

Part 1: Empty Can or Full Can?

For many years it has been debated whether the empty can (EC) or full can (FC) version of Jobe's test (and shoulder scaption exercises) for supraspinatus weakness or impingement is "better"--meaning which orientation is more reflective of supraspinatus activity and which orientation might be causing additional impingement due to a reduction in the subacromial space (SAS).

Timmons et al. (2013) conducted EC and FC tests on two groups (no reported shoulder pain, and a group diagnosed with subacromial impingement syndrome or SAIS) to study the differences in the acromio-humeral distance (AHD), the three dimensional scapula position, and perceived pain. The subjects sat with feet flat on the floor and with the arm abducted 90 degrees in the scapular plane (defined as 40 degrees anterior to the coronal plane) (Timmons et al., 2013). For the EC test, the subject's thumb was pointing down, and for the FC test the thumb was pointing up (Timmons et al., 2013). Timmons et al. (2013) measured shoulder abduction force, shoulder pain rating, ultrasound of the SAS, and scapular position using 3D EMG sensors.

When comparing scapular and clavicular positions, Timmons et al. (2013) found that in the FC position, subjects had less upward rotation (UR), greater posterior tilt (PT), less clavicular elevation, and less clavicular protraction as compared to the EC position. There were no remarkable differences in scapular internal rotation between the FC and EC, and no remarkable differences between the control and SAIS groups with regards to general scapular and clavicular positions (Timmons et al., 2013).

While the SAIS group reported more pain during the EC position over the FC position, Timmons et al. (2013) did not find differences in AHD between the EC and FC positions, and likewise no differences in the AHD between the control and SAIS subject groups.

Timmons et al. (2013) noted that further studies were needed to determine the cause of supraspinatus weakness/impingement and whether the EC/FC tests were truly reflective or are other compensations occurring to mask the true pathology.

This article was eye-opening because for several years I've read the great debate EC or FC in various literature applicable to scaption exercises as well. I'm glad to know it is still being researched.

Reference

Timmons, M. K., Lopes-Albers, A., Borgsmiller, L., Zirker, C., Ericksen, J., & Michener, L. A. (2013). [Differences in scapular orientation, subacromial space and shoulder pain between the full can and empty can tests.](#) *Clinical Biomechanics*, 28395-401.
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