

MENISCAL REPAIR ACCELERATED REHABILITATION GUIDELINES



MIHAI VIOREANU

MD, MCH, FRCSI (TR&ORTH)



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MR. VIOREANU, WHERE POSSIBLE, WILL TRY TO PRESERVE AND REPAIR THE MENISCUS.

Recent research has demonstrated that meniscal preservation and repair leads to a decrease in osteoarthritis and improved outcomes in comparison to partial meniscectomy. Preserving meniscal tissue is particularly important for the long-term health of the knee joint. Currently, no consensus exists for a standardized postoperative rehabilitation protocol after isolated meniscal repair.

With isolated meniscal repairs the capacity of the meniscus to heal is limited. After what it seems relatively 'small' surgery the patient's expectations to return to sport in a short time are quite high. Returning to sport too early adds an additional mechanical challenge to the slow and difficult meniscal healing process. Following a specialised, accelerated rehabilitation programme is essential to ensure a fast and safe return to sport and performance after isolated meniscal repair surgery.

When we detailed our accelerated rehabilitation protocol we considered meniscal healing times and the type of tears that were repaired. Radial tears experience distraction forces and increased strain with axial loading, which may warrant a more conservative postoperative course with prolonged immobilization. These tears are difficult to get to heal despite a solid repair.

Surgery is only the first step of the athlete's meniscal repair recovery journey. The rest of the recovery involves an accelerated rehabilitation programme.

This programme will start immediately after surgery under the supervision of your local physiotherapist and will progress through various stages of training over the 6 - 9 months following surgery.

With isolated meniscal repairs, after returning to sport, the re-injury rate requiring further surgery is reported in the existing literature to be around 20 -30%.

Given the inconsistency throughout the literature, we have designed this accelerated rehabilitation protocol which we find safest for our athletes. The initial period of immobilisation allows athletes to facilitate healing in a protected manner while the exercises which are started immediately post operatively ensure that optimum range of movement, strength and proprioception is restored.

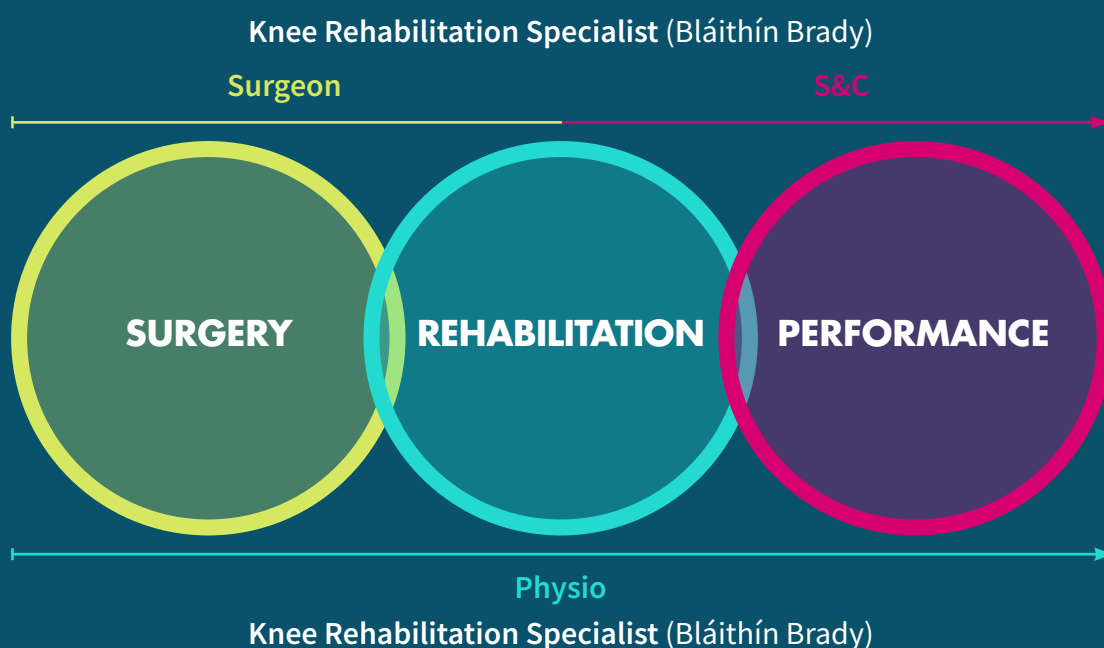
To ensure the best chance of success (i.e. returning to sport with no re-injury) it is imperative that all our patients, guided by their physiotherapists adhere to these rehabilitation guidelines.

