



YOUR GUIDE TO GENERAL HIP PAIN

MUSCULOSKELETAL

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Introduction

Please take note of the following before starting any of the exercises in this guide:

- The information contained in this guide is intended to assist in managing your recovery.
- This guide is based on the latest medical research in the field and contains, to the best of our knowledge, the best advice available.
- This guide is complimentary to other medical services and is not intended as a substitute for a health

care provider's consultation.

- Never disregard medical advice or delay in seeking it because of something you've read in this guide.
- Should you doubt a particular exercise in your situation, please consult your health professional.

When consulting your health professional, it is wise to take this guide with you to show them.

The Hip Joint

The hip joint is a ball and socket joint, which allows for mobility during walking and stability during standing or weight bearing. It also provides shock absorption during movement for both the upper torso and lower extremities. The hip is designed to allow for movement in almost every direction, as well as rotational movement. The hip joint allows this multidirectional movement whilst still providing stability, and bearing the weight of our bodies.

BONES

The hip joint links the pelvis (the socket) with the head of the thigh/femur bone (the ball), and is known as a ball and socket joint. The pelvis has two cup like sockets (called acetabulae) into which the head of the femur fits perfectly, to make up the hip joint.

CARTILAGE

The socket is lined with semi-lunar cartilage, which allows for smooth movement in the hip by minimising friction. It also helps to cushion the joint during weight bearing.

BURSAE

Within the hip joint, there are small self-contained sacks of fluid called bursa which act as a cushion between bone, ligament and cartilage structures resulting in smooth, pain free movement.

MUSCLES

The hip joint structure is surrounded by muscles (back, abdomen, hamstrings, quadriceps, abductors, adductors and gluteals) which insert into the back, pelvis and thigh. These muscles act to stabilise the hip and flex, extend, and rotate the hip and lower leg. The main hip muscles include:

Gluteus maximus: the major buttock muscle that works to extend the leg, and assists in externally rotating the hip.

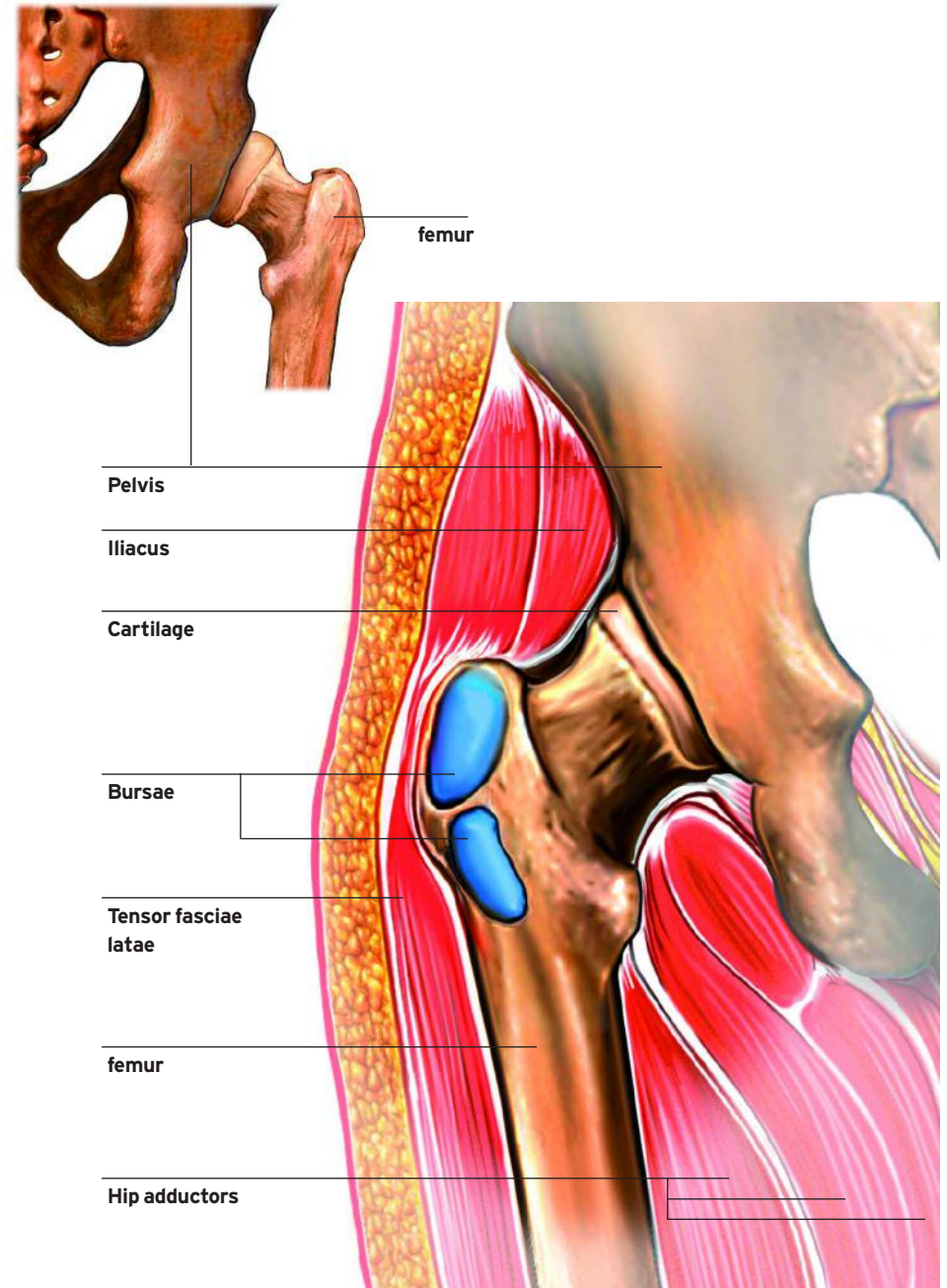
Gluteus medius and minimus: these are the smaller buttock muscles that work to abduct the lower leg (bring the leg out to the side) and internally rotate the hip.

