

Hip arthroscopy and labral reconstruction

This leaflet is for patients having a hip arthroscopy with labral reconstruction for femoroacetabular impingement (FAI) – a painful condition with a decrease in the hip’s range of motion. It outlines what the surgery entails, including risks and benefits. If you have any questions, please discuss them with your consultant or one of the team.

The hip joint

The hip joint is ball-and-socket joint. The ball (femoral head) is the top end of the thighbone (femur) and the socket (acetabulum) is part of the pelvis (Figure 1A). The femoral neck connects to the head to the shaft of the femur. The hip joint is surrounded by ligaments and muscles, which provide support and generate movements of the joint.

The surfaces of both femoral head and acetabulum are covered by a smooth cushioning layer called articular cartilage (gristle) (Figure 1B). It is needed for smooth gliding of joint surfaces during movements and absorption of the loads. The rim of the acetabulum is lined by a fibrocartilage structure called labrum.

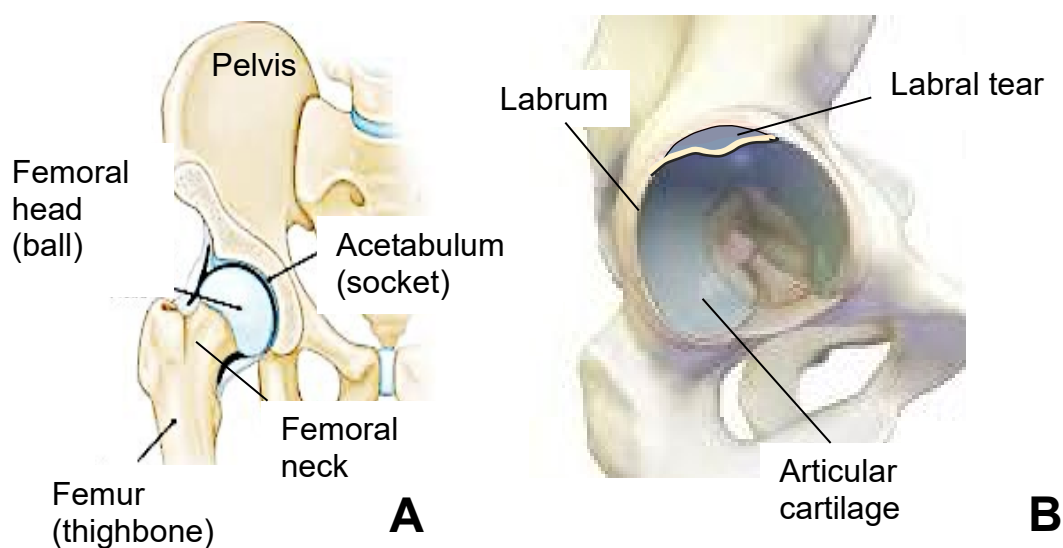


Figure 1. A. Diagram of a right hip joint. **B.** Diagram of right acetabulum

What is femoroacetabular impingement?

This condition involves the femur and/or the rim of the acetabulum. On the femoral side, it is caused by bumps at the junction of the femoral head and neck (known as a CAM lesion). On the acetabular side, it is caused by the extra bone around the acetabular rim (known as a Pincer lesion). Both of these lesions, either alone or in combination, cause abnormal contact – impingement – between the femur and the acetabular rim, in turn damaging the labrum and

articular cartilage, and causing pain and other symptoms. This process is not as a result of a 'one-off' instance. Repetitive collisions over a long period of time (usually years and likely starting in early teens) cause gradual build-up of damage, ultimately leading to the onset of symptoms.

