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POST OPERATIVE GUIDELINES – MPFL RECONSTRUCTION

Introduction

This information sheet is designed to be a guide for your recovery following medial patellofemoral ligament (MPFL) surgery. As every patient, their injury and their surgery is slightly different, it is important to follow advice during the course of your recovery. Following this advice should provide you with the best possible outcome following your surgery.

As a general rule, the key to early rehabilitation success is to reduce the swelling and to be able to fully straighten your knee (full knee extension) as well as regain quadriceps muscle function. Reduction in pain and swelling may be achieved by using the **R**est **I**ce **C**ompression **E**levation (RICE) first aid principles. This should continue for as long as the knee is swollen, especially if the swelling increases after rehabilitation exercises.

MPFL rehabilitation usually follows a series of phases, which must be completed before progressing to the next phase. Below is a guide to the rehabilitation phases. As every patient's rehabilitation time line is different, the amount of time listed in this guide is not absolute.

0 to 2 Weeks

Goals:

- Reduce Swelling
- Obtain full knee extension and knee flexion to 90 degrees
- Obtain quadriceps strength and function
- Ability to straight leg raise

Pain relief

During the operation, local anaesthetic is often injected into the skin incisions around the knee, which reduces the pain initially, however when this wears off, a combination of pain killer tablets, and the first aid principles of Rest, Ice, Compression, Elevation (RICE – see below) will help to get the pain under control.

The first line treatment involves taking regular paracetamol (plus anti inflammatories on a full stomach) before you actually feel the pain worsening. Generally, a safe paracetamol dose is 1gram (2 x500mg tablets) taken every 6 hours. If this is not enough, then you may need to have a stronger medication prescribed such as Panadeine Forte, or Endone. Be aware that the stronger painkillers may have the side effects of nausea, sedation and constipation.

An increase in pain and bruising around the shin may be noted 4 to 7 days post op. This is not a major concern and can usually be treated with the RICE principles.

Knee swelling

Swelling of the knee following MPFL reconstruction is common due to the nature of the surgery.

To aid the body in dealing with this swelling, and to reduce pain related to swelling, the RICE technique is employed.

Rest – You should try to rest your leg for the first 5 to 7 days as much as possible. Use your crutches to get about the home. After the first week, as the swelling and pain subsides, increase your amount of movement and activity to within your own comfort levels. During the second week you can try to come off the crutches, but are best to keep walking to short distances i.e. within the home.

ICE – For the first 2 weeks put a padded ice pack on your knee for 20 minutes 3 to 5 times a day at regular intervals. After two weeks, icing your knee is very effective at reducing swelling after exercise and the end of the day. If you do not have an ice pack, a bag of frozen peas works just as well!

Compression – Straight after the surgery you will have a bulky bandage dressing over your knee. After the first post op day, this can be taken off and replaced by a tubigrip or compression type bandage. Ensure the waterproof dressing under the initial bulky bandage stay in tact. The tubigrip should be worn for the first six weeks post op.

Elevation – Keep your leg elevated as much as feasibly possible following surgery for the first 2 weeks.

Exercises
Before being discharged from hospital, the physiotherapist will prescribe a set of general exercises to get the range of motion and strength back in your knee. These exercises should be repeated 10 to 20 times, 3 times per day until your first postoperative review at 2 weeks:

Regaining knee extension – Roll up a towel and place it under your heel as you line on the bed. Lock your knee back and try to push the back of your knee into the bed by tightening your quadriceps (thigh muscles). Hold for 5 seconds then release.

Regaining knee flexion – Sitting on a chair, bend your knee by sliding your heel along the floor as far as comfortable. Hold for 3 seconds, then release. You may find this easier if you have a smooth timber or tile floor and wearing sock that will allow your foot to glide.

Crutches
Unless otherwise specifically indicated, full weight bearing as tolerated with crutches is allowed following MPFL reconstruction. Crutches are usually needed only for the first 2 weeks post op. When you feel confident enough that you can walk normally without crutches you may try this after the first week pot op. Navigating stairs using crutches can be tricky, however if you are confident, the following guidelines may make it easier:
Up stairs – good leg first, bad leg next, then crutches.
Down stairs – crutches first, bad leg next, then good leg.

Dressings
The external bulky bandage may be removed after day 1 post op. The waterproof dressings over the skin incisions should be left intact as long as possible until review at 2 weeks post op. If the dressings become saturated and soggy they will need to be removed and changed. Leave all sutures intact until review.

2 to 12 Weeks

Goals:
- Maintain knee extension
- Achieve 90 degrees knee flexion

- Keep swelling down
- Progress with exercises
- Wean off crutches

Exercises

You should continue with the exercises performed for weeks 0 to 2 as long as swelling and pain subside. If they do not, you may be overdoing the exercises and may need to reduce the amount or frequency.

