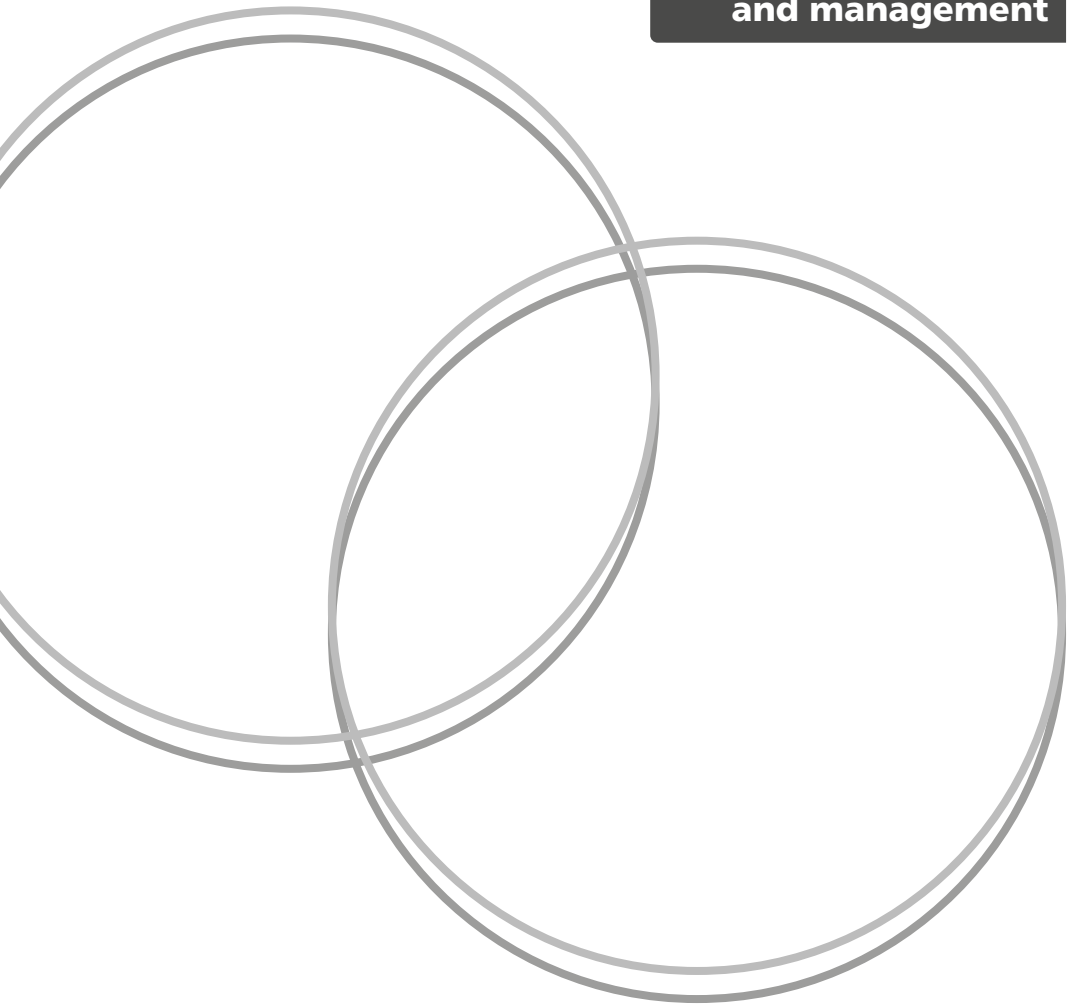
Oxford University Hospitals
NHS Foundation Trust

Femoral Acetabular Impingement Syndrome (FAIS)

Physiotherapy advice and management



Who is this booklet for?

This booklet has been given to you because you have been diagnosed with Femoral Acetabular Impingement Syndrome (FAIS).

It gives you information on the syndrome and the physiotherapy treatment you will require. It also provides information on who you can talk to if you need more information or advice.

Please keep this booklet, so you can look at it when you need to.

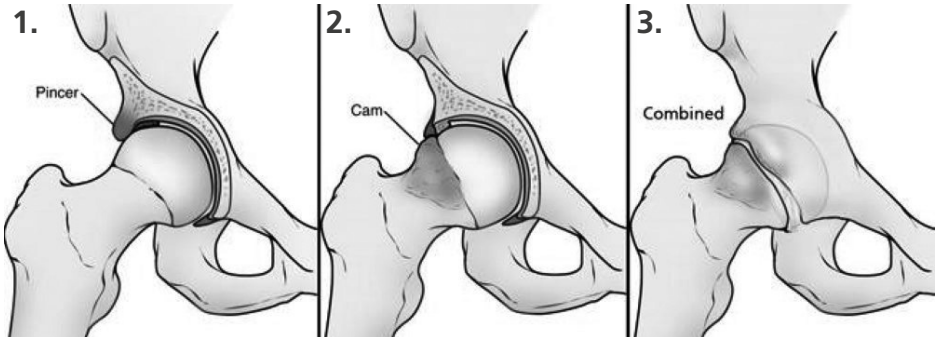
Contents of this booklet

What is Femoral Acetabular Impingement Syndrome?

