Comparative effectiveness of treatment options for subacromial shoulder pain: a network meta-analysis

O Babatunde, J Ensor, C Littlewood, L Chesterton, J Jordan, N Corp, G Wynne-Jones, K Stevenson, M Artus, E Roddy, NE Foster, D van der Windt
Acknowledgements

Project ref: 253

• NEF supported by an NIHR Research Professorship (NIHR-RP-011-015) and is an NIHR Senior Investigator
• GW-J supported by an NIHR Clinical Trials Fellowship (NIHR-CTF-2016-05-10)
• Patients from the Research User Group (Arthritis Research UK Primary Care Centre)
• Clinical and methodological advisors and commissioners
• **Views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care**
Subacromial shoulder pain
Treatment options

Rotator cuff disorders: a survey of current UK physiotherapy practice

Chris Littlewood*, Anne Lowe &, John Moore$*
*School of Health and Related Research, University of Sheffield, Sheffield, UK
&Faculty of Health and Wellbeing, Sheffield Hallam University, Sheffield, UK
$The Rehabilitation Institute, Poole Hospital, Poole, UK

Original Article

Rotator cuff disorders: a survey of current (2016) UK physiotherapy practice

Julie Bury and Chris Littlewood

Open Access

Management of shoulder pain by UK general practitioners (GPs): a national survey

Majid Artus, Danielle A van der Windt, Ebenezer K Afoboli, Rachelle Buchbinder, Linda S Chesterton, Alison Hall, Edward Roddy, Nadine E Foster

Keele University
Systematic review and network meta-analysis

A (exercise)

B (manual therapy)

C (CCS injection)
Systematic review methods

- Search of electronic databases and trial registries
  - MEDLINE, EMBASE, CINAHL, AMED, PEDro, CENTRAL, WoS, Cochrane Database of systematic reviews, WHO International Clinical Trials Registry
- RCTs including adult patients investigating effects of surgical and non-surgical treatments for subacromial shoulder pain
- Bias was appraised using the Cochrane RoB tool
- Direct and in-direct evidence of treatment effectiveness synthesised using random-effects NMA
Results

- 68 RCTs with sufficient data
  - n = 10 589
- 18 different treatments including
  - Advice, medication, exercise, multimodal physiotherapy, manual therapy, electrotherapy, ESWT, CCS injections, PRP, surgery
- General high risk of bias
- Many RCTs with small numbers of patients (< 60)
  - Prone to small study bias
Network plots for pain outcomes at all time points

Short-term (2 weeks ≤ t ≤ 6 weeks)

Short Mid-term (6 weeks < t ≤ 3 months)

Short Long-term (3 months < t ≤ 6 months)

Long-term (t ≥ 6 months)
Network plots for **function** outcomes at all time points

- **Short-term (2 weeks ≤ t ≤ 6 weeks)**
- **Short Mid-term (6 weeks < t ≤ 3 months)**
- **Short Long-term (3 months < t ≤ 6 months)**
- **Long-term (t ≥ 6 months)**
Conclusions

• This NMA did not provide evidence that any one treatment is better than others.

• Comparable to findings of other traditional head-to-head meta-analyses:
  – Caution where trials report a treatment is effective because within-group change is observed.
Next steps

• Consider whether current approach to diagnosis/ sub-grouping is optimal
  – Maximising outcome for patients with shoulder pain: using optimal diagnostic and prognostic information to target treatment (PANDA-S)

• Large, high-quality randomised trials needed
  – Compare optimised interventions to wait-and-see to understand whether treatments are better than natural history and placebo
Thank you

It’s the Keele difference.