Maintaining knee extension – Continue with the knee extension exercises from 0 to 2 weeks. Add in the following exercise: Lie on a bed on your stomach. Position yourself so that your knees (including your kneecaps) are beyond the end of the bed and your legs are hanging over the end of the bed. Try to relax your knee and hang there for 1 to 2 minutes. Resting the foot of your good leg on the back of the heel of the operated leg helps.

Quadriceps strength – Wall squats, with your back against a wall, forward lunges and straight leg raises are all excellent post MPFL reconstruction quadriceps muscle strengthening exercises. Each exercise will be demonstrated by your physiotherapist, and should be done at the rate of one every five seconds. You should do 2 to 3 sets with up to 20 repetitions for each leg per day.

Hamstring strength – Your hamstring muscles are equally important to build up. These exercises are called hamstring curls and will be demonstrated by your physiotherapist. They may be more difficult especially if you have had a hamstring graft used during your surgery. If this is the case, you will need to build up slowly to 2 to 3 sets per day with 20 repetitions as your pain reduces. It is common to experience pain or a ripping type sensation when doing these exercises anywhere from 3 to 12 weeks postoperatively. This is related to the stretching of scar tissue that is produced as the hamstring heals from where the graft was taken. This tends to settle down by itself over a few days.

Exercise bike – This is usually done from around 2 to 4 weeks post op, but you can start when you feel comfortable. Start without any resistance on the bike, with the seat up a little higher and only for 5 minutes initially. As you progress, you may add some resistance and bring the seat back down to a normal position for your height, as long as you can get your knee bending to 90 degrees (a right-angle). You should spend around 20 minutes on the bike 3 to 4 times per week.

Gym work – This usually starts after 4 to 5 weeks post operatively, and is done 3 times per week. Exercises include:

- Leg presses (single and double)
- Half squats (avoid deep squats)
- Exercise bike, rowing machine, cross trainer, step machine
- Hamstring curls

Exercise to avoid during the first three months:

- Leg/knee extensions

Running – You may be able to do jogging on a mini-tramp at the 8-week stage and potentially start running at 12 weeks post op. This should be confirmed with your surgeon and physiotherapist prior to commencement.

Balancing – Start off by performing single leg 1/3 squats. You can then progress with the aid of your physiotherapist to using a pillow under your foot and then a wobble board. Arabesque exercises are a special balancing technique that can be demonstrated to you by your physiotherapist.

12 to 16 Weeks

Goals:

- At least 70% knee extension strength compared to other side
- Good active patella control without lateral tracking or instability
- Continue gym work and exercises
- Continue with knee extension and swelling reduction
- Maintain enthusiasm for rehabilitation

Exercises

At this stage you need to maintain your previous exercises and add in the following:

Quadriceps strength and balance – Step downs and bridging exercises, which are easily performed at home.

Hamstring strength – Russian curls, your physiotherapist can demonstrate these for you

Running – When you are able to comfortably jog on a mini-tramp or treadmill for 10 minutes, you may start jogging outside on grass. Gradually build up to running around an oval. When you can complete four oval laps, you can probably begin to do short run-throughs and eventually sprints.

Hopping – Start these exercises by jumping and landing with both legs only short distances. Once you are confident enough, change to hopping i.e. jumping and landing short distances on one leg. Gradually increase the distance as you gain more confidence. Once you have mastered this, use a small step to hop down from and then hop up to.

4 to 6 Months

At this stage, if can confidently run in a straight line, you can try changing directions carefully. You can gradually increase the speed of these turns and return to using a ball during drills e.g. kicking a football, hitting a tennis ball or throwing a cricket ball or basketball. Proceed with this on a common sense basis, as you are not yet ready to return to active sports yet.

6 to 12 Months

During this time, gradually increase the amount of time spent with sport-specific drills. Non-contact training may be recommenced during this time if you are able to complete the FIFA 11+ and PEP programs. These are programs that have been designed to prevent ACL injury, however they are a very good indicator in your preparation to return to sport.
See the following website for more details: www.f-marc.com/11plus

Once this program has been confidently completed, gradually increase your training over the following months. Full training can be commenced when you have:

- No Swelling
- Full Movement
- Good Quadriceps Strength (at least 80% compared to the other side)

Return to competitive sport is possible after at least one month of full training.

These notes are general information only and are provided for information and education purposes, not for the purpose of rendering specific medical advice. Please seek the advice of your surgeon or other health care provider with any questions regarding medical conditions and treatment.