Femoral Acetabular Impingement (FAI) occurs when there is early contact between the thigh bone and the edge of the socket of the hip joint. This is due to a variation in the shape of the bones of the hip.

Some people may experience pain associated with increased forces being placed on the hip joint. It tends to occur with repeated hip movements such as kicking when playing football. The hip socket has a rim of cartilage which can be torn with repeated contact between the thigh bone and the hip socket. FAI that is painful is known as Femoral Acetabular Impingement Syndrome (FAIS).

People who have hips that have an altered shape are more likely to experience FAI symptoms. The three shapes are known as 'pincer', 'cam' and 'mixed/combined'. These different hip shapes tend to develop in young adults.



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1. **Pincer shape**
   The pincer shape is when the socket in which the ball sits can be deeper than usual and overhang the joint.
2. **Cam shape**
   The most common cause for impingement is a cam shape. There is a 'bump' around the head of the ball of the thigh bone.
3. **Combined or Mixed**
   A small number of patients may have both cam and pincer shape hips.

How is the diagnosis made?

This is based on your symptoms, a physical assessment and imaging.

What are the signs and symptoms of FAIS?

The main symptom is pain felt in the groin but can be present in the buttock, low back, outside of the hip or down the thigh to the knee.

Pain may be felt playing sport but also with daily activities such as sitting and squatting movements.

Other common symptoms are limited movement, locking, catching, stiffness and giving way of the hip joint.

Assessment

An examination will include looking at your walking, assessing your hip range of movement and strength.

Imaging

X-ray and MRI (Magnetic Resonance Imaging) are the most common forms of imaging. An MRI may be requested in clinic to review the soft tissues including the cartilage of the hip joint.

Understanding pain

Pain develops due to pain nerves being stimulated in the soft tissues and muscles. Pain lasting longer than three months is known as persistent pain. Persistent pain can cause an increase in pain sensitivity. This means only a small stimulation of the nerves can cause you pain. Patients with persistent pain often say they are becoming less active.

You may experience low mood due to the stressful nature of living with persistent pain.

Please speak to your physiotherapist or GP if you are experiencing any changes in mood so that support can be given.

Avoiding flare ups and pacing your activity levels

Becoming more active requires you to 'listen' to your body. You may ignore symptoms in the attempt to get things done. This may lead to worsening of your symptoms and might require time for rest and recovery. This is called the over-activity and under-activity cycle.

Find a level of exercise or activity that you can achieve regularly; for example, 3-5 days of activity per week without having unmanageable pain or fatigue.

Keep to this level of activity for a few weeks, and then try to increase the activity by a small amount. For example, by walking for a few minutes longer or adding a few more repetitions of an exercise. This gradual increase in activity will help you avoid the over-activity and under-activity cycle.

A small increase in muscle soreness or fatigue is a normal response to exercise but this should not be so severe as to interfere with your sleep or function.

It is helpful to choose something that is linked with your longer-term goals to make it more interesting and rewarding.

Other ways of pacing are taking breaks, varying activities and avoiding long rest periods.

What are the treatment options?

Activity Modification

There are things you can do that may help reduce your symptoms, for instance:

- Sitting with your hips higher than your knees such as on a higher chair
- Avoiding sitting cross legged
- Sleeping with a pillow between your knees
- Take regular breaks when sitting; try standing up or taking a short walk
- Place your feet wider apart when bending at the hips and knees to reach the floor
- If cycling, try raising the saddle or cycle in a more upright position.

Exercise

It is important that you stay as active as possible despite the symptoms. The Department of Health recommend:

- 2 or more days a week of strengthening exercises such as Pilates, lifting weights and heavy gardening

and

- 150 minutes a week of moderate intensity exercise for example cycling, swimming or brisk walking. This can be completed in 30 min sessions, 5 times a week. Moderate intensity exercise can be completed in three, 10 minute sections if you are unable to manage 30 minutes non-stop.

or

- 75 minutes a week of more energetic exercise such as running, walking upstairs and aerobics. Energetic exercise will make you breathe hard and fast. When working at this level you will not be able to say more than a few words without pausing for breath.

Physiotherapy Rehabilitation

Physiotherapy involves assessing your muscle strength and looking at the way you move.

It can take three to six months of physiotherapy rehabilitation for you to see an improvement in your strength and a reduction in your symptoms.

