



## *Sunshine Coast Orthopaedic Clinic*

### **Anterior Cruciate Ligament Injuries**

#### ***Patient Information Sheet***

***Surgeon: Dr Steve Lawrie***

#### ***INTRODUCTION***

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**T**he Anterior Cruciate Ligament (ACL) is a 38mm long band of fibrous tissue that connects the thigh bone (the femur) and the shin bone (the tibia). It runs from front to back through the centre of the joint. It prevents the outer aspect of the tibia moving forward on the femur during twisting type activities. It thereby gives stability to the knee. It typically is not functioning during normal daily activities such as walking but when the knee comes under load the ACL comes into play. The ACL is essential in controlling forces across the knee in twisting activities such as stepping, pivoting and landing from a height.



#### ***ACL INJURY***

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**T**he ACL is commonly injured in sporting situations where a sudden change of direction is associated with a sudden deceleration such as stepping or propping whilst a contact is being made. The knee gives way as the foot and shin are fixed but the momentum of the body continues over the knee. A pop or snap is felt in the knee with severe pain. The knee often takes on an extreme position at the time of the injury. This usually corrects spontaneously. Typically the patient is unable to continue playing. The knee swells soon after. The knee continues to ache and feels unstable under foot. An ominous sign is lack of swelling in the knee and

marked pain and bruising on the inside of the calf indicating major ligament disruption.

It is difficult to weight bear initially but as time goes on and pain subsides walking becomes possible and the knee settles down. As time goes the patient often feels the knee is unstable if they return to twisting type activities.

## **TREATMENT**

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**T**he goal of treatment of an injured knee is to return to normal activities and prevent further damage to the important structures within the knee, the articular cartilage (gliding surfaces of the knee) and the meniscal cartilages (the shock absorbers of the knee). If the patient's knee continues to give way and be unstable then further damage will occur to the articular cartilage and menisci leading to early onset osteoarthritis (wear and tear arthritis).

Treatment may be operative or non-operative. This often depends on the level of activity the patient wishes to pursue. The knee may become stable through a course of physiotherapy aimed at using the muscles about the knee to stabilise the knee. If the patient wishes to return to a high level of twisting type activities such as competitive ball sports or contact sports or skiing then surgery may become necessary

If there is internal derangement to the knee such as a meniscal tear which needs repair or other ligamentous injury requiring repair then an early reconstruction is usually necessary.

Surgical repair (a Knee Reconstruction) is a serious undertaking with a long rehabilitation programme. Typically it takes 6-9 months before a return to sport can be anticipated.



# **Dr Steven Lawrie**

## **Sunshine Coast Orthopaedic Clinic**

### **POST-OPERATIVE REHABILITATION FOR ACL RECONSTRUCTION**

#### *Day 1*

Surgery

#### *Day 2*

Home in splint

Can take splint off for exercises

Touch weight-bear with crutches

#### *At week 1*

Gentle exercises

Encourage calf movement

Partial weight-bear by end of week

#### *At week 2*

Reviewed by Dr Lawrie

Remove splint

Should have 90° bend

Fully weight-bear

Co-contractions, Straight leg raise with no resistance

#### *At week 3*

Aim to walk independently

#### *At week 4*

Begin with regular physio

Aim for 0-100° bend with full weight-bear

Quads and hamstrings

biofeedback/stimulation

Prone hangs if not full extension

10cm step ups, calf raises

Partial squats to 45° bilaterally

Bike (no tension), gentle wobble board

#### *At week 6*

Add swimming – gentle only – no flicking

#### *At week 10*

Progress exercises and add resistance

#### **ALL QUADS EXERCISES MUST BE CLOSED CHAIN**

Aim 0-130°

Add mini-tramp, wobble board, lunges and slide board

#### *At 4 months*

Begin dynamic activity

Increase speed and agility

Graduate all exercises to develop strength

Begin light jogging

#### *At 5 months*

Progress running and early sport activity

Begin Fig8, direction changes, slopes

Begin sport specific exercises and individual skills

Protect ACL with a knee sleeve or taping

#### *At 6 months*

If all parameters are good and confident of ability - return gradually to full activity