

**Summary and Perspective of Recent Literature**

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**Kjaer P, Kongsted A, Hartvigsen J et al. (2017). National clinical guidelines for non-surgical treatment of patients with recent onset neck pain or cervical radiculopathy. *European Spine Journal*; 26-9:2242-2257. DOI 10.1007/s00586-017-5121-8.**

**Objective:**

To summarise the recommended non-surgical treatment for patients with neck pain and/or radiculopathy of less than 12 weeks' duration.

**Design:**

Two work groups performed systematic reviews and meta-analyses to answer clinical questions about the effectiveness of non-surgical treatment as represented in the literature. The subsequent report presented recommendations based on clinical evidence as well as patient preferences.

**Setting:**

The guidelines were funded for by the Danish Health Authority and the authors were from Universities and Health Institutions throughout Denmark.

**Patients:**

The target population for the systematic reviews search were patients older than 18 years of age with non-specific neck pain with/without arm pain of less than 12 weeks duration, or with clinical presentation of Cervical Radiculopathy of up to 12 weeks duration.

**Main Outcome Measures:**

The guidelines were developed around 19 clinical questions with primary outcomes of pain and pain-related activity limitations.

Secondary outcomes included worsening of neurological symptoms, pain at the end of treatment, dropout rates, surgery during the following year, adverse effects, return to work, sick leave, and quality of life.

**Main Results:**

Weak or good clinical practice recommendations were given for patients with neck pain and/or radiculopathy for:

- Information and patient education
- Advice to stay physically active
- Different types of supervised exercise
- Manual therapy alone or in combination with exercise

Weak recommendations were given against massage.

The recommendation for medication was to only use NSAID or tramadol for short-term use of severe, acute pain after careful consideration and not as the first choice.

In patients with neck pain (with or without somatic referred arm pain) the guideline recommends weakly for:

- Acupuncture
- Topical NSAID
- Exercise over NSAID

In patients with cervical radiculopathy there is a weak recommendation for traction and against acupuncture.

The work group recommended that the choice of any treatment should be done in consideration of patient preferences and the amount and intensity of treatment should be proportionate with the duration and level of pain and disability.

## Conclusions:

The recommendations presented by the guidelines are based on weak evidence or general consensus as there is a lack of good-quality research available for this topic.

## Comments:

This paper again highlights the lack of evidence in the literature for many non-surgical treatment approaches for neck pain and radiculopathy. Interestingly, the author's comment that there were no trials within their search parameters proving the effectiveness of directional exercise for cervical radiculopathy and that patients may find the exercises difficult to perform and to adjust to any worsening of symptoms. However, they do recommend the use of directional exercises due to the low risk of harm and the active patient approach. As MDT clinicians we have the responsibility to ensure our patients know exactly why they are doing any exercise and exactly how to perform it, and to adjust to any change in symptoms they may experience. We also have the responsibility to help increase the body of evidence of the effectiveness of directional exercises.

The four good clinical practice recommendations given for treatment of patients with neck pain and/or radiculopathy all reflect the mainstays of MDT: patient education, specific exercises, manual therapy when indicated, and staying active. That is very encouraging news for us as clinicians and for our patients. In their discussion, the authors state, "The informed clinician should choose an intervention in recognition of how different choices may be appropriate for different patients and that each management decision is consistent with the patients' values or preferences." It is important that as MDT clinicians we recognise one of the strengths of our system is that individual approach. Each decision we make as part of the clinical reasoning process should be based on the needs, values, and preferences of each of our patients.

An encouraging aspect of this paper is that all the recommendations are based on active treatment, demonstrating the international preference now for patient self-management and self-responsibility. Again, this is one of the founding principles of MDT and proves that not only is MDT still highly relevant, but its principles are recommended in the non-surgical treatment of recent onset neck pain and/or radiculopathy.

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## Summary and Perspective of Recent Literature

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**Heidar Abady A, Rosedale R, Chesworth B, Rotondi M, Overend T. (2017). Consistency of commonly used orthopedic special tests of the shoulder when used with the McKenzie system of mechanical diagnosis and therapy. *Musculoskeletal Science and Practice*; <https://doi.org/10.1016/j.msksp.2017.10.001>.**

The aim of this multi-center prospective study was to investigate how classifying and treating patients with shoulder complaints according to MDT principles would affect the agreement levels of three commonly used Orthopedic Special Tests (OST) over time. This study ran concurrently with a study by the same authors that investigated the clinical application of MDT in patients with shoulder disorders<sup>1</sup>.

