

# GHOst Trial



## Gluteal exercises for Hip Osteoarthritis

### Information and Exercise Booklet

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# Targeted gluteal intervention

## Instructions for Participants

- Complete circuit of exercises morning and afternoon
- A maximum rest of 2 minutes can be taken between each of the 2 cycles

## **GAIT RETRAINING EXERCISE**

Aims: restore walking impairments associated with hip osteoarthritis.

Practice walking for 10 minutes daily as per instructions from your physio:

- Forwards, metronome, backwards

## **Physio notes on walking training**

## Exercise Protocol

### ☐ Split squat

**Instructions:** Stand in a stride position with weight evenly distributed. Pull knee against black band from over fifth toe to middle toe.

**Dose:** hold for up to 30 seconds and repeat 5 times.



### ☐ Bridge + Internal rotation

**Instructions:** Perform a bridge (hip lift) lying on back. Pull knee in against black band from over fifth toe to in line with middle toe.

**Dose:** aim for 3 sets of 12 to 20 repetitions.



### ☐ **Alternative Bridge + Internal rotation**

**Instructions:** Perform a bridge (hip lift) lying on back. Bring one leg close to bottom. Pull knee in against black band from over fifth toe to in line with middle toe.

**Dose:** aim for 3 sets of 12 to 20 repetitions.



### ☐ **Single Leg Bridge + Internal rotation**

**Dose:** aim for 3 sets of 12 to 20 repetitions.



## Exercise Protocol Pelvic Stability

### ☐ Standing hip isometric abduction

**Start Position:** Feet shoulder width apart. With band or belt wrapped around knees attempt to spread the floor with your feet as hard as you can. Now reduce this to 70%

**Dose:** hold for 15 seconds x 5



### ☐ Hip Hitch

**Instructions:** Commence standing with feet shoulder width apart, lightly touch a chair or the wall for balance. Keeping your unaffected leg straight and in line with your affected leg, lift your unaffected leg off the ground by 1cm by hitching your hip upwards.

**Dose:** aim for 30 seconds x 5



**Alternative if unable:** If unable to hold for at least ten seconds, try holding a small weight (e.g. 1-2kg) with the ipsilateral arm of the symptomatic limb, or touch weight-bear contralateral toe on the floor.



## ☐ Hip Hitch with Toe Taps

**Instructions:** Using your arms for balance, complete the hip hitch exercise as in stage 1. Once in a hip hitch position, tap your toes back and forth from the 7.5cm step positioned in front of you (approximately 10cm in front of your starting position) to the floor. Maintain the hip hitch throughout.

**Dose:** aim for 30 seconds x 5





## ☐ Hip Hitch with Leg Swings

**Instructions:** Stand behind and hold onto the back of a chair. Take weight through your arms for support and complete the hip hitch exercise. Once in a hip hitch position, keeping your knee straight swing your leg forwards and backwards ( $10^\circ$ ).

**Dose:** aim for 30 seconds x 5



## ☐ Single Leg Squat

**Instructions:** Standing on top of a step (approx. 20 cm), with arms folded across chest. Lower the unaffected leg down as far as possible, touching the heel to the floor if able, then returning to single leg standing on the step. Aim to maintain pelvis, hip and trunk alignment.

**Dose:** aim for 12-20 reps x 3.



### ☐ Alternative Single Leg Squat – Dip Test

**Instructions:** Standing with unaffected leg placed on step behind body. With arms folded across chest, bend down on affected leg as far as possible without lifting the heel. Aim to maintain pelvis, hip and trunk alignment.

**Dose:** aim for 12-20 reps x 3.



### ☐ Resisted Hip Step Through

**Instructions:** Standing with unaffected leg positioned at 5 o'clock and band tied around top part of unaffected leg or in belt loop. Rotate pelvis around their affected limb to bring the unaffected leg through to 1 o'clock position and then back again.

