

## Concord Sport & Spine Newsletter



### Update on the use of hydrodilatation to treat frozen shoulder

I sent you a newsletter in 2012 discussing the efficacy of hydrodilatation in the management of adhesive capsulitis ('frozen shoulder'). The summary from the available evidence at that time was that there was no evidence that hydrodilatation was any more effective than other available interventions. This is an update of that information, with reference to the latest research.

Hydrodilatation for frozen shoulder involves infiltration of a large volume of fluid into the glenohumeral joint, to induce capsular distension or rupture. This fluid typically contains normal saline, corticosteroid, and local anaesthetic. A contrast material might be added to assist needle placement &/or monitor for capsular rupture. Most commonly, a posterior capsular approach is preferred, due to easier visualization of the joint capsule, and ability to perform this under ultrasound guidance<sup>5</sup>. As a treatment for frozen shoulder, hydrodilatation has been used for around 50 years. Yet, until recently there have been no quality RCTs investigating its effectiveness.

A 2008 Cochrane review commented on 5 RCT's investigating hydrodilatation. Only one of these was found to be at low risk of bias. The conclusion was that hydrodilatation had a small short-term effect (up to 3 months), but was no more effective than other available treatments for improvement in symptoms, function, or range of motion<sup>1</sup>.

A 2018 systematic review examined the results of 12 studies, four with a high risk of bias<sup>3</sup>. Patient numbers varied between 8 to 60 participants. The consensus was that a small positive effect was demonstrated for pain and range of motion, but no

improvement for disability levels. The amount of fluid injected did not seem to be a factor in the effectiveness of the procedure. The authors concluded that the improvements seen were so small as to be insignificant. They considered the invasive nature of the procedure, and the risk of side-effects including severe post-procedure pain, to out-weigh the benefits<sup>3</sup>.

A 2017 review analyzed the available 'high-quality' RCT's that compared hydrodilatation to other procedures<sup>5</sup>. No significant difference between treatments was found. After hydrodilatation, there was a small and transient improvement seen in external rotation range, but not in other ranges of motion. There was no benefit of hydrodilatation compared to intra-articular corticosteroid injection (CSI)<sup>5</sup>. Multiple procedures did not provide superior results to a single procedure<sup>5</sup>.

Authors of a recent large trial (163 patients) claimed significant improvements in pain and function in the short- to medium-term<sup>4</sup>. However, no control group was included, and all patients received 3 months of physiotherapy after the procedure, confounding the results. Consequently, this study needs to be interpreted with caution.

The current conclusion is that hydrodilatation is no more effective than intra-articular CSI for treating frozen shoulder. It might be considered as a treatment option for recalcitrant cases, or for patients who demand quick results<sup>2</sup>. However, effect sizes will likely be small. Clinicians need to weigh-up the risks of adverse effects, particularly severe pain<sup>3,5</sup>. 'Wait and see' is still the preferred option for many patients. When intervention is

desirable (usually to provide symptomatic relief) intra-articular CSI should be the first treatment of choice.

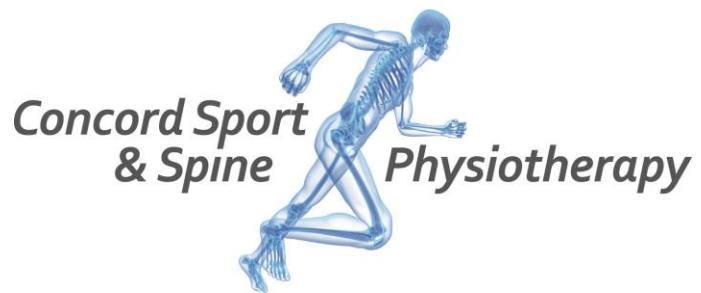
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