THE HIP ARTHROSCOPY REHABILITATION GUIDE
FOR PATIENTS, SURGEONS AND THERAPISTS

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In collaboration with The Yorkshire Hip Clinic and Fitcure
I was first introduced to Hip Arthroscopy in 2005 in Australia during my final specialist training. It was an evolving field at the time but over the last 15 years has now become a well-established and successful treatment. The journey has been challenging at times. There have been enormous developments in surgical technique and the design of surgical instruments. I have used my Master’s Degree in engineering to help develop products and my experience of thousands of cases have developed my surgical approach. We now have a much better understanding about treating sports injuries to the hip, but the field continues to develop.

A successful outcome after surgical treatment depends on many factors. In my opinion a specialized physiotherapy programme is the most important element for a successful outcome after hip arthroscopy. Physiotherapy collaboration with the surgical team and engagement with the patient has ensured the best outcomes over many years for my patients.
I have worked with and learned from Louise throughout my Consultant career of 15 years. Her enthusiasm, personability, hard work and knowledge has reassured me that my patients are in the best hands with her team. She is at the forefront of knowledge in sports injuries of the hip. Keeping up to date by attending international meetings and collaboration with other internationally renowned physiotherapists and surgeons. Her MSc research has helped her to be recognised as an eminent physiotherapist in pre-habilitation and rehabilitation for hip arthroscopy surgery.

Louise understands the individuality of our patients including their demands and expectations. Her guide explains the challenges and hard work that is needed to recovery properly, safely and ultimately to gain the best outcome from your surgery.
This rehabilitation guide has been fully researched and includes the latest international consensus by the international hip preservation society (ISHA) of which she was a major contributor. It includes Louise's vast personal experience of treating patients with sports hip conditions and in particular those who have enlisted her help when they have failed using other rehabilitation programmes. This programme is backed by scientific evidence and years of experience. Her results are reflected in the endless positive feedback I receive from more than satisfied patients.

The preparation and recovery from hip arthroscopy can be challenging. This guide will ensure you have the best possible programme to reach your recovery and intended goals. I am not aware of any other publication in hip arthroscopy that is so comprehensive, research based and backed by the experience of a truly inspirational professional.
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I have had the pleasure of working for Physiocure for the last 10 years helping to rehabilitate patients post hip arthroscopy through our multidisciplinary team approach. The road post operation can sometimes be bumpy, and that is why it is integral to your success that you have a passionate team around you, without ego, who simply just want to get it right for the individual in front of them; I have the honour and privilege to be part of that team.

Post hip arthroscopy, you will likely spend the first few weeks calming the joint down, reducing inflammation, resting, performing Pilates exercises and hydrotherapy. Over the period of the next 6-12 weeks (sometimes longer) you will get given hip exercises to strengthen the muscles that surround the head of your thigh bone, gentle core work to help aid in repositioning the pelvis, all whilst simultaneously reducing your base of support until you are without crutches and walking unaided. Once you have achieved this you are ready to start introducing strength training in to your rehab program.

What we know about hip strengthening exercises alone is they do not get people back to full function, when I say function I mean performing YOUR everyday tasks without due exertion. For a footballer that is back to a 90 minute game of football, a student its sitting at your desk comfortably and going out with friends, a parent it might mean running after the children.
Once we have gained control of the musculature surrounding the head of the femur, we need to start strengthening the every day movement patterns, being mindful of the orientation of the pelvis and the pathology of the individual. These movements are as follows - sitting down and standing up, pushing and pulling in horizontal and a vertical fashion and picking things up from the floor. However, it's not as simple as passing somebody some weights, we need to start from the floor and slowly build up to standing over a period of time, reducing base of support and eventually increasing to external load.

Through my years of working closely with the best clinician for hips Louise Grant, I have come to this two-part conclusion; firstly hips are like noses, some are pointy, some are round, some are big, some are small, some sit centrally and some not so central, but ultimately the only thing they truly have in common is they are unique; secondly what the text book says and what you represent are not always the same thing.

With those two points made, it is extremely difficult to hand out generic exercise prescriptions, especially when dealing with the hip complex; We must assess posture, breathing and movement, monitor and adjust according to the individual in front of us with a bespoke and fluid, flexible ever changing plan.

If i could offer one piece of advice that is universal across the board it would be get control of the thoraco-pelvic cannister!.... meaning make sure your rib cage and your pelvis sit directly on top of each other and then reinforce that position through strengthening, this will contribute to centring the head of your thigh bone in the socket and increasing your chances of a positive outcome.

I want to personally wish you every success on your hip journey

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Louise Grant is a Chartered Physiotherapist who has been in practice for almost 30 years, qualifying in 1992. Since the year 2000, she has jointly owned PHYSIOCURE, a private physiotherapy and multi-disciplinary clinic in Yorkshire, with business partner Anna Higo. Lou is a member of the Health and Care Professions Council, The Society of Musculoskeletal Medicine, The Acupuncture Association of Chartered Physiotherapists, PhysioFirst, the Association of Chartered Physiotherapists in Sports Medicine and is and associate member of The International Society for Hip Arthroscopy (ISHA). In 2005, Louise additionally qualified as a Modern Pilates Instructor. This guide is the Second Edition to her earlier guide she wrote and disseminated in 2011.

