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FEASIBILITY OF EARLY ACTIVE MOBILISATION FOLLOWING FLEXOR TENDON REPAIR IN A DEVELOPING COUNTRY CONTEXT: A RANDOMISED PILOT TRIAL



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OVERVIEW

- Relevance of research
- Why early active mobilisation
- Research process
 - Aim
 - Methodology
 - Preliminary results
- Conclusions and way forward



WHY RESEARCH FLEXOR TENDON INJURIES

- Violence and injury
 - South Africa: second leading cause of life years lost
 - 2x the global average
- Flexor tendon injuries: challenges, poor outcomes



WHY RESEARCH FLEXOR TENDON INJURIES

- Violence and injury
 - South Africa: second leading cause of life years lost
 - 2x the global average
- Flexor tendon injuries: challenges, poor outcomes
- Rehabilitation: early active mobilization



RATIONALE

- Occupational performance outcomes

Early active mobilisation:

- Reduced costs to: health care
social service budgets
the individual
- Earlier return to work
- More optimal intervention
 - *developing country context*



RESEARCH AIM

To provide descriptive information on the feasibility of the:

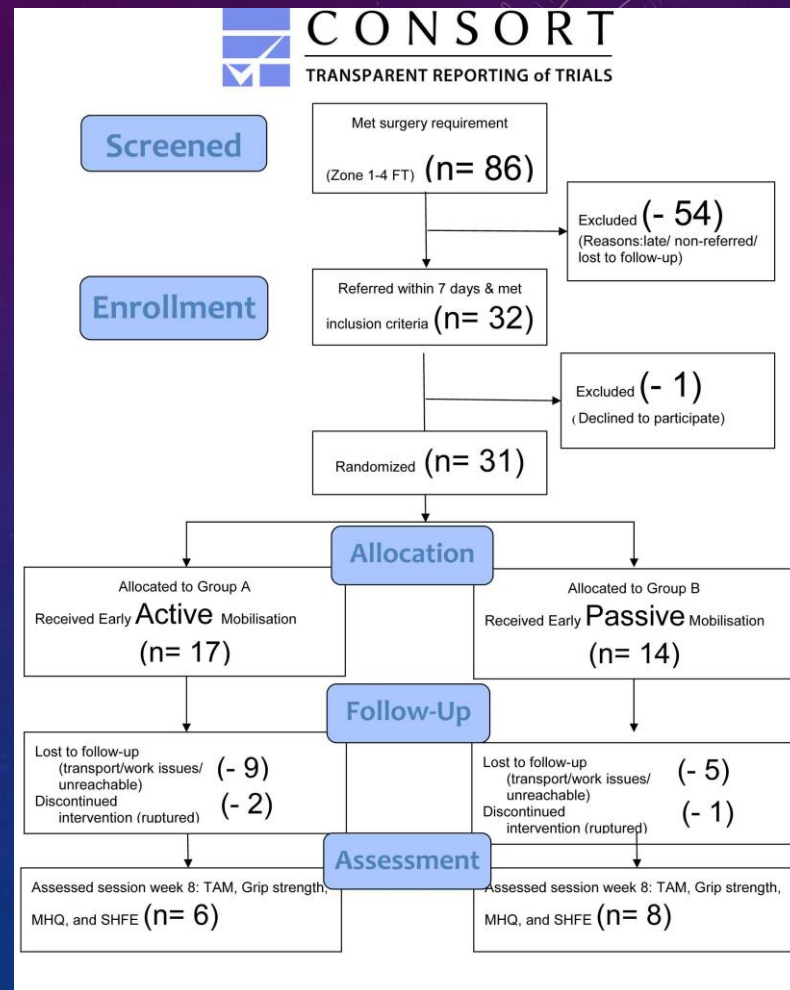
1. Recruitment of patients
2. Selection criteria (Inclusion and exclusion)
3. Delivery of an early active therapy protocol
4. Retention of patients

Preliminary results of the pilot



METHODOLOGY

- Study design
- Selection criteria
- Recruitment
- Randomisation
- Intervention



METHODOLOGY

- Data collection
- Surgical technique
- Outcome measures
- Feasibility data
- Sample size



