

# TELAGE PROJECT

Efficacy of a home telerehabilitation approach following knee arthroplasty: a multicenter clinical trial.

**Advice and exercise  
program**

Name:

**If you have questions about your rehabilitation or the progress of the sessions of rehabilitation, do not hesitate to discuss about it with your physiotherapist during your next session. You can also contact your physiotherapist or the study coordinator at the following numbers:**

**Physiotherapist:**

**Coordinator:**

If your condition requires a medical intervention, contact your family doctor or go to the emergency of the nearest hospital.



## ADVICE

Continue to use your ambulation assist (walker, crutches, cane, according to the indications of your physiotherapist) until your physiotherapist indicates you to progress the ambulation or to stop its use.

1. Remove from your environment objects and accessories which can hinder your safety (carpet, slippers).
2. Stay mobile and change the position of your knee frequently.
3. Gradually increase the distance of walking with your ambulation assist. Make sure to be accompanied by someone during your first outings.
4. When standing, practice putting much weight on your operated leg as on your healthy leg. Remember this advice during your daily activities.
5. To go up or to go down the stairs: use a cane and a handrail if there is one. To ascend: raise the good leg first and then the cane and the operated leg; to descend: move the cane and the operated leg first, then the good leg.
6. Apply ice on your knee for 10 minutes, 2 to 3 times a day. You can use an ice pack sold in pharmacies or crushed ice in a bag. Protect your skin with a wet towel or paper towel.
7. Do not put a pillow under your knee in the sleeping position. Be sure to have an appropriate lighting if you have to move during the night.

## EXERCISES

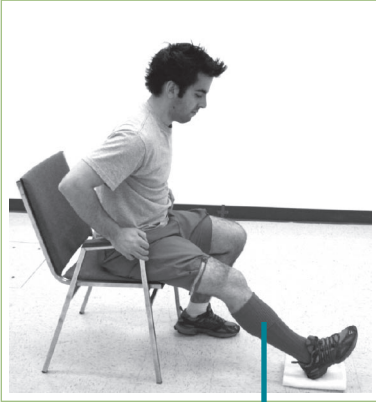
- Do the exercises recommended by your physiotherapist the days when you do not have supervised sessions.
- Knee pain may occur during exercise sessions. If it happens, apply ice to your knee for 10 minutes after the exercise session.
- If pain persists more than 2 hours after exercise, decrease the intensity of exercise and inform your physiotherapist during the next supervised session.
- **Remember to indicate in the table, at the end of this document, the exercises done on non-supervised sessions.**

Note: The leg with the black sock is considered the operated leg in all pictures of this exercise program.

# Increase the knee flexion

## STARTING POSITION

In a sitting position, put the foot of the operated leg on a towel.

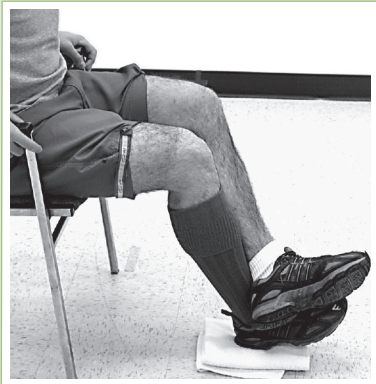


1.

Slide your foot under the chair as far as you can. Hold 15 seconds.

→ Operated leg = leg with black sock

## PROGRESSION



2.

Use the good leg to bend the knee more.

### ADVICE

The stretching sensation must be present but tolerable

Keep the foot aligned with the knee

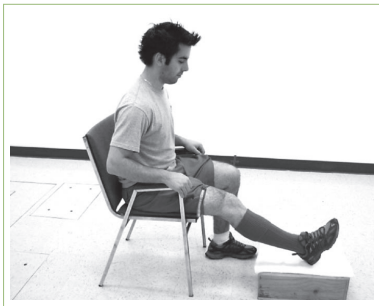
# Increase the knee extension

## STARTING POSITION

In a sitting position, place the heel of the operated leg on a stool keeping the operated knee free.

1.

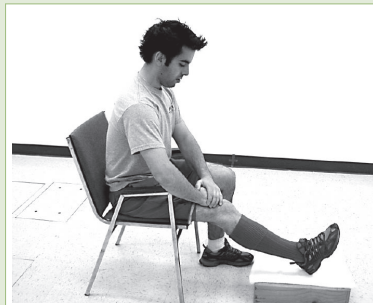
Contract the thigh and push the knee down towards the floor. Hold 15 seconds.



## PROGRESSION

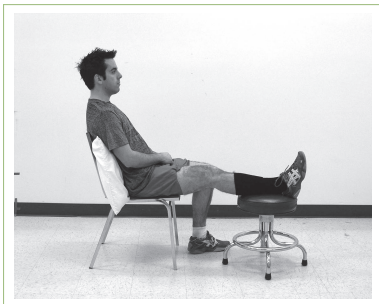
2.

