NORTH EAST HIP CLINIC
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Physiotherapy after Hip Arthroscopy

2024

North East Hip Clinic, Nuffield Health, Clayton Road, Newcastle upon Tyne, NE2 1JP https://nehipclinic.com

GUIDELINES FOR PHYSIOTHERAPY FOLLOWING

HIP ARTHROSCOPY

Name of Protocol / Regime	Consultant	Updated On	Updated By	Review Date
HIP ARTHROSCOPY	**Mr Malviya**	**May 2023**	**BD**	**May 2025**

At Northumbria, Hip arthroscopy procedures may involve one of several varied procedures. These include Labral debridement / Chondrolabral sealing / Chondroplasty, Labral repair, Microfracture, Iliotibial band (ITB) release, Gluteus medius repair or Iliopsoas release.

It is vital to know which procedure(s) have been performed as the post-operative precautions and limitations will vary.

The following post-operative guidelines are based on tissue healing, patient tolerance and the ability to meet set treatment goals. Consequently, the ability to progress through the protocol will depend on the specific procedure(s) performed, pre-operative conditioning of the patient and importantly rehabilitation compliance. An awareness to monitor and manage post-operative hip / thigh pain and muscle inhibition is important to aid the patient's general early recovery.

Inpatients

Post-op

- The operation is carried out as a day case surgery. No routine physiotherapy intervention is provided on the ward on the day of surgery.

On-Discharge

- The patient should be discharged with elbow crutches and provided with a Hip Arthroscopy advice booklet if they don't have one – these are routinely issues when listed. Please ensure they have this booklet and have read this.
- The Consultant team will have pre booked a physiotherapy appointment in outpatients which should take place 1 week post op.

Outpatients

Outpatient Follow Up

- The patient should have an outpatient Physiotherapy appointment **around 1 week post-operatively**.
- **Check Siris for any instructions.** All patients should follow this guideline unless otherwise stated by the consultant.

Outpatients

PHASE I (weeks 1-4)

The initial post-operative phase encourages early range of movement (ROM) and strengthening exercises, whilst protecting the surgically repaired tissue.

- **All patients should complete the Hip Outcome measure (HAGOS or IHOT33) on their first and last physiotherapy appointment.**

GOALS

- Reduce pain and swelling – minimal pain / pinch / swelling.
- Protect the surgically repaired tissue(s)
- Improve ROM >85%
- Initiate early hip muscle and core strength exercises.
- Normalise gait towards FWB as indicated in post op note.

PRECAUTIONS

Labral debridement / Chondrolabral sealing / Chondroplasty.

- *Partial weight-bearing (PWB) 2 weeks, progress to FWB when pain is under control and a normal gait pattern achieved.*
- *Avoid active hip flexion past 90 degrees for 2 weeks. After this build as comfortable.*

Labral repair

- *PWB for 4 weeks, progressing to full weight bearing as tolerated by 6 weeks.*
- *Avoid active hip flexion past 90 degrees for 2 weeks. After this build as comfortable*

Microfracture

- *Toe touch weight-bearing (TTWB) for 6 weeks, then PWB from 6-8 weeks, progressing to FWB by 8 weeks.*
- *Avoid hip flexion past 90 degrees for 2 weeks.*

ITB release

- *PWB for 4 weeks.*
- *No active Side lying abduction 4/52*

Gluteus Medius repair

- *PWB for 6 weeks.*
- *No Cycling 4/52*
- *No active abduction 6 weeks. No excessive stretching 4-6 weeks.*

Iliopsoas release

- *PWB for 3-4 weeks progressing to FWB by 6 weeks. No SLR 8-10 weeks*

ADDITIONAL ADVICE/CAUTIONS

- **Avoid sitting in low chairs (hip greater than 90 degrees).**
- **Avoid deep squatting.**
- **Avoid lifting heavy objects from the floor.**
- **Avoid pivoting/twisting on a fixed foot.**

Rehab key points.