Louise works privately as a Hip Specialist Physiotherapist working with patients undergoing not just hip arthroscopy, but other types of hip surgery and also non-surgical management of femoral acetabular hip impingement syndrome (FAIS). Louise has personal experience of living with femoral acetabular impingement syndrome (FAIS) and has had a hip arthroscopy herself in 2011. She understands fully the emotional rollercoaster some patients experience in recovery. From this, she has been able to share her experience and coach a team of physiotherapists, sports therapists, physical trainers and mental health professionals who work at Physiocure and Fitcure so they can help hip patients on their personal journeys.
Lou has been a member of the ISHA Physiotherapy Group since 2013 (which consists of International Hip Physios who have published work in the field of hip arthroscopy and are also clinicians); where she and fellow Hip Physios organized a parallel Hip Physiotherapy conference with the ISHA Surgeons conference. Louise has had the honour to be invited by ISHA and to various national hip conferences over the years to speak about her research.

Lou completed her Masters Degree (MSc) in Musculoskeletal Medicine in 2015, during which she designed and implemented a randomized controlled (RCT) research trial into pre-habilitation exercises for hip arthroscopy. This study was published in 2017 in the Journal of Hip Preservation Surgery and disseminated at ‘The International Society For Hip Arthroscopy’ (ISHA), Annual Scientific Meeting, Melbourne, Australia 2018 and also at ‘The Sports Hip Conference’, UK, 2018.

In 2021, Louise, the ISHA Physiotherapy Group and eminent Hip Arthroscopy Surgeons published a consensus statement in the Journal of Hip Preservation Surgery regarding the management of Femoro-acetabular impingement, which includes pre-op and post-op guidelines.
Practical advice has been added into this guide from Lou’s Occupational Therapist (OT) mother who lived with hip dysplasia, unknowingly – thought her pain was spinal, found out about her dysplasia age 49 and had a early hip replacement, age 50. Additionally, Louise’s sister is an OT and a University lecturer and PhD student who has (FAIS) hip problems and has had a hip arthroscopy with Jon Conroy, so has also been a great help in contributing to this guide. Louise has used this information aiming to produce a useful guide to aid patients and therapists in hip arthroscopy rehabilitation. Visit our website www.physiocure.org.uk for a further OT guide for hip arthroscopy patients written by Leeds Beckett University MSc OT students who did a project at our clinic in 2017. References have been added to the end of this guide so further reading can be done.
• Disclaimer – The author is not responsible for any person’s using this guide or for their interpretation of it.
• Hip arthroscopy rehabilitation should be done under the care of a suitably qualified Chartered Physiotherapist or equivalent therapist, and any concerns raised immediately to your Hip Surgeon.
• DO NOT USE THIS GUIDE TO REPLACE ADVICE FROM YOUR SURGEON OR THERAPIST.
• DO NOT USE IT TO REPLACE GOING FOR FACE TO FACE INDIVIDUAL CARE
• This guide is not intended to replace your Surgeon’s protocol, but to be used alongside it. Louise has gathered together hip arthroscopy guides/protocols from around the world, research papers and books, her learning from attending international hip conferences, and from individual teaching from top hip arthroscopy surgeons, to personally formulate this amalgamation of material. She has also collected data, recording her own patient’s experiences of hip arthroscopy rehabilitation over the last 10+ years that has helped mould this booklet and have a clinician’s perspective based a wide variety of cases rather than a research study sample (these have age, health factors, sports and joint condition criteria and so make recommendations based on a certain group of the population). This guide is general, and can not cover every eventuality. It also needs to be highlighted that some patients having the surgery have suffered for a long time and maybe in a physically depleted state and they are going to be at a different starting point to an athlete who is fit, strong and having immediate surgery on an acute labral tear.
• USE OF THIS GUIDE IS DONE SO AT YOUR OWN RISK.
• Louise Grant – Physiocure – March 2021
HIP ANATOMY

Pelvis
Acetabular rim
Femoral head
Greater trochanter
Femoral neck
Femur
PINCER AND CAM IMPINGEMENT
BONEY HIP ARCHITECTURE

- We all have different shapes and sizes of hips, sometimes even our own left and right hips look different to each other! The socket (acetabulum) may be shallow (dysplastic) or deep, or somewhere in between, it may have a boney overhang known as a pincer deformity. The socket may be pointing forwards (anteversion) or backwards (retroversion) or point more in a sideways direction. The femoral neck may be angled vertically or horizontally, forwards or backwards….it may be thick or thin. The ball part of the hip (femoral head) is sometimes not spherical, it may have a CAM ‘bump’ and some are more ovoid, ellipsoid or in some cases, square. A mixed impingement often refers to a hip that has both pincer and CAM boney shapes. Hence, we will all move differently and have different ranges of motion.

- FAI syndrome (FAIS) is a movement-related or position related pain in the hip or the groin. Pain may also be felt in the back, buttock or thigh. In addition to pain, patients may also describe clicking, catching, locking, stiffness, restricted range of motion or giving way. It is a triad of symptoms, clinical signs and imaging findings and represents symptomatic premature contact between the proximal femur and acetabulum.
**HIP LABRUM & LIGAMENTUM TERES**

- The hip labrum is thought to aid hip joint stability, possibly have a role in proprioception and also act as a seal around the joint. It is the fibrocartilage edge of the hip joint socket. Pain from a labral tear is usually located in the groin area and in what is referred to as the ‘C’ sign. The pain may be sharp, followed by a deep ache. There may be mechanical symptoms such as locking, clicking or giving way. Tears are commonly categorized by the Beck classification system. Decisions on how to deal with these symptomatic tears can vary – repair, debridement, reconstruction. It is useful to be aware that some tears are asymptomatic. The Ligamentum Teres is thought to also be a potential pain source and can also suffer tears. This is a strong ligament that attaches the top of the ball of the hip to the base of the socket and can also aid joint proprioception and stability.
HIP ARTHROSCOPY

• A hip arthroscopy is when the surgeon uses ‘keyhole’ surgery to enter the hip joint. Normally this involves making two small incisions in the upper thigh area, but on some occasions, a surgeon may choose to use additional incisions (portals). One of the incisions is for the camera, and the other is for the operating tool, the arthroscopic camera image is magnified on a big screen in the operating theatre so the Surgeon can see clearly inside the hip. Fluid flows through the arthroscope to keep the view clear and to control bleeding. Some Surgeons have their patients laid supine (on their back) on the table and some prefer a side lying position. The operated leg is usually in traction, with their foot in a special boot throughout the procedure. Traction enables access to the central compartment (ball and socket) of the joint. This is carefully controlled and monitored. Some Surgeons use general anaesthesia, some use a spinal block and sedation.

