An international survey of the current use of Electrical Stimulation for Adult Traumatic Brachial Plexus Injuries

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**Background**
- Electrical Stimulation (ES) of muscles following nerve injury was a frequently used adjunct for rehabilitation; recently its use has declined.
- An international collaborative group of therapists with a special interest in Traumatic Brachial Plexus Injuries (TBPI) was formed in 2017.
- One of the objectives of the group is to assess and improve the evidence base around treatment modalities for TBPI.
- A survey of the use of ES within ‘expert practitioners’ was undertaken to:
  1. Explore current practice
  2. Ascertain the reasons for and against its use.

**Methods**
- An online ‘Google forms’ survey was developed.
- The form was disseminated to specialist clinicians in four countries.
- Specialisation in nerve injuries ranged from 3 years up to 25 years (mode 10 years).

**Results**
- Frequency of use ranged from:
  - NEVER: 5/17
  - RARELY: 7/17
  - SOMETIMES: 5/17

There were MANY VARIATIONS and LITTLE CONSENSUS with regards to Duration and Frequency of use:
- 11/12 utilise during the early stages of re-innervation.
- 10/12 MRC Grade 1
  - 11/12 MRC Grade 2
- 7/12 use a FES machine
  - 5/12 use TENS on a stimulation setting
- 12/12 stimulate the muscle belly
  - 1/12 reported precise stimulation over the motor unit.
- 10/12 integrate within Home Exercise Programme
- 10/12 stimulate the agonist muscle alone
- 10/12 integrate with functional activities
- 2/7 Conflicting evidence regarding when and how
- 2/7 Minimal literature to support use in this patient group.
- Haven’t had access to the right equipment
- In Australia the OT’s tend to prescribe E-Stim... As a PT I focus more on increasing joint PROM and maximising muscle function.
- Not trained
- Those who NEVER USE ES Several reasons were given by the remaining 7 ‘non-users’
- Those who USE ES Between the 12 ‘users’ there was consensus with regards to indications for use.

**Conclusions and Implications**
- ES does appear to be a treatment modality that specialist clinicians are using; but not often.
- The main reasons for non use included lack of training and limited supporting literature.
- Poor consensus with settings may be reflective of a limited evidence base in this area.
- This has been recognised by the international collaborative group of therapists specialising in TBPI and further work will be directed to address these barriers.

**Acknowledgements**
- This project was conceived and carried out in association with the Brachial Plexus Injury International Collaborative Group whose aim is to improve the care of patients with Traumatic Brachial Plexus Injuries. This project received no funding.