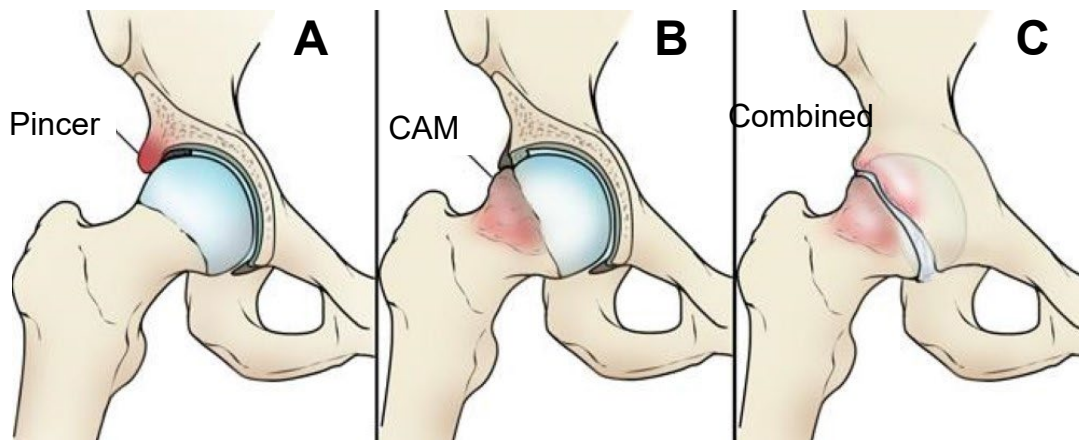


Figure 2. **A.** Diagram of a right hip pincer impingement. **B.** CAM impingement. **C.** Combined impingement (pincer and CAM).

Hip arthroscopy

If your pain is not helped by non-surgical treatment (i.e. rest, painkillers, physiotherapy, injections) and your tests show relevant findings, surgery may be recommended. If your tests reveal FAI, labral damage and/or early articular cartilage injury, then surgery may be beneficial. Hip arthroscopic procedures are performed through small skin incisions (keyholes) using a small camera, called an arthroscope, and thin instruments. During arthroscopy, any damage to the labrum and articular cartilage can be either repaired, cleaned out (known as debridement) or reconstructed (with a graft), while excessive bone can be trimmed or shaved. If articular cartilage is damaged, an attempt to cause formation of new cartilage to repair the defects is made by stimulating the underlying bone (known as microfracture).

Successful labral repair still relies upon the ability of your body to heal the labrum back onto the bone. If the healing fails to take place effectively, the repair is likely to fail with time, leading to recurrence of the original symptoms.

When either labral damage is too great and not suitable for repair, the condition of the labrum suggests that successful healing is unlikely, or previous labral repair has failed, then surgery called labral reconstruction may be undertaken. This is done by removing the damaged part of the labrum and fixing a tissue graft (allograft) to the acetabular rim to fill in the resultant defect (Figure 3). The length of the required graft will depend on the length of the damaged labral segment. Labral reconstruction uses tiny suture-anchors (stitches) to attach the graft to the underlying acetabular rim.

