

**Specific Question:**

In the adult population, does the Spurlings sign/test have good sensitivity\* and specificity\*\* in detecting cervical radiculopathy?

**Clinical bottom line**

Two systematic reviews have demonstrated that the Spurlings sign/test has high specificity (94%) but low to moderate sensitivity in detecting adults with cervical radiculopathy. Therefore it is considered an important part of an examination of any patient with neck and arm pain.

**Why is this important?**

In patients who have neck and/or radiating arm pain, the Spurlings sign/test is used by clinicians to establish if the symptoms are arising from pressure on cervical nerves. It is important to evaluate if this test is reliable and sensitive in clinical practice.

The Spurling sign/ test was originally described in 1944, it is a manoeuvre used to assess nerve root involvement (aka radicular pain). The original description of the test was:

**Original Description**

Passive lateral flexion, & compression of head. Positive test is reproduction of radicular symptoms distant from neck.

*Manga et al 2003 in Rubenstein 2007*

However according to Anekstein et al (2012) there have been at least 5 modifications described. A positive Spurling's sign/test is when the pain arising in the neck radiates in the direction of the corresponding dermatome ipsilaterally. It is a variant of the foraminal compression test (cervical compression test).

Video of the spurlings test can be found at  
[http://www.physio-pedia.com/Spurling%27s\\_Test](http://www.physio-pedia.com/Spurling%27s_Test)

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**Search timeframe 2007-2017**

**Inclusion Criteria**

	Description	Search terms (In the final document this should be a combination of your clinical and librarian search terms)
<b>Population and Setting</b>		Adults Radicular pain Cervical nerves
<b>Intervention or Exposure</b>		Spurlings sign/test (also known as Maximal Cervical Compression Test and Foraminal Compression Test)
<b>Comparison, if any</b>		
<b>Outcomes of interest</b>		Sensitivity Specificity
<b>Types of studies</b>		Cohort study Rcts SRs

**Routine Databases Searched**

Clinical Knowledge Summaries, PEDro, BMJ Updates, Clinical Evidence, TRIP, Database, NICE, HTA, Bandolier, The Cochrane Library, Medline, Cinahl, Embase, PsycInfo, Professional websites. Joanna Briggs Institute, Web of science, Sports discus and Pub med

**Date of search- 3.2.17**

**Results of the search**

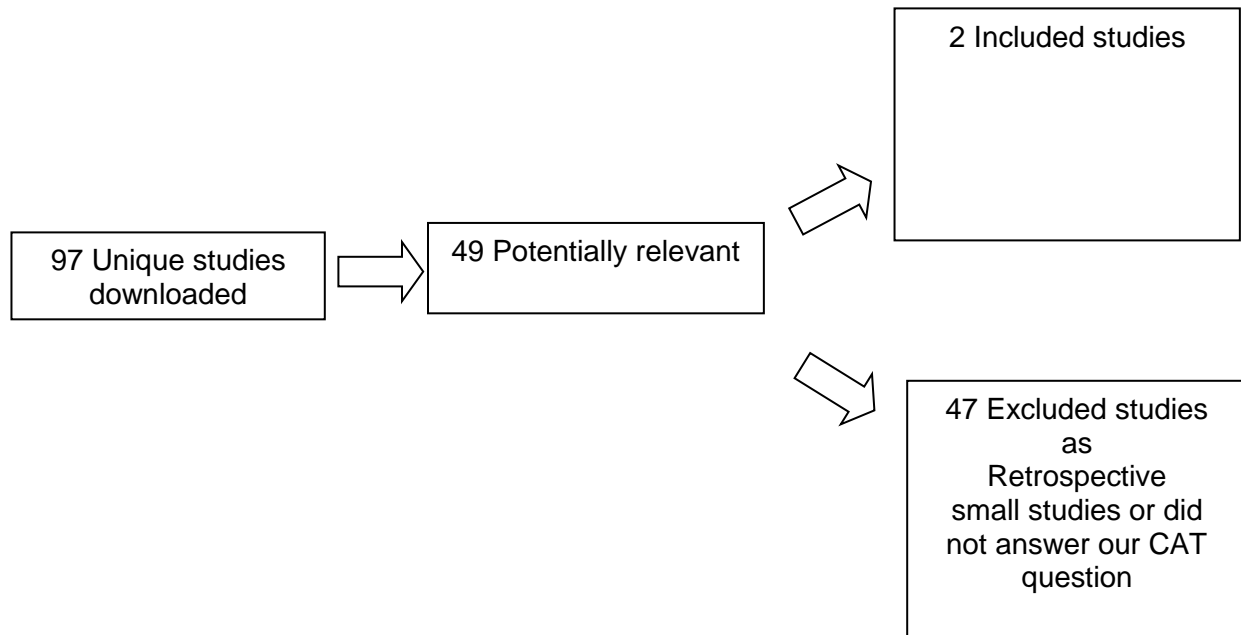


Table 1- Detail of two included studies

<b>First Author, year and type of study</b>	<b>Population and setting</b>	<b>Intervention or exposure tested</b>	<b>Study results</b>	<b>Assessment of quality and comments</b>
Simpson et al 2006 Systematic review	Trials exploring accuracy of spinal orthopaedic tests-  Studies included if clear and reproducible description of the test was given	Spinal orthopaedic tests	21 studies, 7656 patients 5 papers looked at cervical tests- reasonable quality score (6-12, best score possible was 14)  Heterogeneity of tests didn't allow pooling  Spurlings sign/ test thought to have high specificity (94%) but was not sensitive	Only English language  2 reviewers  Used QUADAS quality score  2 papers considered to have low quality score
Rubenstein et al 2007	Trials exploring clinical provocation tests of the	Provocation tests of the neck for diagnosing	6 studies 713 patients  4 trials looked at Spurlings sign/test	Good search including ref lists and authors

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	neck. Included trial if: Sensitivity and specificity included, compared against a reference standard,, any provocation tests diagnosis cervical radiculopathy	cervical radiculopathy	Spurlings demonstrated low to moderate sensitivity and high specificity	2 reviewers Used QUADAS quality score Very few primary care studies Substantial heterogeneity
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### Summary

The evidence from these two reviews is consistent in terms of the sensitivity and specificity of the Spurlings sign/test and due to this it would be considered as an important component of a physical examination of a patient presenting with neck and arm pain.

However only one of the studies included evaluated these tests in primary care and this study was of poor quality. More research is required to evaluate this test in the primary care setting.

### Implications for Practice/research

Spurlings sign/test would be considered to be an important component of a physical examination of a patient presenting with neck and arm pain

### What would you tweet? (140 characters)

Spurlings sign/test- high specificity but low sensitivity but we should still use as part of our examination

### References

Anekstein Y et al What is the best way to apply Sprurling's Test for cervical radiculopathy Clin Orthop Related Research 470:2566-2572

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Simpson R and Gemmell H 2006 Accuracy of spinal orthopaedic tests: a systematic review Chiropractic and Osteopathy 14:26

Rubenstein SM Pool JJM Tulder M van Riphagen II E de Vet H 2007 A systematic review of the diagnostic accuracy of provocative tests of the neck for diagnosing cervical radiculopathy European Spine Journal 16:307-319

**Sensitivity** (also called the true positive rate, the recall, or probability of detection) measures the proportion of positives that are correctly identified as such (i.e. the percentage of sick people who are correctly identified as having the condition).

**Specificity** (also called the true negative rate) measures the proportion of negatives that are correctly identified as such (i.e., the percentage of healthy people who are correctly identified as not having the condition).