

## LATERAL LIGAMENT RECONSTRUCTION

### Introduction

The guidelines that follow are a frame work of basic exercises and management strategies based on the patient who has had a lateral ankle ligament reconstruction (ATFL).

The physiotherapy programme will need to be **individualised** for each patient, therapists are expected to use clinical reasoning for each individual and implement alternative treatment strategies as appropriate. Always check post-op note from the operating consultant for any deviations from protocol. All exercises should be performed without excessive pain and the details of specific restrictions will be in the post-operative instructions. If you have not received these please ring the consultant's secretary.

Emphasise to the patient the importance of protecting the repair to allow soft-tissue healing in the first phase. The milestones may be used to assess whether you feel the patient is making good progress or not.

### Phase 1 (Day 0 – Week 6)

#### Goals:

- Ensure no post-operative complications
- Check wound area for signs of infection, exclude DVT, ensure no neural compromise to lower limb
- Protect healing tissue
- NWB in PoP for 2/52
- FWB in removable boots from 2-6/52
- Issue elbow crutches to ensure appropriate weight bearing on operated leg
- Issue limbo for shower cover for cast – as appropriate
- Minimise post-operative pain and swelling
- Elevation
- Formal out-patient physiotherapy starts from 6/52

#### Precautions:

Maintain weight bearing status according to operation note

#### Milestones at 6 week:

- Optimise pain relief with analgesia
- Removal of PoP and sutures at 2/52
- Mobilising with elbow crutches, without excessive compensation

### Phase 2 (6 - 12 weeks)

#### Goals:

- Protect healing tissue
- Gait re-education
- Wean out removable boots
- Ankle support to be worn 6/52
- Minimise post-operative pain and swelling
- Elevation
- Ankle pumps
- Thermotherapy
- Restore full ankle ROM as priority
- PROM, AAROM, AROM and weight bearing ROM as tolerated
- Restore triceps surae length as joint allows
- Restore ankle muscle strength
- Everter muscles strengthening: Isometric, isotonic +/- resistance bands
- Bilateral calf raise on flat surface when eversion strength is restored

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Document type: Post-op Protocol	Page: 1 of 4	Author: Edward Leung
Effective Date: Mar 2022	Version: 1.1	Next Review: Mar 2024

## LATERAL LIGAMENT RECONSTRUCTION

- Consider knee, hip, core strengthening and conditioning as appropriate
- Cardiovascular conditioning
- Consider static cycling when comfortable
- Encourage regular short distance walking on even terrain
- Introduce low level (fixed surface) balance/ proprioception when safe (see precautions)
- Scar massage once wound is healed

### Precautions:

- No stretching of reconstructed ligament – combined plantarflexion and inversion
- No impact exercise
- Do not start balance exercises until sufficient ankle evertor strength (Grade 5)

### Milestones at 12 weeks:

- Mobilising independently with acceptable gait mechanics
- Wean off removable boot
- Restore 90% of contralateral ankle and subtalar ROM
- Achieve ankle eversion strength Grade 5 (MRC Scale)

## Phase 3 (12 - 18 weeks)

### Goals:

- Gait re-education
- Wean off ankle support
- Assess gait and restore normal biomechanics
- Assess running mechanics when running is commenced
- Strength and conditioning
- Focus on restoring core, hip, knee and calf strength and control with a mix of free weight, body weight and resistance band exercises. Multi joint, compound exercises to develop strength and power
- Introduce low level plyometric exercises with integrated balance/ proprioception work e.g. box jumps, depth jumps, begin with bilateral and progress to single leg work
- Once return to running criteria achieved, introduce treadmill running at slow pace/ short duration
- Continue with low impact cardiovascular exercise to improve cardiovascular fitness
- Bike, rower, cross trainer, swimming etc.
- Encourage increased walking distance and pace walking as pain/ swelling allow
- Continue scar massage
- Minimise post-operative pain and swelling
- Elevation
- Ankle pumps
- Thermotherapy

### Precautions:

- No stretching of reconstructed ligament – combined plantarflexion and inversion

### Milestones at 18 weeks:

Achieve normal walking mechanics (must be achieved prior to commencement of running)  
Pass modified Melbourne ACL return to running assessment

### Modified Melbourne ACL return to running Assessment

- Single leg press 150% body weight (1RM)

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- 30 second side plank, lower limb on top lifted to neutral (test left and right).
- 20 single leg hamstring bridges from 60cm platform.
- Single leg balance 45 seconds eyes open, 10 seconds eyes closed.
- 20 single leg calf raises off a step.
- 10 single leg sit to stand from 90/90 hip knee.
- 30cm single leg hop down with acceptable hip/knee/trunk control.
- Should be completed with correct form and control, with pain <2/10 to pass.

### Phase 4 (18 - 24 weeks)

#### Goals:

- Discuss return to sport timeframes/ targets
- Assess for any confidence or anxiety issues that may impact progression
- Strength and conditioning
- Continue to progress weight and volume as appropriate
- Progress to intermediate level plyometric exercises e.g. box jumps, depth jumps, gentle lateral hops – focus on single leg
- Build running distance and pace in straight line. Integrate sprints if running gait has normalised
- Introduce light sport specific training, non-competitive/ non-contact initially
- Gait re-education
- Assess running gait and restore normal biomechanics

#### Precautions:

- No stretching of reconstructed ligament – combined plantarflexion and inversion

#### Milestones at 24 weeks

- Single leg calf raise rep max to failure 80% or more of non-operative limb
- Single leg sit to stand rep max to failure 80% or more of non-operative limb
- Single leg hop distance 80% or more of non-operative limb
- Single leg balance (eyes closed) duration 80% or more of non-operative limb
- Achieve normal (pain free) running gait mechanics in straight line running

### Phase 5 (24 weeks +)

#### Goals:

- Discuss plan for return to sport
- Discuss long term maintenance/ progression of training
- Address confidence or anxiety issues that may impact return to full activity
- Graded return to full training and subsequent competitive sports
- Strength and condition
- Continue to progress weight and volume as appropriate
- High level plyometric exercises with integrated balance/ proprioception work e.g. box jumps, depth jumps, lateral push offs and turns
- Build running distance and pace, integrate cutting movement and lateral push offs
- Progress sport specific training

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