• An X-ray machine is used in theatre to check the position of the hip during traction and also to help guide the Surgeon into the hip joint with his operating tools. The traction is gently released for when the Surgeon accesses the peripheral compartment (neck of femur). At the end of the operation, the Surgeon may then carefully move the leg with the camera in situ, to dynamically assess the movement of the hip.
• Your Surgeon will have carried out imaging and very likely an intra-articular joint injection to establish if your pain is coming from your hip and whether it is intra-articular or extra-articular and a proposed treatment plan discussed. Further examination of the hip takes place when the Surgeon looks into the joint with their arthroscopic camera. Below are some of the different techniques used in hip arthroscopy -
With any surgery, there are complications and things to consider. Please discuss this further with your Surgeon. Here are some related to hip arthroscopy.

- Infection, DVT, delayed wound healing, swelling, bruising.
- Avascular necrosis of the femoral head, fracture, heterotopic ossifications, adhesions.
- Failure to resolve pre-operative symptoms, increased pain, damage to labrum or cartilage, traction related pain to the hip/knee/ankle/lumbar spine.
- Sciatic and lateral cutaneous nerve injuries, pudendal nerve problems, impotence, pressure sores.
- Instrument breakage, extravasation of irrigation fluid.
- Increased laxity of the hip.
FACTORS WHICH MAY INFLUENCE SURGICAL OUTCOME

- Hip Dysplasia
- Osteoarthritis
- Hypermobility & Ehlers Danlos
- Length of time suffering

Please read the references noted, for further information on these factors.
It is a well-known fact that the feet provide the platform on which we stand and walk and their ability to transmit forces throughout the body’s musculoskeletal system is well documented in medical papers. Hip pain and injury can therefore be influenced at least in part by abnormal foot biomechanics. It follows therefore that hip rehabilitation can be positively influenced by the correction of abnormal foot mechanics.

A Podiatric Biomechanical assessment can help diagnose foot and lower limb mal-alignments, enabling effective treatment to be given. Where there is altered foot posture, either excessive rolling inwards (pronation) or outwards (supination) it can cause the pelvis to drop or rotate increasing tissue stress and instability across the hip joint.

Foot orthoses aim to reduce abnormal tissue stress by influencing the amount of abnormal pronation or supination occurring at the foot. They can also help to promote the forward progression of the body over the foot. Orthoses are able to change foot function by altering the direction, magnitude and timing of forces. A foot orthotic can help to stabilise core function and pelvic rotation and assist in muscle rehabilitation. A good orthotic works best when used in conjunction with a personalised rehabilitation programme; appropriate footwear advice and shoe wear adaptation.

Foot orthoses are best accommodated in a supportive lace up shoe. The easiest type of shoe to work with is one with an existing removable insole in, i.e. a trainer or walking shoe/boot. The shoe needs to have a strong heel counter and a firm sole that allows flexion at the big toe joint and not at the mid point of the shoe. A completely flat shoe can encourage the foot to further collapse inwards (pronate) in some people therefore a slight incline from the back to the front of the shoe is often best. Ladies FlatForm fashion shoes can block the forward progression of the body over the big toe joint and are not advised. If you have been prescribed a foot orthotic you will be advised on the best footwear for you.

Jo Mugan. MSK Podiatrist  ProPodiatry @ Physiocure.
HIP STANDING POSTURE

• Individuals with FAIS commonly present with a sway back posture, resulting in the femoral head being pushed forward against the anterior structures of the hip (Sahrmann 2002). This may be something that needs assessing further and addressing with your Physio.

• It can also be helpful to consider the relative positions of the boney pelvic ring, rib cage, pelvic floor and diaphragm (Frank et al 2013). Biomechanical variations may influence how joints and tissues are loaded and their function.
HIP STANDING POSTURE

• Be mindful of how you are standing in all directions. Some people stand with weight more on one leg, this overworks one leg and underworks the other, hence creating an imbalance. When the hip/pelvis is shifted sideways, the Iliotibial band (ITB) which is a band of fibrous tissue running from the outside (lateral) aspect of the pelvis, over the hip and down the side of the thigh to the knee becomes under tension. This can then compress tissues and create pain around the side of the hip/thigh/knee. When you are in pain, yes, exercises, and pain relieving modalities are important, but it is also important to consider how you stand and the other postures you are in which may be a contributing factor.
HIP STANDING POSTURE

- It can also be helpful to consider the relative positions of the boney pelvic ring, rib cage, pelvic floor and diaphragm (Frank et al 2013). Biomechanical variations may influence how joints and tissues are loaded and their function. The drawing shows an anterior tilted pelvis and how this creates more flexion at the hip. Consider how in some this may influence the degree of impingement at the front of the hip.
HIP SITTING POSTURE

