

Sports Therapy
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Clinical Pilates
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Exercise Prescription
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Post-Operative Physiotherapy Information

Knee Reconstruction
(Anterior Cruciate Ligaments)

PATELLA TENDON GRAFT

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CARE OF YOUR KNEE POST SURGERY.

After your surgery there will be a number of things that you can do to optimise recovery time and guarantee success of your new cruciate. These include:

1. REDUCING SWELLING

Within the first 48 hours reducing post operative bleeding and swelling is vital. This can be done by:-

1.1. ICING

Icing or cryotherapy has the effect of controlling inflammation, bleeding and thus swelling which your knee is prone to after surgery.

Always use a wet cloth between the ice pack and your skin as ice can burn if directly applied to the skin. We recommend you place the ice pack on the front of your knee. A "Cryocuff" is used in the hospital to help with icing the knee.

Application recommendation

- Within 48 hours of surgery: apply for 15-20 minutes, every 1-2 hours.
- From two days onwards: apply after exercises, after activities which may have aggravated your knee, or if your knee is feeling hot and swollen.

1.2. COMPRESSION

Wear your "tubigrip" (compression sleeve) until swelling has settled. This may take up to 8 weeks.

1.3. ELEVATE YOUR LEG WHEN ABLE

Within the early days, keeping your leg elevated will allow for natural drainage of fluid out of your knee.



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1.4. USE OF CRUTCHES AND SPLINT

It is recommended that you begin weight bearing on your operated leg immediately Post Surgery. Your surgeon requires you to wear the Zimmer splint (straight splint) when you are up or weight-bearing for the first 2 weeks to help protect your knee. Obviously you may have some pain, which will affect how much weight you can take on your leg. Use your crutches to take as much weight as you need to try to walk as normally as possible. The crutches are also useful to minimise the risk of overdoing things in the early stages of your recovery.

When To Come Off The Crutches

As a general rule, once you can walk comfortably without a limp then you can stop using your crutches. Generally this may take up to 2 weeks. Your Physiotherapist will guide you with this. Your surgeon will usually let you weightbear without the splint after your post-operative visit (usually 2 weeks).

1.5. DON'T "OVERDO-IT"

As you increase your activity levels always make note of how your knee reacts to it. If you notice an increase in swelling and pain around your knee it is time to slow down a little!!!

2. MAINTAINING GRAFT LENGTH

IMPORTANT: One of the crucial points to a successful operation is making sure you maintain the length of the graft.

During the operation, your surgeon obtains the correct length/tension of your graft while your knee is in a straight/locked position. As a consequence it is vital in the early stage of your recovery to make sure you can get and keep your knee straight. This can be achieved by placing a rolled up towel under your heel thus helping to keep your knee straight. It may be helpful in the initial stages of recovery to wear the Zimmer splint whilst you are asleep to help keep the leg straight and comfortable.

It is recommended that you try and spend as much time as possible with your knee in this position. For example: while sitting on the couch maintain the locked position.

Information about your operation

Procedure:

Your surgeon has used a patella tendon graft to replace your cruciate ligament. The procedure involves taking the middle 1/3 of the patella tendon along with some attached bone.

The graft is then fed through your knee joint and attached to the tibia (shin bone) with a screw and femur (thigh bone) by various methods of fixation. (Fig. A) The graft is quite strong initially.

The new graft will be in exactly the same position as your old cruciate ligament.

FIG. A.

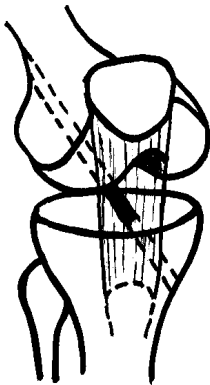


FIG. B.

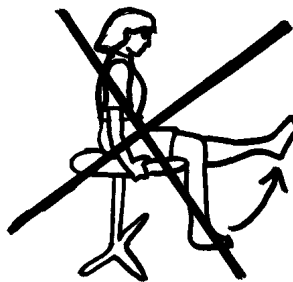
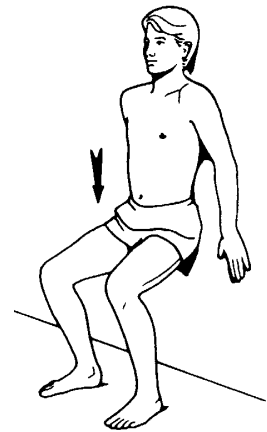


FIG. C.



Stability of your knee post surgery

Your tendon graft takes time to adapt and take on the new role of your anterior cruciate ligament. Around 3 months following the surgery, the cruciate ligament has actually weakened compared to when it was first placed inside your knee. You need to be cautious around this time period with activities that may involve changing direction and twisting. The graft then begins to strengthen and continues doing so for the next 6 months or longer.

Rehabilitation post surgery focuses on the use of closed chain activities. These activities will involve weight-bearing exercises, which have been shown to be safe for your new graft.

Example of weight bearing activities (closed chain): (Fig. C)

- lunges
- squats
- bike
- leg press

The most important exercise to avoid is any open chain activities.

Example of open chain activities:

- leg extension (Fig. B)

Your physiotherapist will explain this further to you.

