

# Sports Knee Surgery



## Rehabilitation protocol

ACL Reconstruction

ACL Repair

Meniscus Repair

Surgeon:

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## **Why ACL Reconstruction?**

The ACL helps to stabilize the knee joint; when the ACL is injured, the knee can become unstable and often “gives way” on activities such as walking down stairs, twisting or running. ACL Reconstruction operation is designed to make your knee stable again and allow you to continue with normal daily activities, it is not designed to treat knee pain, please discuss with your surgeon if you are unsure about this.

## **Useful Tips for your surgery:**

You can usually go home the same day

Please take regular pain killers as prescribed, they are designed to help you to exercise more comfortably

You can weight bear immediately (in most cases), generally, you will be given crutches to help you mobilise, they are not essential but most patients find them useful

Due to the effects of the local anaesthetic, it is likely that you will experience minimal pain during the first 12-24 hours, your knee is often more painful 24-48 hours after surgery. Please use regular pain killers as prescribed.

The tight bandage around your knee is designed to reduce the overall swelling and speed up your recovery. Patients tend to have the best results if the bandage is left on for 2 weeks. However, swelling is expected after surgery, if the bandage is feeling too tight please cut off the bandage after 48 hours. Please do not disturb the dressing, if you have any concerns about your dressing please inform the orthopaedics team ASAP.

Swelling will reduce over 2-3 weeks, but can take up to a year to resolve completely. Ice, compressing and pneumatic pump therapy can be very useful and significantly speed up your recovery. Keeping your leg elevated in bed will help reduce the swelling.

## **Physiotherapy:**

Your Physiotherapist will give you advice and help you to regain the movement and strength in your knee. By strengthening the muscles around your knee through a graduated rehabilitation programme, you will help to control its stability and help prevent damage to the reconstructed ACL.

The exercises vary according to the intervention during your operation

On discharge from hospital you will be referred for NHS out-patient physiotherapy

The frequency of your physiotherapy appointments will be determined by the outpatient physiotherapist according to your needs

Continue with your exercises given to you by your ward physiotherapist until you see the out-patient physiotherapist

Progress your exercises only under the guidance of your physiotherapist

If any of your exercises cause a sharp pain, stop doing that particular exercise until review by your physiotherapist. Continue with all the other exercises

### **On the Ward**

Your Physiotherapist will demonstrate exercises which will help to strengthen and reduce stiffness within your knee. Once you can perform these, you will be encouraged to get up and start walking with crutches. Your physiotherapist will advise you about how much weight to put through your operated leg.

Be sure to support your operated leg with the other leg when getting on and off the bed.

Once you are comfortable using crutches and can perform the exercises, you will be shown how to climb the stairs safely using your crutches.

It is important to continue the exercises at home to progress the strength and mobility of your knee.

You will be advised when it is appropriate to remove the bandages from your knee.

OPD physiotherapy should commence within 2 weeks following your operation. Please contact us if you do not have an appointment.

Following the reconstruction, a full course of rehabilitation is required:

### **At Home**

After the operation, you may experience some localised swelling in your knee. Elevation, with your knee supported and application of ice treatment for 10-15 minutes, several times per day will help to alleviate this.

Remember, when using ice packs, there is a danger of an ice burn. To prevent this ensure that you always place the ice pack in a plastic bag or cotton pillowcase to create a layer which is protective for your skin but thin enough to allow the cold to penetrate through.

There are specific cooling devices commercially available which are more effective than an ice pack.

## Stage 1 (1-14 Days): 3 Rs – Rest, Recuperate, Reduce Swelling

### Objectives:

- Reduce swelling and manage pain
- Use ICE and compression therapy
- Independent walking without crutches ASAP (latest by day 10)
- Full knee extension (equal to opposite side)
- At least 125° flexion
- Independent sit to stand
- Loading to the ACL Graft
- Quadriceps re-activation

### Methods:

- VAS pain monitor
- Visual inspection of swelling (circumference measurement)
- Gait re-education
- Practice activity (sit to stand)
- Exercise regime (i.e flxn/extn ex's, prone hangs, patella mobs, weight shifting. home based)
- Advice on progression

### Notes:

- *Multiplanar instability/meniscal surgery may require brace and restriction*
- *CPM not necessary*
- *Only functional strengthening (with activity and within tolerance)*

### Advanced users with strict physio supervision:

Strength training can commence with compression bandage at day 3 but must reduce to standard protocol from day 14.

Graft is strong within the first 2 weeks and fixation is most stable, strength training is possible, but the key is to reduce swelling

## Meniscus repair:

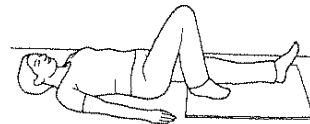
**Range of movement will be limited for 6 weeks, according to the repair, please see specific instruction in op note.**

## **Exercises**

Lying on your back with your legs straight, bend your ankles upwards and push your knees firmly against the bed.  
Hold for 10 seconds. Repeat 10 times.



