



Total Knee Arthroplasty Program

T.J. Panek, MD

KEY STRATEGIES FOR SUCCESS:

- Regain Functional Independence
 - Relearn how to:
 - Walk with an assistive device (walker I cane)
 - Transfer to and from bed, chairs, commode, shower I tub and cars
 - Ascend and descend stairs
 - Balance on level and uneven ground
 - Get dressed, especially shoes and socks
- Perform Progressive Strengthening Exercises
 - Early phase exercises for circulation, edema contro range of motion, and muscle control
 - Advanced phase exercises for strengthening, flexibility, and endurance
 - Individualized functional exercises to meet patient and therapist goals
- Utilize Ice and Elevation to Decrease Pain and Swelling
 - Ice knee 3-5 times/day, 15-20 minutes at a time, with leg elevated above heart
 - Ice after exercises to decrease post-exercise soreness
- Compliance with Home Exercise Progam (HEP)

KNEE PRECAUTIONS:

- No pivoting or twisting on the operative leg.
- Monitor the incision for signs of infection including: redness, discoloration, or excessive drainage or pus).
- Keep the operative leg in front of the non-operative leg, especially when going from sit to stand, for the first 2 weeks or until the knee is able to bend to 90 degrees.
- Do not apply any form of heat to the knee or aggressively massage it for the :first 2-3 weeks.
- No direct weight bearing on the operative knee (i.e. kneeling, hands and knees).
- Do not place a pillow under the operative knee while sleeping or resting. You want to allow the knee straighten as much as possible. You may sleep with a pillow between your knees for comfort.
- Weight bearing status: weight bearing as tolerated (WBAT) to full weight bearing (FWB) as per physician's orders.

- Avoid walking barefoot. Wear supportive shoes or sandals to avoid unwanted stress on the knee.
- Stair: when ascending stairs, the "good" leg goes first, followed by the operative leg and the walker or cane. When descending stairs, the walker, or cane go first, followed by the operative leg and then the "good" leg. Remember, "up with the good leg, down with the bad leg".

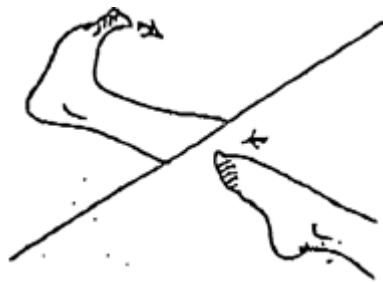
PHASES OF REHABILITATION:

(Knee range of motion goals in parentheses)

- PHASE I: Date of surgery through post-op day 7 (0-5° extension to 90° flexion)
- PHASE II: Post-op day 7-4 weeks (0° extension to 110-115° flexion)
- PHASE III: 4+ weeks post-op (0° extension to 115-125° flexion)

PHASE I EXERCISES:

- 1a.) Ankle Pumps - Can be done lying on your back or sitting. Slowly pull your foot toward your shin, bending at the ankle joint, then push your foot down as far as possible.



- 1b.) Ankle Circles - Draw large slow circles with your foot clockwise and counter clockwise.



Repeat _____ times, _____ times/day

- 2) Isometric Quadriceps Sets -Lie or sit on a flat surface with your legs straight. Tighten the muscle on the front of your thigh, pressing the back of the knee down into the surface. Hold for 5 seconds and relax.

Repeat _____ time, _____ times/day



- 3a) Heel Slides – lie on your back and slowly slide the heel of the operative leg, towards your buttocks, bending your knee as far as you can. Hold for 5-10 seconds. Slowly return to the straightened position.



- 3b) You may use a towel to assist with the heel slides



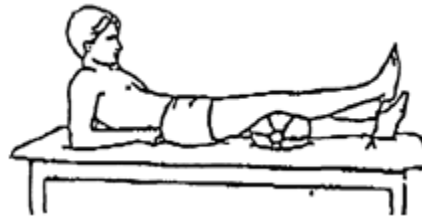
Repeat _____ time, _____ times/day

- 4) Adduction Squeeze – Sitting or lying down with your knees bent, place a large pillow or ball between your knees. Squeeze your legs together. Hold for 5-10 seconds.