Iliopsoas: this muscle attaches the lower vertebrae of the back to the head of the femur (thigh), in order to bend the hip.

Hamstring: the hamstring muscles are found behind the leg, and although its primary function is to bend the knee, they also aid in rotating the lower leg outwards, extending the leg backwards, and bringing it in towards the body's midline.

Rectus femoris: is one of the four thigh (quadriceps) muscles, and aids in bending of the hip and straightening of the knee.

Hip adductors: is a group of three muscles (commonly known as the inner thigh muscles) that adduct hip (bring the hip towards the midline).



Understanding pain

Pain is a unique sensation to each individual, and can be influenced by a variety of physical, psychological and social factors. It is essential to understand why pain develops, if we are going to manage and treat it successfully. The body uses a series of events to feel pain, involving both physical reactions and emotional responses.

Pain receptors: Special nerve endings in our skin pick up any stimulation, such as heat or pressure. They send pain signals to the brain via the spinal cord.

Brain: Pain impulses reach the cerebral cortex (the thinking part of the brain), which assesses the location and severity of the pain.

Autonomic Nervous System: The brain also activates the autonomic nervous system, which affects breathing, blood flow and pulse rate, to begin the repair of the injury. It also sends messages to the limbic centre of the brain, which controls our emotions such as sadness and anger.

TYPES OF PAIN

Acute Pain is a sudden onset of pain that can range from mild to severe pain, and last anything from a couple of days to a few months. The pain will subside once the injury has healed.

Chronic Pain occurs when nerves continue to send pain messages, even when healing has occurred and there is no continuing tissue damage. This pain continues due to a variety of

reasons, either the nerves have been damaged, or due to a disease (such as shingles, diabetes) or psychological factors.

UNDERSTANDING INFLAMMATION

Inflammation (swelling) is the body's protective reaction to injury, irritation, or disease. After initial injury or infection, the body triggers chemicals from its white blood cells to protect the tissues against foreign substances. The increased blood flow causes redness and warmth in the area. Inflammation can often be painful due to compression or irritation of the nerve endings. An affected joint is therefore often swollen, tender, red, and warm, and sometimes involves joint stiffness.

