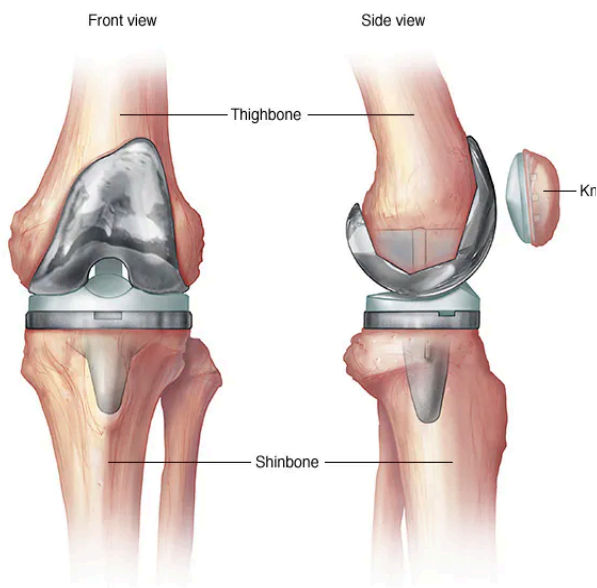


Total Knee Replacement Rehabilitation Protocol

This procedure is performed to resurface a knee damaged by arthritis or severe injury. Metal and plastic parts are used to cap the ends of the weightbearing surface that form the knee joint. The patella may also be replaced or resurfaced. Patella reconstruction aims to restore the extensor mechanism. A quadriceps-splitting or quadriceps-sparing approach may be used. The cruciate ligaments may be excised or preserved. MCL and LCL are preserved.

The most common type of artificial knee prosthesis is a cemented prosthesis.

Patients may have quite a lot of post-operative pain.



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Weightbearing After Surgery

- Partial weightbearing with elbow crutches or a walking frame
- After 3 weeks, the patient may walk with one crutch on the opposite side

- Crutches may be discontinued after 6 weeks

Proper gait pattern must be achieved in order to discontinue use of assistive devices!

Driving

This will be guided by your surgeon

If right knee was replaced, no driving of manual car for 6 weeks. May drive automatic car after 2-4 weeks

If left knee was replaced, no driving of manual car for 6 weeks. May drive automatic car after 2-4 weeks

Elevation and Knee Extension

The operated leg can be elevated 3 to 4 times daily for 30 minutes. The patient must lay supine with the operated in full knee extension and the foot above the level of the heart. Ice may also be used while in elevation.

For full passive knee extension, placed a rolled-up towel or small pillow under the patient's ankle. **NO ROLLED-UP TOWEL, PILLOW, NOR ELEVATION OF THE FOOT END OF THE BED DIRECTLY UNDER THE KNEE!** This will make achieving terminal extension extremely difficult.

Phase 1 (Day 1-hospital discharge)

- Passive knee flexion and extension
- Heel slides
- Active assisted knee flexion/extension in sitting
- Ankle pumps
- Quad, glute, and hamstring sets
- SLR (emphasize no lag)

Total Knee Replacement Rehabilitation Protocol

- Hip abduction/adduction
- Long arc quads (LAQ)
- Seated hip flexion
- Bed mobility
- Transfer training
- Gait training on level surfaces
- Stair training with crutches from day 3
- Progress to closed chain exercises including terminal knee extensions, mini-squats, step ups, and mini-lunges by the end of this phase
- Single leg stance
- Gait training with appropriate device emphasizing normal gait pattern
- Stair training with appropriate device

Phase 2 (Hospital discharge-6 Weeks)

- WBAT with elbow crutches. Progress to using one crutch on opposite side after 3 weeks
- Monitor wound for signs of infection
- Monitor any increased swelling
- Continue with exercises from previous phase
- Heel slide with towel
- Prone knee flexion
- Heel prop (towel under ankle) and/or prone knee hang to promote full extension
- Initiate stationary biking, starting with back-and-forth motion progressing to full revolutions as able. No resistance
- Initiate patellofemoral and tibio-femoral joint mobilisations as indicated
- Initiate hamstring, gastroc/soleus, and quadriceps stretching
- Use neuromuscular electrical stimulation (NMES) to quads if poor quadriceps recruitment is present
- SLR without lag, add resistance towards the end of this phase
- Hip abduction/ adduction/ extension against gravity, add resistance towards the end of this phase

Phase 3 (6-12 Weeks)

Avoid high impact activities and those that require repeated pivoting/twisting

- Continue ROM exercises from phase 1 and 2
- Continue biking, adding mild to moderate resistance as tolerated
- Continue patellofemoral and tibio-femoral joint mobilisations as indicated
- Continue hamstring, gastroc/soleus, and quadriceps stretching
- Continue with phase 2 exercises adding and increasing resistance as tolerated
- Emphasize eccentric control of quadriceps with closed chain exercises
- Single leg stance
- Static balance on Bosu/wobble board/foam/etc
- Add gentle agility exercises (i.e., tandem walk, side stepping, karaoke, backwards walking)
- Cycling and walking programmes

Total Knee Replacement Rehabilitation Protocol

Phase 4 (12+ Weeks)

Continue to improve strength to maximize functional outcomes. Return to appropriate recreational activities. Avoid high impact, contact sports, and repetitive heavy lifting

- Continue daily ROM and stretching exercises
- Continue with all strengthening exercises increasing resistance and decreasing repetitions
- Continue with all phase 3 proprioception exercises, increasing difficulty as tolerated
- Continue bicycling and walking programmes



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