Tibialis Posterior to Tibialis Anterior +/- EHL/EDC Tendon Transfer

This surgery involves transferring the tendon from a functioning muscle (Tibialis Posterior) to the insertion of the Tibialis Anterior and also tied to the toe extensors in the case of EHL/EDC transfer (see individual operation note for full details). The aim of surgery is to allow active ankle dorsiflexion and improved heel strike during gait.

Please note: With any tendon transfer surgery activation of the intended movement is variable and often unique to the individual patient. Consequently, a definitive timescale of recovery is not possible to predict. This protocol therefore follows a phased format; whereby a patient is to be progressed to the next level once they reach the relevant milestone. Possible complications and their suggested management strategies are outlined overleaf.

### Phase 1: PROTECTION

**Milestone: 0-6 weeks**

**Advice**
- POP/Backslab 6/52.
- Strip wash.
- Encourage good posture.
- Mobilise NWB (or as indicated by operation notes) with necessary walking aid(s).
- Keep lower limb elevated as much as able.

**Exercises (SHOULD NOT EXACERBATE PAIN)**
- Follow operation notes for specific instructions.

### Phase 2: MUSCLE ACTIVATION

**Milestone: 6 weeks onwards**

**Advice**
- Wean off walking aid(s); decrease as comfort allows.
- Use relevant and appropriate Ankle Foot Orthosis (AFO) in shoe.
- Pace activities throughout day.
- Encourage good gait with an emphasis on normal movement.
- Begin scar management programme.
- May return to work.
- The individual may return to driving when they decide that they are safe to do so. May need DSA assessment.
- Should avoid positions that put a stretch on the transfer (i.e. Passive dorsiflexion) for 3 months post op.

**Exercises (SHOULD NOT EXACERBATE PAIN)**
- Phased ROM, strengthening and proprioception programme depending on MRC grade of muscle activation.
- Active assisted dorsiflexion with end of range hold. Progress to through range active movement. Consider gravity neutral positions.
- Consider electrical stimulation +/- biofeedback to assist muscle activation.
- Progress gym activities as appropriate e.g. cross trainer and exercise bike.
- Consider water based exercises.

### Phase 3: PROGRESS LOADING and NORMAL MOVEMENT

**Milestone: Grade 3 muscle activation in transfer**

**Advice**
- Encourage gait with emphasis on normal movement (i.e. heel strike).
- Can begin to wean AFO.
- Ensure that patient specific goals are set and treatments are holistic.
- Continued education regarding timescales of recovery and importance of continuing with rehabilitation programme.

**Exercises**
- Begin light resistance exercises as appropriate (related to the patient's level of muscle activation).
- Activity/sports specific exercise programme.
This is a guideline of rehabilitation; any limitations and restrictions recorded in the patients’ operation note should take precedence. These guidelines should be used in conjunction with your assessment of the patient. Your treatment should be clinically reasoned and adapted to the individual patient’s needs. Time frames are approximate; progress as clinically indicated, only moving onto the next phase once the patient can comfortably achieve phase appropriate exercises and tasks, unless the operation note specifies otherwise.

The exercises offer ideas rather than being a prescription.

**Possible complications:**

<table>
<thead>
<tr>
<th></th>
<th>Symptoms:</th>
<th>Action:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection</td>
<td>Pain, fever, redness, wound oozing, rash, itching, general feeling of malaise.</td>
<td>Contact RNOH CNS, surgical team +/- GP.</td>
</tr>
<tr>
<td>Seroma</td>
<td>Palpable and visible pain free lump or swelling, close to surgical site.</td>
<td>Contact RNOH CNS, surgical team +/- GP.</td>
</tr>
<tr>
<td>Neuropathic pain</td>
<td>Pain felt in the Lower limb; burning stinging or shooting in nature.</td>
<td>Ensure regular analgesia is being taken (Paracetamol) to distinguish between post operative pain. Contact RNOH CNS, surgical team +/- GP.</td>
</tr>
<tr>
<td>Failure to progress through phases</td>
<td>Lack of palpable or visible muscle contraction at 6 months post op. Failure to increase strength of dorsiflexion despite strengthening programme. Poor motivation to continue with rehabilitation.</td>
<td>Discuss with RNOH surgical team +/- therapy team at next routine appointment. Ensure that patient has an understanding of the slow nature of recovery in order to keep their motivation to rehabilitate.</td>
</tr>
<tr>
<td>Scar adhesions/tethering</td>
<td>Tight cord or band of scar tissue. Overgrowth of scar beyond normal boundaries. Skin adhered to deeper layers of tissue noticeable of palpation of scar site.</td>
<td>Reinforce scar massage and ensure good technique. Consider other treatment modalities such as silicone gels. Discuss with RNOH therapy team if needed.</td>
</tr>
<tr>
<td>Restricted passive Dorsiflexion</td>
<td>Unable to Passively dorsiflex beyond plantargrade. Tight Triceps Surae. Stiff Ankle and or Subtalar Joint.</td>
<td>Reinforce passive dorsiflexion stretches throughout day. Consider night splint as well as daytime AFO. Manual therapy as appropriate. Discuss with RNOH therapy team if needed.</td>
</tr>
</tbody>
</table>

**Telephone numbers:**

- **Therapy Team (Physio and OT):** 0208 909 5820
- **Clinical Nurse Specialist:** 0208 909 5608
- **email:** rnoh.cns-pni@nhs.net
- **Secretaries:**
  - Mr Fox: 0208 909 5331
  - Mr Quick: 0208 909 5447
  - Dr Sinisi: 0208 909 5567

**Lead author:** Hazel Brown

**Review Date:** June 2022