Rehabilitation guidelines for lateral ligament reconstruction of the ankle (Modified Brostrom)

Indications for surgery:
Generally for Chronic Lateral Ankle Instability in patients who have failed to respond to conservative treatment.

Possible complications:
Infection
Bleeding
Nerve damage
Deep Vein Thrombosis Pulmonary Embolism Scarring
Persistent / Recurrent pain
Recurrent instability
Talo-crural and sub-talar joint stiffness Numbness/Pin's & Needles in the foot post-operatively

Surgical technique
Primary Anatomical repair (Modified Brostrom reconstruction) - Carried out by reattaching torn ligaments in order to regain lateral ankle stability. A Brostrom repair is the common technique used in an anatomical repair

Expected outcome:
- Improved function / mobility
- Improved pain relief, with decreased analgesic requirements Improved ankle-hindfoot complex stability
- Decreased requirement for orthotics
- Return to full sporting activity
- Full recovery **may take up to twelve months**

Post-operatively:
Always check the operation notes, and the post-operative instructions. Discuss any deviation from routine guidelines with the team concerned.

Initial rehabilitation phase: 0 to 6 weeks

- To be safely and independently mobile with appropriate walking aid, adhering to weight bearing status
- To be independent with home exercise programme as appropriate
- To understand self management / monitoring, e.g. skin sensation, colour, swelling, temperature, etc

Restrictions:

Ensure that weight bearing restrictions are adhered to:

- Non-Weight Bearing (NWB) in backslab for 2 weeks
- At 2 weeks - placed in Aircast Boot Fully Weight Bearing (FWB) for 4 week
- At 6 weeks - wean off boot and start physiotherapy

Recovery rehabilitation phase: 6 weeks to 12 weeks

- To be independently mobile out of plaster shoe / aircast boot
- To achieve full range of movement
- Muscle strength: eversion grade 4 or 5 on Oxford scale
- Optimise normal movement

Restrictions:
- No balance exercises until eversion grade 4 or 5 on Oxford scale achieved
- Do not formally stretch reconstruction
- No impact exercise; i.e. jogging, aerobics

Treatment:
Pain relief
Advice / Education
Posture advice / education
Mobility: ensure safely and independently without walking aid
Gait Re-education
Wean out of aircast boot and into normal footwear

Exercises:
- Active assisted range of movement (AAROM)
- Active range of movement (AROM)
- Resisted inversion and eversion exercises with progression
- Encourage isolation of evertors without overuse of other muscles.
- Biofeedback likely to be useful
- Strengthening exercises of other muscle groups as appropriate
- Core stability work
- Exercises to teach patient to find and maintain sub-talar neutral.
- Balance / proprioception work once appropriate
- Stretches of tight structures as appropriate (e.g. Achilles Tendon), **not of repair**
- Review lower limb biomechanics. Address issues as appropriate
- Swelling Management

Manual Therapy:
Soft tissue techniques as appropriate
Joint mobilisations as appropriate particularly sub-talar joint.
Monitor sensation, swelling, colour, temperature, etc
Orthotics if required via surgical team
Hydrotherapy if appropriate
Pacing advice as appropriate

Milestones to progress to next phase:
Muscle strength: eversion grade 4 or 5 on Oxford scale
Full range of movement
Mobilising out of aircast boot
Neutral foot position when weight bearing / mobilising

Intermediate rehabilitation phase: 12 weeks to 6 months

- Independently mobile unaided
- Optimise normal movement

Treatment
Further progression of the above treatment:
Pain relief
Advice / Education
Posture advice / education

Mobility:
Progression of mobility and function
Gait Re-education

Exercises:
- Range of movement
- Progress strengthening of evertors.
- Core stability work
- Balance / proprioception work i.e.; use of wobble boards, trampet, gym ball.
- Dyna-cushion.
- Stretches of tight structures as appropriate (e.g. Achilles Tendon), not of repair.
- Review lower limb biomechanics. Address issues as appropriate.
- **Sports specific rehabilitation**

Manual Therapy:
Soft tissue techniques as appropriate
Joint mobilisations as appropriate ensuring awareness of those which may be fused and therefore not appropriate to mobilise
Monitor sensation, swelling, colour, temperature, etc
Orthotics if required via surgical team
Hydrotherapy if appropriate
Pacing advice as appropriate

Milestones to progress to next phase:
- Independently mobile unaided
- Muscle strength: eversion grade 5 on Oxford scale
- Returned to low-impact activity/sports

Final Rehabilitation Phase: 6 months to 1 year

- Return to high impact sports if set as patient goal
- Normal evertor activity
- Single leg stand 10 seconds, eyes open and closed
- To be able to do multiple heel raise
- Establish long term maintenance programme

Treatment:
Mobility / function: Progression of mobility and function, increasing dynamic control with specific training to functional goals
Gait Re-education

Exercises:
- Sports specific/functional exercises.
- Address any issue's raised from patient after return to activity
- Pacing advice

Milestones for discharge:
- Independently mobile unaided
- Good proprioceptive control on single leg stand on operated limb.
- Return to normal functional level
- Return to sports if set as patient goal
- Grade V Eversion strength