

Microfracture Surgery Rehabilitation

What is articular cartilage?

The knee has cartilage that covers the ends of each bone, particularly the femur (thigh bone). The main function of your cartilage is to protect the bone and allow the joint surfaces easily to slide over each other to ensure smooth movement.

What happens when I damage my articular cartilage?

Articular cartilage may either occur in isolation or in conjunction with other patellar or ligamentous injuries. Damage to the articular cartilage may be close to the surface or it may extend deeper into the bone. Unfortunately, articular cartilage has very limited to no capacity to heal itself as there is very little to no blood supply. The symptoms reported may vary with each individual depending on the size and location of articular damage.

What should I expect after having a microfracture surgery?

The aim of microfracture surgery is to alleviate pain, optimise function and prevent further joint degeneration. Your rehabilitation will be tailored specifically to the type of surgery performed, as well as the size and location of the repair. You will work closely with your physiotherapist who will communicate with your surgeon to ensure you can safely restore function and gradually return to previous level of activity. For more details see below.

GUIDELINES ON REHABILITATION TIMEFRAMES

- Phase 1** Pre-operative management – minimise swelling, optimize muscle activation and range of motion
- Phase 2** 0-4 Weeks:
Reduce inflammation, control load (may initially be non-weight bearing), increase range of motion (may initially be in full extension) and promote muscle activation
- Phase 3** 4-8 Weeks:
Start to build strength, regain full motion in knee & increase functional activities
- Phase 4** 8-16 Weeks:
Progress strength & balance and start low impact sports
- Phase 5** 16-26 Weeks:
Progress dynamic activities and strength – return to higher impact sports



GOALS – Targets throughout rehabilitation:

Your physiotherapist will explain each phase as you progress & goals you need to achieve

PHASES	GOALS	CRITERIA TO PROGRESS
Phase 1 Pre-Operative Management	Restore knee range of motion Maintain muscle bulk and activation Minimise swelling Maintain balance skills	Next step –Surgery (decided by your surgeon) Restoration of range of motion, good muscle activation and minimal swelling are generally considered favorable indicators for earlier surgical management.
Phase 2. 0-4Weeks	Protect healing tissue from load and shear forces Decrease pain/effusion Restoration full passive knee extension (straightening) – may initially be in full extension Minimum range of motion goals (progressing knee bend) <ul style="list-style-type: none"> - Week 1 0-90° - Week 2 0-105° - Week 3 0-115° - Week 4 0-125° Control of weight bearing – dependent on location and size of lesion (may initially be non-weight bearing) Regain control in quadriceps Exercise focus on range of motion + balance & muscle control/activation	Full passive knee extension Knee flexion (bending) to 125° Minimal pain / swelling – note: it is normal to experience local swelling and pain in the month following the operation Quadriceps activation Weight bearing targets optimal according to therapist direction
Phase 3. 4-8 Weeks	Gradually improve quadriceps strength and endurance Week 8: Progression of knee flexion >135 ° Progression of weight bearing as tolerated according to Specialist/Physiotherapist guidelines Gradually increase functional activities	Full range of motion Hamstrings within 20% of other leg Quadriceps within 30% of other leg Balance testing within 30% of other leg Able to cycle 30minutes with no/minimal aggravation Weight bearing targets optimal
Phase 4. 8-16 Weeks	Improve muscular strength and endurance Increase functional activities Low impact sports such as swimming, skating, rollerblading and cycling permitted at 8+weeks (smaller lesions) / 12+weeks for larger lesions.	Full range of motion (pain free) Strength within 80-90% of other leg Balance testing within 75-80% of other leg No pain, inflammation
Phase 5. 16-26Weeks	Gradual return to full unrestricted functional activities Focus on increasing resistance/decreasing repetitions At 16 and 20 weeks for smaller and larger lesions respectively: Higher impact sports such as jogging and aerobics may be performed * In some cases, this won't be appropriate until 40 weeks Generally at 6-8 months: High impact tennis, basketball, football, AFL etc. are allowed as guided by the surgeon * In some cases, this won't be appropriate until 16 months	To be discussed and explained by your physiotherapist

We pride ourselves on providing high quality evidence based practice and are guided by the latest peer-reviewed scientific research. References are available upon request.