Physiotherapy may include you working on:

- Strengthening your buttock muscles which are known as your gluteals and other muscles around your hip
- Pelvic control as the position of your pelvis as you move can influence your hip symptoms
- Abdominal muscle strengthening
- Stretching muscles around the hip
- Balance
- Strategies to improve self-management of your symptoms

Injections

You may be referred for a hip injection by your consultant. This may reduce your pain and help you with physiotherapy rehabilitation.

Surgery

If your symptoms continue after physiotherapy, injections and activity modification then you may be given the option of surgery.

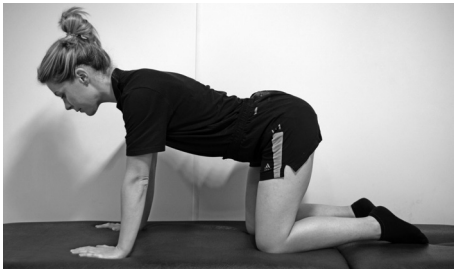
Physiotherapy Rehabilitation

The following exercises aim to strengthen and increase the flexibility of the muscles around your hip. It is important that you start with a small number of repetitions for each exercise and then gradually increase the number as you are able to.

Pelvic control

These exercises work on your pelvic control as the position of your pelvis as you move can influence your hip symptoms.

1. Position yourself on the floor on your hands and knees with your back straight.
2. Keeping your hips and shoulders in the same place, arch your back down so your stomach moves towards the floor.
3. Straighten your back and come back to the starting position.
4. Keep your hips and shoulders in the same place and round your back up towards the ceiling.
5. Straighten your back and come back to the starting position.
6. Repeat these actions 10 times



You can complete this exercise in sitting.

1. Position yourself in a supportive chair with your feet on the floor.
2. Place your hands on your pelvis.
3. Slowly arch your lower back, your stomach will come forward.
4. Straighten your back and come back to the starting position.
5. Round your lower back, your stomach will curve inwards.
6. Straighten your back and come back to the starting position.
7. Repeat these actions 10 times

This exercise can help stretch your lower back and hips.

1. Position yourself on the floor on your hands and knees with your back straight.
2. Slowly move your bottom back towards your heels and stretch your hands out in front of you.
3. Aim to get your bottom onto your heels if comfortable.
4. Hold for 10 seconds as able.
5. Move back to the start position.
6. Repeat this stretch x 5 times

Strengthening Exercises

These exercises are designed to work on improving the strength around your hip. You do not need to do all these exercises, instead work on those you find more challenging or those you have been advised to work on. You should try to gradually build up the number of repetitions that you can manage but work within your own ability. A suggested number of repetitions to build up to is 2-3 sets of 10 on the affected side.

Gluteal strengthening lying on your front

1. Lie on your front on the floor or bed with a few pillows under your tummy.
2. Bend one knee to 90 degrees so your foot is pointing to the ceiling.
3. Tighten your stomach muscles and flatten your lower back.
4. Slowly lift your thigh off the bed or floor a small distance but making sure that you do not arch your lower back.
5. Lower your leg down to the starting position.

Gluteal strengthening: progression on hands and knees

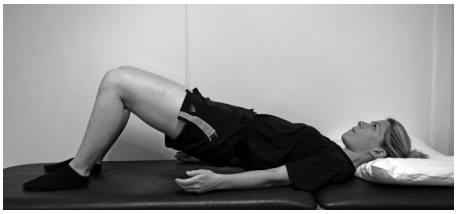
1. Position yourself on the floor on your hands and knees with your back straight.
2. Lift your leg off the floor aiming your foot towards the ceiling. Make sure not to arch your lower back.
3. Lower your leg back down to the floor.

Alternative gluteal strengthening exercise in standing

1. In standing hold onto the back of a chair or stable surface.
2. Keeping the knee straight take one leg out behind you a small distance so that your foot comes off the floor.
3. Take care not to arch your lower back.
4. Return to the starting position.

Gluteal strengthening lying on your back

1. Lie on your back with your knees bent and your feet on the floor, heels close to your buttocks. Your knees and feet are shoulder width apart.
2. Place your hands on the floor by your sides for support.
3. Tighten your stomach muscles and flatten your lower back to the floor.
4. Squeeze your gluteal muscles and lift your pelvis off the floor.
5. Do not lift your pelvis so high that you arch your lower back.
6. Hold for 5 seconds then lower yourself down to the starting position.



Outer hip strengthening exercise

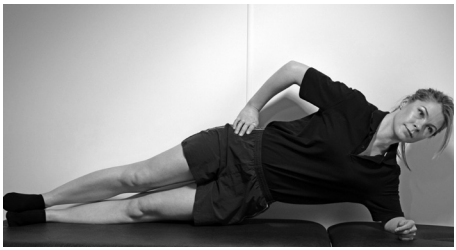
1. Lie on your side with your head on a pillow.
2. Bend the underneath leg slightly for comfort.
3. Keep your top leg straight and slightly behind you.
4. Lift your top leg up towards the ceiling without moving your pelvis and keeping your knee straight.
5. Lower back down to the starting position.

