



# Rehabilitation Programme following Hip Arthroscopy

Updated May 2010

## *Hip Arthroscopy*

### **Patient information and rehabilitation programme:**

#### **❖ The Hip Joint**

The hip is a ball-and-socket joint and is the largest weight-bearing joint in the body. The head of the femur (thigh bone) forms the ball which fits into the acetabulum, a cuplike cavity in the pelvic bone that forms the socket.

Ligaments connect the ball to the socket. The joint surfaces are covered with a strong smooth layer of articular cartilage. The acetabulum has a layer of fibrous cartilage around the rim called the labrum, which holds the head of the femur securely in the joint. Other surfaces of the joint are covered with a synovial

membrane, this produces synovial fluid which lubricates the joint and reduces the friction that occurs with movement.

### ❖ Procedure for Hip Arthroscopy

Hip arthroscopy is used for evaluating and treating a variety of hip conditions, particularly hip problems in the young, active patient; it is a minimally invasive procedure.

Traction is placed on your leg to create more space within your hip joint to allow the entry of surgical instruments. Several small incisions are made around your hip. These small incisions allow the passage of a thin telescope/camera (arthroscope) to inspect your hip joint and passage of surgical instruments which are used to shave, trim, cut, smooth or repair the affected areas.

X-Rays are used to guide the arthroscope and the surgical instruments.

It may not be possible to gain access to your hip safely and arthroscopic surgery therefore would not be possible.

If examination of your hip with the arthroscope indicates further surgical treatment is required, this will be performed at the time of your surgery.

Hip arthroscopy usually takes between 1 and 2 hours to perform and is normally carried out as a day procedure, however you may require an overnight stay.

### ❖ Indications for Hip Arthroscopy

The majority of patients who require hip arthroscopy are young and active with a history of hip or groin pain.

#### **Common causes of hip pain are –**

- Labral tears
- Hip impingement
- Articular cartilage injuries
- Loose bodies

#### **Less common causes of hip pain are –**

- Tendon or ligament injuries
- Instability of the hip joint

- Synovial disorders
- Infections in the hip

If you are young and active and have experienced hip pain that has not improved with conservative treatment consisting of anti-inflammatory medications and physiotherapy for greater than six-months, you may be a candidate for arthroscopic surgery.

## ❖ **Common causes of hip pain and their treatment**

### **What is Hip Impingement?**

Hip impingement is due to reduced clearance between the head and neck of the femur and the rim of the acetabulum. Activities that result in the femur and the rim of the acetabulum rubbing together, such as, running, bending over and sitting can cause an increase in symptoms.

### **What is the treatment for Hip Impingement with Hip Arthroscopy?**

Surgical instruments will be used to trim the head and neck of the femur and the acetabulum to enable more joint clearance. This should relieve hip impingement.

### **What is a Labral Tear?**

The acetabulum has a layer of fibrous cartilage around the rim called the labrum, which holds the head of the femur securely in the joint. Injury or wear and tear can result in a labral tear. Common symptoms of labral tears are locking or catching in the joint and hip and groin pain.

### **What is the treatment for a Labral Tear with Hip Arthroscopy?**

Surgical instruments are used to remove the torn tissue and smooth the edges of the torn labrum. In some cases, sutures may be used to repair the labral tear.

### **What is an Articular Cartilage Injury?**

Articular cartilage covers the joint surfaces of the head of the femur and the acetabulum, allowing smooth movement between them without causing damage. Articular cartilage tears can result from activities like running or jumping, friction due to hip impingement or wear and tear of the hip joint.

### **What is the treatment for Articular Cartilage Injury with Hip Arthroscopy?**

Surgical instruments are used to remove the damaged tissue and smooth the edges of the tear.

### **What are Loose Bodies?**

Loose bodies are often due to trauma, such as a fall, a sports injury or a road traffic accident and may also occur as a result of wear and tear. A common symptom of a loose body is a feeling of catching in the joint.