- Be mindful of how you sit. Are you sat on the edge of your seat? This may make your hip flexors more active. Try sitting with your bottom to the back of the chair and your back fully supported with the back rest. Ideally have knee lower than your hips and reclined slightly back so your hips aren’t in a ‘pinched’ position. Many of my patients find a foot stool helps to decrease pain and tension in the hip flexors. I have tried a cushion which does feel more relaxing compared to just having my feet flat on the floor.
HIP RESTING POSTURES

- It is important to think about what position your hip is in as this can affect pain and inflammation. Avoid pinching and twisted positions for prolonged positions. Also avoid crossing your legs.
HIP RESTING POSTURES

- Try a knee pillow to keep your hips supported to reduce the amount of adduction, internal rotation and flexion which may ‘pinch’ the structures at the front of your hip.
- A supported position also reduces the tension through the iliotbial band (ITB) at the side of your hip.
LATERAL HIP PAIN

If you suffer from pain at the side of your hip (lateral hip pain), which may be also called greater trochanteric pain syndrome (GTPS), trochanteric bursitis or gluteal tendinopathy you need to consider mechanics. The picture on the right shows someone standing with their feet close together. See how the thigh bones angle inwards. This then creates more compressive forces and tension and thus pain at the side of the hip as the Iliotibial band (ITB). Things which may provoke symptoms and may need avoiding to reduce symptoms are –

• Standing with feet close together
• Crossing your legs
• Sitting sideways with legs tucked under you
• Side sleeping with top leg crossed over (use a pillow to stop this)
• Doing exercises or positions in which your legs are like the picture on the right – where the knees are closer together than hip width
It is important to mention Hypermobility and being aware of it before embarking on surgery, for the following reasons –

• We often see the sway back standing posture and the sitting with legs tucked under posture or extreme joint range postures in our Hypermobile patients. This can be due to them wanting to ‘fix’ their joints in a locked position as they crave stability. These factors are important things to address and modify when we are trying to reduce pinching positions or positions of un-helpful hip joint and soft tissue stress, and can sometimes pose a challenge if they have become habitual postures.

• Tissues may be more stretchy and so this needs to be considered with the traction element of surgery and how the ligaments, muscles and neural tissues respond.

• There may be other conditions related into the Hypermobility such as Postural Orthostatic Tachycardia (POTs)\textsuperscript{108} and cervical instability (CCI) which are important to know about as your patient may suffer from dizziness during rehab. The presence of MCAS (mast cell activation syndrome)\textsuperscript{109} should also be noted as allergies to dressings, medications, cold temperatures (ice treatment) may affect recovery.
• Proprioception can be deficient in Hypermobility patients, which can affect balance and co-ordination \(^ {105}\).

• Therefore more emphasis on posture and proprioceptive work and consideration of how rehab is tailored and progressed.

• Hypermobility in the feet and ankles may need addressing (Podiatry) as they may have an impact on the hips.

• Tissues may take longer than average to ‘bounce back’ after surgery. Patients may be more prone to bruising and scar tissue formation may be different to the average person \(^ {106,107}\).

• Hypermobility is measured via the Beighton’s scale, however, awareness of age cut-off scores and that the score does not include other joints which may also display hypermobility, need to be considered. Classification is looked at as a spectrum, some people mildly affected and some more so \(^ {106}\).

• Some patients are Hypermobile Ehlers Danlos \(^ {106,107}\), this condition requires further reading

• – see websites [www.ehlers-danlos.com](http://www.ehlers-danlos.com) and [www.ehlers-danlos.org](http://www.ehlers-danlos.org)
Preparing yourself before surgery can help make your recovery easier. Your Physio can help you with –

- Showing you pre-op exercises to maintain your muscle tone and overall function.
- Explanation of the post-op exercise routine and advice on the recovery process.
- Practice crutch walking, discussing activity modification and pain relief modalities.
- Assessing and measuring your hip before surgery to establish pre-op function.
- Recording your pre-op pain and symptoms to be able to gauge appropriate post-op progress.
- Patient reported outcome measures (PROMS) are often used before surgery and throughout the recovery period to be able to quantify your recovery.
- Examples of PROMS commonly used are the iHOT33, NAHS, MHHS and HOS.
HOW COULD PRE-HAB HELP?

- Address muscle weakness and movement patterns
- Address extra-articular symptoms, inflammation and pain
- Address other joint involvement which may affect recovery
- Patient education
- Carry out baseline measurements
- Develop a plan to prepare mentally and physically for surgery
PRE-HABILITATION

• Despite the research base for pre-habilitation in hip arthroscopy surgery being sparse, it has been recommended to prepare the patient for surgery, maximise function and identify patients who may not be compliant in the recovery process 20, 21, 22, 93.

• Clinical Practice Guidelines written for the American Physical Therapy Association (2014) recommend a period of at least 8-12 weeks of non-surgical management prior to surgical intervention which may include physical therapy, medication and ultrasound/fluoroscopic guided therapeutic injections 23.

• Bortoli et al 24 reported her findings at ISHA 2012. In their sample of 69 subjects (29 control), the intervention group of 40 subjects who carried out pre-operative exercises improved significantly in the Modified Harris Hip Score (p=0.04) at 8 weeks post-surgery, She concluded that pre-operative therapy can improve hip pain and function during the early stages of recovery.

• In a systematic review of physical impairments in FAIS it was concluded that the findings demonstrated deficits in hip muscle strength and reduced dynamic balance on one leg 25.

• Therefore, can we utilize the time before surgery to address these possible issues?
PRE-OPERATIVE EXERCISES –
THESE CAN BE FOUND IN THE GUIDE THAT FOLLOWS THIS ONE
ESSENTIAL ITEMS FOR POST-OP RECOVERY

The hospital will call you in before surgery to do their blood and health checks on you in advance and give you the opportunity to ask any questions.

