

## Cryotherapy effective for treating frozen shoulder

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In patients with adhesive capsulitis (AC) of the shoulder, the addition of whole-body cryotherapy (WBC) to physical therapy and joint mobilization appears to be more effective than the latter two alone, research shows.

Indeed, patients receiving additional WBC achieved "clinically significant" improvements of over 20% relative to the physical therapy and mobilization group, suggesting it could become "the preferred treatment strategy," according to Hyeong-Dong Kim (Korea University, Seoul) and colleagues.

In total, 30 patients with AC of the shoulder were randomly assigned to either a "WBC group," which received WBC in addition to physical therapy and passive joint mobilization of the shoulder, or a "non-WBC group," which received only physical therapy and passive joint mobilization.

Patients were assessed before and after treatment for pain, using the visual analogue scale (VAS); active range of motion of flexion, abduction, internal and external rotation of the shoulder; and American Shoulder and Elbow Surgeons Standardized Shoulder Assessment Form (ASES).

Kim et al report that, after 4 weeks of treatment, patients in both groups showed significant improvements in range of motion, pain, and shoulder function.

However, the WBC group showed greater improvements on average than the non-WBC group.

For range of motion, the mean improvement in flexion was 46 degrees in the WBC group versus 30 degrees in the non-WBC group; abduction was 41 versus 26 degrees; internal rotation was 19 versus 10 degrees; and external rotation was 11 versus 6 degrees.

Meanwhile, pain decreased from 6.0 to 2.5 points on the VAS in the WBC group and from 6.0 to 3.7 in the non-WBC group.

Kim et al note that when considering the design of the study, they decided that differences in improvement of 15% to 20% would be clinically significant, which was achieved in the present study.

Indeed, patients in the WBC group achieved superior improvements, compared with their non-WBC peers, of 53% in flexion, 58% in abduction, 90% in internal rotation, 83% in external rotation, 32% in VAS, and 20% in ASES.

Based on this, Kim et al say that "for patients with AC presenting with pain and restriction, the addition of WBC to modalities and joint mobilization could be the preferred treatment strategy."

The research is published in the *Archives of Physical Medicine and Rehabilitation*.

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