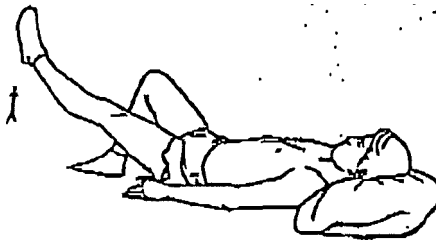
Repeat _____ time, _____ times/day

- 5) Short Arc Quds – Lie on your back with a bolster under the knee of your operative leg. Keep your thigh still and try to lift your heel off the bed to straighten the knee completely. Hold for seconds and relax.



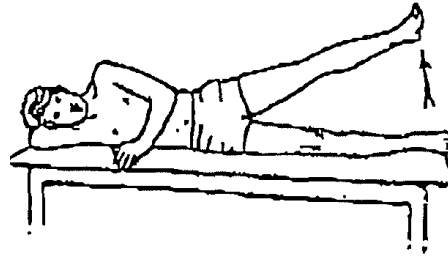
Repeat _____ time, _____ times/day

- 6) Straight Leg Raise – Lie on your back with your non-operative leg bent. Tighten the thigh muscle of the operative leg and raise the operative leg 8-12 inched off the surface. Hold seconds. Slowly lower the leg. Do not hold your breath.



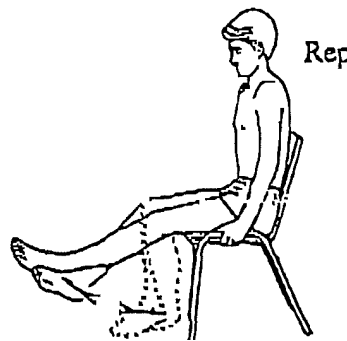
Repeat _____ time, _____ times/day

- 7) Side Lying Hip Abduction – Lie on nonoperative side, tighten the muscle on front of thigh, then lift operative leg 8-10 inches away from the other leg. Hold 3-5 seconds and relax.



Repeat _____ time, _____ times/day

- 8) Sitting Knee Range of Motion – Gently push the operative leg back with the good leg until you feel a stretch. Hold for 15 seconds and relax. With the good leg underneath the operative leg, slowly straighten the leg out.



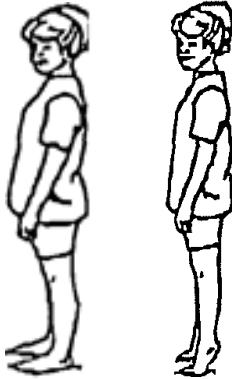
Repeat _____ time, _____ times/day

- 9) Knee Extension Stretch – Place a small/medium towel roll or bolster under the ankle. Relax the leg to promote knee extension. Perform several times per day for 10 minutes.



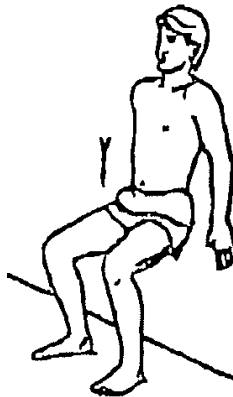
Repeat _____ time, _____ times/day

- 10) Standing Calf Raiser – Hold onto a counter or table for balance. Rise up on the balls of your feet.



Repeat _____ time, _____ times/day

- 11) Standing Mini-Squat – Leaning with the back to a wall or holding onto a counter or table for support, slowly bend knees to about 30-40 degrees. Hold for 5 seconds and return to the upright position.



Repeat _____ time, _____ times/day

- 12) Standing Lateral Weight Shift – Standing with feet shoulder width apart, slowly shift weight from side to side to increase weight bearing on the operative leg.

Repeat _____ time, _____ times/day

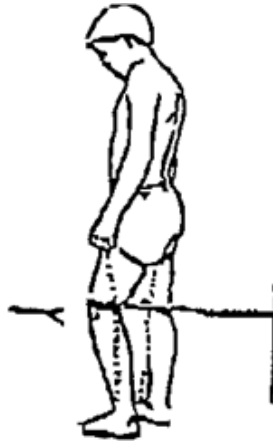
PHASE II EXERCISES: DAY 7 -4 WEEKS

- Resistive exercises of phase I exercises
 - Ankle pumps with theraband
 - Straight leg raises and hip abductions with cuff weight
 - Short arc quads with cuff weight
 - Sitting knee extension with cuff weight
 - Sitting knee flexion with theratubing
 - Retro treadmill walking
 - Standing terminal knee extension TKE with grey theraband - Keep heel down and weight on the operative leg. Straighten knee against resistance of the theraband. Do not hyper extend the knee. Slowly release.