Side lying hip movement

1. Lie on your side in a straight line with your head on a pillow. Bend your knees to 90 degrees.
2. Lift the top leg so your knee and foot are at the same level as your pelvis.
3. Move the top leg forward and then backwards at the hip, keeping the knee bent at 90 degrees and the leg level with your pelvis. Do not bend the hip more than 90 degrees during this exercise.
4. Take care not to arch your lower back as you bring your leg behind you.

Abdominal strengthening

1. Lie on your side with your body in a straight line, knees bent and in line with your body. Your elbow bent and underneath your shoulder.
2. Raise your hips up until your body is in a straight line from head to foot.
3. Try to increase the time you can maintain this position aiming for 30-60 seconds.
4. Then slowly lower yourself back down.
5. If this becomes easy you can progress this exercise to completing it with your legs straight.
6. Repeat on both sides.



Abdominal strengthening

1. Lie on your back with your knees bent and feet flat on the floor hip width apart.
2. Keep your back flat against the floor throughout the exercise.
3. Bring one knee up towards your chest so your hip is bent to 90 degrees.
4. Repeat with the other leg so both feet are off the floor.
5. Slowly lower one leg down, moving at the hip only, so your foot touches the floor.
6. Bring leg back to starting position.
7. Repeat on the other leg.

Inner thigh Strengthening

1. Lie on your back with your knees bent and feet flat on the floor hip width apart.
2. Place a small ball or cushion between your knees.
3. Squeeze the ball and hold for 5-10 seconds.

Inner thigh strengthening progression

1. Lie on your side with the unaffected leg on top.
2. Place your top foot on the floor, knee bent, in front of the underneath leg.
3. Keep the bottom leg straight.
4. Raise the bottom leg up towards the ceiling as far as comfortable (usually about 10-15cm) and then lower back down.

Wall slides

1. Stand with your back to the wall. Place a gym ball behind your back or if you do not have a gym ball then lean against the wall.
2. Step your feet forward.
3. Keep your feet shoulder width apart, knee and feet facing forward with your heels on the floor.
4. Keeping your back in contact with the wall or gym ball, slowly bend your knees and hips. You may find this exercise more comfortable if you do not bend your hips over 90 degrees.
5. Push back up to the starting position by pushing through your heels and sliding back up the wall.

You can make this exercise more challenging by placing your feet in a staggered step position so that the side you are trying to strengthen is closer to the wall.

Balance Exercise

This exercise is designed to help to improve your balance on one leg.

Single leg balance

1. Stand near a stable surface such as a chair or table for support if you need it.
2. Lift one foot off the floor and hold it up without touching the other leg.
3. Stand on one leg for up to one minute.

Stretches

These exercises are designed to help improve the flexibility of the muscles around your hip.

Front Thigh Stretch

1. While standing hold onto a chair or stable surface.
2. Bring one foot up behind you and pull it with your hand towards your bottom.
3. Bring your knees together.
4. You should feel a stretch in the front of your thigh.
5. Hold for 30 seconds to 1 minute.

Repeat twice.

Inside Leg Stretch

1. Stand with your feet apart wider than your shoulders, toes facing forward, by a chair for support.
2. Keep one knee straight and bend the other knee holding your body upright.
3. You should feel a stretch in your inner thigh on the straight leg.
4. Hold for 30 seconds to 1 minute.
5. Repeat twice.

General Fitness

It is important to maintain your fitness. Non-impact aerobic exercise may be the most beneficial at the early stage of rehabilitation, for example using an exercise bike or cross trainer machine. This type of exercise will increase your heart rate at the same time as reducing the impact through your joints.

Cycling

1. Make sure the saddle height comes up to your hip when standing by the bike.
2. Sit on an exercise bike.
3. Start cycling on a low resistance setting.
4. Gradually increase the time you can cycle for and increase the resistance as comfort allows.

Cross Trainer

1. Stand on the cross trainer holding on to the poles.
2. Start on a low resistance setting.
3. Gradually increase the time you can manage and then increase the resistance as comfort allows.

How to contact us

Nuffield Orthopaedic Centre Physiotherapy Department
Telephone: **01865 738 074**

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Disclaimer

You should consult your GP or other health care professional before starting this or any other fitness program to determine if it is right for your needs.

You should not rely on this information as a substitute for, nor does it replace, professional medical advice, diagnosis, or treatment. If you have any concerns or questions about your health, you should always consult with your GP or other health-care professional. The use of any information provided in this booklet is solely at your own risk.

No assurance can be given that the advice contained in this booklet will always include the most recent findings or developments with respect to the particular material.

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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