

PHYSICAL THERAPY PROTOCOL

UNICOMPARTMENTAL KNEE ARTHROPLASTY

Mary Langhenry, PT, OCS
(with the advisement of Mitchell Sheinkop, MD)

This is a general protocol for rehabilitation for Dr. Sheinkop's patients. Progression through each phase should be individualized and take into consideration patient status and physician advisement. Remember the response and needs of each patient will vary. The following are principles and not necessarily applicable in all cases. Aggressive exercises and strong motivation by the patient and rehab team will afford greater success for the patient. Please consult with the office if there are any questions 773-250-0480.

General Guidelines:

- ◆ Weight bearing as tolerated (WBAT) throughout rehab (usually progressing to 1 crutch/cane in 1-2 weeks in contralateral hand)
- ◆ Achieve max knee range of motion (ROM) as allowed by the prosthetic design and limited only by the patient's potential (avg ROM achieved 130 °)
- ◆ Individual ROM goal is equal to what was obtained intraoperatively
- ◆ **Initial, aggressive, early knee flexion ROM emphasized over strengthening!**
- ◆ **Terminal knee extension ROM emphasized!**
- ◆ If 95° AROM not achieved by 3 weeks post-operatively, contact the office
- ◆ 6-12 weeks mild warmth/swelling expected in the knee and possibly in the calf/foot up to 1 year
- ◆ Ice the knee for swelling and pain relief as needed – 20 minutes on / 20 minutes off
- ◆ Home and outpatient progress and discharge reports to the physician should include the following data: gait quality, distance ambulating, assistive device, ROM: active (A) flexion and extension in sitting- passive (P) extension in prone with anterior thigh roll, quadriceps strength, circumferential measurements of the knee and thigh (3" proximal), number of PT visits

Intra-op ROM	°
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INITIAL POST-OP PHASE (weeks 1-2)

Goals:

- 1). Independent, safe ambulation, transfers, and activities of daily living (ADLs) with appropriate assistive device
- 2). Facilitate and enhance quadricep/hamstring muscular contraction
- 3). Teach pain management and edema control
- 4). Improve ROM 15° weekly
- 5). Independent home exercise program (HEP)

Program:

- ✓ Post-operative day 1: Twice a day in PT department for transfer/gait training and teach ADLs/exercise
- ✓ Length of hospital stay: 1-3 days
- ✓ Home-PT daily for one week, then three times a week
- ✓ Quadriceps/hamstring facilitation and strengthening, continued ambulation

- ✓ Passive knee extension overpressure to assure terminal extension ROM, prone hangs, followed by backwards walking with toe→heel gait pattern with quad set
- ✓ Towel roll under operative ankle at rest with toes pointed towards ceiling, not externally rotated, for passive knee extension
- ✓ A/AA/P flexion ROM
- ✓ NMES to quads if necessary
- ✓ Progressive resistive exercise (PRE) for LE strengthening (hip, knee, calf)
- ✓ Patellar and soft tissue mobilization techniques
- ✓ Bridging progression
- ✓ Core strengthening
- ✓ Home program instruction
- ✓ Begin closed chain exercise

INTERMEDIATE PHASE (weeks 3-4)

Critical Issues:

- ◆ Full extension ROM!
- ◆ **Minimum 95° flexion ROM by end of week 3!** If this is not achieved contact Mary Langhenry, PT at 312-250-0480. Further intervention (injection or manipulation) by surgeon may be necessary to prevent arthrofibrosis
- ◆ Staples out at week 3, scar tissue mobilization initiated when wound healed
- ◆ Aggressive soft tissue mobilization to prevent adhesions
- ◆ Advance/eliminate assistive device utilization where relevant only if minimal gait deviation
- ◆ **Progression to an outpatient physical therapy setting** from home care should be initiated as early as tolerable when appropriate. If a new prescription is necessary contact the office
- ◆ Aquatic rehabilitation initiated if possible in addition to land based when wound closed and medically stable
- ◆ Driving allowed when off narcotics, for a left surgical knee at 3 weeks and right surgical knee at 6 weeks
- ◆ Discharge ted-hose at 4 weeks or whenever off Coumadin

Goals:

- 1). Independent ambulation on all surfaces
- 2). Enhance muscular strengthening and endurance
- 3). Full extension ROM as measured prone with anterior thigh roll by week 3
- 4). 125° flexion ROM
- 5). Enhance balance/proprioception
- 6). Dynamic joint stability

Program:

- ✓ Continue initial phase program
- ✓ Stationary bicycle (hi/low seat and progress to unilateral)
- ✓ Progressive strengthening/endurance (concentric/eccentric control & open/closed kinetic chain)
- ✓ Balance & proprioceptive work
- ✓ Flexion & extension ROM

ADVANCED PHASE (weeks 5-6)

Goals:

- 1). Functional ambulation-quality and distance
- 2). ROM 0°-135°
- 3). Functional strength and endurance of LE
- 4). Gradual return to prior level of activity/normal lifestyle/sporting activities
- 5). Flexibility program
- 6). Instruct in kneeling
- 7). Upgraded, independent HEP (include education in progressive advanced strength training for one year post-op)

Program:

- ✓ Continue intermediate phase and add functional training
- ✓ Emphasize eccentric knee control during functional activities
- ✓ Neuromotor control activities
- ✓ Perturbation activities
- ✓ Instruct in kneeling
- ✓ Normalize muscle lengths (hamstrings, gastrocnemius/soleus, quadriceps, iliotibial band, hip flexors and external rotators)
- ✓ Sport specific rehabilitation if appropriate

MAINTENANCE: (indefinite)

- ✓ Aquatic based exercises
- ✓ Closed kinetic chain strengthening and neuromotor control
- ✓ Follow-up PT visits at 6 and 12 months postoperatively to upgrade home exercise program

- ❖ Acceptable activities: swimming, biking, walking, dancing, golfing and bowling (low impact activities)
- ❖ Elastic stockings (ted-hose) should be worn with airplane travel for up to 1 year post-operatively
- ❖ Exercise should become a lifetime commitment to lengthen the survivorship of your new joint

LIFELONG RESTRICTIONS:

- ❖ **No high impact activities (ie- running and jumping)**
- ❖ **No continual carrying heavy loads >40 lbs (ie-20 times a day, 5 days a week). Occasional lifting allowed**