**Listed are things other patients have thought useful to help in recovery –**

- Elbow crutches (essential). Check if your insurance company provides these. If not, these can be purchased at the hospital or on the internet.
- Ice packs (essential). Ice is used to reduce swelling, bruising and provide pain relief. These can be bought on the internet or at the hospital. Get two, so one is always ready.
- Non-slip shower mat (essential). You must be careful that you do not jar your hip, so think of safety aspects.
- A couple of spare pillows – useful for supporting your leg in different positions.
Items to help in your recovery continued –

- Shower stool, grab rails, raised toilet seat, easy reach grabber, and long handled shoe horn – although these items are not essential, they can really assist in making independence much easier and may help prevent you jarring or overstretching the hip. See our Occupational Therapy Guide to preparing for surgery on [www.physiocure.org.uk](http://www.physiocure.org.uk)

- Small rucksack and flask - useful as you can’t carry things in your hands.
- Swiss ball, wobble board, inflatable balance cushion.
- Elastic resistance exercise band, ankle weight, gliding discs.
- Soft football, pilates ‘circle’, foam roller, massage balls.
- Scar massage oil and pain killers.
THINGS TO TAKE WITH YOU TO HOSPITAL

**Items to take with you to the hospital** –

- Loose fitting jogging trousers (your leg may be swollen after the operation).
- Comfortable, flat, supportive non-slip shoes.
- Nightwear, spare underwear and toiletries.
- Phone and charger, book, magazine etc
- Medications you are on.
- Elbow crutches (if you are having to provide your own).
- Avoid taking any valuables, jewelry.
- Glasses…you will be required to remove contact lenses.
Shade in the areas on this body chart where you have your pre-op pain. Scale the pain from 0-10 where 0 is no pain and 10 is the worst pain imaginable. Do this, as you may possibly forget what you actually did feel like before surgery!

Write down why you are having this surgery....
SELF-HELP TIPS
FOR PAIN AND MUSCLE MANAGEMENT

• Going into surgery with your hip in a strong calm state is preferable to going in with an angry, irritated weak joint.

• Useful things other patients have tried –

• 1. Activity/exercise modification – keeping active, doing exercises but NOT those that leave you limping or unable to sleep at night due to pain.

• 2. Transcutaneous electrical neural stimulation (TENS) – stimulates nerve fibres aiming to block pain signals.

• 3. Electro-muscular stimulation (EMS) – different to TENS, this machine stimulates the motor nerve fibres to generate a muscle contraction. Many patients find these machines useful as they can stimulate the muscle without loading the joint and help in preventing muscle atrophy.38

• 4. Also helpful can be … ice, heat, meditation, hypnotherapy, pool exercises, foam rolling, massage, acupuncture….
DEALING WITH POST-OPERATIVE PAIN

• In 2014 Mandy Graham (OT) wrote ‘Hip Arthroscopy Rehab – The Psychological Perspective’ for our website and in 2019, Leeds Beckett University MSc OT students compiled a pain self-help podcast and video which is also accessible to everyone on www.physiocure.org.uk this was part of their Masters project.

• Pain, bruising, swelling and stiffness of the hip is normal after the operation. You will be given medication to take home following your surgery and repeat prescriptions can be organized via your GP. It is advisable to take your painkillers to keep any pain to a minimum to help your rehabilitation, ensure a good nights sleep and enable relaxation of the leg. Don’t try and battle through….ask for help.

• You may feel angry at your hip, frustrated you can’t do what you can’t manage, some people feel guilty about asking for friends and family to help them and there may be relationship and work worries all bundled up into your feelings. Don’t under estimate how these feelings can affect your pain.

• Sue Roe our Psychotherapist and Hypnotherapist can help, ring 07720274326 to book in with her.

• Sue sees a lot of hip patients, including myself, who have found it can help pain management.
POST-OPERATIVE PAIN AND THE HONEYMOON PERIOD

• Be aware that some patients can feel no pain straight after surgery and some feel like they have ridden a horse! (due to the bolster used in the traction procedure). It is normal to feel muscle soreness in the leg from the traction, and sometimes knee or ankle pain.

• Some patients experience the ‘Honeymoon period’ where they feel great for the first 1-2 weeks post-op then weeks 4-6 can be a bit rocky.

• Remember, as your activity level increases, then there may be temporary increased soreness. So it may not be wise to be weaning off your painkillers at the same time as coming off your crutches/starting work/increasing exercise levels, etc… Getting enough relaxation, good sleep, pain relief, good nutrition and a positive mental approach is just as important as the exercises 41. Look on our website for our FREE guides 2,3,4, 39,40.
POST-OPERATIVE SELF CARE ADVICE

• Drink plenty of water and have a healthy diet, including fresh fruit and vegetables, as the medication can make your ‘insides’ a bit sluggish! See your GP if constipation or stomach upset is a problem with the medication.

• Getting enough rest and relaxation is important in settling pain and ice is useful too. When using an ice pack, wrap it in a damp tea towel to protect the skin. Leave it on for 10-20 minutes but be cautious of numb areas after surgery, do not use ice on these areas. Keep checking the skin to avoid ice burn/frost bite. Listen to our pain podcast and videos to learn portable relaxation techniques.

• Your physio can also help with the pain – they may offer acupuncture and gentle massage (avoid wound).