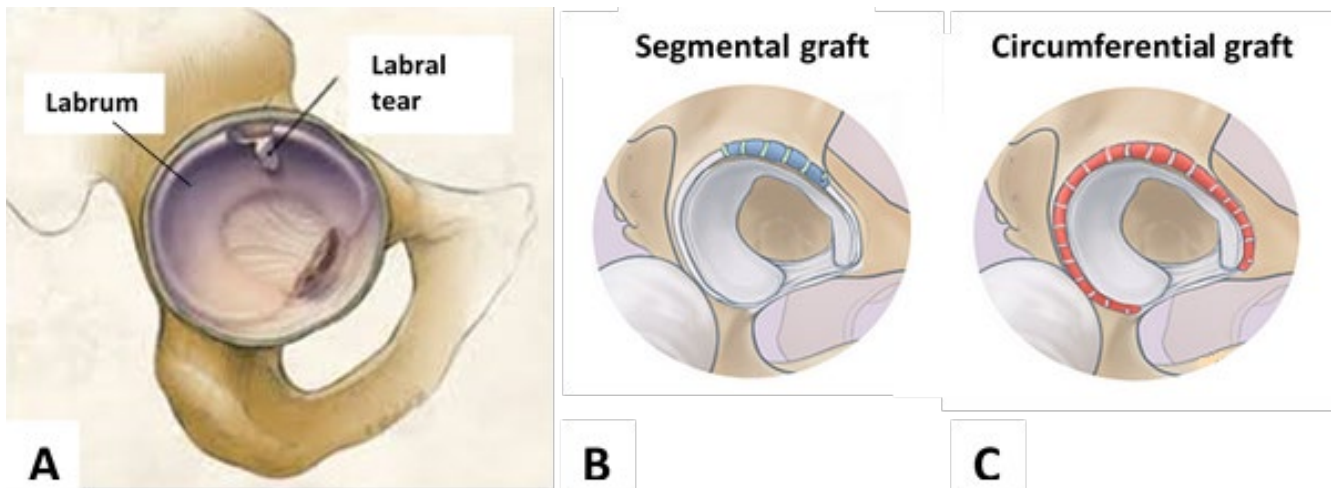


Figure 3. **A.** Diagram of the right acetabulum with a labral tear. **B.** Diagram of the right labrum with a partial defect that has been reconstructed with a graft (blue). **C.** Full length of the labrum has been debrided (cleaned out) and reconstructed with a graft (red).

Medications following surgery

Following the procedure, we aim to restore your hip to the normal function. As well as the engagement with physiotherapy and rehabilitation, there are two specific medications that we may recommend to you. The first is a non-steroidal anti-inflammatory medication (called Celecoxib), which is given to improve the pain, but also to reduce the amount of abnormal bone formation in the healing tissues (see below reference 1). The second is a medication that has been shown to reduce the formation of scar tissue (known as adhesions) in the joint that, if occurs, can cause problems in the future (see below reference 2). This is a medication that is more commonly given for high blood pressure, but in higher doses. While taking this medication (Losartan), you will need to keep yourself well hydrated by drinking plenty of fluids.

What are the aims of this surgery?

- Restore hip function
- Improve hip pain
- Prevent/delay onset of hip joint arthritis
- Improve overall quality of life and mobility

What are the risks of this surgery?

- Adhesions
- Wound or deep infection
- Nerve injury
- Failure to improve symptoms/dissatisfaction
- Recurrence of symptoms
- Failure of the labrum to heal
- Need for further surgery

- Heart attack
- Chest infection
- Clots in the veins of your legs that may travel to your lungs (deep vein thrombosis (DVT) and pulmonary embolism)
- Compartment syndrome – during the arthroscopy, fluid is pumped into the tissues to aid visualisation. Extremely rarely, it can track up into the abdomen and cause pressure on the vital organs. If this happens, you may need to be treated on Intensive Therapy Unit (ITU) for a period of time.

Advice following surgery

Pain relief: Local anaesthetic is used at the end of surgery to numb the pain. It is normal to feel pain come back as the local anaesthetic wears off and you will need to take painkillers regularly to help with this. It is important to take the painkillers as prescribed to keep pain to a minimum and allow mobilisation.

Hospital stay: Your operation can take from 2 to 4 hours, depending on how much work needs to be performed. You may need to stay in hospital overnight following your procedure. The length of your hospital stay may vary, depending on the extent of your surgery, your medical history and also on how you are managing to mobilise with help from the physiotherapists.

Mobilisation: After your surgery, a physiotherapist will come to see you on the ward. Initially, you may require walking aids (i.e. frame or crutches) to help you mobilise. In the majority of cases, you will be allowed to put all weight on your operated leg. If articular cartilage damage was treated with microfracture, you may be asked to restrict your weight-bearing for a period of up to 6 weeks. The physiotherapist will also show you how to safely get up- and down-stairs, using your crutches if required.

Range of movement and strengthening exercises: It is important to build up your muscle strength and hip joint movements as soon as possible. Ensure that you take pain relief medications about one hour before your exercises. Following your surgery, you will go through a phased rehabilitation programme. The programme details will be explained to you by your physiotherapist, but generally it will be:

- Phase 1 – includes restoration of hip joint range of movement,
- Phase 2 – strengthening/conditioning muscle exercises,
- Phase 3 – stamina
- Phase 4 – exercises for return to specific sport.

You will also be referred for outpatient physiotherapy to ensure on-going progress with walking and exercises. If you have any questions or need any advice about your exercises, please contact the Physiotherapy Department between 9am – 4pm Monday to Friday on 0118 322 7811 (Royal Berkshire Hospital) or 01635 273362 (West Berkshire Community Hospital).