Inflammation, although often painful and sometimes harmful, is in fact a crucial response to tissue damage. It kick starts tissue repair, whilst protecting the area from infection, and further injury. It is however, important to control inflammation in the injured area, in order to prevent increased tissue damage.

What causes hip pain?

Pain is perceived within the hip joint when the nerve endings are stimulated by chemicals released from damaged tissues or structures. These nerve endings are present in bone, cartilage, ligaments, muscles, tendons and neural structures of the hip, therefore, you may feel pain within or around the hip resulting from trauma, or when performing an activity that you are not accustomed to, or haven't performed in a while. Hip pain could be as a result of one or more of the following factors:

OVERUSE & OVERLOAD

Overuse of the joint can result in excessive friction and tension in the muscles, tendons or ligaments, which eventually leads to micro-tears within the tissues, and results in pain, swelling and inflammation. Doing an activity repetitively, such as bending, walking, jogging or ascending/descending stairs may instil or exacerbate pain.

BIOMECHANICAL & MUSCULAR IMBALANCES

The hip is designed to work in perfect alignment with the pelvis, spine, knee and the foot. Should there be any muscles that are weak, ineffective, injured or inflexible in a certain area, there will be a disturbance in force distribution and as a result the body will compensate. In order to compensate, we change the way we move, favouring the stronger side, or adjust our ambulatory actions. This

results in increased pressures between joint surfaces, overuse of certain muscles and subsequent wear and tear. Changing our biomechanics may lead to irritation of the bursae situated within the hip, which causes inflammation and pain responses.

PREDISPOSING FACTORS

Overweight or obesity can contribute to hip pain, as the hip plays an important weight bearing role in standing and walking, and more stress and strain is placed on the hip. A previous injury in the hip, lower back, knee or surrounding structures can lead to weakness, instability, or misalignment which affects the function of the joint. Chronic conditions such as rheumatoid or osteoarthritis, can all contribute to the optimal working function of the hip joint.

DAMAGE TO THE STRUCTURES

When overload is placed on the hip during movement or activity, it can lead to damage of the internal structures. This is usually as a result of an accident or trauma. An injury such as this can result in tears to the soft tissues like the muscles, ligaments and tendons, or break or damage to hard structures like the bone, or cartilage.

Common hip problems

BURSITIS

Friction within the hip joint can lead to swelling and inflammation of the bursae, whose function it is to absorb the friction and allow for smooth movement. Friction often results from minor trauma, overuse injuries or repetitive movements. Trochanteric bursitis is inflammation of the bursa on the outside of the hip joint, and is a relatively common cause of hip pain. The ischial and iliopsoas bursae can also become inflamed. Bursitis is often found more in women or in the older population.

TENDONOPATHIES

Tendonopathies originates from the overuse of a tendon, and results in small microtears within the tendon, causing swelling and pain in the region. In the hip joint, tendonopathy of the Iliotibial Band (ITB) is quite common. In athletes this can occur from too much training, whereas in sedentary or elder people it can occur from altered movement patterns.

HIP FRACTURE

A fracture is relatively common in the older population, or those suffering from osteoporosis, as a result of a fall or accident. The trauma or fall may lead to a fracture in the femur, the pelvis, or both. Fast, effective rehabilitation following a broken hip is essential in regaining the ability to

walk and full function of the hip. A possible hip fracture needs immediate evaluation by your GP, and the nature and severity of the break can usually be confirmed with an X-ray. Stress fractures of the hip may be sustained as a result of high impact sports, such as long distance running. These fractures also need to be addressed by your GP or health professional.

MUSCLE STRAIN

The hip muscles have to generate a lot of force in order to walk, run, or jump, and therefore overload (whether it be from trauma or just overuse) on the muscles, tendons or ligaments can lead to strains and sprains. The most common strains are found in the groin or hamstring muscles, and result in pain and inflammation within the soft tissue. These usually heal with a combination of time, rest and ice.