WEIGHTBEARING

- Weight is initially limited to allow for healing to occur and to reduce post-operative pain and muscle inhibition. Variations depend on the procedure **(See table).**

- Gait re-education should emphasise hip and core control to maximise lower limb alignment**. Encouragement should be given to walk slowly and shorten their stride length to decrease the load on the anterior hip joint. Crutches should be used with a flat foot pattern – no toe touch.**

Progressing too quickly to full weight-bearing (FWB) without a normal gait may be detrimental to the healing process, exacerbate symptoms and lead to secondary muscle changes i.e., tendinopathy / shortening / inhibition of the hip flexors.

ROM

- ROM can be commenced in all planes, unless otherwise stated in precautions. Pain must be respected, and extremes of motion avoided, Mix PROM / AAROM and AROM.

- **Active hip flexion needs to be restricted to 90 degrees**. Slide board active abduction can also be performed within pain limits.

- Active internal and external rotation - unless stated in op note must be performed cautiously in a pain free range. Can be completed as a supine (log roll), bent knee fall out (BKFO) or by kneeling operated leg on a towel placed on a chair - slowly rotate leg.

- Prone lying should be encouraged.

- Stretches **(be aware of precautions)** quads and hamstrings should only be commenced within pain limit from 2-4/52. **Ballistic or forced stretches must be avoided as this can lead to tendinopathic change or irritation of the surgical repair / op site.**

STRENGTHENING

- Isometric glutes (Prone setting or supine/sitting squeezes)
- Isometric quads, IRQ and TRQ in sitting can be commenced.
- Prone isometric heel press - deep hip rotator setting, can progress to 4pt isometric > through range.
- Initiate core and anti-rotation trunk exercises (Deadbugs, Palloff press, BKFO, Leg slides in crook, Seated plate (driving action) OH raises in crook).
- Crook adductor ball squeezes sub max initially.
- CKC exercises can progress as able – bridges, sit to stand.
- Hydrotherapy based gait re-education and hip ROM work can be commenced provided the water is chest deep and the wound is healed.

It is important to avoid straight leg raises (SLR) and excessive / repetitive hip flexion exercises due to significant forces produced across the anterior hip and risk of developing secondary iliopsoas tendinopathy. Progressively develop strength over

CV

- Cycling on a static bike (**NO resistance)** can be used between weeks 1-4 as pain allows. Ensure the seat height and handlebars adjusted to prevent hip flexion past 90 degrees.

(Microfracture - Specifics)

CONTINUOUS PASSIVE MOTION (CPM)

- CPM is recommended immediately post-surgery for 3-4 weeks to stimulate repair. CPM is considered to enhance cartilage healing whilst minimising deleterious compressive and shearing forces.

- CPM is used by the patient for 6-8 hours daily. It should be set for 1 cycle per minute at **30-70 degrees hip flexion** progressing over the 2/52 to 0- 90 degrees (**Do not exceed 90 degrees for the first 2 weeks)**. ROM is then increased as tolerated until FROM is achieved.

- If a CPM is not available then the patient should perform assisted heel slides. (500 reps broken into a comfortable number of sets, 3 times per day).

PHASE II (weeks 5-8) / MICROFRACTURE (weeks 9-13)

Ensure precautions are followed.

The primary focus of the second phase is to restore ROM and soft tissue flexibility whilst progressing strength levels.

Goals

- Restore full range of movement.
- Full weight bearing / independent normalised gait pattern.
- Improved muscle strength.
- Improve hip control / balance.
- Improve cardiovascular fitness.

Rehab key points.