To increase the extension of the leg, push down with your hands on the thigh. Hold 15 seconds.



3.

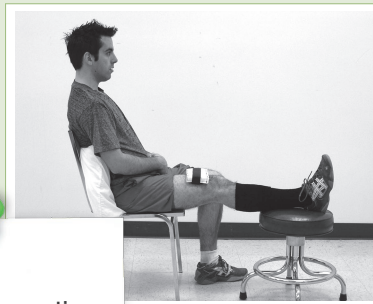
To progress, place the leg on a higher stool. Hold the position 5 to 15 minutes.



## PROGRESSION

4.

Place a weight on the thigh to increase the intensity of the stretch.



## ADVICE

The stretching sensation must be present but tolerable

# Stretching of the calf

## STARTING POSITION

In a sitting position, knee in extension and the heel of the operated leg on a small stool.  
Place a towel under the extremity of the foot.



1.

Pull the towel towards you to feel a stretching behind the knee. Hold 15 seconds.

### ATTENTION

KEEP the leg relaxed

## PROGRESSION

## STARTING POSITION

In a standing position, place the operated leg behind you while keeping the heel in contact with the floor and the good leg in front of you with the knee bent.



2.

Move your trunk and your hip forward while keeping the heel on the floor and maintaining the operated knee straight.

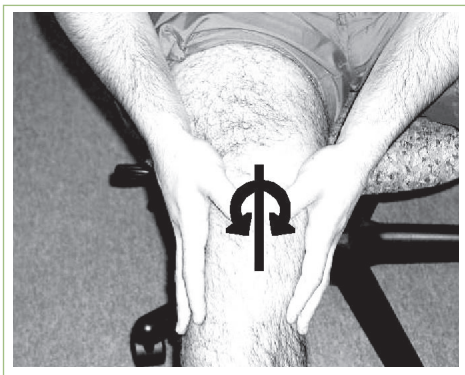
### ADVICE

The stretching sensation behind the knee must be present but tolerable

# Improving the mobility of the scar

## STARTING POSITION

In a sitting position, the operated knee bent. Place your hands on each side of the scar.



1.

Massage your scar by making small circular movements on each side and along the length of the scar.

### ADVICE

Massage slowly and avoid pain

### ATTENTION

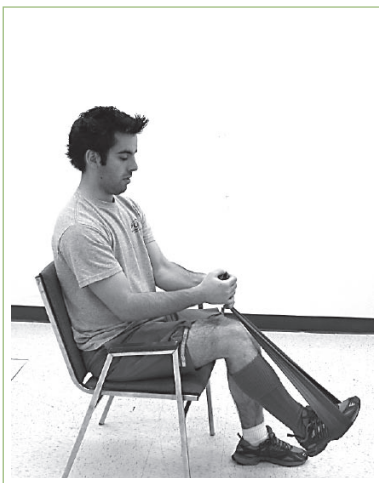
DO NOT massage or stretch your scar on any unhealed areas



# Strengthening of the leg (thigh and calf)

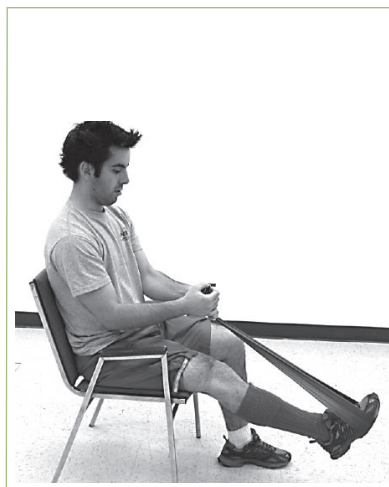
## STARTING POSITION

In a sitting position, the knee bent. Place the elastic band under your forefoot and hold onto it (keep its ends in your hands). Tighten the elastic slightly.



1.

Straighten your knee while pushing with the point of your foot against the elastic. Hold 10 seconds, then return SLOWLY to the starting position.



## ADVICE

To increase the level of difficulty, tighten the elastic or take a strong elastic

# Strengthening of the thigh muscles (quadriceps)

## STARTING POSITION

Stand in front of a walker or hold onto the back of a chair.



1.

Keep your back straight, contract your abdominal muscles and SLIGHTLY bend the knee to reach a semi-squat position. Do not lean forward. Hold 10 seconds and return to the starting position.



### ADVICE

Keep your heels in contact with the ground when lowering your body

KEEP your back straight and your knees aligned with your feet when going down

# Strengthening of the thigh muscles (hamstrings)

## STARTING POSITION

Stand in front of a walker.

1.