OSTEOARTHRITIS

Osteoarthritis (OA) is a degenerative condition where the joint cartilage gradually wears away, causing pain and swelling. It is common to have morning stiffness which eases when moving about. Feelings of locking, grinding or clicking within the joint may be experienced. It is also common to have initial signs of lower back or groin pain, with hip OA. In severe cases, OA may lead to a hip replacement being necessary.

What treatment can I receive?

The treatment you will receive will depend upon the cause, nature and severity of your hip pain. Your GP or health professional will be able to diagnose your injury from the following information:

A history of the injury

The type of injury and how it occurred gives vital information as to the site, and what structures may have been injured. If there has been no violent incident there may be some underlying cause for the injury such as osteoporosis, weak muscles or overuse of the area and it is important that the underlying cause is determined on examination.

Description of Symptoms

The type and site of the pain, any swelling and other sensations such as clicking, grinding, locking, giving way, all provide clues of what is going on

within the joint.

X-rays

If your GP or health professional suspects a broken bone, or structural damage to the bones or cartilage, an X-ray may be done to confirm this.

MRI scan/Ultra sound scan

MRI/US scans are done to confirm a diagnosis of a soft tissue injury (such as ligaments or muscles).

RICE

In most cases hip pain can be treated with common conservative measures. The goal of treatment is to reduce pain by reducing the inflammation, and to return the hip to full function. If you have sustained a hip injury from a traumatic event, or if there is swelling present, the **RICE** principle should be followed initially following the accident or injury.

REST	Stop using the injured area. Allow your injured region to rest from weight bearing, or any activity that brings on symptoms, for approximately 24 hours after the injury. You can move the area, but make sure that it is pain free to prevent any further damage
ICE	Ice the area every 2 hours for 15- 20 minutes to decrease pain and swelling for the first 48-72 hours
COMPRESSION	Apply pressure to the area in the form of a stocking, tight sock, brace, strapping or bandage to provide both support and pressure to decrease any swelling
ELEVATION	Keep the injured area raised. Elevate the area ideally higher than your heart, to reduce swelling and pain

Ice is an important aid in relieving pain and decreasing swelling by reducing the bleeding in the damaged tissue. It should be applied for 10-15 minutes every two hours (never apply ice directly to the skin) and is an essential part of the treatment, especially in the first 48hrs after an acute injury.

PRECAUTIONS WHEN USING ICE THERAPY

- Ice treatment must be used carefully otherwise it may cause a skin burn.
- Never put an ice pack directly onto the skin, always use a damp towel or cloth to prevent an ice burn.
- Only apply an ice pack to areas of skin with normal sensation i.e. you must be able to feel hot and cold.
- Never put an ice pack over an open wound or graze.
- Do not apply an ice pack to an area with poor circulation.
- Never leave an ice pack on the skin longer than the time stated in this advice sheet.

ANTI-INFLAMMATORY MEDICATION

This can be taken to control inflammation. It is important to get advice from your pharmacist before starting a course of anti-inflammatory medicine.

PHYSIOTHERAPY

This would include a full assessment and treatments such as soft tissue techniques, education and a full rehabilitation programme to ensure return to full function. They may also refer you to a podiatrist for a biomechanical assessment and advice regarding footwear.

EXERCISE

As with most injuries involving the muscles and joints, exercise forms an important part in maintaining function and strengthening the area to reduce long term pain and dysfunction and improve recovery time. It is important, however, that the correct type of exercise be done, and that all exercises are pain free.

What exercises can I do?

It is important that you are aware that the exercise programme that is included in this pack is a general exercise programme to encourage the return of muscle strength and range of movement to the hip joint. It is advisable that you show this programme to your health professional, if you are seeing one, to ensure that the exercises in it will be effective in aiding the recovery of your specific injury, and to see whether you are performing these exercises in the correct manner.

When starting an exercise programme it is important that you start slowly, and ensure that you are able to do all exercises in a controlled, pain free, full range of movement before moving on to the next exercise phase. If you are not used to doing exercise, always start gradually, feeling only a slight exertion, and slowly progress as you get stronger. You may feel some discomfort while doing the exercises or afterwards, and this is completely normal, especially if the exercises are not familiar to you. Just be cautious not to exacerbate other existing symptoms.