**Dose:** aim for 3 sets of 12 to 20 repetitions.





## Advanced Exercises

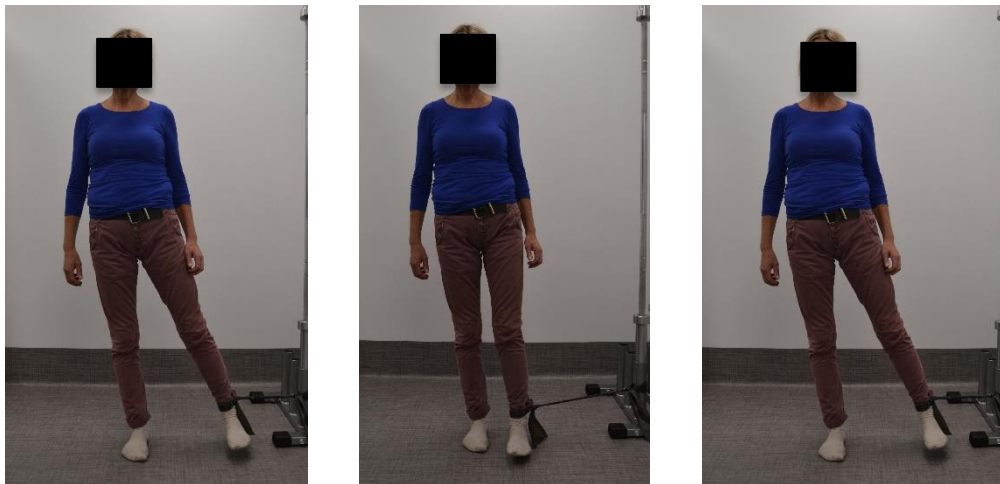
### ☐ Hip Abduction, Adduction and Flexion

**Instructions:** feet shoulder width apart. Use a chair to balance if required. Loop band around the unaffected ankle (knee for flexion). For comfort, a soft cloth/sponge/item of clothing, can be between band and leg. For all actions, the affected limb remains fixed to the floor.

*Abduction:* Move unaffected limb approximately 30 cm out to side against the band.



*Adduction:* Pull unaffected leg inwards against the band for approximately 30 cm.



*Flexion:* Wrap band around knee. Begin in a lean forward position (as illustrated below). Flex asymptomatic hip into approx. 90 deg flexion



**Dose:** 3 sets of 6-10 repetitions of a “heavy” load (Target Borg  $\geq 5$  -  $< 7$ ) on the Borg CR10 Scale. Participant must fatigue each set.

## ☐ Lateral Crab Walk

**Instruction:** Begin in a slight squat position. Loop band around knees, and adjusted for the relevant resistance. Step out to side, away from their affected leg, maintaining the slight squat position.

**Dose:** 3 sets of 6-10 repetitions of a “heavy” load.



## ☐ Deadlift

**Instructions:** Position PowerBand under both feet bending from the hip. Bend knees, keeping chest up, then return to a standing position.

**Dose:** 3 sets of 6-10 repetitions of a “heavy” load.

**Alternative:** use a broom-stick or equivalent to thread through the loops of the power-band



## ☐ Squat

**Instructions:** Position PowerBand under both feet, with arms in front of shoulders, squatting as deep as symptoms allow, keeping chest up. Straighten knees and return to standing position.

**Dose:** 3 sets of 6-10 repetitions of a “heavy” load.



## □ Side Bridge

**Instructions:** Lay on affected side, with hip touching the floor, and supporting upper body through forearm and elbow. Top arm positioned on hip. Raise the affected hip up off the floor.

**Dose:** 3 sets of 6-10 repetitions of a “heavy” load.

**Alternative:** instead of supporting weight through the feet, bend knees, and support weight through the knees.

**Progressions:** combine top leg lift with side-bridge.







# GH0st Trial



**Gluteal exercises for Hip Osteoarthritis**

Information and Exercise Booklet

Sham intervention



## Exercise Protocol

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**Instructions:** Only complete the exercises that are prescribed to you by your physiotherapist.

### STAGE 1

#### Gluteal strengthening exercises

##### ☐ Seated bottom/gluteal squeezes

**Instructions:** In a seated position, squeeze your bottom muscles as tightly as you can.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions, \_\_\_\_\_ second holds



## Exercise Protocol

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### Quadriceps strengthening exercises

#### STAGE 1

##### ☐ Quadriceps over fulcrum exercise

**Instructions:** Begin by lying on your back with a rolled up towel under your knee and your knee relaxed. Slowly straighten your knee as much as you can by pushing the back of your knee into the towel and tightening the muscles at the front of your thigh (quadriceps). Your heel will naturally lift up off the ground.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions



## Exercise Protocol

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### Calf strengthening exercises

#### STAGE 1

##### ☐ Single leg seated calf raise

**Instructions:** In a seated position with your feet shoulder width apart, rise up onto the ball of one foot (over a 2 second period), and then lower back down (over a 2 second period) to the starting position and repeat on the other leg.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions



