

TKR Protocol

Preoperative

Goals:

- **Attends pre-op total Knee replacement class**
- **Is able to demonstrate the beginning exercises to be performed while in the hospital.**
- **Receives any necessary therapy to assure maximized ROM and good functional strength.**

Treatment:

- Pre-op class
- Educate on exercise program to include Quad sets, hamstring sets, glut sets, heel slides, ankle pumps
- Manual therapy to improve ROM
- Ther Ex to improve functional strength
- Modalities to control pain and inflammation.

Postoperative

Phase I (Day 0 to Day 2-3) Rehab:

Goals:

- **Control swelling, inflammation, and pain**
- **Initiate Therapeutic Exercise program(both involved and non-involved leg)**
 - **Include Quad Sets, Hamstring Sets, Glut Sets**
 - **Heel slides, Ankle Pumps**
- **Safe ambulation with walker or crutches**
- **Safe and independent bed mobility and transfers**
- **ROM to 90 degrees flexion, 0 degree extension**

To be carried out in the hospital

- Patient education
- Analgesia (cold compress)
- CPM per hospital or physician protocol
- Initiate Quad sets, hamstring sets, glut sets, ankle pumps, heel slides (Bilaterally)
- Standing and ambulation with Physical Therapist using a walker
- Stair climbing if relevant
- Bed mobility, transfer training (bed to stand/ to chair/ to toilet)
- Occupational Therapy to see patient for independence in ADL's such as dressing and personal hygiene
- Discharge to home when patient meets discharge criteria.
- Discharge planning to arrange for any assistive devices/cpm/home health

Discharge to Post-op week 2:

Goals:

- **Safe functionally within the home**

- ***control of pain and inflammation***
- ***Progression of HEP***
- ***Increase ROM to 0-100 degrees.***
- ***Initiate Out Patient PT (Patient must be discharged from Home Health PT/OT and nursing care for more than 72 hours prior to initiating outpatient PT)***

Treatment

- Muscle re-education: Initiate quad contractions, SLRs, Short Arc Quads and Long Arc Quads, Bridging.
- Soft tissue mobilization for scar management
- PROM/assisted stretch/Grade 1-2 joint mobilization
- AAROM using 'dangle and drop', Sliderboard, etc. include proning and propping to increase extension.
- Stationary Bike on low resistance, 'Rocking' if unable to perform Revolutions
- Modalities for controlling pain and inflammation.
- Exercise for non-involved limbs to maintain functional strength
- Gently increasing weight bearing tolerance in gait
- continue gait training to include steps/stairs and varied surfaces
- Consider Pool therapeutic exercise if incision is healed and Surgeon Approves and pool is available.

Phase II Rehab (Week 3 to Week 6):

Goals:

- ***Regaining endurance***
- ***Increased co-ordination and proprioception***
- ***Further strengthening of knee muscles and kinetic chain (P.R.E.)***
- ***Improvement of ROM to 100-110 degrees***
- ***Restore normalized gait***
- ***Control pain and inflammation***
- ***Maintain strength and endurance in non-involved limbs and trunk***
- ***Progress HEP***

Treatment:

- Bike with resistance as tolerated
- WBAT: wean off walker in 1-2 weeks to a cane, wean off all assistive devices by 4 weeks. Functional stair climbing with normal use of both legs
- Strengthening exercises in OKC (SLRs, TKE, hamstring curls) and CKC (mini-squats, heel and toe raises, small step ups, TKE, sports cord, leg press, Total Gym, reformer)
- Joint mobilization and assisted ROM

- Proprioceptive exercises using wobble boards, trampolines, pneumatic disks
- Modalities to control pain and inflammation
- Continue ther ex for non-involved regions to maintain needed functional Strength
- Progress HEP

Phase III Rehab (weeks 7-12):

Goals

- *Returning the patient to their pre-morbid status (ADLs, walking for exercise)*
- *Further improvement of ROM past 110 degrees*
- *Gain eccentric-concentric control of limb*
- *Walk independently without assistive devices without community barriers*
- *Greater emphasis on patient responsibility of their own exercise regimen (owning the HEP)*
- *Discharge planning*

Treatment:

- Directed to residual restrictions in ROM, Strength, or function
- Progress HEP and determine independence in preparation for discharge
- Modalities for any pain or inflammation control