

Current practice trends of oedema management in the hands of people with tetraplegia in Australia

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Introduction

People who sustain tetraplegia following a spinal cord injury report that their hand and arm function is the most important factor in improving their quality of life¹. The loss of function to their upper limbs can be a key underlying link to their level of mobility, independence and ability to engage in their occupational roles. A range of complications secondary to their loss of upper limb movement such as contractures, spasticity, pain, and oedema in the hands can have significant implications to the person's level of hand function². There has been limited literature on oedema management in the hands in people with tetraplegia, therefore research is needed to guide clinicians to provide optimal care for people with oedema in their hands.

Aim

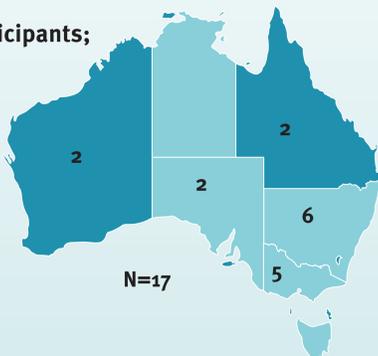
To explore the current oedema management in the hands of people with tetraplegia in Australia.

Methodology

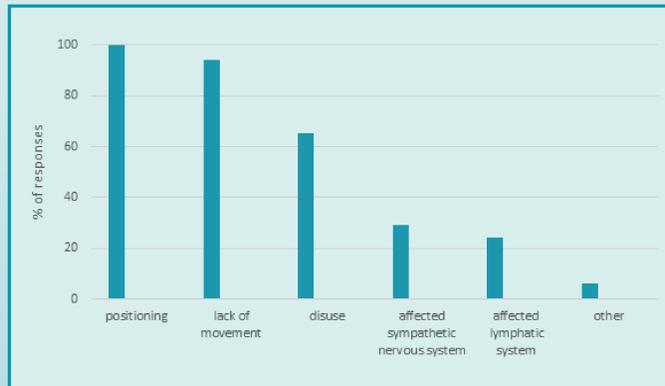
A survey research design was used to gather information from Occupational Therapists working in spinal cord injury in 2018. Ethical approval for the study was granted by the Metro South Human Research Ethics Committee and the University of Queensland.

Results

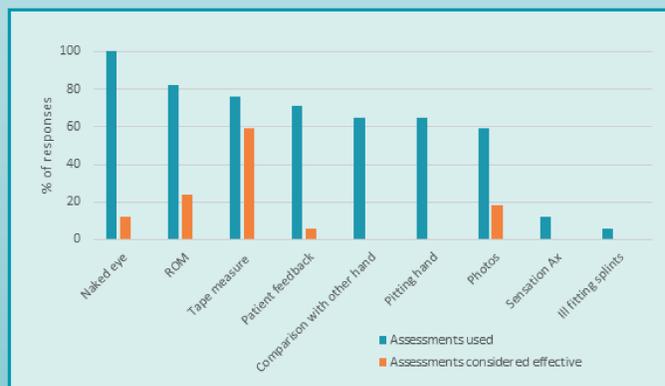
There was a total of 17 participants;
14: spinal injuries centres
2: neurorehabilitation
1: community



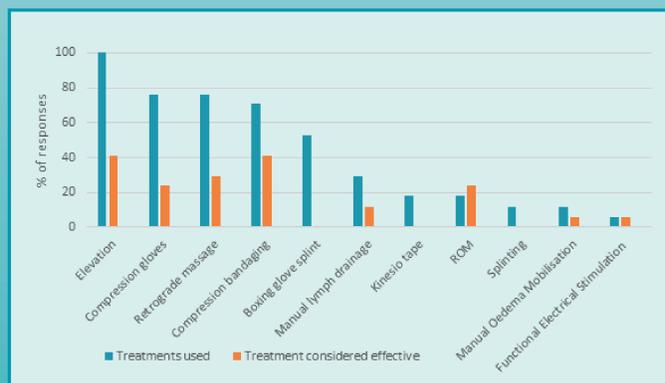
Perceived causes of oedema



Assessment tools used



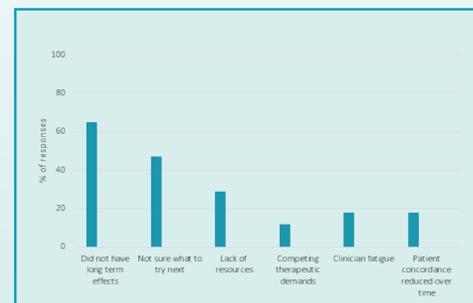
Treatment methods used



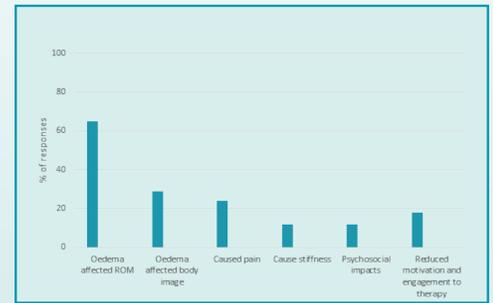
Challenges

- Oedema management occurs within the context of competing therapy goals i.e. equipment provision, functional retraining and home modifications.
- There is limited research in the cause of oedema in the hands following tetraplegia and clearer understanding of these factors would lead to best practice guidelines and recommendations.
- Participants stated that the process of the assessment was not consistent (n=5, 29%), had poor inter-rater reliability (n=4, 24%), measures were subjective, inaccurate and time consuming (n=2, 12%).
- Challenges specific to treatment:

Challenges with oedema management



Impact of oedema on rehabilitation



Discussion

- Results suggest that oedema does not occur in all people with tetraplegia nor does it follow a predictable timeline after injury.
- Gold standard formal assessments i.e. volumetric meter and the tape measure, are not being consistently used. Participants reported that assessments lacked inter-rater reliability, despite literature supporting the inter-rater reliability of tape measurement^{3,4}.
- Four treatment methods regularly applied are consistent with the literature; elevation, compression gloves, retrograde massage and compression bandaging. An issue raised by participants is that compression restricts the limited available movement, which may prevent optimal engagement in hand therapy to progress with functional rehabilitation.
- A treatment method unique to spinal cord injury is the boxing glove splint, reportedly used by more than half of the participants but not considered effective by any. Introduced by Cheshire et al.⁵ in 1970 and there has been no other studies on this technique.

Conclusion

- The lack of clear guidance in the form of research evidence and clinical guidelines / protocols is an issue. Participants expressed their main challenge for treating oedema is that treatment methods do not have long lasting effects and the oedema management can be very time consuming.

Acknowledgements

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