## Exercise Protocol

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### STAGE 2

#### Gluteal strengthening exercises

##### ☐ Seated hip abduction

**Instructions:** In a seated position, move your leg out to the side of the chair and then return it to the starting position.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions



#### Quadriceps strengthening exercises

##### ☐ Seated knee extension

**Instructions:** Sit in a standard chair and extend your knee out straight and then return it to your starting position

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions





## Exercise Protocol

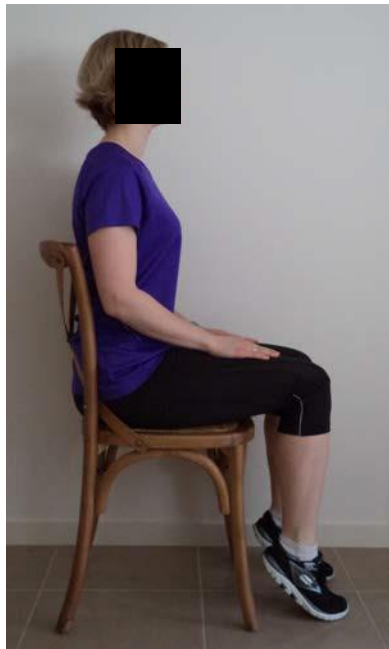
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### STAGE 2

#### ☐ Seated calf raise using both legs

**Instructions:** In a seated position with your feet shoulder width apart, rise up onto the balls of your feet (over a 2 second period), and then lower back down (over a 2 second period) to the starting position.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions



## Exercise Protocol

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### STAGE 3

#### Gluteal strengthening exercises

##### ☐ Standing lateral flexion with feet shoulder width apart

**Instructions:** Commence standing with your feet shoulder width apart. Remain facing forwards, bending sideways slowly and steadily by sliding your hand down the outside of your thigh. Return to the starting position and complete the same movement on the other side.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions



## Exercise Protocol

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### STAGE 3

#### Quadriceps strengthening exercises

##### ☐ Seated knee extension with a red Theraband weight

**Instructions:** Sit in a standard chair and place a red theraband around your foot and attach the other end to a chair leg. Extend your knee out straight and then return it to your starting position

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions



## Exercise Protocol

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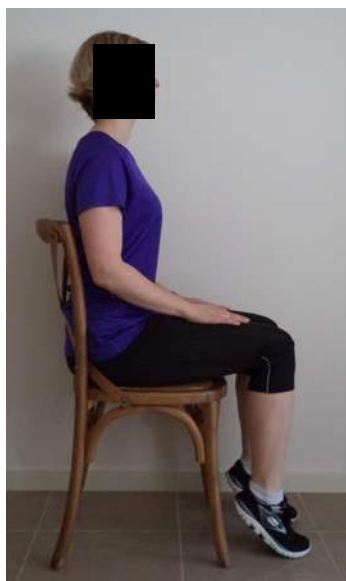
### STAGE 3

#### Calf strengthening exercises

##### ☐ Seated calf raise with toe rise

**Instructions:** In a seated position rise up onto the ball of your foot. Sustain the calf raise (keeping your heel off the ground) whilst completing a toe raise (lifting the toes of one leg up into the air and then return your toes to the ground). Alternate between legs, whilst maintaining your heel off the ground in a calf raise position.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions



## Advanced Exercises

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### Gluteal Strengthening

#### ☐ Standing lateral flexion with feet together

**Instructions:** Commence standing with your feet together. As in stage 3, remain facing forwards, bending sideways slowly and steadily by sliding your hand down the outside of your thigh, return to the starting position and complete the same movement on the other side.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions, \_\_\_\_\_ metres

### Quadriceps strengthening exercises

#### ☐ Seated knee extension with a green Theraband weight

**Instructions:** Sit in a standard chair and place a green theraband around your foot and attach the other end to a chair leg. Extend your knee out straight and then return it to your starting position

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions



### Calf Strengthening

#### ☐ Seated calf raise using both legs with pulses

**Instructions:** Complete stage 2 calf raises - in a seated position with your feet shoulder width apart, rise up onto the balls of your feet (over a 2 second period). In this position, pulse up and down by rising and lowering your heel quickly 3 times before lowering your heel back down (over a 2 second period) to the starting position.

Complete \_\_\_\_\_ sets, \_\_\_\_\_ repetitions