

Rehabilitation Following Total Knee Arthroplasty

Phase I – Immediate Postoperative Phase (Day 1 to 10)

- Goals:
1. Active Quadriceps muscle contraction
 2. Safe (isometric control), independent ambulation
 3. Passive knee extension to 0 degrees
 4. Knee flexion to 90 degrees or greater
 5. Control of swelling, inflammation, bleeding

Day 1 to 2

Weight Bearing – Walker/two crutches WBAT
CPM – 20 to 70 degrees as tolerated
Cryotherapy – Commercial unit used continuously
Exercises:
Ankle Pumps with leg elevation
Passive knee extension exercise
Straight leg raises (SLR)
Quad sets
Knee extension exercise 90 – 30 degrees
Knee flexion stretches (gentle)

Day 4 to 10

Weight Bearing – As tolerated
CPM – 0 to 90 degrees as tolerated
Exercises:
Ankle Pumps with leg elevation
Passive knee extension stretch
Active assistive ROM knee flexion
Quad Sets
Straight Leg Raises
Hip abduction/adduction
Knee extension exercise 90 – 0 degrees
Continue use of cryotherapy

Gait Training – Continue safe ambulation
Instruct in transfers

Phase II – Motion Phase (Week 2-6)

- Goals:
1. Improve range of motion
 2. Enhance muscular strength/endurance
 3. Dynamic joint stability
 4. Diminish swelling/inflammation
 5. Establish return to functional activities
 6. Improve general health

Criteria to enter Phase II:

1. Leg control, able to perform SLR
2. Active ROM 0-90 degrees
3. Minimal pain/swelling
4. Independent ambulation/transfers

Week 2-4

Weight Bearing – WBAT with assisted device

Exercises:

Quad Sets
Knee extension exercise 90-0 degrees
Terminal knee extension 45-0 degrees
Straight leg raises (flexion/extension)
Hip abduction/adduction
Hamstring curls
¼ squats

Stretching

Hamstrings, Gastrocnemius, Soleus, Quads

Bicycle ROM Stimulus

Continue passive knee extension stretch

Continue use of cryotherapy

Discontinue use of TEDS hose at 2-3 weeks (physician's approval)

Week 4-6

Exercises:

Continue all exercises listed previously

Initiate:

Front and lateral step-ups (minimal height)

¼ front lunge

Pool program

Continue compression, ice, elevation for swelling

Phase III – Intermediate Phase (Week 7-12)

Goals: 1. Progression of ROM (0 to 115 degrees and greater)

2. Enhancement of strength/endurance

3. Eccentric/concentric control of the limb

4. Cardiovascular fitness

5. Functional activity performance

Criteria to Enter Phase III

1. Range of motion 0-110 degrees
2. Voluntary quadriceps muscle control
3. Independent ambulation
4. Minimal pain/inflammation

Week 7 – 10

Exercises:

Continue all exercises listed in Phase II

Initiate progressive walking program

Initiate endurance pool program

Return to functional activities

Lunges, ½ squats, step ups (2" to start)

Emphasize eccentric/concentric knee control

Phase IV – Advanced Activity Phase (Week 14-26)

Goals: 1. Allow selected patients to return to advanced level of function (recreational sports)

2. Maintain/improve strength and endurance of lower extremity

3. Return to normal life style

Criteria to enter Phase IV

1. Full non-painful ROM 0-115 degrees

2. Strength of 4+/5 or 85% of contralateral limb
3. Minimal to no pain and swelling
4. Satisfactory clinical examination

Exercises:

Quad Sets

Straight leg raises (flexion/extension)

Hip abduction/adduction

½ squats

Lateral step ups

Knee extension exercises 90-0 degrees

Bicycle for ROM stimulus and endurance

Stretching

Knee extension to 0 degrees

Knee flexion to 105 degrees

Initiate gradual golf, tennis, swimming, bicycle, walking program