



Total Knee Replacement

General Principles:

This protocol was designed to provide the rehabilitation professional with a guideline of postoperative care. It should be stressed that this is only a protocol and should not be a substitute for clinical decision making regarding a patient's progression. Actual progression should be individualized based upon your patient's physical examination, progress, and presence of any complications.

Due to extreme physical variances in the patient population undergoing a Total Knee Replacement surgery, the following protocols are designed to provide guidelines for the clinician to progress patients during their rehabilitation. The clinician may alter patient progress to accommodate these physical variations. (Ex. – age, medical problems, cardiovascular conditioning, etc.)

PHASE I: (Immediate Post-Op)

Week 1

Weight bearing-

1. May progress weight-bearing as tolerated
2. Weight bearing may be restricted with cementless replacement per physician direction

Orthotics-

1. Knee brace at all times **DAY 1** except for exercises and CPM use. **DAY 2+** use knee brace only at night until able to maintain extension.
2. Elastic bandage and TED hose (as ordered) at all times.

Modalities-

1. Ice, E-stim, compression, elevation as needed to control pain and swelling.
2. Use polar care unit as directed at home for 20 minutes following exercises and as needed for pain control throughout protocol.
3. Moist Heat and/or Pulsed Ultrasound after 48 hours.

ROM-

1. May utilize AROM, AAROM as well as PROM to increase ROM.
2. Heel slides, Wall slides to progress ROM as tolerated.
3. CPM machine 3 hours/day. Start at 0-50°, increase AT LEAST 10°/day to tolerance, until at least 90° of flexion achieved.

Exercises-

1. Quad sets, Hamstring Sets
2. Heel Slides, Wall slides to progress ROM as tolerated
3. Straight leg raises (all planes)
4. Ankle pumps
5. Short-Arc Quads, progress to full arc
 - a. No resistance to start
 - b. No resistance until full extension is achieved
 - c. May utilize AAROM if necessary



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6. Prone Hangs, Supine extension stretching w/ heel propped
7. Aquatics may be started after wound is fully healed and surgical staples are removed (Approximately 10-14 days).

PHASE II: (Intermediate)

Week 2 - 3

Weight Bearing-

1. Progress weight-bearing as tolerated. Utilize cane / assistive device as needed
2. Weight bearing may be restricted with cementless replacement per physician direction

Orthotics-

1. Knee brace at night only if unable to maintain full extension
2. Elastic bandage as needed to control swelling.
3. TED hose at all times (as ordered)

Modalities (PRN)-

1. Continue Phase 1 modalities as needed
2. Utilize moist heat and/or Ultrasound for ecchymosis and hematoma

ROM-

1. Active and Passive ROM progressing to full as tolerated

Exercises-

1. May initiate Stationary bike, Nu-Step
2. Begin closed-chain strengthening exercises as weight bearing allows
 - a. Shuttle, Bilateral progressing to Unilateral
 - b. Mini-Squats, Calf Raises
 - c. Standing weight shifts, single leg balancing
 - d. Step Ups, Start with 2 inch step, focus on quality quad control
3. Hamstring progressive resistance exercise as tolerated, full arc
4. Patellar Mobilization only if patient is losing ROM. **Notify Physician**

PHASE III: (Strengthening)

Week 4 – 6

Weight Bearing-

1. Should be full with normal gait. May discontinue cane / assistive device as tolerated
2. Weight bearing may be restricted with cementless replacement per physician direction

Orthotics-

1. Elastic bandage only as needed. Discontinue TED hose.



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Modalities (PRN)-

1. Continue only as needed

ROM-

1. Maintain full active and passive ROM

Exercises-

1. Elliptical Runner
2. Progress closed chain activity
 - a. Lunges
3. May initiate Isokinetics (240-300 degrees/second)

PHASE IV: (Advanced Strengthening)

Week 7+

Exercises-

1. Isokinetics (Progress to 180-300 degrees/second)
2. Progress to aggressive lower body strengthening
Including free weight and weight machines
3. Initiation of light sports activity
See Interval Golf, Interval Running programs