Bláithín Brady,
Knee Rehabilitation Specialist

CRITERIA DRIVEN NOT TIME DRIVEN



CONTINUUM OF CARE MODEL IN MENISCAL REPAIR REHABILITATION



The patient will be guided through their Meniscal Repair Rehabilitation journey by their own Physiotherapist and perhaps Strength & Conditioning Coach. Mr Vioreanu encourages direct communication between Physio – S&C Coach – Knee Rehabilitation Specialist (Bláithín Brady) – Surgeon to ensure safe and efficient return to sport.

EVIDENCE
BASED
PRACTICE



RETURN TO COMFORT

0-1 MONTH



GOALS:

1. Manage pain & reduce swelling
2. Protect the Repair (Don-Joy brace 0-90)
3. ROM exercises -> full extension & flexion to 90 degrees
4. Engage thigh, hip & core muscles (Full Weight Bearing - FWB)
5. No Quads lag with Straight Leg Raise (SLR)

PHYSIOTHERAPY AND PATIENT GUIDELINES:

- Patient is braced 0-90 for 2 weeks and 0 - full ROM for 3rd week (Lind et al., 2013)
- FWB from Day 1 (Richards et al., 2005)
- Apply ice often throughout the acute phase (20 mins every hour in the first few days if possible)
- Ensure patient is taking their prescribed NSAID's & Analgesia medication
- Start cycling on exercise bike when comfortable (raised seat & no resistance)
- Initiate passive ROM (0 – 90) and manual therapy for first 2 weeks
- Remove brace regularly (3-4 times / day) to initiate ROM exercises
- Restrict ROM exercises to 0 – 90 degrees for first 2 weeks
- Isometric strengthening of quadriceps (Isberg et al., 2006)
- Normalise Gait
- Hip, Lumbar and Abdominal strengthening from week 2 or 3 patient dependent
- From week 3 patient can begin to cycle an ordinary bike as pain and AROM tolerates

If you have any questions contact our Knee Rehabilitation Specialist, Ms Bláithín Brady, who will discuss them in more detail with you.



RETURN TO FUNCTION AND FITNESS

1-4/6 MONTHS



GOALS:

1. Restore full, pain free ROM
2. Normalise Gait
3. Restore and improve strength ensuring a focus on single leg strength capacity
4. Restore and improve proprioceptive skills
5. Increase confidence in lower limb
6. Improve endurance capacity of muscles

PHYSIOTHERAPY AND PATIENT GUIDELINES:

- S&C programme focusing on variable parameters, ranging from an endurance programme of low load/high repetitions to a strength orientated phase of high load/low repetitions.
- Aim for Quadriceps and Hamstring isolated strength <10% difference between limbs
- Strengthening exercises need to be velocity, ROM and contraction specific to address particular deficits.
- Consider associated deficits (e.g. gluteal control, tight hamstrings, ITB symptoms, gastroc and soleus weakness or overload etc.)
- Proprioception training
- Continue cycling and add resistance as tolerated
- Rowing, swimming and using the cross trainer are usually permitted with little or no restrictions during this stage.
- From 3 months include some plyometric training focusing on double and single leg exercises
- Jumping and hopping exercises usually start with drills such as scissor jumps and single hops and progress to box jumps and single leg landings with perturbations.
- No Deep squatting (100-125 degrees) or pivoting for 4 months
- Running in straight lines at 3-4 months with the addition of some agility work at 4-months

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RETURN TO PERFORMANCE

4-9 MONTHS



GOALS:

