Total Knee Arthroplasty Rehabilitation Protocol

Phase 1:
Goals
• Decrease Pain and Inflammation
• Regain full Extension (PROM/AAROM)
• Restore normal patellofemoral joint mobility.
• Demonstrate good neuromuscular control for daily functional activities.
  Normalize gait with least restrictive assistive device (LRAD)
• Aggressive pursuit of knee extension to 0 and knee flexion to 90 (PROM, AAROM)
• Scar Management

Week 0-2
• ROM Exercises (PROM, AAROM, AROM)
  • Emphasize full extension equal to contralateral knee
  • Knee flexion to at least 90 and extension to zero at 2 week follow up appointment.
• Flexibility exercises:
  • PROM, AAROM exercises with knee flexion and extension
• Quadriceps Exercises:
  • Quadriceps sets and straight leg raises
  • Quadriceps recruitment techniques.
• Gait Training:
  • Weight bearing as tolerated (WBAT) unless noted otherwise.
  • Progress gait pattern to step through with LRAD as tolerated.
  • Maintain upright posture during gait.
• Non-Impact Exercises:
  • Stationary bicycle, recumbent bicycle
• Criteria for Driving:
  • Must remain off the prescribed pain medications during the daytime
  • Demonstrate the necessary AROM to operate motor vehicle in addition to the reaction time required to act in an emergency situation.

Weeks 3-6
• Scar Management:
  • Self daily Bio Oil Applications
• ROM Considerations:
  • Ensure full extension (PROM, AAROM, AROM)
  • Aggressively pursue full knee flexion (PROM, AAROM, AROM).
• Hamstring Exercises:
  • Open chain kinetic strengthening.
• Quadriceps Exercises:
  • Progressive Open and Closed chain kinetic strengthening.
  • Proprioception Exercises

Phase 2:
Goals
• Improve strength of affected to that of contralateral side.
• Progress gait training to independent ambulation without assistive device or previous assistive device with step through pattern.
• Mastery of diverse functional activities.

Weeks 7-9

• Strengthening Activities:
  • Increase intensity of open and closed kinetic chain quadriceps exercises.
  • Continue progression with hamstring exercises
  • Generalized lower extremities and trunk training
• Gait Training:
  • Aggressive correction of any remaining gait abnormalities.
• Criteria to begin golf/tennis:
  • Full knee extension
  • No knee effusion
  • Adequate quadriceps neuromuscular control
  • Institute easy controlled pivoting, plyometrics when appropriate neuromuscular control is demonstrated.

Weeks 10-12

• Strengthening Exercises:
  • Increase intensity for open chain kinetic quadriceps exercises.

Phase 3:
Goals
• Approximate muscular strength of contralateral lower extremity.
• Normalize gait pattern.
• Mastery of sport specific activities (If indicated) in preparation for return to sports.

Weeks 13-16

• Intense lower extremity weight training program.
• Institute aggressive sport specific training program (If indicated).

Phase 4:
Goals
• Return to sports is planned for a minimum of 2 months after Total Knee Arthroplasty.