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Total Knee Replacement

General Considerations:

- Regardless of type of prosthesis, knee is immobilized for 1-2 days, although cementless arthroplasty may require longer immobilization (ask physician)

Phase I

Immediate Postoperative Phase (Day 0 - 10)

Goals:

- Active quad contraction
- Safe independent ambulation with walker or crutches as needed
- Passive knee extension to 0 degrees
- Knee flexion to 90 degrees or greater
- Control of swelling, inflammation, bleeding

Day 0-2:

- Weight bearing as tolerated with walker/2 crutches as needed starting on Day 0-1
- Cryotherapy immediately and continuously unless ambulating
- ROM of knee to begin immediately post op
- Exercises
- Ankle pumps
- Passive knee extension to 0 degrees
- SLR
- Quad sets
- Knee flexion to at least 90 degrees
- Knee extension to 0 degrees
- Instruct in gait training - safe transfers

Day 3-10:

- Weight bearing as tolerated with walker/2 crutches as needed
- Cryotherapy
- Exercises
- Ankle pumps
- Passive knee extension to 0 degrees
- SLR
- Quad sets

- AAROM - Knee flexion to at least 90 degrees
- Hip adduction/abduction
- Instruct in gait training - safe transfers
- Start stationary bike, low resistance

Phase II: Motion Phase (Week 2-6)

Goals:

- Improve ROM
- Enhance muscular strength, endurance
- Dynamic joint stability
- Diminish swelling/inflammation
- Establish return to functional activities

Criteria to enter Phase II:

- Leg control, able to perform SLR
- AROM 0-90 degrees
- Minimal pain/swelling
- Independent ambulation/transfers

Weeks 2 -4:

- WBAT with assistive device as needed. Wean from walker to cane or
- from 2 crutches to 1 by 2 weeks. Wean off all assistive devices by no later
- than 4 weeks.

Exercises:

- Quad sets
- SLR
- VMO recruitment during quad sets and SLR
- Knee extension 90-0 degrees
- Terminal knee extension 45-0 degrees
- Hip abduction/adduction
- Hamstring curls
- Knee flexion to at least 115 degrees
- Stretching:
- Hamstrings
- Gastroc/soleus
- Quads
- Passive knee extension stretch

- Continue stationary bike and advance resistance as tolerated
- Continue cryotherapy
- Patellofemoral mobilization
- Incision mobilization
- Patients may begin to drive if they are no longer using assistive devices
- for ambulation (about 2 weeks post op)

Weeks 4-6:

- Exercises:
 - o Continue previous exercises
 - o Initiate front and lateral step ups
 - o Advance resistance on stationary bike
- Initiate progressive walking program
- Initiate endurance pool program, swimming with flutter kick
- Return to functional activities
- Continue compression, ice, elevation as needed for swelling
- Patients should be walking and driving independently at this point

Phase III: Intermediate Phase (Weeks 7-12)

- Goals: Progression of ROM to greater than 115 degrees
- Enhancement of strength and endurance
- Eccentric/concentric control of limb
- Cardiovascular fitness
- Functional activity performance
- Criteria to enter Phase III:
 - ROM 0-115 degrees
 - Voluntary quad control
 - Independent ambulation
 - Minimal pain

Weeks 7-12:

- Exercises: Continue previous exercises
- Continue pool activities
- Continue walking
- Continue stationary bike
- Aggressive AROM 0-115 degrees
- Strengthen quad/hamstrings

Phase IV: Advanced Activity Phase (Weeks 12 and beyond)

Goals:

- Allow patients to return to advanced level of function such as recreational sports
- Maintain/improve strength and endurance of lower extremity
- Return to normal life and routine

Criteria to enter Phase IV:

- Full non painful ROM 0-115
- Strength 90% of contralateral limb (if contralateral limb is normal)
- Minimal pain and swelling
- Satisfactory clinical examination
- Exercises:
 - o Quad sets
 - o SLR
 - o Hip abduction/adduction
 - o Step ups
 - o Knee extension
 - o Stationary bike
- Swimming
- Walking
- Stretching 0-115 degrees
- Return to pre op activities and develop HEP to maintain function of leg.

NO SQUATS OR LUNGES AT ANY TIME!