Lie on your back with a slippery surface under your leg (a plastic bin liner works well.) Bend and straighten your hip and knee by sliding your foot up and down.  
Repeat 10 times.



Sit with your leg out straight, push your knee cap outwards and inwards in a slow rhythmical manner for 1 minute.



Sit on a chair with wheels, walk the chair backwards and forwards.  
Repeat this 10 times



In long sitting, bend your operated leg and place a rubber exercise band around your foot.  
Straighten you knee against the resistance of the band, keeping your heel on the floor/bed.  
Repeat 10 times.



If your knee unduly swells following exercise, consult your Physiotherapist for advice.

**Stage 2 (2-6 weeks):****Core stability, pattern focused and gentle generalised rehab**

## Objectives:

- Full ROM (same as contralateral)
- Keep swelling down
- Core stability exercise
- Controlled squat with equal weight bearing
- Neuromuscular improvement
- Normal gait
- SLR with no lag

## Methods:

- VAS pain monitor & visual inspection of swelling
- Gait re-education / drills
- Leg press, mini tramp, stationary bike, rower
- Hamstring stretches within tolerance
- Hamstring curls with light weights can start at 4 weeks if good control
- Eccentric quads exercises from 4 weeks if good control and comfortable
- Exercise programme (initially supervised but should continue at home)
- Advice on progression (resistance/reps/time: aim for 3 x daily 3x15)
- Single leg stand exercises / simple proprioception exercises

## Notes:

- *Autograft at its weakest, use pain as guide*

*Advanced users with strict physio supervision:*

Focus of core strength and balance work

Minimal strength training between 2-3 weeks

With strict supervision strength training can commence at week 3

**Meniscus repair:**

**Range of movement will be limited for 6 weeks, according to the repair, please see specific instruction in op note.**

## Stage 3 (6-12 weeks): Single Plane Strengthening

### Objectives:

- Good control single plane activity
- Good control in components of multiplane activity (ie side lunges, single leg stand with semicircle contralateral foot placement)
- Y balance test equal on both sides
- Improve cardiovascular state
- Improve strength of quads/hamstrings (should be doing strenuous pain free strengthening at least 3 x week)
- Improve confidence in knee
- Improve neuromuscular control in single plane to allow acceptance of impact activities (SL-Stand at least 10 seconds, SL-Squat at least 45 degrees with good control & no swelling)

### Methods:

- Bike
- Gentle jog in straight line as comfort allows/jogging on spot
- Progress strengthening for all muscle groups (increase weight, reps i.e. 3 x 10 reps at around 60-80% 1 rep max). Develop confidence and strength in pain free close chain, progressing to open chain as function and pain allows
- Proprioceptive rehabilitation (increase difficulty as control improves)
- Controlled squat (increase range & resistance)
- Lunges (4 way lunge)
- Swimming (but suggest no breaststroke legs)
- Jump/hop ladder drills in single plane as pain/control allows (should be no swelling, full knee extension, SL-Stand for at least 10 secs and SL- squat to between 45-60°)
- Step offs, bounce jumps, leap & land, jump stops, carioca if good control and min pain

### Notes:

- *Dip in quads strength at 7 weeks so vulnerable*

### Advanced users with strict physio supervision:

Open chain exercise can begin at 6 weeks, but must stop between weeks 7 to 8

Rotations, direction change etc – should not be initiated before 12 weeks post op

## Stage 4 (3-5 months): Multiplanar Strengthening

### Objectives:

- Good control/technique & minimal pain in multiplanar activity
- Normal strength compared to other side

### Methods:

- Bike, jogging, change of direction drills with increasing difficulty
- Continue to progress strengthening for all muscle groups
- Proprioceptive rehab increase difficulty (for those patients who require it)
- Full squat

### Markers for progression to next stage if appropriate:

- Vertical Hop
- Vertical 4 Hop
- Horizontal Hop
- Horizontal Cross-over Hop
- Repeated Hop for fatigue

## Stage 5 (after 5 months): Sports Specific Preparation/Injury prevention

### Objectives:

- Participate in sports (external threat, rotations, direction change, unplanned challenge etc)
- No stability related fear

### Methods:

- Sport specific activity / drills
- Continued strengthening

*Advanced users with strict physio supervision:*

Return to sports (training) when single leg hop = 80%

Return to play when single leg hop =90%



**Driving**

You may return to driving when you have sufficient flexibility and strength in your knee and you are putting full weight through your knee. This is usually after 6 weeks. (12 weeks if meniscus repair) To ensure that you are safe to return to driving you must be able to perform an emergency stop. It is advised that you contact your insurance company to check that you are fully covered after your operation.

**Work**

Returning to work will depend on what this activity involves. For sedentary jobs it is usually between 2-6 weeks, allowing for the fact that the leg should be elevated for periods and you should be able to mobilise regularly throughout the day.

**Sport**

When returning to any level of sporting activity, it is best to consult your physiotherapist regarding timing and intensity. Your rehabilitation can be developed to be specific to your sport.

It is usual to return to straight line jogging from 3 months onwards, cutting and twisting movements from 6 months onwards and return to contact sport is between 9-12 months.