Phase 1: Immediate Postoperative Phase-Days 1-10

- **Goals**
  - Active quadriceps muscle contraction
  - Safe (isometric control), independent ambulation
  - Passive Knee extension to 0 degrees
  - Knee flexion to 90 degrees or greater
  - Control of swelling, inflammation, and bleeding

**Days 1-2**
- **Weight-bearing**
  - Walker/two crutches WBAT
  - Continuous Passive Motion
    - 0-60 degrees and increase as tolerated if stable wound, and no contraindications. Take knee out of CPM several times a day and place pillows under the ankle (not the knee) to encourage passive knee extension

**Cryotherapy**
- Commercial unit used

**Deep Vein Thrombosis Prophylaxis**
- Per physician

**Exercises**
- Ankle pumps with leg elevation
- Passive knee extension stretch
- SLR if not contraindicated
- Quad sets
- Knee extension exercise 90-30 degrees
- Knee flexion exercises (gentle)

**Days 4-10**
- **Weight bearing**
  - As tolerated

**Continuous Passive Motion**
- Continue as tolerated

**Exercises**
- Ankle pumps with leg elevation
- Passive knee extension stretch
- Active-assisted ROM knee flexion
- Quad sets
- SLR
- Hip abduction-adduction
- Knee extension exercise 90-0 degrees
- Continue use of cryotherapy

**Gait Training**
- Continue safe ambulation
- Instruct in transfers

**Phase 2: Motion Phase—Weeks 2-6**

Criteria for Progression to Phase 2
- Leg control, able to perform SLRs
- Active ROM 0-90 degrees
- Minimal pain and swelling
- Independent ambulation and transfers

**Goals**
- Improve ROM
- Enhance muscular strength and endurance
- Dynamic joint stability
- Diminish swelling and inflammation
- Establish return to functional activities
- Improve general health

**Weeks 2-4**

Weight-bearing
- WBAT with assistive device

**Exercises**
- Quad sets
- Knee extension exercise 90-0 degrees
- Terminal knee extension 45-0 degrees
- SLR (flexion-extension)
- Hip abduction-adduction
- Hamstring curls
- Squats
- Stretching
  - Hamstrings, gastrocnemius, soleus, quads
- Bicycle ROM stimulus
- Continue use of cryotherapy
Weeks 4-6
Exercises
- Continue all exercises listed above
- Initiate
  - Front and lateral step-ups (minimal height)
  - Front lunge
  - Pool program
  - Continue compression, ice, and elevation for swelling

Phase 3: Intermediate Phase-Weeks 7-12
Criteria for Progression to Phase 3
- ROM 0-110 degrees
- Voluntary quadriceps muscle control
- Independent ambulation
- Minimal pain and inflammation

Goals
- Progression of ROM (0-115 degrees and greater)
- Enhancement of strength and endurance
- Eccentric-concentric control of the limb
- Cardiovascular fitness
- Functional activity performance

Weeks 7-10
Exercises
- Continue all exercises listed in phase 2
- Initiate progressive walking program
- Initiate endurance pool program
- Return to functional activities
- Lunges, squats, step-ups (small 2-inch step to start)
- Emphasize eccentric-concentric knee control

Phase 4: Advanced Activity Phase-Weeks 14-26
Criteria for Progression to Phase 4
- Full, nonpainful ROM (0-115 degrees)
- Strength of 4+/5 or 85% of contralateral limb
- Minimal or no pain and swelling
- Satisfactory clinical examination

Goals
- Allow selected patients to return to advanced level of function (recreational sports)
- Maintain and improve strength and endurance of lower extremity
- Return to normal lifestyle
Exercises

- Quad sets
- SLR (flexion-extension)
- Hip abduction-adduction
- Squats
- Lateral step-ups
- Knee extension exercise 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