



Michael Duran, MD

Fellowship-Trained Orthopedic Surgeon
Hip and Knee Replacement & Musculoskeletal Oncology

A MEMBER OF SUMMIT HIP & KNEE INSTITUTE

(480) 490-6561 www.duranorthopedics.com

Total Knee Arthroplasty (Midvastus/Subvastus) Recovery Guide

Quadriceps-Sparing Approach & ERAS Pathway

This protocol and patient guide is tailored for the **Midvastus or Subvastus** approach to Total Knee Arthroplasty (TKA). Unlike the traditional parapatellar approach, these techniques are "quadriceps-sparing," meaning they do not cut into the quadriceps tendon.

This leads to faster restoration of active knee extension and significantly less post-operative pain, fitting perfectly into an **ERAS (Enhanced Recovery After Surgery)** pathway.

Part 1: Clinical Protocol (For Physical Therapists)

Protocol Philosophy

The Midvastus/Subvastus approaches preserve the integrity of the extensor mechanism. Patients typically demonstrate superior early quad control compared to traditional approaches.

- **Weight Bearing:** As Tolerated (WBAT) immediately.
- **Early ROM:** Immediate focus on achieving full **terminal knee extension** (0°)

Phase I: Immediate Post-Op (Days 0–7)

Focus: Quad activation and swelling management.

- **Quad Sets:** 3 sets of 10 (10-second holds). Aim for "superior patellar glide."
- **Glute Sets & Ankle Pumps:** 20 reps every hour.
- **Passive Extension:** Place a towel roll under the ankle to let gravity pull the knee straight.
- **Heel Slides:** Goal of 90° flexion by day 7.
- **Milestone:** Active Straight Leg Raise (SLR) without "quad lag."

Phase II: Functional Range (Weeks 2–4)

Focus: Normalizing gait and functional flexion.

- **Patellar Mobilization:** Medial/Lateral and Superior/Inferior glides.
- **Terminal Knee Extension (TKE):** Standing with resistance band behind the knee.
- **Mini-Squats:** 0° to 60° only.

- **Wall Slides:** To increase flexion range.
- **Milestone:** Knee ROM 0° to 110° weaning from assistive device.

Phase III: Strengthening (Weeks 5–8+)

Focus: Endurance and proprioception.

- **Step-ups/Step-downs:** Focus on eccentric control (no "dropping" onto the foot).
- **Stationary Bike:** Start with "rocking" pedals, progress to full revolutions as ROM allows.
- **Single Leg Balance:** Progressing to uneven surfaces.

Part 2: Wound & Incision Care (For Patients)

1. Your Incision Closure

Your incision is closed with **absorbable sutures** and **skin glue**, protected by a **water-impermeable dressing**.

- **Keep it Covered:** Leave the dressing in place for the first 7–10 days unless it becomes saturated.
- **No Ointments:** Do not apply any creams, vitamin E, or ointments to the dressing or the glue.
- **Bruising:** Significant bruising around the knee and down into the calf/ankle is normal and will change colors (purple to yellow) over 2–3 weeks.

2. Showering

- **Waterproof:** You may shower 24 hours after surgery.
- **Pat Dry:** Do not rub the dressing. After your shower, pat the area dry with a clean towel.
- **No Soaking:** Do not submerge the knee in a bath or pool for 4 weeks.

Part 3: Medication Tracker & Pain Management

Medication Name	Purpose	Dosage	Time Taken
Aspirin / Eliquis	Blood Thinner		
Tylenol (Acetaminophen)	Base Pain		
Anti-Inflammatory	Swelling/Pain		
Narcotic (as needed)	Breakthrough Pain		

Pro-Tip: Take your pain medication 30–45 minutes **before** your scheduled Physical Therapy session to maximize your range of motion exercises.

Part 4: Managing Swelling & Setup

1. The "Elevation" Rule

When elevating your knee, it must be **above your heart**.

- **Correct:** Pillows under the calf/ankle (this also helps keep the knee straight).
- **Incorrect:** Pillows directly under the "bend" of the knee (this leads to stiffness).

2. Icing

- Use an ice machine or cold packs for 20 minutes every hour while awake.
- Always keep a thin cloth between the ice and your skin to prevent "frostbite" through the dressing.

3. Safe Home Setup

- **Clear the Floor:** Remove all rugs and cords.
- **Night Lights:** Keep paths to the bathroom well-lit.
- **The "Knee Zone":** Keep your phone, water, and ice machine remote within easy reach.

Part 5: Red Flags (Call Your Surgeon Immediately If:)

- **Sudden Calf Pain:** Intense cramping or pain in the calf that hurts when you flex your foot.
- **Fever:** Any temperature over **101.3°F**.
- **Wound Drainage:** If the dressing is soaked through or you see yellow/green fluid.
- **Shortness of Breath:** **Call 911** if you experience sudden chest pain or trouble breathing.