Self-care: It is important to get back to your normal daily routine as soon as possible after the surgery. Initially on the ward, you will probably need help from the staff with mobilisation and self-care. By the time you go home, you are likely to be independent with normal self-care activities.

Wound care: Your wounds will need to be kept clean and dry. It is normal for the wound sites to sometimes leak a little bit of blood or fluid for the first few days after your surgery. The wounds will need to be redressed if the dressings become soaked. If you are changing the dressings, clean the wound with soap and clean water, pat it dry with a towel/paper towel and even use a hair dryer (on cool) to ensure maximal dryness of the skin before applying a new dressing. The stitches need to be removed 10-14 days after the surgery. The nursing staff will also provide you with wound care information on discharge.

Work: Your return to work will depend on the job you do and the speed of your recovery. It may take a couple of weeks before you are able to return to an office job, and longer if the job is physical. Your physiotherapist or consultant will be able to provide further advice. An initial sick certificate can be provided by the ward – please ask the nurse before you leave the ward. Subsequent certificates will need to be obtained from your GP if required.

Driving: You should not drive while you are still using crutches. Once you feel you have sufficiently recovered and can perform an emergency stop, you can try to drive on a quiet road. You may need to inform your insurance company prior to returning to driving that you have had an operation and have now recovered.

Leisure and sport: Return to sports will be guided by what you have had done during your hip arthroscopy and by your progress with rehab. It can take up to 3-6 months before you are able to return to competitive sports.

References

1. Lavernia CJ, Contreras JS, Villa JM, Rossi MD. Celecoxib and heterotopic bone formation after total hip arthroplasty. *J Arthroplasty*. 2014;29(2):390-2.
2. Dow T, King JP, Wong IH. The Reduction of Heterotopic Ossification Incidence After Hip Arthroscopy in Patients Treated With Selective Cyclooxygenase 2 Inhibitor (Celecoxib). *Arthroscopy*. 2020;36(2):453-61.

Glossary

Femur – thighbone

Acetabulum – socket of the hip joint

Femoral head – ball of the hip joint

Femoral neck – connects to the head to the shaft of the femur

Articular cartilage – gristle lining the surfaces of the hip joint absorbing the loads and allowing for smooth gliding of joint surfaces during joint movements

Labrum – a fibrocartilage structure lining the circumference of the rim of acetabulum

Femoroacetabular impingement (FAI) – condition involving an abnormal contact between the femur and the rim of acetabulum during hip movements

CAM lesion – abnormal bumps at the junction of the femoral head and neck

Pincer lesion – the extra bone around the acetabular rim

Arthroscopy – joint surgery performed through small skin incisions (*keyholes*)

Arthroscope – small camera used during arthroscopy

Graft – tissue or equivalent used to supplement native damaged tissues. It acts as a scaffold for your own cells to grow into

Allograft – tissue that has been donated and processed to minimise the risk of transmissible diseases

Labral repair – repair of labral tears by bringing the torn edges together to allow them to heal

Labral reconstruction – replacement of native labrum with a graft. This is undertaken if labral damage is too extensive and not amenable for repair, the condition of the labrum suggests that successful healing is unlikely, or previous labral repair has failed

Microfracture – drilling or punching into the surface of the bone exposed as a result of articular cartilage damage. It stimulates formation of a scar plug, which is expected to take on the role of a damaged articular cartilage

Adhesions – fibrous bands that can form in the joint and cause pain and restriction of movements

Contacting us

Clinical Admin Team (CAT 5) Orthopaedics: 0118 322 7415 email: rbbh.CAT5@nhs.net

Redlands Ward: 0118 322 7484/5

Orthopaedic Outpatient Reception (RBH): 0118 322 8334

Outpatient Physiotherapy Department 0118 322 7811 (Royal Berkshire Hospital) or 01635 273362 (West Berkshire Community Hospital).

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

Tony Andrade / Vitali Goriainov, RBFT Orthopaedics, July 2023

Next review due: July 2025

Compassionate

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Resourceful

Excellent