Bend the OPERATED knee as much as you can. Hold 10 seconds.

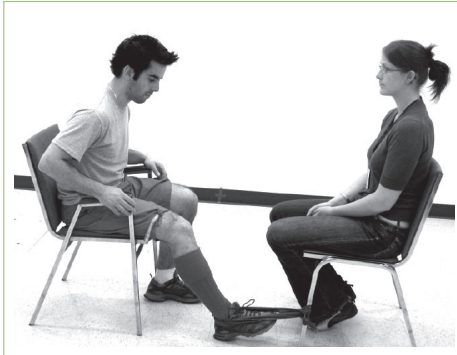
### ADVICE

Maintain a good posture during the exercise and keep the knee under the hip



## STARTING POSITION

In a sitting position, place the foot of the operated leg in an elastic band attached to a fixed point.



2.

Tighten the elastic band first, then bend the knee to pull against the elastic band. Hold 10 seconds.

### ATTENTION

DO NOT lean forward during the exercise

# Strengthening of the thigh muscles (hamstrings and quadriceps)

## STARTING POSITION

Stand with the knee slightly bent, put an elastic band behind your knee that is attached to a fixed point.

1.

Straighten the leg while pushing backwards against the elastic band. Hold 10 seconds.



### ADVICE

Move back enough to have a tension in the elastic band

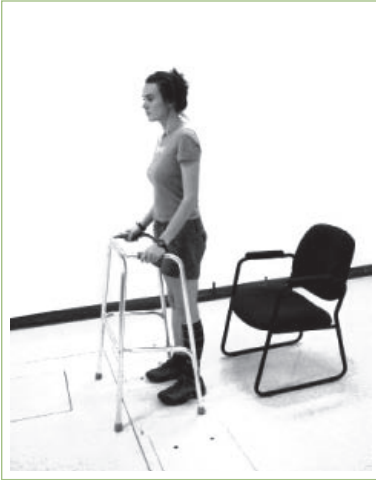
### ATTENTION

DO NOT lean forward during the exercise

# Strengthening of the calf muscles

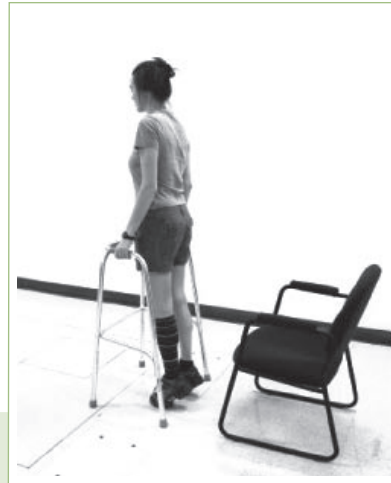
## STARTING POSITION

Stand straight, hands on a walker or on a backrest of a chair.



1.

Rise up on toes. Hold 10 seconds and go down.



## PROGRESSION

2.

Rise up while trying to use your arms as little as possible.



## ADVICE

DO NOT forget to put equal weight on the operated leg as on the good leg

## STARTING POSITION

In the sitting position on a chair with armrests, place your hands on the armrests.



1.

Straighten your elbows while lifting your buttocks. Hold 10 seconds.



## ADVICE

Keep your shoulders down during the exercise

Try to keep the back as straight as possible

# Improve the sit to stand transfer

## STARTING POSITION

Sitting on a chair, place the walker in front of you and place your feet at the same distance from the chair.



1.

Stand up and try to use your arms as little as possible.



## PROGRESSION

## STARTING POSITION

Sitting on a chair, place the walker in front of you and place the foot of the good leg in front of the foot of the operated leg as if taking a step.



2.

Stand up and try to use your arms as little as possible.

# Facilitate a well-balanced distribution of the weight on legs

## STARTING POSITION

Stand in front of a counter, a table or a walker of the weight-bearing on legs.



1.

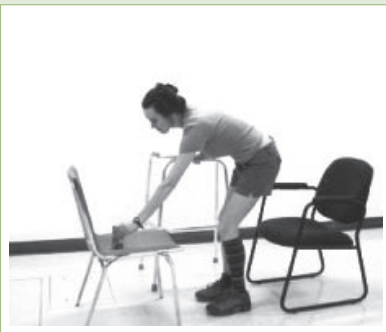
Increase the weight-bearing on your operated leg by moving your body towards this side.



2.

Place the operated leg slightly in front of you and reach objects on a table or a counter.

## PROGRESSION



3.

Take objects on a table further away and lower down.