STRENGTH Training

- Deep hip rotator strengthening continues in 4-point kneeling - use theraband to resist external rotation isometrically in neutral before progressing through range.
- Progress hip adduction, abduction, and extension to lying against gravity. Once able move to standing with resistance once strength development and sufficient control is demonstrated **(8/52+ Glute repair).**
- Calf and hamstring strengthening.
- Closed kinetic chain (CKC) strengthening exercises can be commenced. Exercises such as sit to stand squats should initially be performed bilaterally with progression to butt touch squat and then loaded goblet squats. Bridging can be gradually progressed to include adductor magnus elevated bridging and resisted traditional bridging as pain allows. Progress to single leg as able with control. Step ups forward and lateral can be commenced – assisted > no assist.
- Assisted step ups can commence – low step initially. **(12/52+ Glute repair)**
- Anti-rotation work and progression towards more advanced core training – OH stick marching, wall drills, 4pt bird dogs, side bridges **(on the contra-lateral side in glute repair)** Palloff press progressions- Sit > stand >kneeling split stance > split stance, add rope or weighted ball drills in standing.
- Eccentric hip flexor exercises (progressed deadbugs / kneeling reverse nordics). Progressing hip flexor loading only as pain / strength allows at 6-8 weeks onward.

BALANCE – generally 6/52+ except Microfracture (9+/52)

- Tandem stance exercises can be commenced initially Static +/- head movement, progressing to involve UL movements +/- object > Trunk movement +/- object > External loading drill
- Single leg stance (SLS) can be commenced once the patient is FWB. Can be progressed via reduced support > external task > uneven surface > perturbations

CV

- Non-impact endurance training - stationary bike, cross trainer and swimming **(breaststroke should be avoided until after 8 weeks)**. Cycling is initially up to 10 min every second day progressing to 30 mins.

- Resistance can gradually be added to the static bike, but duration should then reduce initially in order to not overload the joint.

- **No hiking / hill walking, running or stepper.**

- The rowing machine can initially be used in a 0–90-degree range and should only be progressed to full range if the patient has regained 100 degrees to full range flexion pain free.

PHASE III (week 9-12) PHASE III MICROFRACTURE (week 13-16)

Objectives for Phase III are to ensure the patient has symmetrical ROM and to begin functional strength training.

AIMS

- Muscle strength greater than 70-80% of non operated side.
- Improve functional muscle strength and endurance.
- Improve core strength and proprioceptive stability.
- Improve Cardiovascular fitness and progress back to a return to running

PRECAUTIONS

- Towards the end of Phase III (10+ weeks) patients following labral debridement / chondrolabral sealing / chondroplasty can commence straight line jogging if they meet the set criteria for running. It should only be commenced in straight lines and stopped if the patient experiences any discomfort or limps.

- Initially any change of direction should be at a slow speed (i.e. a power walk) and should be performed with a wide berth with the operated leg on the outside. As the patient's control improves this can be progressed gradually until able to pivot on the operated leg at speed. Lateral and backward movements can be progressed in the same manner.

ROM

- Passive ROM and stretches can be more aggressive if limitations continue. Work into all ranges. However, move steadily into hip extension if hip flexor issues present.

STRENGTHENING

- Continued core strengthening is important. Progression of the previous phase is completed here with initial focus progressing to control through motion and kinetic chain work. For example - lawnmowers, Hulk drills, T drills, commando crawl / drags, Russian twists and Reverse hypers.

- Banded walks can commence once the patient is able to perform resisted abduction in standing with good control. **(8/52+ Glute repair)**

- Compound movements can begin mid to later in this phase – Hip thrusts, Goblet squat > Wall Sumo > Standing Sumo, Deadlift from step > floor > increase weight, RDL, Farmers walks, Progression to split squats and loaded step drills later in this phase.

BALANCE

- More functional and dynamic balance exercises can be integrated to the patient's rehabilitation if deemed appropriate and they have sufficient control. Examples include Y balance or clock drills, Dynamic ball rolls, Bosu squats / SLS, Horizontal foot exercise and external loaded split squats > lunges.

