Background

- Cervical spine myelopathy (CSM) involves stenotic encroachment of the spinal cord and corresponding neurological changes
- It is a clinical diagnosis that is confirmed through imaging (typically MRI)
- It is the most common form of spinal cord dysfunction in adults over 55

Diagnostic Accuracy of Clinical Tests for Cervical Spine Myelopathy: A Systematic Review

Kenna Peters, SPT; Matthew Wilson, SPT; Michelle Wong, SPT; Sara Kiyani, SPT; Elisabeth Bulliner, SPT; Alessandra N Garcia, PT, PhD; Michael Reiman, PT, PhD; Chad Cook, PT, PhD

Purpose

1) Evaluate the diagnostic accuracy of signs, symptoms, and test findings
2) Report severity levels
3) Compare singular to clustered test findings.

Methods

- A systematic review was performed according to the PRISMA-DTA guidelines.
- Methodological quality was assessed using the QUADAS-2 tool.

Databases Searched

- MEDLINE
- CINAHL
- Embase
- SPORTDiscus

Eligibility Criteria

- Clinical finding used to diagnose CSM
- Reports of diagnostic accuracy of tests
- Acceptable imaging as reference standard

Results

- Full search strategy identified 4,389 articles and 17 were included in the final review
- 9 articles investigated signs, 8 investigated both signs and symptoms
- Largest shifts in posttest probabilities:
  - Babinski Sign: 2-65%
  - Cluster: Gait Deviation • (+) Hoffmann’s test • (+) inverted supinator • (+) Babinski test • Age >45 years

The Fagan’s nomogram indicates the change in the posttest probability from the pretest probability following a (+) or (-) test result.

Conclusion

1) Clustered clinical findings have the potential to create larger posttest probability shifts
2) The Babinski sign is the most specific singular pathological finding for CSM

Clinical Relevance

- Clinicians should have a solid understanding of the clinical tests used to diagnose cervical spine myelopathy and which have the highest diagnostic utility during a clinical examination.
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- Clinicians should have a solid understanding of the clinical tests used to diagnose cervical spine myelopathy and which have the highest diagnostic utility during a clinical examination.
From 9 - Rachel Meyers - 14 to Everyone: 02:41 PM
I would suggest making pic smaller and making nomogram bigger.

From 7 - Sarah Bellon - 12 to Everyone: 02:42 PM
maybe space the text in all directions in the boxes by increasing the margins in the light blue text boxes.

From 1 - Sarah Peters - 6 to Everyone: 02:42 PM
I really like the yellow font! It really helps it stand out. Small detail - add a space before “Evaluate” in the purpose. Also make sure the purpose box on the left sides line up with the rest of the boxes in that column.

From 6 - Rebekah Edie - 16 to Everyone: 02:42 PM
Like the very clear statements in the purpose box.

From 4 - Corinne Woodbine - 6 to Everyone: 02:41 PM
Kenna, you did a really great job presenting! Well done! I really like the look of this poster! I think your icons are eye catching. The bottom could use lining up but the spacing and bolding is nice with all the important points!

From 4 - Holly O’Hearn - 15 to Everyone: 02:41 PM
Try adjusting the margins of your text boxes so the words don’t seem so cramped. Also I would stay consistent with rounded corners or square corners! Overall very interesting study!

From 9 - Rachel Meyers - 14 to Everyone: 02:41 PM
i would suggest making pic smaller and making nomogram bigger.

I love the colors in the poster! For the pictures of babinski and Hoffman’s, I would flip the text and pictures so its picture on top, and the title on the bottom? Or perhaps another way so the text isn’t trapped in between?

From 10 - Cayla Faverio - 14 to Everyone: 02:43 PM
The presentation was great! On the bottom graph, the red and blue lines end at different lengths on the pre-test and post-test probability.

From 6 - Rebekah Edie - 16 to Everyone: 02:43 PM
Maybe consider unifying the information in the methods section. Great work!

From Caleb Mere to Everyone: 02:43 PM
I think that the purpose box and the methods boxed aren’t aligned perfectly on the left. Worth a look to make sure everything is aligned.

Agreed re: consistency. Methods section seems unnecessarily divided up graphically.

From Ashley Poole to Everyone: 02:44 PM
I don’t think the icons (light bulb and note pad) are needed...they seem extraneous.

From 7 - Nick Hadgis - 9 to Everyone: 02:44 PM
I’d expand the size of the background by pulling the bottom down a little. This can allow you to add some space between bullets. Great job!

From 9 - Brittany Catcher - 6 to Everyone: 02:44 PM
Great work! I think maybe you should consider making the edges of your boxes uniform. The variation between the sharp and round edges is a little busy.

From 11 - Kenny Broeker - 10 to Everyone: 02:47 PM
The green font with the QR code can be a bit hard to read.

From 2 - Brett Piland - 9 to Everyone: 02:47 PM
I agree with Kenny.

From 7 - Maddie Massey - 7 to Everyone: 02:44 PM
Just nitpick alignment, making the brackets of the Fagan’s nomogram line up with the pictures above it and in line with the QR code.

From 7 - Sarah Bellon - 12 to Everyone: 02:45 PM
^*

From 1 - Sarah Peters - 6 to Everyone: 02:45 PM
I would center “Purpose” and take out the colon to make the conclusion box.

From 6 - Cassidy Greshko - 7 to Everyone: 02:45 PM
Could just be the screen, but the white outline around purpose and conclusions navy boxes makes it look a bit blurry. Nice job!
Conclusions

1) Clustered clinical findings have the potential to create larger posttest probability shifts compared to standalone tests.

2) The Babinski sign is the most specific singular pathological finding for CSM.
<table>
<thead>
<tr>
<th>Study Type</th>
<th>• Systematic review performed according to PRISMA-DTA Guidelines</th>
</tr>
</thead>
</table>
| Databases Searched          | • Medline  
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| Eligibility Criteria        | • Clinical finding used to diagnose CSM  
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| Risk of Bias                | • QUADAS-2 Tool |

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