• Keep a diary, recording all the positive progress you are making…some days may be ‘bad’ days, this is normal. Listen to your body, there maybe a reason that the pain has increased. Maybe you overdid something the previous day, or have come off your painkillers too soon or too suddenly? Learn from this and make modifications, don’t try and battle through pain……take things slowly 39.

• Try and engage in activities that don’t involve you constantly think about your hip. Watch some comedy on TV, catch up with friends (remotely if you can’t physically see them), read a book, sing, try some arts/crafts, baking, do those jobs we often put off like sorting through drawers/paperwork/stuff! Some people like gaming, my husband plays online strategy games with players from all over the world when he couldn’t do his beloved martial arts during the coronavirus pandemic (we all had to find other things to occupy us during Covid and diversify our hobbies, it can be similar in rehab).
PREPARING YOUR HOME

- For 2-6 weeks (6-8 weeks for a microfracture) you MAY be partial weight bearing on elbow crutches, depending on what is done in surgery and your Surgeon’s advice. You need to give the bone and soft tissues the best environment to heal in. The joint may be quite sore at first and it is important to let this settle. Therefore, no lifting, twisting, overstretching, jarring or movements/activities that provoke the pain. Look around your home to see what you can do NOW to make post-op recovery easier.

- Consider organizing your home so you can easily reach things, so you are not having to bend down to a low drawer or overreach into a high cupboard. Check there are no trip hazards. When it comes to eating, if you at home alone, a high perching stool at the kitchen worktop would mean you could safely prepare food and eat it in the same place as you can not carry a plate. Alternately, you could put food in a sealed plastic container and have a flask/drink container which could go in your rucksack…and thus your food and drink can be transportable. Consider stocking up on some easy freezer meals.

- Enlist help if you can with children/pets/laundry/cleaning/gardening/shopping, etc…

- Our online OT guide⁴ has useful tips, see our website www.physiocure.org.uk
General Weight Bearing Guidelines

- Weight bearing guidelines are procedure related and may differ from surgeon to surgeon, the following are based on a review of the literature and what Jon Conroy recommends 19,50,65,93,102.

<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>PWB (partial weight bearing) to WBAT (weight bearing as tolerated) up to 2 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labral resection</td>
<td>PWB to WBAT, 2-4 weeks, dependent on location and extent of tear</td>
</tr>
<tr>
<td>Osteoplasty</td>
<td>PWB to WBAT, up to 6 weeks</td>
</tr>
<tr>
<td>Microfracture</td>
<td>PWB to WBAT, up to 8 weeks</td>
</tr>
<tr>
<td>Capsular modification</td>
<td>Variable – depending on procedure</td>
</tr>
<tr>
<td>Tendon lengthening/release</td>
<td>PWB to WBAT, up to 2 weeks</td>
</tr>
</tbody>
</table>
Partial weight bearing walking (PWB) is approximately half of your body weight going through the operated leg, whilst you take a step with the non-operated leg. So 50% of your body weight goes through the crutches and 50% through the leg.

Some surgeons specify less weight than this, some more...so check with the surgeon. Remember when you are standing normally, 50% weight is through each leg, so you can stand as you normally would.

Begin by standing straight, in a good posture, with weight fully through your non-operated leg and partial through the operated leg. Place both crutches a short distance in front of you, then place the foot of your operated leg level with the crutches, keeping the foot flat on the floor. Next, putting your weight through the crutches and partially through the operated foot, step through with the non-operated foot. Take your weight fully through the non-operated leg as you position the crutches and operated leg for the next step...and so on. Do not step through on the ball of your foot with a flexed hip.
USING CRUTCHES - ON THE STAIRS

Hold onto the banister with one hand and the other should have your crutch (place your other crutch horizontally in the crutch hand, as shown in the photo).

UP STAIRS -
1. Non-operated leg steps up.
2. Operated leg next onto the same step.
3. Crutch goes last.

DOWN STAIRS –
1. Crutch first.
2. Operated leg.
3. Non-operated leg onto the same step.
USING CRUTCHES - GETTING UP & SITTING DOWN

Using elbow crutches –

SITTING DOWN –
Walk right up to the chair, turn carefully around so your bottom is facing the chair. Remove both crutches from your arms and place in one hand, so your hand is gripping the hand supports across the top and you can still support yourself safely. Next, with your other hand reach back and place hand on the chair arm. Slowly lower yourself carefully down into the chair.

STANDING FROM SITTING-
Move your bottom to the edge of the chair. Both feet on the floor. With one hand, place on top of the crutch handles, the other on the chair armrest. Push up from the armrest. Once in standing, put your crutches in the correct position.
GETTING IN & OUT OF BED AFTER SURGERY

- You may be quite sore after surgery, so here are some tips on reducing discomfort as you get in/out of bed –
- 1. Aim to sleep with your operated leg closest to the side you get out.
- 2. Sit on the side of the bed first with your bottom in roughly the position you will want it to be in the bed.
- 3. Bend up your non-operated leg and pushing down with your hands and heel of that foot on the bed, try and slide as much of your operated leg onto the bed.
- 4. Then, hook the non-operated foot under the ankle of the operated leg to assist it fully onto the bed. Or some people hook a strap around the operated leg to assist.
- 5. It is better to move around pain free with support initially, than force your leg to do things that aggravate pain and muscle spasm.
POST OPERATIVE WOUND CARE

- You will have dressings on your wounds after surgery and will be told if your stitches are dissolvable or not. With the latter, you will be advised by the nurse on the ward when these need to be removed (usually 7-10 days post op). This can be arranged at your GP surgery. There may be a small amount of blood that stains the dressings. This is normal, however, if it is more than this, please contact the ward or the consultant to report this. Any redness around the wound, yellow or greenish pus oozing from it, fever, skin rashes, or increased tenderness, swelling or pain needs to be reported to your GP or hospital.

