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## Total ankle replacement

### Initial rehabilitation phase

0-4 weeks

#### Goals:

- 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, circulation

#### Restrictions:

- Ensure that weight bearing restrictions are adhered to:
  - **Total Ankle Replacement (TAR):**
    - Non Weight Bearing (NWB) for 2 weeks in Back Slab
    - Below Knee Plaster of Paris (BK POP) at 2 weeks. Progress to Full Weight Bearing (FWB) in POP.
    - POP removed at 4 weeks. May require aircast boot. FWB.
  - **If any other surgical technique used ensure you check any restrictions with team as these may differ from TAR alone**
- Elevation
- If sedentary employment, may be able to return to work from 4 weeks post-operatively, as long as provisions to elevate leg, and no complications

#### Treatment:

- Likely to be in **POP**
- **Pain-relief:** Ensure adequate analgesia
- **Elevation:** ensure elevating leg with foot higher than waist
- **Exercises:** teach circulatory exercises
- **Education:** teach how to monitor sensation, colour, circulation, temperature, swelling, and advise what to do if concerned
- **Mobility:** ensure patient independent with transfers and mobility, including stairs if necessary

#### On discharge from ward:

- Independent and safe mobilising, including stairs if appropriate
- Independent with transfers
- Independent and safe with home exercise programme / monitoring

#### Milestones to progress to next phase:

- Out of POP. Team to refer to physiotherapy at 4 weeks from clinic.
- Progression from NWB to FWB phase. Team to refer to physiotherapy if required to review safety of mobility / use of walking aids
- Adequate analgesia

### Recovery rehabilitation phase

4 weeks - 3 months

#### Goals:

- To be independently mobile out of aircast boot
- To achieve full range of movement
- To optimise normal movement

#### Restrictions:

- Ensure adherence to weight bearing status.
- No strengthening against resistance until at least 3 months post-operatively of any tendon transfers if performed.
- Do not stretch any tendon transfers / ligament reconstructions if performed. They will naturally lengthen over a 6 month period

#### Treatment:

- **Pain relief**
- **Advice / Education**
- **Posture advice / education**
- **Mobility:** ensure safely and independently mobile adhering to appropriate weight bearing restrictions. Progress off walking aids as able once reaches FWB stage.
- **Gait Re-education**
- **Wean out of aircast boot** once advised to do so, and provision of **plaster shoe** as appropriate, if patient unable to get into normal footwear
- **Exercises:**
  - Passive range of movement (PROM)
  - Active assisted range of movement (AAROM)
  - Active range of movement (AROM)
  - Strengthening exercises as appropriate
  - Core stability work
  - Balance / proprioception work once appropriate
  - Stretches of tight structures as appropriate (e.g. Achilles Tendon), not of tendon transfers / ligament reconstructions if performed.
  - Review lower limb biomechanics. Address issues as appropriate.
  - If tendon transfer performed, encourage isolation of transfer activation without overuse of other muscles. Biofeedback likely to be useful.

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

**Milestones to progress to next phase:**

- Full range of movement
- Independently mobilising out of aircast boot
- Neutral foot position when weight bearing / mobilising
- Tendon transfers activating if performed

**Failure to meet milestones:**

- Refer back to team / Discuss with team
- Continue with outpatient physiotherapy if still progressing

**Intermediate rehabilitation phase**

**12 weeks - 6 months**

**Goals:**

- Independently mobile unaided
- Wearing normal footwear
- Optimise normal movement
- Grade 5 muscle strength around ankle
- Grade 4 muscle strength of tendon transfers if performed

**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
  - Strengthening exercises as appropriate

- Core stability work
- Balance / proprioception work
- Stretches of tight structures as appropriate (e.g. Achilles Tendon), not of transfers / ligament reconstructions if performed.
- Review lower limb biomechanics. Address issues as appropriate.
- If tendon transfer performed progress isolation of transfer activation without overuse of other muscles. Biofeedback likely to be useful.
- **Swelling Management**
- **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, circulation
- **Orthotics** if required via surgical team
- **Hydrotherapy** if appropriate
- **Pacing advice** as appropriate

**Milestones to progress to next phase:**

- Independently mobile unaided
- Wearing normal footwear
- Adequate analgesia
- Tendon transfers to be activating if performed (to at least grade 4)

**Failure to meet milestones:**

- Refer back to team / Discuss with team
- Continue with outpatient physiotherapy if still progressing

**Final rehabilitation phase**

**6 months - 1 year**

**Goals:**

- Return to gentle no-impact / low-impact sports
- Establish long term maintenance programme
- Grade 4 or 5 muscle strength of tendon transfers if performed

**Treatment:**

- **Mobility / function:** Progression of mobility and function, increasing dynamic control with specific training to functional goals

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- **Gait Re-education**
  - **Exercises:**
    - Progression of exercises including range of movement, strengthening, transfer activation, balance and proprioception, core stability
  - **Swelling Management**
  - **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
  - **Pacing advice**

**Milestones for discharge:**

- Independently mobile unaided
- Appropriate patient-specific functional goals achieved, eg. return to low/no impact sport
- Independent with long term maintenance program