PRELIMINARY RESULTS

1. Feasibility of recruitment: patients with flexor tendon injuries
2. Feasibility of selection criteria
3. Feasibility: early active therapy protocol
4. Retention of patients & loss to follow up



PRELIMINARY RESULTS

1. Feasibility of recruitment: patients with flexor tendon injuries
2. Feasibility of selection criteria
3. Feasibility: early active therapy protocol
4. Retention of patients & loss to follow up
5. Contextual challenges faced



CONCLUSIONS

- Poor feasibility - despite “on paper” strengths
- Multi-centre, with registry of individuals with flexor tendon repairs
- Funding
- Potential use of EAM, with selected patients
- Occupation-based outcome measures



REFERENCES

- Chesney A, Chauhan A, Kattan A, Farrokhyar F, Thoma A. Systematic review of flexor tendon rehabilitation protocols in zone II of the hand. *Plast Reconstr Surg*. 2011;127(4):1583-1592.
- Cullen KW, Tolhurst P, Lang D, et al. (1989). Flexor tendon repair in zone 2 followed by controlled active mobilisation. *J Hand Surg [Br]*. 14:392-5.
- De Klerk S, Badenhorst E, Buttle A, Mohammed F, Oberem J. Occupation-based hand therapy in South Africa: challenges and opportunities. *South African Journal of Occupational Therapy*. 2016 Dec;46(3):10-5.
- Eldridge SM, Chan CL, Campbell MJ, Bond CM, Hopewell S, Thabane L, Lancaster GA. CONSORT 2010 statement: extension to randomised pilot and feasibility trials. *Pilot and feasibility studies*. 2016 Dec;2(1):64.
- Gratton P. Early active mobilization after flexor tendon repairs. (1993). *J Hand Ther*. 6:285-9.
- Matzopoulos R, Norman R, Bradshaw D. The burden of injury in South Africa: Fatal injury trends and international comparisons. Tygerberg: Medical Research Council-University of South Africa, Crime, Violence and Injury Lead Programme. 2004 Mar.
- Norman R, Matzopoulos R, Groenewald P, Bradshaw D. The high burden of injuries in South Africa. *Bulletin of the World Health Organization*. 2007 Sep;85(9):695-702.
- Pettengill KM. The evolution of early mobilization of the repaired flexor tendon. *Journal of Hand Therapy* 2005;18(2):157-168.
- Pruitt DL, Manske PR, Fink B. Cyclic stress analysis of flexor tendon repair. *J Hand Surg Am*. 1991;16(4):701.

REFERENCES

- Seedat M, Van Niekerk A, Jewkes R, Suffla S, Ratele K. Violence and injuries in South Africa: prioritising an agenda for prevention. *The Lancet*. 2009 Sep 19;374(9694):1011-22.
- Starr HM, Snoddy M, Hammond KE, Seiler JG. Flexor tendon repair rehabilitation protocols: A systematic review. *J Hand Surg Am*. 2013;38(9):1712-1717.e14.
- Statistics South Africa [Internet]. Victims of Crime Survey 2014/15; c2015 [updated 2015 December 1; cited 2016 May 5]. Available from: <http://www.statssa.gov.za/publications/P0341/P03412014.pdf>
- Takata SC, Wade ET, Roll SC. Hand therapy interventions, outcomes, and diagnoses evaluated over the last 10 years: A mapping review linking research to practice. *Journal of Hand Therapy*. 2017 Jun 21.
- Tang JB. Tendon injuries across the world: Treatment. *Injury*. 2006;37(11):1036-1042. doi:10.1016/j.injury.2006.07.027. 707. doi:10.1016/0363-5023(91)90197-J.
- Tang, J. B. (2007). Indications, methods, postoperative motion and outcome evaluation of primary flexor tendon repairs in Zone 2. *Journal of Hand Surgery (European Volume)*, 32(2), 118-129.
- Tang JB, Chang J, Elliot D, Lalonde DH, Sandow M, Vogelin E. IFSSH Flexor Tendon Committee report 2014: from the IFSSH Flexor Tendon Committee (Chairman: Jin Bo Tang). *J Hand Surg Eur Vol* 2014 Jan;39(1):107-115.
- Tickle-deggen L. Nuts and Bolts of Conducting Feasibility Studies. 2013.

QUESTIONS?

