

Total Knee Replacement

Physical therapy protocol - rapid recovery primary TKA

Patient: _____ Surgery / procedure date: _____

This is the full Pacific Bone & Joint postoperative protocol. Patient-specific operative and discharge orders take precedence over this default pathway.

Protection and early recovery

This protocol is for an uncomplicated primary total knee arthroplasty. Pacific Bone & Joint commonly uses a muscle-sparing subvastus exposure and rapid-recovery pathway. Cemented versus cementless fixation does not by itself change this therapy pathway unless the operative order says otherwise.

Item: Default plan

Weight bearing: Weight bearing as tolerated with walker or crutches. Wean the device when gait is safe and there is no meaningful limp or knee buckling.

Brace: No routine brace.

Motion: No routine flexion ceiling. Prioritize full extension early and increase flexion as tolerated without forceful, prolonged pain.

Therapy start: Mobilize the day of surgery. Begin home or outpatient therapy as soon as practical after discharge.

Early goals - first 2 weeks

- Control swelling and pain while increasing short, frequent bouts of walking.
- Restore full passive knee extension and progress flexion toward 90 degrees or more as tolerated.
- Establish a strong quadriceps contraction and straight-leg raise without an extensor lag.
- Achieve safe bed mobility, transfers, household walking and required stairs.

Protect the new knee

- Do not rest with a pillow directly under the knee. A heel prop or support under the ankle/calf may be used to work on extension.
- Do not force flexion through sharp pain or create a large next-day increase in swelling. Range-of-motion work should be frequent, not traumatic.
- Avoid twisting or pivoting on the planted operative leg until gait and balance are recovered.
- Monitor the incision. Do not submerge the wound until it is fully closed and cleared by the surgical team.

Therapy and home exercise progression

Days 0-14

- Ankle pumps, heel-prop extension, quadriceps sets, gluteal sets, heel slides and seated knee flexion.
- Straight-leg raise once the quadriceps can hold the knee straight; short-arc and long-arc quadriceps work as tolerated.
- Sit-to-stand, supported mini-squat, weight shifts, heel raises and basic balance when safe.
- Gait training with a symmetrical heel-to-toe pattern. Practice stairs needed for the home.
- Patellar mobility and gentle soft-tissue work may be used when the incision and soft tissues permit.

Weeks 2-6

- Progress toward 0-110 degrees or greater active range of motion. Full extension remains the priority if both cannot be achieved at once.
- Stationary bicycle: begin with rocking or partial revolutions and progress to full revolutions, then light resistance.
- Progress sit-to-stand, mini-squats, step-ups, controlled step-downs, bridges, calf raises, hip strengthening and balance training.
- Add resistance gradually. Increase walking distance before adding speed or hills.
- Wean cane or walker only when the patient can walk without a limp, buckling or unsafe balance strategy.

Weeks 6-12

- Progress quadriceps, hamstring, calf and hip strength with functional closed-chain work and appropriate machines.
- Advance step-down control, reciprocal stair training, single-leg balance and endurance on bicycle, elliptical or level walking.
- Pool exercise may begin after the incision is completely healed.
- Avoid repetitive jumping, running and high-impact training unless specifically cleared.

Progression and return to activity

Useful milestones

Checkpoint: Target before advancing

About 2 weeks: Wound progressing normally; full or near-full extension; flexion generally 90 degrees or more; safe household gait; quadriceps control improving.

About 6 weeks: 0 degrees extension; flexion generally 110 degrees or more; independent community gait or minimal device use; controlled sit-to-stand and step-up.

About 12 weeks: Minimal reactive swelling; reciprocal stairs improving; good single-leg control; independent home program and aerobic exercise.

When progress is slower

- Notify the surgical team for a persistent extension deficit, flexion that remains below about 90 degrees at 4-6 weeks, or a clear motion plateau despite appropriate therapy.
- Back off exercise volume when swelling, warmth, pain or limping is clearly worse the next morning. Restore a quiet knee before progressing load again.
- Kneeling can be trained after the incision is fully healed and the surgeon has cleared pressure on the knee. Use the separate PBJ kneeling-conditioning protocol, commonly beginning around 12 weeks.

Long-term activity

Low-impact recreation such as walking, cycling, swimming, golf and hiking can be progressed as strength, balance and endurance recover. Repetitive high-impact running and jumping are not routine goals after total knee replacement; discuss individual goals with the surgeon.

Call the surgical team

Call (808) 439-6201 for increasing wound drainage or redness, fever, a sudden loss of motion or strength, new calf swelling, a fall with new pain, or progressive rather than improving pain. Chest pain or shortness of breath requires emergency evaluation.

Clinical references: Morton PN. Knee Replacement Rehabilitation Protocol, 2020. Mass General Brigham, Rehabilitation Protocol for Total Knee Arthroplasty, 2025. AAHKS, At-Home Exercises Following Hip or Knee Replacement Surgery, 2025. Wainwright et al. Acta Orthop. 2020;91:3-19 (ERAS hip and knee replacement recommendations).