

REHABILITATION PROGRAMME OUTLINE OF PRINCIPLES

Day 1 Surgery

Day 2 Home splint, can take off for exercises
Crutches, touch weight is allowed

1 week Gentle exercises, calf movement. Progress to weight bearing

2 weeks - REVIEW in clinic (with physio)

- Splint off, 90° bend, full weight bearing as tolerated
- Co-contraction, leg raise with no resistance
- It varies how long it takes to be able to walk without a limp

3 weeks Aim to be walking independently

4 weeks Begin with your regular Physio

- Aim for 0- 100° bending, full weight bearing
- Quads and hamstrings biofeedback/stimulation
- Prone hangs if not straight, 10 cm step ups, Calf raises.
- Partial squats (45°) bilateral.
- Bike (no tension), gentle wobble board, ? stepper later.

6 weeks Add swimming (gently), front crawl

10 weeks

- Progress exercises & add resistance

All quadriceps exercises must be closed chain

- Aim 0-130°, gradual increase in all exercises
- Add mini- tramp, wobble board, lunges and slide board

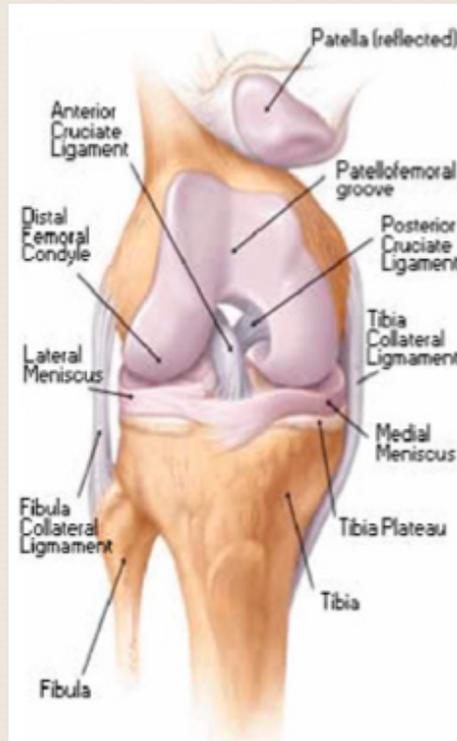
4 months

- Begin dynamic activity.
- Increase speed and agility of some of the exercises.
- Graduate all exercises to develop good strength.
- If all else is well, begin light jogging

5 months

- Progress running and early activity
- Begin figure 8, direction changes, slopes
- Begin sport specific exercises and individual skills.
- **Protect ACL for activity with a knee sleeve or taping**

6 months If all parameters are OK and you are confident of your ability, return gradually to full activity.



REMEMBER: IF IT HURTS OR SWELLS,
THEN YOU ARE DOING TOO MUCH.

SLOW DOWN

This protocol applies to most cases, some variations will occur depending on the injury and surgery. Mr. Nita will advise you of any variations needed.

**If you have any questions about
the operation or rehabilitation
please ask.**

CRISTIAN NITA 
Specialist Knee Surgeon

ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION



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REHABILITATION

Surgery is followed by a prolonged course of rehabilitation. This requires a **commitment** by the patient to undertake this rehabilitation in order to achieve the best possible result. You should be prepared to devote at least **half an hour per day** for 6 months to a rehabilitation programme. It is preferable for someone to supervise your rehabilitation provided they work within the guidelines outlined herein. Most physiotherapists are able to do this.

The importance of not overdoing it cannot be stressed enough. The most common cause of loosening or stretching of the graft is from over-aggressive rehabilitation and from doing activities before the graft is strong enough to take it.

The process of graft maturation and integration takes 6-8 months and nothing can be done to speed this up. Muscle strength and control can be developed quicker than this but must be kept to a level and type that does not stress the graft, otherwise there is a risk of stretching (or rupturing) the graft.

Return to work - The timing of return to work depends on the type of work and your access. The following is a guide only:

Office work as soon as pain allows and you can travel easily to and from work (10-12 days).

Driving when you can walk without crutches or a limp and be 'in control of the vehicle' (3 weeks).

Light duties if the job allows partial use of the crutches or limited walking (2-5 weeks).

Standing for prolonged periods (4-6 weeks).

Activity - prolonged walking, bending, lifting, stairs (7-8 weeks).

Heavy work - Heavy lifting, deep squatting, digging, in and out of heavy machinery (3 months).

ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

The anterior cruciate ligament (ACL) is responsible for controlling rotational stability of the knee. When the **ACL is torn**, the knee is unstable for activities involving pivoting, twisting or accelerating. If these stresses are applied to the knee then it may give way.

Each time the knee gives way it can cause damage to the joint surface and/or the meniscus cartilages. Continued damage will eventually result in wear and tear – **Arthritis**.

The process is slow; in the meantime there are things that you cannot do as effectively because the knee gives way. The choice is to alter **lifestyle** activities thus avoiding these stresses and activities or to undergo anterior cruciate ligament reconstruction.

The Surgery is aimed at replacing the deficient ACL with a graft ligament. The graft can be taken from either the hamstring tendons or from the ligament just below the knee cap (the **patella ligament**) with a small piece of bone from the patella and the tibia. This graft is then placed in the knee joint through drill holes in the bones and held with screws and/or staples. The procedure is done mostly arthroscopically with a small incision to take the graft. Any other procedure required is usually done at the same time.

This surgery involves a general or spinal anaesthetic and potentially a hospital stay of 1 or 2 nights. Most cases are planned as day cases.

RISKS

A risk of problems or complications is present with any surgery. After ACL surgery there is particular concern with the following:

Infection can occur with any operation. Special precautions are taken during surgery to diminish this risk. However, if deep infection occurs (<0.5%) and goes untreated then serious problems could result.

Stiffness of the knee joint after ACL surgery can result from a number of causes. Fortunately, these are rare. Some individuals are predisposed to form excessive and thick scar tissue. This is treated by surgical excision of the scar tissue (<0.5%).

Blood clots are very rare particularly if the patient mobilises early, as instructed. A major blood clot if left untreated can be very serious (<0.4%).

GRAFT FAILURE This can happen if excessive force occurs to the knee in the early post-operative period (i.e. Doing too much too early). Rupture can also occur at a later stage due to another injury (up to 30% in young sport players).

While the most common problem is with patients trying to do too much too early, some patients do not progress their rehabilitation as instructed. This is usually easily correctable with increased effort. However, some patients will develop extra scarring and although function well overall, may have difficulty managing some activities satisfactorily. Occasionally a further arthroscopy is required.

Please note: the percentages shown above represent Mr Nita's experience working with renowned soft tissue knee surgeons combined with recent literature figures to make the estimates of risk as accurate as possible.