- It is very important to keep the wound dry until it has fully healed, to prevent infection. You will be supplied with waterproof dressings from the ward to ensure this when showering. Alternatively, waterproof dressings can be purchased from your chemist. Do not have a bath or commence hydrotherapy until your wounds are fully healed, you do not want bacteria from the water to enter the wound.

- Scar massage must only be started once the wounds are fully healed and strong enough to cope with this. Check with your physiotherapist when this is suitable and ask them to show you the correct massage technique with a non-perfumed suitable oil or cream.
MOVEMENT RESTRICTIONS FOLLOWING SURGERY

Do not push into painful movements and it is important to ALWAYS avoid aggressive hip extension.

Some surgeons have a hip flexion up to 90° limit for 3 weeks post-op, and a hip abduction 30° limit for 3 weeks. Hip extension, internal rotation and external rotation may be advised to be limited to gentle or nil for first 4 weeks (to avoid stress on capsule and labrum; and joint irritation) 66.

The following slide summarises the recently published consensus statement by Takla et al 2021 93.

There are many variations of rehabilitation protocol, weight bearing restrictions and crutch use (literature varies from 2-8 weeks) and guidelines for return to sport and running, check your surgeon’s guidelines…it will differ from surgeon to surgeon 43.

Avoid loaded hip flexion for the first two weeks, that means NO STRAIGHT LEG RAISES 44. After that period, avoid if painful, and introduce only when safe to do so, to.

Some Surgeons from around the globe, brace the hip and some use night splints in internal rotation for capsular plication/repair for 4 weeks.
MOVEMENT RESTRICTIONS FOLLOWING SURGERY

• Range of motion guidelines are procedure related and may differ from surgeon to surgeon, so it is important for the Physio to have the full operation details, and guidance from the surgeon this is a general overview based on how our surgeon works and published literature 19,50,65,93 –

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<td>As tolerated by the patient</td>
</tr>
<tr>
<td>Labral repair</td>
<td>Anterior – limit external rotation and extension up to 4 weeks</td>
</tr>
<tr>
<td></td>
<td>Posterior – limit flexion and/or internal rotation up to 4 weeks</td>
</tr>
<tr>
<td>Osteoplasty</td>
<td>As tolerated by the patient</td>
</tr>
<tr>
<td>Microfracture</td>
<td>Varies with the procedure location</td>
</tr>
<tr>
<td>Capsular modification</td>
<td>Anterior – limit external rotation and extension up to 4 weeks</td>
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</table>
POST OPERATIVE ACTIVITY ADVICE

• Do not run/jump or do high impact sport for 6 weeks (13 weeks for microfracture) post surgery. Some patients may be advised not to run at all, if they have a particular hip condition. Then check with your Physio and Surgeon before you try.

• Driving is at the discretion of the consultant, many say no driving to for 2 weeks. Clutch use may flare up symptoms in the early stages of recovery and it is essential that an emergency stop can be fully performed before driving is resumed.

• A lot of consultants ban the use of treadmills forever post surgery – check this with yours.

• Check the appropriateness of the use of the rower and breast stroke swimming post surgery with the consultant and physio with your particular hip problem – it may not be advisable.

• Pay attention to good posture, do not sit in low soft settees, do not cross your legs or sit with your legs up on the settee in a twisted position. An ‘open seat angle’, where the angle of the hips is more than 90 degrees is recommended. A good mattress is favourable, check yours isn’t sagging. Think about your car seat, if it is a low ‘bucket’ type seat it may contribute to pinching of the sore operated area.
POST OPERATIVE HIP CARE ADVICE

Take good care of your hip for the first 8-12 weeks following surgery, or longer if you have pain or degeneration, or have been told to take rehabilitation slower. These are some activities to be careful with –

• Getting in/out of bed - assist and support your leg when it is painful and weak initially following surgery.
• Keep your knees together when getting in/out of the car and bed.
• Limit stair climbing, prolonged walking, standing, sitting.
• Avoid heavy lifting and repetitive bending, twisting or sudden/uncontrolled movements.
• Caution with squatting, crouching and lying on your operated side.
• Take consideration with intercourse positions – see our Occupational Therapy guide to hip arthroscopy for more information. The book 'Sex with these hips....?!' is a great resource for further hip related info 42.
• Do not provoke pain, if any exercises are painful..STOP and report to your physio, who will modify your program.
THINGS TO CONSIDER FOLLOWING HIP ARTHROSCOPY

• Attend post-operative physiotherapy so they can address any rehabilitation problems and assist you in your recovery.
• Attend post-operative appointments with your Surgeon so they can monitor your recovery.
• Hip flexor tendonitis, trochanteric bursitis, capsulitis, synovitis, sacroiliac joint, lumbar spine dysfunction and scar tissue around portal sites may need addressing and managing.
• Adhere to instructions given by your Physio and Surgeon on use of crutches – do not come off too soon.
• Adhere to instructions given by the Surgeon regarding medication and rehabilitation plan and any movement restrictions.
• Expect new pains and adjustments occurring in the rest of the body but be aware some pain may be normal but some could be abnormal, so communicate with the professionals looking after you.
• Be mindful of the other hip, especially if it is possible that may also need surgery at a later date.
RETURNING TO WORK AFTER SURGERY

This subject needs to be discussed pre-operatively with your consultant/GP/physio and employer. It is important that the positions and tasks you need to carry out at work are analyzed realistically to avoid any set-backs in recovery. With the UK consultants I work with, their patients tend to have 2-6 weeks off work in sedentary jobs. A longer time off is usual in more manual jobs.