### **What is the treatment for Loose Bodies with Hip Arthroscopy?**

Surgical instruments are used to remove the loose bodies.

#### **❖ What are the Benefits of Hip Arthroscopy?**

Confirm what is causing your symptoms and treat the problem

Relieve pain - Hip arthroscopy resolves or reduces symptoms for most patients.

Relieve symptoms of locking or catching.

Improves the stability of your hip joint.

May improve stiffness and range of motion

#### **❖ What are the Alternatives to Hip Arthroscopy?**

The following conservative treatment should be attempted prior to undergoing hip arthroscopy

#### **Physiotherapy**

- The physiotherapist will complete an assessment and advise you on a home exercise programme to strengthen the muscles surrounding your hip joint. This should improve your hip joint position and relieve pain.
- The physiotherapist can also use various techniques to help reduce your pain and inflammation, such as, soft tissue massage or electrotherapy modalities.

#### **Anti-inflammatory Medications**

Anti-inflammatory medications may help reduce pain and inflammation and are available in oral and topical form. Speak with your G.P. regarding prescription of these medications.

#### **Corticosteroid Treatment**

Your doctor may prescribe corticosteroid treatment to help relieve your pain.

❖ **Your main problems after surgery will be:**

- Discomfort
- Reduced movement at your hip
- Swelling – normally resolves 14 days after hip arthroscopy

Most patients have a little discomfort following hip arthroscopy. You may experience postoperative muscle and soft tissue pain, particularly around the hip and thigh. However, if your pain becomes severe, or if you develop a fever, prolonged calf pain, shortness of breath, or chest pain, please **contact us** or your GP immediately (see contact details on page 14).

Your first review at a clinic will be approximately 6 - 8 weeks following your operation. If you have any concerns before your review, please **contact us** (see contact details on page 14).

❖ **Possible Complications**

- Increase in symptoms
- Prolonged traction can result in temporary weakness or numbness in the groin and thigh, this normally resolves.
- Instrumentation breakage – a small incision may be required for removal of the broken instruments.
- It may not be possible to gain access to your hip arthroscopically.
- Pressure sores
- Infection
- Trochanteric bursitis, which is inflammation of the fluid-filled sac that lies over the bony prominence on the outside of the thigh bone.
- Venous thrombosis/pulmonary embolism – potentially serious complication characterized by calf pain and swelling and/or chest pain with shortness of breath – if concerned contact doctor immediately.

## **Your Rehabilitation Programme**

This booklet provides guidance through each stage of your rehabilitation.

It is important that you participate and progress through the following rehabilitation programme as your hip will have reduced strength and movement after surgery.

This programme will help you to regain stability at your hip enabling your return to sporting and day to day activities.

You should progress through therapy according to the protocol described in this leaflet.

Your physiotherapist will guide you through each stage of your exercise programme and provide you with detailed explanations of the exercises described in this booklet. The times specified for each stage are guidelines only.

Mr. Carton may advise you to spend longer at each stage due to your operative treatment. You will be advised of this before discharge.

If you develop excessive pain or your swelling increases following exercise, the exercise may be too vigorous. If this occurs return to your previous level of activity and gradually build your activity up again.

For more detailed explanation and image demonstration of exercises please visit our website at [www.hipandgroinclinic.ie](http://www.hipandgroinclinic.ie)

### **Stage 1- Initial phase**

### **Week 1 - 3**

#### **Aims**

- Reduce pain and swelling
- Normalise your walking pattern
- Improve your hip muscle strength and core strength
- Improve movement at your hip
- Improve your balance

#### **❖ Ice**

Apply ice wrapped in a damp towel to the operated hip for 15-20 minutes, 4 times a day. Remove the ice immediately if you experience any discomfort. You should use ice after each exercise session.

### ❖ **Walking**

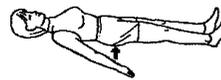
Walk with crutches to reduce weight bearing through your operated leg. Mr. Carton will advise you to put no weight or partial weight through your operated leg. You will be using crutches for the first 3-5 days to protect your hip joint.

