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Why we use manual therapies with corrective exercises

Corrective exercises are used to correct abnormal function. However, in most cases the abnormal function is the central nervous system's (CNS) response to compensate for either a functional elements such as muscles or joints being unable to work normally, or abnormal sensory input. This response happens subconsciously and cannot be altered by conscious effort. Therefore, to restore normal function manual therapies such as the restoration of articular (joint function and trigger point therapies are needed.

Abnormal function

As we discussed in our article functional rehabilitation most musculoskeltal pain syndromes involve abnormal function (dysfunction) which places abnormal stress upon the joints and various tissues. This abnormal function is usually caused by issues with the muscles and joints. If these issues are not corrected function cannot return to normal.

Consider function like a wheel alignment: correct alignment drives well and lasts optimally, while out of alignment causes poor handling and rapid wear

Corrective exercises

Despite this, it is common to attempt to correct abnormal function using so called "corrective exercises". A trial published in the Journal of Orthopaedic & Sports Physical Therapy compared using these "corrective exercises" alone to help with shoulder problems, with using these exercises plus using manual therapy designed to help correct the muscular and joint issues that were causing the abnormal function. As expected, when this was done the results were far superior.

Note: As with a lot of these trials the researchers are not able to measure the complicated shoulder joint function so they measure things like pain and how well people can do things. What they found was when the muscle and joint issues were dealt with the people felt much better and could do a lot more things pain free.

What did the manual therapies do

As discussed in our article functional rehabilitation normal function is inhibited by abnormalities in muscles and abnormal joint function.

Muscular issues

We discuss muscular issues in our article trigger point basics. Some of the manual therapies were directed at remedying these, allowing muscles to stretch to their full length and contract normally.

Joint issues

Put simply, normal joint function requires the joint surfaces to be able to move freely though their normal movement. When this is restricted the joints cannot move normally. An excellent summary of this issue can be found at https://www.physio-pedia.com/images/c/c0/Principles_of_Joint_Mobilization.pdf. The analysis of this function requires specialised training and an excellent knowledge of biomechanics. Correction is usually achieved using specialised correctional techniques. The professionals with this knowledge and training include chiropractors, osteopaths, and some physiotherapists with specialised training.

Chiropractic adjustment: a procedure to help restore normal joint movement

The take home message

These results simply mean that if you have any sort of musculoskeletal pain syndrome or require the rehabilitation of an injury so called "corrective exercises" alone will be likely be inadequate. It is recommended that you consult a professional qualified to deal with joint issues. Please note that all such professionals also receive excellent training with respect to muscular issues as well, so are more than qualified to assess all.

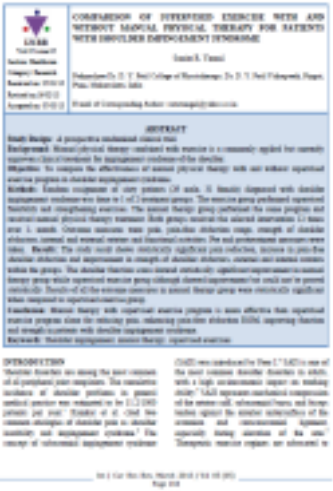
Details of the trial

Summary

33 men and 22 women diagnosed with shoulder impingement syndrome were chosen. They were were randomly assigned either exercise alone or exercise and manual therapy. Each group received six sessions over three weeks.

Exercises

Exercises were conducted under the supervision of a physical therapist and were described as a "standardised strength and flexibility program". There were two passive stretches, plus six strengthening exercises described in the literature as being essential “core exercises” for shoulders.



Published scientific results

Manual therapy

In trial of medication and simple therapies the intervention is easy to describe and quantify. However, for this trial experienced physiotherapists were basically told to assess the articular function and associated soft tissue issues of not only the glenohumeral (shoulder) joint but other related joints such as those of the cervical and thoracic spine. They were instructed to use their skills in manipulation and soft tissue therapies to correct what they found. This approach is not easy to quantify, but exactly what would happen if one consulted a quality clinician.

What was measured

Levels of pain were measured using visual analogue scales, which are usually having someone mark their level of pain on a scale of 1-10. Functional assessment was done using questionnaires covering a variety of general and specific activities.

The results

The results as measured by pain and function were clearly much superior for the group that received the manual therapy in addition to the exercises. It is best described by the following conclusion given by the authors.

> *"Manual therapy combined with supervised shoulder exercise is superior to supervised shoulder exercise alone for enhancing strength and function and reducing pain in patients with shoulder impingement syndrome. Our study also provides evidence that effective outcomes are obtainable after a relatively few physical therapy visits. It is important to recognise the functional interdependence of joints and soft tissues in the upper quarter when treating dysfunction of the shoulder."*

Reference

Bang M Deyle G Comparison of supervised exercise with and without manual physical therapy for patients with shoulder impingement syndrome J Orthop Sports Phys Ther. 2000 Mar;30(3):126-37.

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