

Keele Critically Appraised Topic (CAT Form)



Clinical Question

Is there a clinically significant difference in outcome when performing hydrodilatation to treat adhesive capsulitis (frozen shoulder) in adults when there is a degenerative rotator cuff tear present compared to when there is no tear present?

Clinical bottom line

There is no evidence in the current literature that directly answers this question.

Why is this important?

It is estimated that frozen shoulder can affect between 2% and 5% of the population (Hsu et al, 2011). Frozen shoulder can be self-limiting however recovery is usually slow and sometimes incomplete. Patients often report severe levels of pain and disability leading them to seek medical treatment. Given the severity of pain and disability for patients it is imperative that we deliver high quality evidence-based intervention in a timely manner and with the greatest cost-effectiveness ratio possible.

At present, in North Staffordshire, patients diagnosed clinically with a frozen shoulder, whom have a “normal” shoulder X-ray, can be offered the option of steroid injection as a treatment option. Within this, there is the option of a low-volume clinically guided injection, or an image guided hydrodilatation procedure, which is a high volume injection, usually consisting of steroid, local anaesthetic and saline, using an ultrasound machine (or sometimes X-ray) to guide the injection to ensure it is delivered within the shoulder joint capsule.

If a patient chooses hydrodilatation, the current pathway requires patients first have an ultrasound scan to determine the presence of a rotator cuff tear. If a tear is found, the patient is not able to have the referral for hydrodilatation via the NIMS (North Integrates MSK) service. A referral to orthopaedics is required, where the patient is assessed again to evaluate whether the procedure is appropriate in the presence of a cuff tear or whether the

patient would benefit from surgical repair in the first instance. Ultimately this adds significant delay to the patient journey.

However, to our knowledge, in most cases the hydrodilatation is carried out as repairing a cuff tear in the presence of a stiff shoulder has the potential to further exacerbate stiffness.

This need for a diagnostic ultrasound scan is a burden upon the radiology department and adding significant wait times onto the patient journey. Therefore, there was the need to evaluate the current literature to find out whether there are any differences in outcome between groups when hydro dilatation is carried out in the presence or absence of a degenerative cuff tear.

If there is no difference between groups, we could eliminate the need for a diagnostic ultrasound scan and proceed with the hydro dilatation directly thus significantly reducing patient wait times, reducing the need for a diagnostic scan. This will improve the journey for our service users who have a frozen shoulder and underlying cuff tear, and indirectly benefit those service users needing diagnostic ultrasound for other MSK conditions. By reducing diagnostic imaging, this will also contribute towards the NHS net Zero ambition.

[Search timeframe 1990-2022](#)

Search criteria

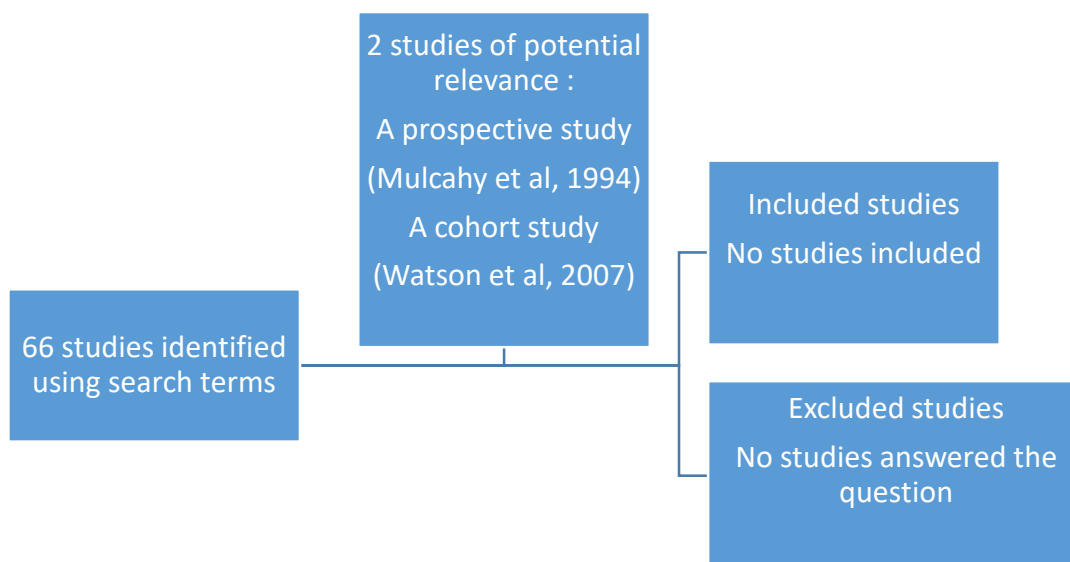
Population Intervention Comparison Outcomes (PICO) themes	Description	Search terms
Population and Setting	Adults	Adults with adhesive capsulitis (frozen shoulder) Rotator cuff tear partial/full thickness confirmed with ultrasound scan or magnetic resonance imaging.
Intervention or Exposure	High volume injection of steroid and/or anaesthetic and or saline	Adhesive capsulitis/injections/distension/ arthrography/bursitis/frozen shoulder/distension injection/hydro dilatation/distension arthrography/arthrographic distension/capsular distension
Comparison, if any		
Outcomes of interest	Pain, function, range of movement	SPADI DASH
Types of studies	Systematic Review & Randomised Control Trials only	

Databases searched

Clinical Knowledge Summaries, PEDro, BMJ Updates, Clinical Evidence, TRIP, Database, NICE, HTA, Bandolier, The Cochrane Library, Medline, Cinahl, Embase, PsycInfo, Professional websites, Joanna Briggs Institute, Web of Science, Sports discuss and Pub Med

Date of search
August 2022

Results of the search: include the number in each box



Summary

Implications for practice

Given that there is no evidence in the current literature directly evaluating differences between outcomes post hydrodilatation in the presence or absence of degenerative rotator cuff tears, we rely on expert consensus to guide future clinical practice. Locally, we are drawing together a group of experts from radiology, orthopaedics and the NIMS service to agree the future pathway for this cohort of patients.

If experts can agree to eliminate the need for diagnostic ultrasound imaging to evaluate for the presence of degenerative cuff tears prior to performing hydrodilatation, we can reduce the burden on local radiology departments whilst significantly improving wait times for this cohort of service users.

This CAT question highlights the need for further research on the topic of hydrodilatation for the treatment of adults with adhesive capsulitis +/- degenerative rotator cuff tear.

What would you post on X (previously Twitter)?

Currently there is no published evidence to suggest there is a clinically significant difference in outcome when performing hydrodilatation to treat adhesive capsulitis (frozen shoulder) in adults when there is a degenerative rotator cuff tear present compared to when there is no tear present.

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CAT image	Evidence quality	Checkbox
	Good quality evidence to support use....	<input type="checkbox"/>
	Insufficient or poor quality evidence OR substantial harms suggest intervention used with caution after discussion with patient...	<input type="checkbox"/>
	No good quality evidence, do not use until further research is conducted OR Good quality evidence to indicate that harms outweigh the benefits....	<input checked="" type="checkbox"/>

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