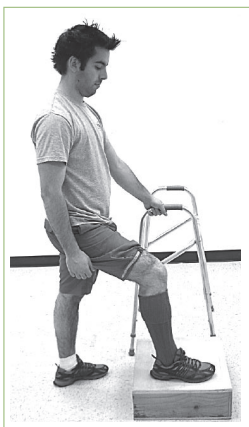
**ATTENTION**  
BE SECURE during  
this exercise to  
avoid fall



# Improve the weight-bearing transfer and the knee flexion

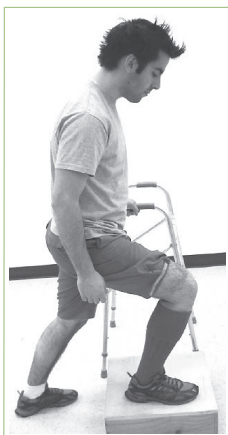
## STARTING POSITION

Stand, place the foot of the operated leg on a small stool with a hand on a walker to maintain balance.



1.

While leaning forward, bend the OPERATED knee (see picture). Hold 10 seconds.



### ATTENTION

KEEP the knee aligned with the second toe. The stretching sensation must be present but tolerable

## PROGRESSION



2.

Do the same exercise but with a higher step.



### ADVICE

You can do this exercise with the bottom step of a set of stairs and using the handrail for support

# Improve the weight-bearing transfer on the operated leg with the knee straight

## STARTING POSITION

Stand, hands on a walker.



1.

Place the foot of the good leg on a small step or stool. Lift this foot for 10 seconds then bring it back down onto the step.

### Advice

Keep the operated knee straight

## PROGRESSION



2.

- a) Do the same exercise without holding the walker while keeping the back straight.
- b) Lift the foot of the good leg and touch the top of the step (no weight-bearing transfer), then move your foot down.

### ATTENTION

For safety, place a chair behind you

# Improve the knee mobility and endurance by doing bicycle

## STARTING POSITION

Adjust the distance between the pedal exerciser and the chair according to the recommendations of your physiotherapist. Sitting on a normal chair, place the foot of the operated leg in the stirrup first and then, place the foot of the good leg in the other stirrup.

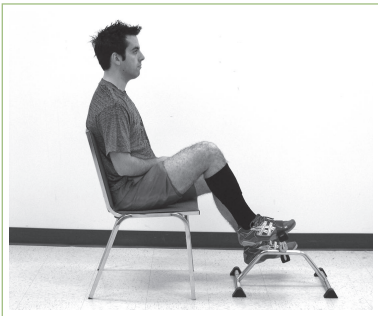


1.

Pedal in a continuous way by alternately pushing with your legs.

### ADVICE

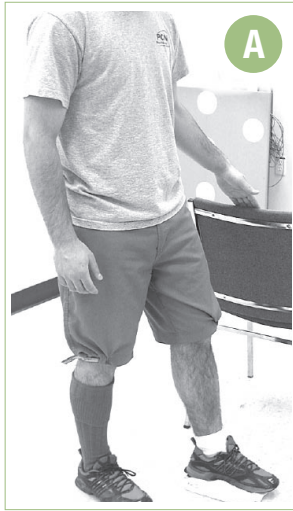
You can increase the resistance by turning the screw at the center of the pedal exerciser



# Improve standing balance

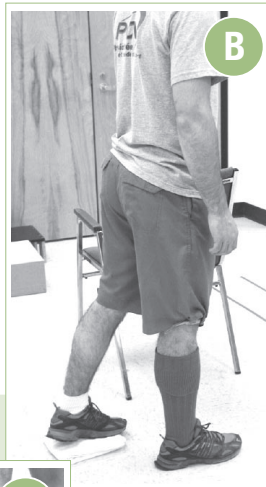
## STARTING POSITION

Stand with the trunk straight and one hand on the backrest of the chair, place the foot of the good leg on a sliding towel.



1.

Move the foot on the towel forwards (A), backwards (B) and sideways (C).



## PROGRESSION



2.

Do the exercise without holding the chair but keep the chair close to you.

### ADVICE

Do the exercise with closed shoes or barefoot

# Improve the balance on one leg and the control of taking a step

## STARTING POSITION

Stand with the trunk straight and one hand on the backrest of the chair.

1.

Bend the operated leg until the knee reaches the level of the pelvis. Move the foot forward by controlling the descent of the leg (step forward). Repeat the same movement for a step sideways and backwards.



## PROGRESSION



2.

Do the same exercise but bend the good leg instead of the operated one.

## ADVICE

Take a step as long as you can, while maintaining your balance

# Exercises compilation table

		Week								
		1	2	3	4	5	6	7	8	9
Exercises category	Mobility									
	Strengthening									
	Function									
	Balance									

For each day without a supervised session, you will have to indicate if you have done the exercises as recommended by the physiotherapist:

For example, for 5 days (5 petals):

Exercises have been done **3 days**  
 Exercises have been partially done **1 day**  
 Exercises have not been done **1 day**



Done as recommended   
 Not done   
 Partially done





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