TOTAL KNEE ARTHROPLASTY PROTOCOL

PHASE: PRE-OPERATIVE
1. No specific precautions at this time; weight bearing per physician’s orders.
2. Instruct patient in type of chairs that would be appropriate after surgery.
3. Review layout of home and instruct in possible needs (ie handrails at steps).
4. Review with patient possible equipment needs (ie walker, crutches) and insurance carrier to determine if specific supplier is required.
5. Instruct patient on lower extremity exercises included in pre-op handout
6. Instruct patient in R.I.C.E. principles (Relative Rice, Ice, Compression, Elevation)
7. Functional Training:
   - Ambulation using walker (discuss WB)
   - Transfers to/from chair and mat table
   - Bed mobility supine to/from sitting and scooting
   - Ascending and descending stairs
8. Determine needs at home, functional limitations, rehab potential, and potential to return home
9. Measure pre-operative knee flexion and extension
10. Assess pre-operative baseline for amb, stairs, transfers, and bed mobility

PHASE: HOSPITAL STAY POST-OP
1. Weight bearing per physician’s orders.
2. Communicate with nursing staff and/or physician regarding medical needs and concerns.
3. Swelling management:
   - Elevation, compressive wrap (occupational therapy), Cryotherapy, pulse boots
4. No pillow under knees
5. Towel roll/pillow under lower calf for relief of heel pressure and allow some knee extension stretch.
6. Therapeutic Exercise:
   - Ankle pumps, quad sets, hamstring sets, glut sets, SLR, TKE, heel slides, hip abduction
   - Knee flexion and extension stretches (ROM goals <5° extension and >90° flexion)
   - Extension/Flexion stretching techniques (contract/relax, low intensity with short/long duration, etc)
7. *Initiate ambulation post-op day #1 using walker. Progress up to 150-200 feet.
8. *Initiate transfers post-op day #1 from chair and bed.
9. *Initiate bed mobility post-op day #1 supine to/from sitting and scooting.
   *Limitations to initiate these skills may be present due to medical factors.
10. Train patient in ascending and descending stairs when functionally ready.
11. Discuss with rehab team patient’s progress, potential for D/C, problems, concerns, and other medical/social conditions. If D/C to home is inappropriate, discuss with team other possibilities. Communicate with patient and family services regarding equipment needs.
12. Assess level of pain with 0-10 scale to monitor post-operative status and to gain D/C baseline.
PHASE I (0-4 week) Acute Management (Outpatient, Nursing Home, Home Health)

1. Weight bearing per physician’s orders.
2. Communicate with physician regarding medical needs and concerns including pain control and possible needs for medication changes/refills.
3. Swelling management:
   - Elevation, compressive wrap (occupational therapy lymphedema program), Cryotherapy
   - If lymphedema does not improve, refer for outpatient lymphedema program
4. No pillow under knees; towel roll/pillow under lower calf for relief of heel pressure and facilitate knee extension stretch is okay
5. Therapeutic Exercise:
   - Ankle pumps, quad sets, hamstring sets, glut sets, SLR, TKE, heel slides, hip abduction
   - Patella mobs, scar mobs, A/P mobs
   - ROM activities: bike, NuStep, Leg press stretching, extension board, CPM – biodex
   - Extension/flexion stretching techniques (contract/relax, low intensity with short/long duration, etc.
   - Initiate use of weight machines to progress strengthening.
   - Biodex to begin multi-speed strengthening.
   - Progress HEP to higher level activities (ie. Step-up progression, wall squats, lunges, CKC’s, etc)
   - Initiate balance and functional activities as indicated.
   - Use therapeutic pool for ROM, strength, and inflammation.
6. Continue ambulation training progressing from walker to cane to no assistive device.
7. Continue training patient in ascending and descending stairs with normal gait sequence.
8. Assess level of pain with analog 0-10 scale to monitor outpatient status and to gain D/C baseline.

Goals:

1. Pt will ambulate 300 feet with/without a cane with little to no deviation.
2. Pt will ascend/descend stairs using alternating pattern with only minor deviation and quad weakness.
3. Pt will attain 0° knee extension PROM/AROM.
4. Pt will attain 120° knee flexion PROM/AROM.
5. Pt will have initiated progression of balance and proprioceptive training.
6. Pt’s HEP will be progressed as tolerated.
PHASE II (5-12 Week) Subacute

1. May begin cautious kneeling with approval of physician.
2. Communicate with physician regarding medical needs and concerns.
3. Swelling: compressive wrap (per occupational therapy – lymphedema program)
4. Therapeutic Exercise:
   - Patellar mobs, A/P mobs, scar mobs as indicated
   - ROM activities, bike, NuStep, leg press stretching, extension board, CPM-biodex
   - Extension/Flexion stretching techniques (contract/relax, low intensity with short/long duration, etc)
   - Weight machines to progress strengthening.
   - Biodex for multi-speed strengthening.
   - Initiate balance and functional activities as indicated.
   - HEP/Functional maintenance program/Fitness Center program training prior to D/C.
   - Therapeutic pool for ROM, strength, and inflammation.
   - Complete return to work/activity training specific to patient’s needs.

Goals:
1. Pt will ambulate 300 feet without an assistive device with no deviation.
2. Pt will ascend/descend stairs using alternating pattern with no deviation and good quad control.
3. Pt will continue to progress toward or maintain 0° knee extension PROM/AROM.
4. Pt will continue to progress toward or maintain 120° knee flexion PROM.
5. Pt will have completed training for return to work and/or activities.
6. Pt will be independent with HEP, functional maintenance program, or fitness center.