### ❖ **Home Exercise Programme**

**Exercises should be performed 4 times daily. Begin with 10 repetitions of each exercise and increase to 30 repetitions.**

#### **Day of surgery**

- **Static gluteal contraction**  
Lying on your back with your legs out straight, tighten your buttocks. Hold for 10 seconds.



- **Heel slides**  
Bend your knee by sliding your heel towards you. Keep your heel on the bed (when lying) or on the floor (when sitting).



- **Foot and ankle exercises**  
Move your foot up and down.  
Move your foot in circles – clockwise and anti-clockwise.



## Week 1 - 3

### Continue with static gluteal contractions, heel slides and foot and ankle exercises

#### Improve strength

- **Isometric hip abduction**

Stand with your foot (of affected leg) against a wall, push your foot outwards against the wall. Hold for 10 seconds.

Sitting, place a belt around both your lower thighs, push both legs outwards. Hold for 10 seconds.

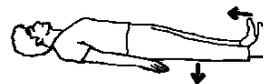
- **Isometric hip adduction**

Lying, place a pillow between your knees, squeeze your knees together. Hold for 10 seconds.

Sitting, clench your fists and place them between your knees, squeeze your knees together. Hold for 10 seconds.

- **Static quadriceps/hamstrings co-contraction**

Lying on your back with your legs straight: Push your knee firmly down against the bed. Hold for 5 seconds.



- **Straight leg raise**

Lying on your back with your operated leg straight and your non-operated leg bent: Tighten your thigh muscle as with static quadriceps/hamstrings co-contraction and lift your leg 6 inches off the bed. Keep your knee as straight as possible.

Hold for 5 seconds. Then, gently lower.



- **Begin core stability exercises** (see Core Stability Exercise Sheet)

## **Improve movement**

Stretching to maintain flexibility is vital at every stage through the rehabilitation programme; ensure adequate time is taken daily.

- **No rotation at your hip until after your first review**
- **Hip abduction**  
Lie on your back. Slide your leg out to the side and then return to starting position, keeping your knee straight and your toes pointing up.
- **Hip abduction in standing**  
Stand holding onto something stable; gently raise your leg to the side as far as is comfortable, and then return slowly to starting position.
- **Hip flexion**  
Standing: Gently swing your leg forwards and backwards like a pendulum ensuring your foot is clearing the ground.

## **Improve balance – begin when able to walk without crutches**

- Lateral weight shifts – moving body weight from one leg onto the other and back repeatedly
- Single leg stance
- Use various surfaces - foam, balance board, rockers and beam
- Walking along lines / beam

## **Improve cardiovascular fitness**

### **Aqua therapy / Swimming – Once your wounds have fully healed (Day 10)**

- Attend the swimming pool daily
- Forward and backward walking
- Hip strengthening exercises in standing –  
Briskly swing your leg forwards and backwards like a pendulum.  
Bring your affected leg out to the side and back to the start position, don't lean to the side.  
Move your leg briskly through the water as this increases the resistance provided by the water.

- Straight leg kick
- **NO BREASTSTROKE**

### **Stationary bike**

Initially use a high saddle and a low resistance programme gradually increasing resistance and speed. Begin with 5 minutes and increase this by 5 minutes every 3-4 days up to a maximum of 30 minutes

You can begin to add to the resistance at the end of the 3<sup>rd</sup> week.

### **Stage 2- Intermediate phase**

### **Week 3 – 5**

#### **Aims**

- Improve muscle strength
- Improve core strength
- Improve balance
- Improve / maintain cardiovascular fitness
- Improve movement

#### **Improve strength**

Begin gentle progressive resistive exercises, no resistance initially then slowly increase resistance using light weights or theraband resistance.