Repeat _____ time, _____ times/day

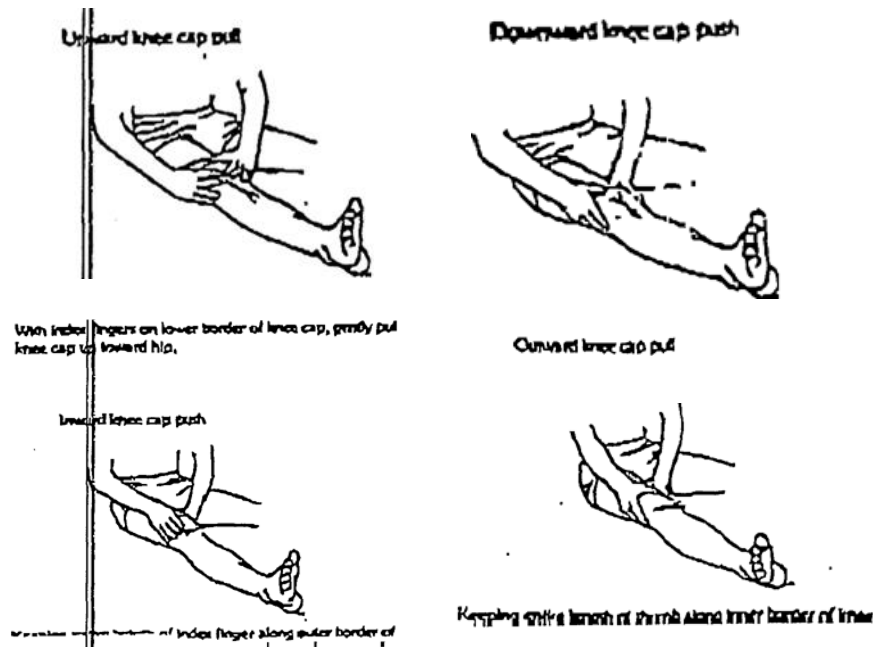
- Standing knee flexion with gray theraband -Keep heel down and weight on the operative leg. Bend knee against resistance of theraband. Slowly release.



Repeat _____ time, _____ times/day

- Continue to increase range of motion (ROM) of operative knee.
 - Manual techniques -use over pressure as needed
 - Recumbent bike.rocks
 - Total gym squats
 - Sitting knee flexion/extension stretch
 - Functional ROM exercises (i.e. lunges)
- Stretching of posterior structures of the knee.
 - Hamstring stretches
 - Gastroc/soleus stretches
- Work on GAIT PATTERN and stair training.
- Emphasize strengthening of quadriceps, especially controlling terminal knee extension.
- Prone knee flexion/prone weighted bangs after staples are removed if you can tolerate prone position.
- Standing knee flexion (open chain), steamboats, balance / proprioception activities. Functional exercise activities.
- Pool exercises may be initiated depending on healing of incision.
- Soft tissue massage for edema control utilizing vitamin E lotion; cross friction massage to incision to decrease scar tissue.
- Patellar mobilizations -especially superior I inferior glides (see instructions and pictures below)
- Biking can begin as early as 7 days post op.

- Golf can begin at week 4-6 with cart. If okayed by MD.



PHASE III EXERCISES:

1. Progress to cardiovascular activities with physician's approval.
2. Progress to lesser gait device.
3. Progress with functional exercise activities and progression of exercises as able.

GOALS FOR 4-6 WEEKS POST-OP:

- Degree extension to 115-125 degrees flexion
- Near normal strength of quadriceps and hamstrings
- No extensor lag of the operative knee
- Normal gait pattern (no pain, no assistive device, no limp)
- Independent with all ADL's (activities of daily living)
- Independent with all functional activities