Try to include aerobic exercises (exercise which gets your heart beating faster) such as cycling, swimming and walking, as long as it is pain free, as these are relatively easy on your joints.

If you experience an increase in your pain during any of the exercises, decrease the intensity of the exercises by:

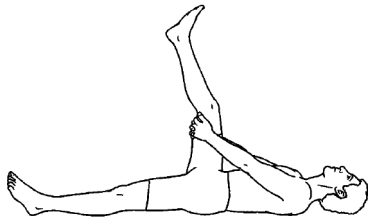
- decreasing the number of sets
- decreasing the number of repetitions
- decreasing the range of movement
- decreasing the resistance

Do all exercises slowly and breathe normally. Progress gradually according to your own level of comfort. Stiffness or fatigue may result following the exercises, but should not last longer than 24 hrs, and your symptoms should not in any way be aggravated by the exercises.

Exercises phase 1

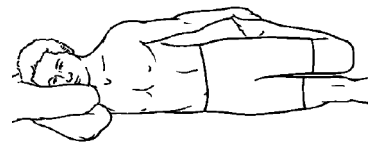
STRETCHING

- Hold each stretch for **30 seconds** and repeat **2-3 times** on each leg
- You should feel a pull in the muscle, which can be uncomfortable if the muscle is very tight, but it should not exacerbate your pain.
- Hold the stretch steady **Do not bounce**



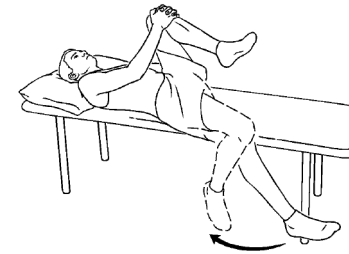
HAMSTRING STRETCH

Lying on your back, one leg straight and one knee bent. Raise the bent leg up towards your chest until your knee is in line with your hip. Now straighten the knee. You should feel a stretch at the back of your leg. You can use a towel if necessary to aid you in lifting your leg for the stretch.



QUADRICEPS STRETCH

Lying on your right side, your right arm extended up to cushion your head, use your left hand to grasp your left ankle as you bend your left knee backwards. You should feel the stretch along the front of your thigh. Repeat this twice on your right before rolling over to stretch your left leg. It is important to keep the other leg bent at both the hip and the knee, so as not to hyperextend your back. A towel can be used to aid you in this stretch if you are unable to reach your ankle or bend your knee too far.



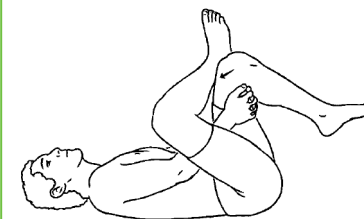
HIP FLEXORS

Lying on a bed, with your affected leg hanging over the side. Raise your opposite knee to your chest and at the same time bend your affected knee towards your buttock.



SPINAL TWIST

Lying down on your back, with your arms outstretched and your knees bent. Gently roll your legs over to one side while turning your head to the opposite side. Hold for 20-30 seconds and then roll over to the other side. If you cannot feel the stretch along your spine, bring your legs up closer to your body.



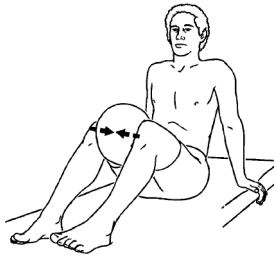
BUTTOCK STRETCH

Lying on your back, rest your right ankle on your left knee. Using your hands lift your left leg into the air, bending the knee at 90°. Pull your left leg gently towards your body. You should feel a stretch in the upper back part of your right leg. If this stretch is too painful to do initially, leave it and only try with phase 2 exercises. A towel can be used to aid you in this stretch

Exercises phase 1 (continued)

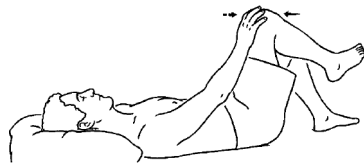
STRENGTHENING

- Complete 2 sets of 10-15 repetitions on each leg.
- Always works in a pain free range of movement



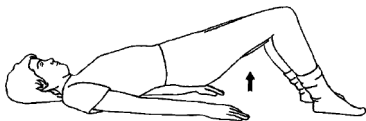
BALL SQUEEZE

Lying on your back, both knees bent, feet flat on the floor. Place a ball (or pillow) between your legs and squeeze. Hold for 30 seconds and repeat 10 times.