The authors have acknowledged the body of evidence on the complex nature of establishing a diagnosis that leads to the appropriate management of shoulder conditions, highlighting the limited validity of commonly taught and used Orthopedic Special Tests (OST) to diagnose and consequently guide treatment decision making. They suggest that the use of a more reliable non-pathoanatomical classification system of diagnosis and treatment, such as MDT, might decrease practice variation and promote increased treatment effectiveness.

Participants of the study presented to physiotherapy with shoulder disorders. They were excluded if they had had surgery in the previous six months. They were assessed and treated by 15 therapists either Diplomaed or Credentialed in Mechanical Diagnosis and Therapy with at least one-year experience using MDT for the extremities with other blinded clinicians performing the OSTs. The OSTs performed were: Empty Can, Hawkins-Kennedy and Speed's. The data on the OSTs was collected at sessions one, three, five and eight, or at discharge from physiotherapy treatment, whichever came first.

One-way analysis of variance (ANOVA) and chi-square analysis was performed to compare baseline

characteristics and potential confounding factors among MDT classifications. The Kappa coefficients were calculated to determine the level of agreement of OSTs during treatment within each MDT classification and the results were included in the analysis when they were available at least three out of four data collection points.

**Results:**

From the 105 recruited patients, 12 drop outs and other exclusions, left a total of 75 eligible patients.

There was no statistically significant difference among the three main MDT classifications of Derangement, Dysfunction and Spinal at baseline.

As illustrated on the table below, the overall kappa value for the Empty Can test was 0.28, with the highest level of agreement within the Dysfunction category (0.84 for articular and 0.49 for contractile). There was no agreement for the Spinal and Derangement classifications, as the P values were greater than 0.05.

For the Hawkins-Kennedy test, the overall kappa value was 0.28, with the highest level of agreement within the Dysfunction category 0.60 (0.42 for articular and 0.59 for contractile). The agreement for Spinal classification was 0.26 and there was no agreement for the Derangement classification as the P values were greater than 0.05.

The overall kappa value for the Speed's test was 0.29, with the highest level of agreement within the Dysfunction category 0.46 (0.47 for articular and 0.45 for contractile). The agreement level for Spinal classification was 0.37 and there was no agreement for the Derangement classification as the P values were greater than 0.05.

	<b>Overall</b>	<b>Derange-</b>	<b>Spi-</b>	<b>AD</b>	<b>CD</b>	<b>Dysfunction</b>
Kappa	0.28	0.02	0.13	0.84	0.49	0.67
<b><u>Hawkins-</u></b> Kappa	0.28	-0.0005	0.26	0.42	0.59	0.60
<b><u>Speed's</u></b> Kappa	0.29	0.09	0.37	0.47	0.45	0.46

*Abbreviations: AD, Articular Dysfunction; CD, Contractile Dysfunction*

**Commentary:**

Shoulder complaints are commonly encountered by healthcare professionals in the general population and have been reported to be the third most prevalent form of complaint in average physiotherapy practice<sup>2,3</sup>. However, the pathophysiology or pathoanatomy underlying shoulder disorders is unclear<sup>4</sup>. There appears to be a variety of issues in linking shoulder diagnosis to its management and these include a lack of standardized diagnostic labels, limited reliability<sup>5</sup> and validity of most OSTs<sup>6</sup>. These issues may explain the persistent nature and high recurrence rates of shoulder disorders.

The gold standard for diagnostic comparison with clinical tests have traditionally been through direct intraoperative observation or imaging studies. As evidence has shown, not all structural failure correlates with symptoms<sup>7</sup>, and it is then evident that those gold standards are not ideal references. This might explain the high number of false positives and negatives observed on performing such tests in a clinical environment. Consequently, clinical decision making based on OSTs or imaging findings is flawed and does not provide an accurate pathoanatomical diagnosis, nor does it provide guidance to optimal management strategies.

This is an important study and the first of its kind to demonstrate and expose the low, or lack of, agreement of three common OSTs to diagnose shoulder disorder in the presence of either a shoulder or Cervical Derangement. The results are in agreement with the author's predictions, and is no surprise to MDT clinicians who understand the variable and quickly changing nature of the Derangement. The better levels of agreement that were observed for Dysfunction Syndrome is also no surprise, as Dysfunctions are described as having a greater consistency on symptomatic and mechanical presentation.

The authors do report some limitations of their study, one of which being that they only examined three OSTs, consequently results cannot be extrapolated to all other OSTs intended to diagnose shoulder disorders.

The results of this study may give additional support to the position taken that OSTs cannot be relied upon as diagnostic or prognostic tools, but ruling out Derangements before testing may be useful. This could potentially increase the clinical value of performing such OSTs and possibly improve their diagnostic capability.

**References:**

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