

# Pre-Operative Exercises for Partial and Total Knee Arthroplasty

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Many patients with arthritis of the knee avoid using their painful leg. Muscles become weaker, making recovery slower and more difficult. For this reason, it is very important to begin an exercise program before surgery to optimize your strength and flexibility. This will make recovery faster and easier.

It is important to maintain strength and maximum flexibility before undergoing a total joint replacement. Some basic exercises are listed here. You should plan on doing them for 15 to 20 minutes twice daily prior to surgery. Perform these exercises on both legs. The strength and flexibility you gain prior to surgery will improve your muscle memory and make for a smoother recovery.

You should also know that it is important to strengthen your entire body, not just your legs, before surgery. You can strengthen your arms by doing exercise such as chair push-ups, because you will be relying on your arms when walking with the walker or crutches, getting in/out of bed and chairs, and on/off the toilet. Light endurance activities such as walking or riding a stationary bicycle will help train your heart and lungs prior to surgery.



## Recommended Pre-Operative Knee Exercises

(You should not do not do any exercise that is too painful.)

- |                            |                             |
|----------------------------|-----------------------------|
| 1. Ankle Pumps             | 7. Seated Hamstring Stretch |
| 2. Quad Sets               | 8. Standing Heel/Toe Raises |
| 3. Gluteal Sets            | 9. Straight Leg Raise       |
| 4. Abduction and Adduction | 10. Knee Extension Stretch  |
| 5. Heel Slides             | 11. Standing Knee Flexion   |
| 6. Short Arc Quads         | 12. Armchair Push-ups       |

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## Pre-Op Knee Rehabilitation Guidelines

### Ankle Pumps

Flex and point your feet.

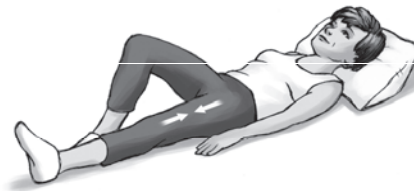
**Perform 20 times.**



### Quad Sets (Knee Push-Downs)

Lie on your back and press your knees into the mat by tightening muscles on the front of the thigh (quadriceps). Hold for a five count.

*Do NOT hold your breath.* **Perform 20 times.**



### Gluteal Sets (Bottom Squeezes)

Squeeze your bottom together.

Hold for a five count. *Do NOT hold your breath.* **Perform 20 times.**



### Hip Abduction and Adduction

#### (Slide Heels Out and In)

Lie on your back with toes pointed to ceiling and knees straight. Tighten thigh muscles and slide your leg out to side and back to starting position.

*DO NOT CROSS THE MIDLINE!*

**Perform 20 times.**



## Pre-Op Knee Rehabilitation Guidelines

### Heel Slides (Slide Heels Up and Down)

Lie on your back; slide heel up surface bending knee. **Perform 20 times.**



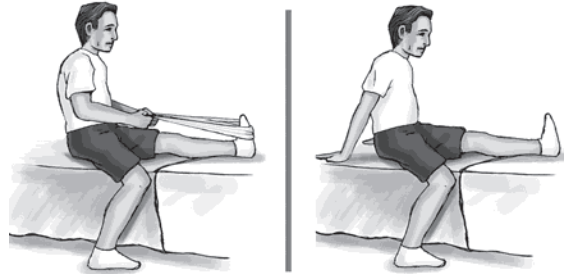
### Short Arc Quads

Lie on your back, place a 6-8 inch rolled towel under knee. Lift foot from surface, straightening knee as far as possible. *Do not raise your thigh off the towel.* **Perform 2 sets of 10 (total 20).**



### Seated Hamstring and Gastroc Stretch With or Without Strap

Sit on couch or bed with exercised leg extended and other leg dangling off side. Keeping exercised knee straight, gently lean forward until slight stretch is felt in back of thigh. As you become more flexible, use strap to pull up on foot. Hold for 20 to 30 seconds. **Perform 5 times.**



### Standing Heel/Toe Raises

Stand, with a firm hold on to a stationary object. Rise up on toes then back on heels. Stand as straight as possible. **Perform 2 sets of 10 (total 20).**



## Pre-Op Knee Rehabilitation Guidelines

### Straight Leg Raises

Lie on your back with unaffected knee bent and foot flat, tighten quad on affected leg and lift leg 12 inches from surface. Keep knee straight and toes pointed toward your head. **Perform 2 sets of 10.**



### Knee Extension Stretch

Sitting in comfortable chair, prop affected foot on chair or stool. Place towel roll under ankle so calf is unsupported, and apply an ice pack and 5 pound weight (or bag of rice) on top of knee. **Hold position for 15 minutes.**



### Standing Knee Flexion – Hamstring Curls

Stand, with feet shoulder width apart, toes pointing forward and hold on to a stationary object. Tighten your gluteal muscles, and bend surgical knee lifting foot off floor. Do not bend forward, or let hip bend. Try to keep a straight line from ear through shoulder to hip and knee. **Perform 2 sets of 10 (total 20).**



### Armchair Push-ups

Sitting in sturdy armchair with feet flat on floor, lean forward to front of seat and place your hands on the armrests. Straighten arms raising bottom up from seat as far as possible. Use your legs as needed to lift. Progress to using only arms and non-surgical leg to perform push-up. Do not hold breath or strain too hard. **Perform 2 sets of 10 (total 20).**