STAGES OF REHABILITATION

The time frames set out to progress your activities below are guidelines only. Your progress depends on your range of knee movement, swelling and your knee control. Always check with your physiotherapist before progressing your exercises. If you do not achieve the goals in one of the time frames, do not try to 'catch up' in the next phase as this will usually irritate your knee.

PHASE I (0 – 2 WEEKS)

MAIN GOALS:

- Control swelling
- Knee to full extension
- Quads muscles working well
- Stretch Hamstring

Generally you will perform the following exercises at home until your first surgeon's review. Most surgeons are happy for you to see your Physiotherapist within these two weeks for walking re-education and to make sure you are progressing as planned.

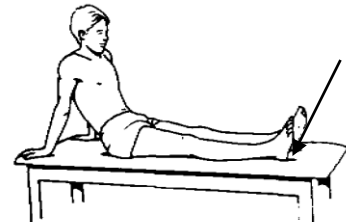
MOBILITY

CRUTCHES AT ALL TIMES in first week, and progress off as you feel comfortable.

STRENGTH AND RANGE OF MOVEMENT

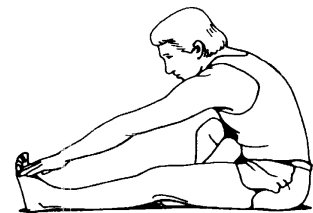
1. QUADS SETS

Gently tighten front thigh muscle and kneecap.
Practice "flicking" the muscle until you are tightening well,
then hold for 5 - 10 seconds.
Repeat 10 times and increase reps as comfortable.



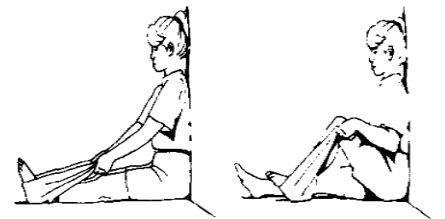
2. HAMSTRINGS STRETCH

With legs out straight, flex your trunk forward at your hips to
touch toes.
Hold the stretch for 10 seconds.
Repeat 10 times.



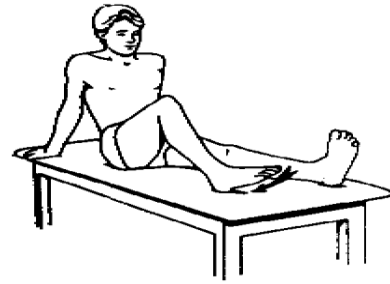
3. HIP/ KNEE FLEXION

With hands supporting thigh or towel around heel, gently
bend your knee. Limit the amount of bend to the range
explained by the therapist in hospital. Do NOT force your
bend.
10 – 15 times. Increase reps as comfortable.



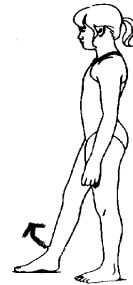
4. HAMSTRINGS

Bend your knee slightly. Tighten muscles on back of thigh by pulling the heel down into floor.
Hold for 5 seconds.
10 Repetitions
Increase reps as comfortable



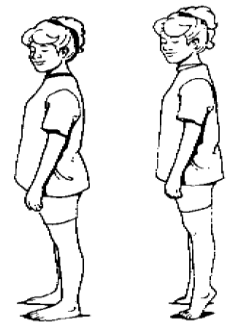
5. STRAIGHT LEG RAISES

Standing upright and holding onto your crutches for balance, tighten your thigh muscles of your operated leg. Lock your knee straight and lift it forwards off the ground. Lower slowly.
10 Repetitions.



6. CALF RAISES

When standing with feet apart, rise up onto your toes and then slowly lower. Have as much weight as comfortable on your operated leg.
3 x 10 REPETITIONS



ICING YOUR KNEE

It is recommended that you ice your knee for 15 – 20 minutes after your exercises.

ALL EXERCISES TO BE PERFORMED 3 – 4 TIMES PER DAY

After Phase I, it is strongly advised that you seek the guidance of a physiotherapist so that an appropriate programme is set out for you. Following are the desired goals that need to be aimed for by your physiotherapist.

The Following Time Frames Are Guides Only.

PHASE II (2 - 4 WEEKS)

MAIN GOALS:

- Control swelling
- Progress quads exercises
- Hamstring stretching
- Hamstring strengthening

MOBILITY

Progress to full weight-bearing.

COMPONENTS OF REHABILITATION

- Strength & range of movement
- Balance & coordination
- Aerobic fitness
- Continue Icing after exercise or if swollen

PHASE III (4 - 6 WEEKS)

MAIN GOALS:

- Same as previous stage
- Gradual increase in bend of knee
- Increase balance retraining
- Increase intensity of exercises

ICING YOUR KNEE

15 - 20 minutes after exercise or if swelling persists

PHASE IV (SIX WEEKS ONWARDS)

MAIN GOALS:

- Full range of movement
- Dynamic proprioceptive retraining
- Increased quads and hamstring strength and endurance exercises

PHASE V (THREE MONTHS ONWARDS)

MAIN GOALS:

- Return to jogging
- Full strength and endurance of affected leg muscles
- Functional program of graduated activities:
- Shuttle runs

ABOUT SIX MONTHS

Return to solo sports with surgeon's approval.

NINE - TWELVE MONTHS

Return to sports with surgeon's approval.