

## Total Knee Arthroplasty Rehabilitation Program

The rehabilitation protocol following *Total Knee Replacement* is an integral part of the recovery process. This document includes instructions, and a detailed rehabilitation protocol. It is provided to you with the aim of maximizing the success of your post-surgical recovery.

Immediately following discharge from the hospital, please contact your physiotherapist in order to schedule you in and to begin your recovery process. This involves the following three phases: *early*, *progressive*, and *advanced*. The duration of each phase will vary between individuals.

- 1) The **early phase** involves seeing your surgeon as directed and regular visits with Dr. Rodriguez-Elizalde for treatment and early exercises.
- 2) The **progressive recovery** phase is designed to transition you from your early exercises and treatment to predominantly active care. This is accomplished by co-management of your care by physiotherapists, where your visits will include passive and/or manual therapies along with one-on-one exercise rehabilitation. Visits with your surgeon may still be required, however this will be determined on an individual basis.
- 3) The **advanced phase** begins as you approach full function. You should continue to have regular one-on-one exercise rehabilitation visits which will help you return to unrestricted, full function and optimal levels of physical abilities. You may continue to have visits with your overseeing clinician as required, which will be determined on an individual basis.

This document is meant as a guideline and may vary between individuals based on their progress throughout the rehabilitation process. The following rehabilitation program extends across a 6-month period, however full recovery may take longer based on individual progress.

The main goals of recovery are the following:

- Optimal range of motion
- Optimal level of strength
- Achieve optimal function

The surgeon must be notified if any of the following are present:

- Persistent joint effusion or drainage
- Chronic pain
- Difficulty with ambulation
- Insufficient quadriceps control
- Inability to reach ROM and outcome measure targets
- Regression from achieved milestones

## PHASE 1: Early recovery

- Cryotherapy and elevation to decrease pain and inflammation
- Work on increasing extension and flexion ROM
- Work on normalizing gait, use of assistive devices as instructed
- Regain quadriceps control and minimize quad lag
- Regular applications of Polysporin and Bio Oil to the incision upon dressing removal for 2 weeks

### Week 0-2:

#### ROM

- Hamstring and calf stretches
- Patella mobilizations
- Seated leg hangs (if not at full extension)

#### Strengthening

- Calf pumps with resistance
- Seated terminal knee extensions
- Supine straight leg raises
- Active-assisted knee extension

### Week 3-4:

#### ROM

- Hamstring and calf stretches
- Patella mobilizations
- Seated leg hangs (if not at full extension)
- Supine wall slides into flexion

#### Strengthening

- Calf pumps
- Seated terminal knee extensions
- Supine straight leg raises
- Pelvic bridges
- Isometrics (knee flexion, knee extension)
- Active knee flexion/extension
- Wall sits (at 30°)

#### Proprioception

- Balance board (lateral, two feet)
- Single leg stance (1/4 squat position)
- Weight transfers (lateral)



## Week 5-6:

### Cardiovascular fitness

- Stationary bicycle (high seat, low resistance)

### ROM

- Supine wall slides into flexion
- Seated leg hangs with weight (if not at full extension)

### Strengthening

- Terminal knee extensions (standing with tubing)

- Supine straight leg raises (ankle weights < 10lbs)
- Side-lying hip abduction
- Pelvic bridges
- Isometrics (knee flexion, knee extension, hip adduction)
- Wall sits (at 30°)
- Leg press (70-10°)
- Active knee flexion/extension

### Proprioception

- Balance board (lateral, two feet)
- Single leg stance (1/4 squat position)
- Weight transfers (lateral)



## PHASE 2: Progressive recovery

- Continue to unilaterally increase strength of involved side
- Progress gait training to independent ambulation without assistive device
- Continue to develop quadriceps strength and eliminate quad lag if still present
- Return to daily activities as discussed with your surgeon

### Week 7-8:

#### Cardiovascular fitness

- Stationary bicycle
- Arc trainer or elliptical (short stride, low resistance)

#### ROM

- Continue as above if ROM goals not met

#### Strengthening

- Terminal knee extensions (standing with tubing)
- Supine straight leg raises
- Wall sits
- Mini squats (0-30°)
- Leg press (70-10°)
- Knee extension (90-0°, low-medium resistance)
- Hamstring curls (0-90°, low-medium resistance)

#### Proprioception

- Balance board (lateral, two feet)
- Single leg stance (1/4 squat position)
- Tandem walking

### Week 9-26:

#### Cardiovascular fitness

- Stationary bicycle
- Arc trainer or elliptical
- Walking

#### ROM

- Continue as above if ROM goals not met

#### Strengthening

- Supine straight leg raises
- Wall sits
- Mini squats (0-45°)
- Lateral step ups (2-4")
- Leg press (70-10°)
- Knee extension (90-0°)
- Hamstring curls (0-90°)

#### Proprioception

- Balance board (forward/back, single leg)
- Single leg stance (1/4 squat position)
- Tandem walking

## PHASE 3: Advanced recovery

- Strength of involved side approximately equal to uninvolved side
- Normalized gait pattern
- Return to activities as discussed with your surgeon

### After week 26

Continue as above, increasing the difficulty of the exercises and return to full activities as discussed with your surgeon. Bilateral strengthening if strength of involved side approximately equal to uninvolved side.