It depends on the type of surgery you have had, the condition of the joint and other factors that indicate how long recovery might take. It can vary.

If you are in a sitting job, you need to make sure you are going to be able to sit comfortably before returning to work. This means giving the hip adequate time to recover after surgery and rehabilitate. A workplace assessment may need to be done by your employer to check your desk and chair ensure a correct posture, some patients can be better with a standing desk. A staged return is often a good idea. Feedback from my patients on this matter is that once you are back at work, it is hard to find time to do rehab exercises. This is why I have included sitting and standing exercises in my guide that could be done ‘slotted’ in here and there in the day.
Considerations with hip arthroscopy rehabilitation -

1. Physiotherapy rehabilitation should be tailored to the specific pathology and or the surgical intervention. Patients undergoing hip arthroscopy, vary. Has the surgery been complex or simple, what are the operation findings?

2. It should also be tailored to the individual - what are their needs, abilities, fitness levels, capabilities and their own particular goals.

3. How long have they been suffering? Some are people who have a sudden onset of hip pain and may get help immediately. Some patients have had pain for many years, before they are diagnosed with a hip condition that requires surgery. Some have personal, financial or other health factors that may result in a delay to getting help.

4. Assessment of the hip should include a detailed subjective examination, focusing on pain, which activities of daily living aggravate the problem and also which ones they can manage. A physical examination will analyze range of joint motion, muscle power, how the tissues feel, posture, proprioception/balance, movement patterns, neuromuscular control, function...these things should be re-measured along the rehab journey to chart progress.
• Staging a guide that is time framed is not always realistic, and can cause some patients huge distress when they feel they are not meeting time bound goals, therefore we have set out four phases of post-op rehab, where there may be an overlap of phases. The ‘weeks’ associated with each phase are not set in stone and only there as a general guide.

• Each patient will have different goals. If a non-athletic patient is pain free, with good symmetrical range of movement and power, is back at work/hobbies, and is happy with this recovery, it may not be appropriate to push them to do exercises aimed at elite sports people, such as in Phase four. Thus, for these patients, their end point may be Phase three exercises but possibly carried on for a longer period of time.

• In this guide there are criteria to be met, and relevant tasks to be performed satisfactorily before moving onto the next phase.
HIP ARTHROSCOPY REHABILITATION
THE EVIDENCE

• What research is out there for us to base our protocol on?
• There are many papers with clinical commentaries on hip arthroscopy rehabilitation, case series studies, but only one randomized controlled trial (RCT) - the FAIR trial.
• In a study published in 2018, 28 Surgeons and 62 Physios in Scandanavia both rated physiotherapy as an important part in the rehab process and advocated a progression based on a combination of criteria and time.
• Published in December 2020, a systematic review concluded phase based rehab protocols can help achieve predictable improved outcomes.
• In 2021 the International Society for Hip Arthroscopy Physiotherapy group published their consensus statement on how FAIS should be assessed and treated and guidelines for hip arthroscopy rehabilitation.
### HIP ARTHROSCOPY REHABILITATION

**CRITERIA FOR PROGRESSION SUMMARY**

<table>
<thead>
<tr>
<th>Phase one</th>
<th>Phase two</th>
<th>Phase three</th>
<th>Phase four</th>
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</table>

#### Criteria to be reached before commencing Phase two  
37,50,60,65,96,98 –

- Minimal pain or inflammation with Phase One exercises
- 10 degrees of hip extension
- Asymptomatic hip flexion at 90°
- Full weight bearing achieved, normal gait +/- aids
- Range of motion in all planes >75% compared with opposite hip
- Good control with mini squats, double leg bridge, double leg calf raises
- Ability to contract target muscle without substitution muscle dominance

#### Criteria to move onto Phase three  
37,50,60,65,93,98 –

- Phase two exercises are pain free and have good control
- Range of motion is full in all planes of motion compared with opposite leg
- Pain free normal gait
- No joint inflammation, muscle irritation or pain
- Good neuromuscular control of functional movement patterns
- Progressions should be made based on objective assessment and not on time frames

#### Criteria to move onto Phase four  
37,50,65 –

- All Phase three exercises are demonstrated with good control, strength and are pain free
- Full range of hip and spinal movement
- Hip muscle testing 90% of the uninvolved side with hand held dynamometer
- Cardio-vascular fitness equal to pre-injury level
- Good control shown with split squats/lunges, single leg bridge, hip rotation control, single leg squat, the plank and superman exercises

#### Criteria to move onto the ‘return to play/sport’ Phase –

At this stage we recommend working one to one with your rehab specialist trainer to develop an individual plan and goals required for your specific sport. You should be able to carry out the exercises in Phase four with no pain and good technique and control. The Vail Sports Hip Test, Star Excursion Balance Test and the Copenhagen Adductor Exercise offer a way of measuring progress but may not reflect what is demanded of you in your specific sport.
HIP ARTHROSCOPY REHABILITATION - A SUMMARY

1. **Phase One – Week 1-4**
   - Recovery
   - Patience
   - Protection
   - Calm
   - Repair
   - Proprioception

2. **Phase Two – Week 4-8**
   - Mobility
   - Control
   - Calm
   - Patience
   - Stability
   - Proprioception

3. **Phase Three – Week 8-12**
   - Patience
   - Stability
   - Strong
   - Control
   - Cardinal
   - Proprioception

4. **Phase Four – Week 12+**
   - Speed
   - Agility
   - Control
   - Strength
   - Metrics
   - Stability
   - Cardio
   - Proprioception
   - Endurance
   - Patience