AGILITY / PLYOMETRICS

The foundation of the plyometric and agility work is teaching deceleration first, (Don't speed things up if we can't slow it down efficiently). A large requirement of this phase is to teach a fundamental

landing technique maintaining lower limb alignment with the aim of increasing lower limb force absorption which in turn decreases joint reaction force. Consequently, it is a vital component of return to a good functional level.

- ➢ Bilateral: in place-sagittal-frontal-transverse–hurdle– box drop
- ➢ Unilateral: in place sagittal-frontal–transverse–hurdle – box drop
- ➢ Load acceptance (with load) -load acceptance (stability challenge) - load acceptance (with load & stability challenge) – Perturbations
- ➢ Maximum 80–100-foot contacts per plyometric / deceleration training session (Chu, 1998)
- ➢ Load /capacity training advice for long tern prevention of recurrence

CV

- Straight line jogging and agility work can be introduced once they fulfil the set running criteria.
- Running starts with walk jog intervals – 3:1 > 2:1 > 1:1 > 1:2 > 1:3 >1:5 time should initially be limited to 20 minutes.
- Aerobic and Anaerobic work can progress on the stationary bike, cross trainer and swimming pool
- Resistance, time and intensity can gradually be progressed on the static bike.

RUNNING CRITERIA

- No pain or swelling.
- Full, pain free ROM; hip, knee and ankle. Look at passive prone true extension
- Normal gait and unaided
- Total hip strength 80% or more of the contra-lateral limb.
- Single leg sit to stand (1sec pause only) 25 reps maintaining optimal alignment.
- Single leg calf raise 25 reps with good control.
- Single leg bridge 35-40 reps.
- Trunk side flexors: McGill's side bridge 2 mins hold bilaterally.
- Y balance score – 90-95% of non operated leg

<u>Suggested rehab running programme.</u>

1. **5 x 50m jog with walk return between (50m = half an adult football pitch)**
2. **50m jog, 100m jog, 150m jog with walk 50m between x 3 rest 2 mins between.**
3. **50m jog, 100m jog, 150m jog with walk 50m between x 2-3 reps x 2 sets 2 mins between.**
4. **50m jog, 100m jog, 150m jog with walk 50m between x 3 reps x 3 sets, rest 2 mins between**
5. **Couch to 5k**

Rest 2 days between runs in the first 3-4 weeks, this is to prevent overloading and allowing for recovery.

PHASE IV (12+ weeks) / Microfracture 16+ weeks

The primary objective of this phase is a safe and effective return to previous activity levels including work and sport.

AIMS

- Gradual return (as applicable) to all work duties.
- Return to non-contact aspects of team training progressing toward full participation.

***Variations/Special Cautions**

Microfracture- Running and agility work should be avoided for at least 4 months with small lesions (< 2cm²) and at least 5-6 months for larger lesions.

REHABILITATION

- Lateral dynamic activities and sport specific drills are introduced once the patient demonstrates good control with impact control and multi-plane exercises and can tolerate a running programme without pain. Sport specific activities will vary for the individual.

- Advanced Plyometrics / agility training should only be included if the patient needs to perform this activity and they have demonstrated the required control and stability with previous balance and agility training. Ladders and hurdle drills are good exercises to include here.

Plyometrics should be stopped if the patient shows signs of fatigue and is only progressed once a good landing technique has been achieved.

RETURN TO SPORT

- No pain or swelling.
- Full pain free ROM; hip, knee and ankle.
- Normal gait.
- Total hip strength 90% +
- Adductor strength 90-95% Also aim for an Adductor to Abductor strength ratio of 1.3:1.1.
- Single leg sit to stand (1sec pause only) 25 reps maintaining optimal alignment.
- Single leg calf raise 25 reps with good control.
- Single leg bridge 35-40 reps.
- Trunk side flexors; McGill's side bridge 2 mins hold bilaterally.
- Y balance test 95-100% of non operated leg.

Return to sport/activity must be based on the individual presentation of each patient and their ability to fulfil set criteria (listed above). This is also dependent on the nature of the sport and therefore may vary from 4-12 months.

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