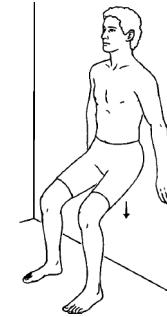
UNILATERAL ISOMETRIC HIP FLEXION

Lying on your back with your knees bent, pelvis in a neutral position and belly button in towards your spine. Raise one leg to hip height towards your outstretched arm. Gently push out against your knee with your hand and in against your hand with your knee, i.e. your knee should stay in one position with the resistance. Hold for 10 seconds and repeat 10 times on each side.



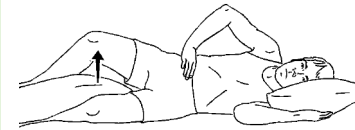
BRIDGING

With your pelvis in neutral (hip bones facing towards the ceiling) and TA contracted (pull belly button to spine), slowly raise buttocks from floor, keeping your pelvis stable and body in a straight line. Hold for 10 seconds and repeat 10 times.



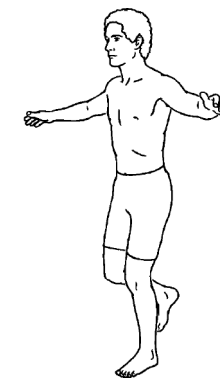
WALL SLIDES

Stand leaning up against a wall, your feet a little away from the wall, shoulder width apart and knees parallel to each other. Keep your back against the wall throughout the movement. Slowly lower your body into a seated position (knees to 90°) and hold for 10 seconds. Perform 10 repetitions.



OYSTER EXERCISE

Assume a side lying position with the knees bent and feet together. Keeping the feet together, lift the top knee up as high as possible without rolling your hips backwards i.e. hips should stay square, in line with your shoulders. Hold this position for 10 seconds and repeat 10 times. This exercise can be made more difficult by placing a theraband around your knees and pushing up against the band.



STORK STANDS

Balance on one leg for 30 seconds then repeat with the other leg. Repeat this exercise with your eyes closed. Repeat the original exercise (with eyes open) 10 times on each side (i.e. for a total of 5 min per leg). Progress to standing on an unsteady surface, e.g. a cushion or a narrow piece of wood, starting with standing on both feet (Stand for a total of 5 min). If you have access to a wobble/balance board use that instead.

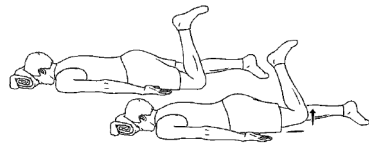
Exercises phase 2

Phase 2 exercises can be started when you are able to do all the Stretching and Strengthening exercises in Phase 1 with no adverse effects and good control. Continue to

work in a pain free range of motion, and continue to do the stretching exercises of phase 1 with each exercise session.

STRENGTHENING

- Maintain good control and form throughout these exercise i.e. in both directions of movement
- Continue to do 2 sets of 10-15 repetitions of the exercises. You can progress the exercises by doing more sets or more repetitions, should you feel you are getting stronger



BUTTOCK STRENGTHENING EXERCISE

Lying on your stomach with one knee bent and the other straight. Place a towel under your forehead to support your neck. Now raise the heel of the bent knee towards the ceiling and hold for 10 seconds. Make sure you feel this in your buttocks and not your lower back



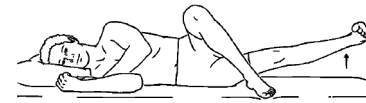
PRONE STRAIGHT LEG RAISE

Lie on your stomach, keep both knees straight and bring your arms up to support your head (you can also use a towel). Keeping your leg straight raise it up towards the ceiling, be careful to avoid arching your lower back. You should feel this in your buttocks not your lower back. Repeat 2 sets of 10-15 repetitions on each leg.