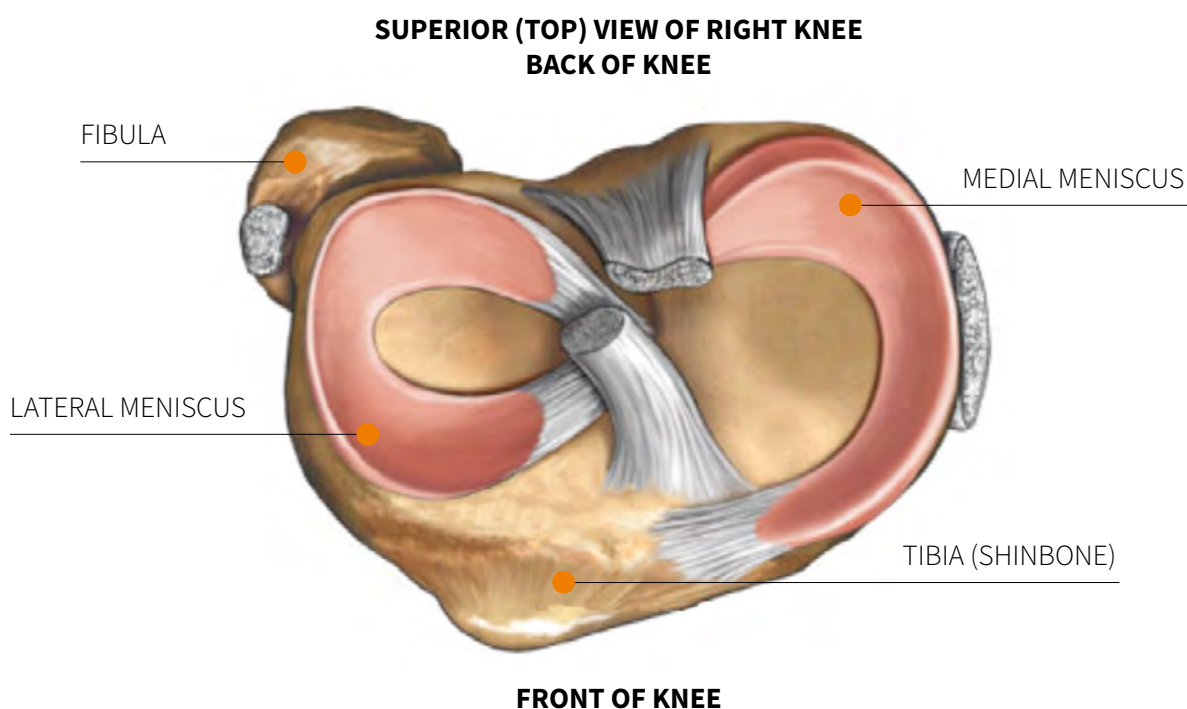
1. Athletes need to be aware of time frames for RTS (5-8 months, Logan et al., 2009)
2. Ideally be within 10% of baseline tests if available
3. Reinforce education on healing times, risk of injury & injury prevention
4. Return to sport specific training
5. Athletes need to be psychologically ready and eager to RTS
6. Implement & ensure athlete is adept with an injury prevention programme (GAA 15, FIFA 11+, PEP etc.) for reducing lower limb injuries.
7. Safely RTS

PHYSIOTHERAPY AND ATHLETE GUIDELINES:

- Continue progression of plyometric and sports specific drills
- Continue to improve power and endurance
- Return to training and participate in skills exercises
- Sports Specific fitness drills incorporating speed, distance, turns, landing, ball/hurl/hockey work etc and endurance.
- Encourage the addition of an injury prevention programme
- Participating in training with their chosen sport or team will increase confidence (Arden et al., 2013)

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WHAT IS THE MENISCUS AND WHAT IS ITS ROLE?



The meniscus is a half moon shaped piece of cartilage that lies between the weight bearing joint surfaces of the thigh and the shin, and is attached to the lining of the knee joint. There are two menisci in a normal knee; the outside - the *lateral meniscus* and the inner side - the *medial meniscus*.

The menisci play an important role as a shock absorber in the knee joint, protecting the cartilage that lies on the surface of the bones from impact. The cartilage surface is a tough, very slick material that allows the surfaces to slide against one another without damage

to either surface. This ability of the meniscus to spread out the force on the joint surface as we walk is important because it protects the cartilage from excessive forces occurring in any one area on the joint surface. Without the meniscus, the concentration of force into a small area on the cartilage can damage the surface, leading to degeneration and osteoarthritis over time. The menisci also cup the joint surfaces of the femur and therefore provide some degree of stabilization to the knee.



Sarah Cullen

Executive Assistant
sarah@mihaivioreanu.com



Mr Mihai Vioreanu

MD, MCH, FRCSI (TH&ORTH)
Consultant Orthopaedic Surgeon
mihai@mihaivioreanu.com



Bláithín Brady

BSc, MSc, MSCP, MCPSEM
Clinical & Research Physiotherapist
blaithin@mihaivioreanu.com

Office Contact:

Phone: 01 526 2340

Fax: 01 526 2341

Suite 16, Sports Surgery Clinic, Santry Demesne, Dublin 9, Ireland

Preferred and most efficient contact by email.