- **Hip abduction**  
Lie on your unaffected side. Lift your affected leg out to the side, up towards the ceiling, hold for 5 seconds and return to start position. Stand holding on to a support; bring your affected leg out to the side and return slowly to start position. Do not lean to the side.
- **Hip flexion**  
Stand holding on to a support; bring your affected knee up towards your chest. Then, slowly return to start position.
- **Hip extension**  
Stand holding on to a support; bring your affected leg out behind you and return slowly to start position keeping your knee straight through-out the exercise. Do not lean forwards.
- **Progress core stability exercises** – for example; Closed chain bridging

**Closed Chain Bridging** – Begin this in lying with hips and knees bent so that your feet or flat on the bed/floor. Tighten in your tummy muscles, squeeze your bottom and raise your bottom and then spine off the bed. Try

to keep your pelvis level and aim to get your shoulders, pelvis and knees level.

### **Improve balance**

- Increase the difficulty of Stage 1 exercises by using theraband resistance and/or throwing and catching a ball
- Mini-trampoline
- Side-stepping
- Dynamic step-downs with balance component

### **Improve / Maintain cardiovascular fitness**

- Continue with swimming
- Stationary bike - Begin with high saddle and low resistance programme, then gradually increase resistance and speed.
- Walking on treadmill
- Jogging on mini-trampoline

### **Improve Movement**

Continue with a programme of stretching focusing on the following muscle groups

- Hip Flexor
- Adductor/ Groin
- Quadriceps
- Hamstring
- Calf

### **Stage 3 - Advanced phase**

### **Weeks 5 - 12**

#### **Aims**

- Improve functional strength and endurance
- Improve core strength and stability
- Improve movement and maintain flexibility
- Improve Cardiovascular fitness

## Week 5 - 8

### **Improve strength**

- Progressively increase resistance
- Functional strengthening exercises, such as,
  - Step-downs
  - Leg press
  - Lunges
  - **No squats**
- Continue core stability progression

### **Improve movement and maintain flexibility**

- Begin hip rotation movements at Week 6
- General lower limb flexibility exercises

### **Improve cardiovascular fitness**

- Exercise bike
- Swimming and aqua-jogging
- Rowing machine
- Cross-trainer
- Jogging and running outside, on grass only (**begin at Week 8**)

## Week 8+

### **Initiate sport specific exercises**

Initially complete all drills at 50%, then progress to 70%, then to 85%, and finally to 100%

- Running in straight lines
- Large figure of 8 - progress to small figure of 8
- Backward running
- Side-stepping
- Fixed obstacles
- Mirror activities
- Moving obstacles

## **Progress balance and agility**

- Low impact aerobics
- Multi-directional jumping and hopping
- Landing from a height onto 2 feet then onto 1 foot
- Skipping
- Jump-land-rebound

## **Introduce rotational activities**

- Carioca stepping / running
- Cutting 90\* (cone drills)
- Combine running, jumping and turning.

## **Return to sport**

- **Return to non-contact aspects of team training then return to full participation.**

**Following most procedures return to full participation should be achieved by week 12.**

## **Return to sport guidelines**

Jogging	8 weeks
Swimming	At 2 weeks provided wound has healed. Straight leg kick only. No Breaststroke
Cycling	Cycle outside on level terrain at 8 weeks
Aerobics	Low impact at 8 weeks
Contact sports	Full participation in team training by 12 weeks. Return to full competition will be determined at your 12 week review.

## **Review Appointments**

Patients will generally be reviewed at 6 weeks, 12 weeks, 6 months and 1 year post-op at Mr. Carton's Suite, Whitfield Clinic. Telephone review may be arranged for patients travelling very long distances.

If you require any further advice or have any concerns, please contact us – see contact details below.

### **Contact Details:**

#### **Jacinta O'Sullivan** (Secretary)

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For further information regarding hip and groin conditions, investigations and treatment, please visit the Hip and Groin Clinic website at [www.hipandgroinclinic.ie](http://www.hipandgroinclinic.ie)

#### **Mr. Patrick Carton MD FRCS (Tr&Orth)**

Consultant Orthopaedic Surgeon, Specialist in Hip and Groin Surgery

The Hip and Groin Clinic, Waterford