How should clinicians integrate the findings of the Lancet's 2018 placebo-controlled subacromial decompression trial (CSAW) into clinical practice?

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The musculoskeletal and orthopaedic world has been challenged by a recent randomised clinical trial that compared surgical (arthroscopic) subacromial decompression (SAD) with placebo surgery or monitoring only for patients with 'subacromial' shoulder pain who had not responded to conservative care.[1] At six and 12 months, both surgical groups reported better outcomes than monitoring only, but the difference was not clinically significant.

What now? What should we offer patients who have not responded sufficiently to non-surgical approaches? Here are some reflections on the implications of this game-changing trial: [1]

1. **Stop using the term impingement**

'Subacromial' shoulder pain has traditionally been understood from a specific structural perspective; that is bony and soft-tissue structures under the acromion impinging on subacromial structures. These new findings challenge to this dogma as the two groups that did not undergo SAD reported similar outcomes to the group that did. This means that 'impingement' does not adequately explain 'subacromial' pain and hence is not a valid diagnosis. Furthermore, a diagnosis of 'impingement' might be unhelpful or even harmful given that such terminology and understanding can negatively impact on clinical outcomes, through enhanced fear avoidance and hence iatrogenic disability.[2]We should stop thinking about 'subacromial' pain from an 'impingement' perspective and consider alternative terms (e.g. rotator-cuff related shoulder pain, subacromial pain syndrome, rotator cuff tendinopathy or simply shoulder pain) [2,3] at least until we better appreciate the underlying mechanisms.

2. **How interventions 'help'**

It seems that most of any benefit reported after SAD is due to some combination of placebo, natural history and the post-operative period of relative rest and graded rehabilitation. Nevertheless, given the fact that many previous studies have reported that physiotherapy is comparable in effect with surgery,[4] there is no room for complacency among physiotherapists. For example, when physiotherapy interventions have been compared with sham therapies, there has been no difference in clinical effectiveness. [5] The current SAD trial [1] that achieved similar outcomes among vastly different interventions indicates that we are still somewhat in the dark as to how different interventions have their overall effect.

Considering options for the person with 'non-resolving' shoulder pain

It seems that we have three valid treatment options – none of which have demonstrated large comparative effects in clinical trials, but which carry varying risks and costs.

1. **Monitor and review**

While participants in the monitoring only group were slower to improve, by 12 months they had achieved clinically important change of a similar magnitude to the treatment groups. Therefore, patients can be confidently advised that they are likely to improve to a similar degree as those who receive surgical intervention but without the risk, burden or cost. Where patients feel confident with this approach they might benefit from the option of a further consultation after a period of time, say three months, to re-visit their options and progress.

2. **Physiotherapist-led exercise programmes**

These appear to be the most promising interventions offered under the umbrella of physiotherapy [6,7]. Although the mechanisms by which these exercise programmes might work are poorly understood, given the minimal associated risk and low cost, this remains a viable option for patients, even if they have not responded to an initial 12-week programme. For example, Holmgren et al [8] reported that 80% of patients listed for SAD subsequently did not require surgery following a further period of structured exercise-based rehabilitation. Methods of delivering exercise including patient-led approaches, or group exercise with a focus on education aimed at tackling harmful beliefs, boosting self-efficacy and facilitating healthy lifestyles (e.g. sleep, activity, exercise, diet) may help address other important contributors to this condition.

3. **Surgery**

In time, these results may be reviewed by health care commissioners and funders and they may limit access to subacromial decompression (SAD). However, in the short-term, SAD will likely remain an option due to patient demand, clinician preferences and other conflicts, including financial incentives. If SAD is being considered, patients should be counselled that any effects are likely to be due to placebo, the passage of time and/or post-operative rehabilitation. If they are comfortable with this then they should be made aware of the extra risks, albeit small, associated with surgery, for example infection, and also the need for time away from work. Clearly there are also cost implications; currently in the UK National Health Service the cost of surgical decompression is UK £1,538 compared to six sessions of physiotherapy which costs about UK £170

These results are a real challenge to all of us assisting patients with ‘subacromial’ shoulder pain on their journey; but this is the hallmark of good research. There is now a real opportunity to advance practice – we hope this will occur much faster than 17 years ![9].

STATEMENTS

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