte Pike, Suite 104, Nashville, TN 37209

Vanderbilt Orthopaedics Franklin
206 Bedford Way, Franklin, TN 37064

APPOINTMENTS & QUESTIONS

Vanderbilt Orthopaedics
615-936-7846

Justin Tatman, MS, ATC, LAT
615-421-4160 (direct)

Laura Taylor, PA
615-936-7846

ONLINE

LanceLeClereMD.com
vumc.org/orthopaedics

Adapted from a tibial tubercle osteotomy rehabilitation protocol, Northwestern Medicine Orthopaedics — Michael A. Terry, MD and Vehniah K. Tjong, MD. © 2019 Northwestern Medicine.

PROUD MEDICAL TEAM FOR