KNEE BEND

Lying on your stomach with your legs straight and a towel under your forehead for support. Now bend your knee bringing your foot towards your buttock, and return to the floor.



SIDE-LYING HIP ADDUCTION

Lying on side, tighten your thigh muscle. Bend the top leg over the bottom one, and keep the bottom leg straight. Now raise the bottom leg 8-10 inches away from the floor. Repeat 5 sets of 10 repetitions.



STEP UPS

Stand on one leg on a step, facing up the stairs. Slowly lower yourself by bending your knee, keeping weight more on the heel than your toes but keeping your foot flat. Return to the start position without pushing off with the opposite leg. Be aware that your knee and foot do not roll inwards. Repeat on the opposite leg.

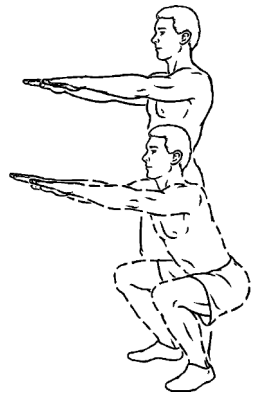


STATIC LUNGE

Place one foot in front of the other. Bend both knees together until you have a 90° bend in both. Ensure that your front knee does not go over your front foot when bending to 90°. Return to the start position. Perform 10 reps each leg. Progress to stepping lunges (i.e. start with feet together and step into a lunge position) once you are pain free with the above. Make sure knees are at a 90° angle and then return to the start position.

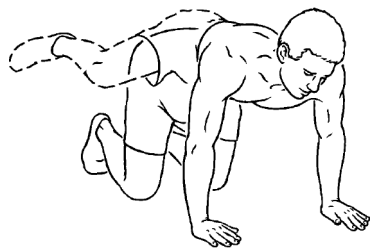
Exercises phase 3

- Progress to Phase 3 exercises once you are able to complete both Phase 1 and Phase 2 without pain or aggravation of symptoms.
- Make sure that you have the balance and stability to safely perform these exercises



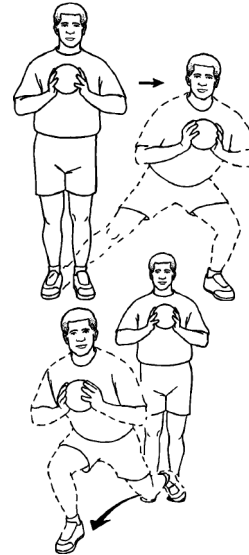
DYNAMIC SQUAT

Stand with feet shoulder width apart. Slowly raise arms to shoulder height, and bend into a low squat (as if you are about to sit back in chair). Make sure that you can see your toes throughout the movement, in other words, your knees should not go over your toes. If you feel comfortable and stable, squat slowly downwards until your hips are in line with your knees, or as far as you feel comfortable.



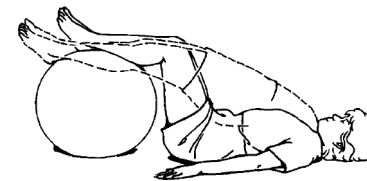
FIRE HYDRANT

Assume an all fours position, with your hands directly under your shoulders, and knees directly under the hips. Keep the hips level, and lift one leg, keeping it bent, until the knee is in line with the hip. Do this slowly and controlled to avoid losing balance, or swaying the hips.



MULTIDIRECTIONAL LUNGE

With a small weight in your hand, repeat the static lunge exercise from Phase 2, but vary this by stepping out in different directions. The lunge should be done slowly, and resume the start position in a controlled manner.



BALL BRIDGE

Repeat the Bridging exercise from Phase 1, varying this exercise by placing your feet on a gym ball. Make sure that the ball doesn't move, and you remain stable throughout the exercise.

Contact us

This guide is designed to assist you in the self-management of your injury/condition.

We are here to assist your recovery in the shortest but safest possible time. If you have any uncertainties or queries regarding the information, please do not hesitate to contact us on:

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