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RAPID RESEARCH

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Inside This Week: Diagnosing Rotator Cuff Pathology

- ✓ Risk Factors for Rotator Cuff Tendinopathy
- ✓ MRI v. MRA to Diagnose Rotator Cuff Tears
- ✓ Accuracy of Special Tests to Diagnose Rotator Cuff Tears

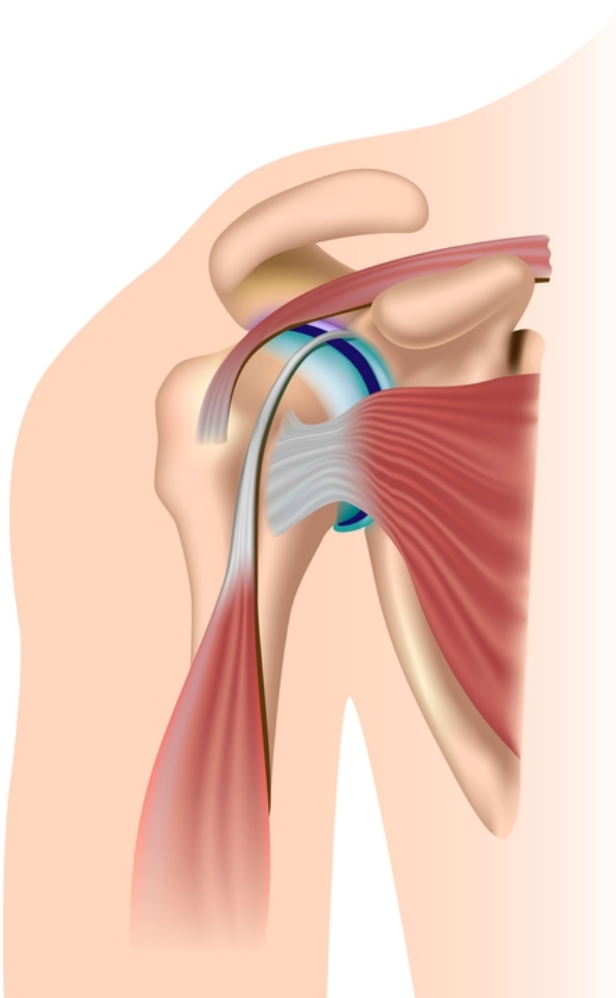


RISK FACTORS FOR ROTATOR CUFF TENDINOPATHY

[Click for Full Text
\(Leong et al 2019\)](#)

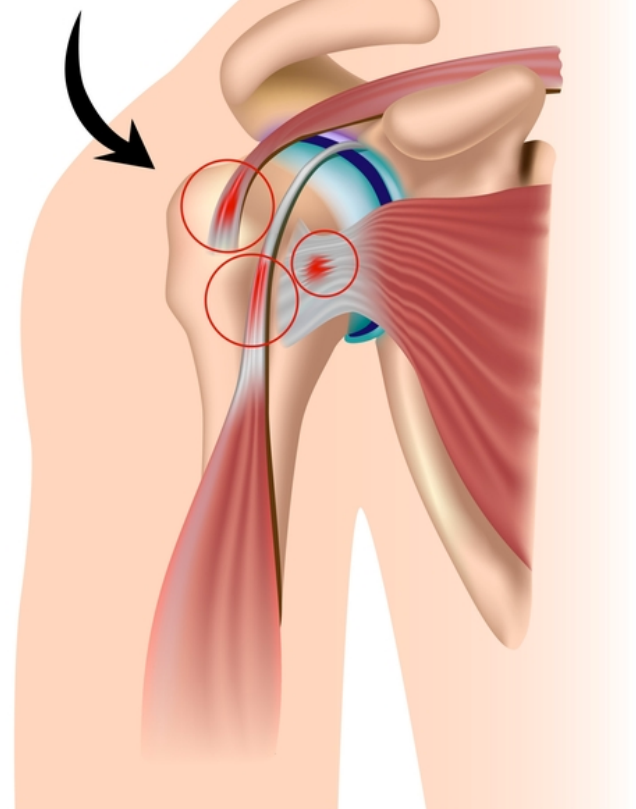
This systematic review identified risk and associated factors for developing rotator cuff tendinosis/tendinitis, shoulder impingement, and subacromial bursitis.

Normal



Rotator cuff problems

Inflamed/torn
tendons



KEY FINDINGS

16 articles included in this systematic review.

12 of high quality, 3 of moderate quality and 1 of low quality

22 potential risk factors were identified & **5 were analyzed:**

- >50 years
- Female sex
- Diabetes
- Working with the shoulder above 90°
- Psychological demand

Strong Evidence for Increased Risk of RC Tendinopathy:

Age above 50 years.

Diabetes

Moderate Evidence for Increased Risk:

Work with the shoulder above 90°.

Minimal Association with Increased Risk:

Female sex

Psychological demand

MAIN TAKEAWAYS

There is evidence indicating that **age above 50 years, diabetes, and work activities with arms overhead are associated with increased risk** of symptomatic rotator cuff tendinopathy.

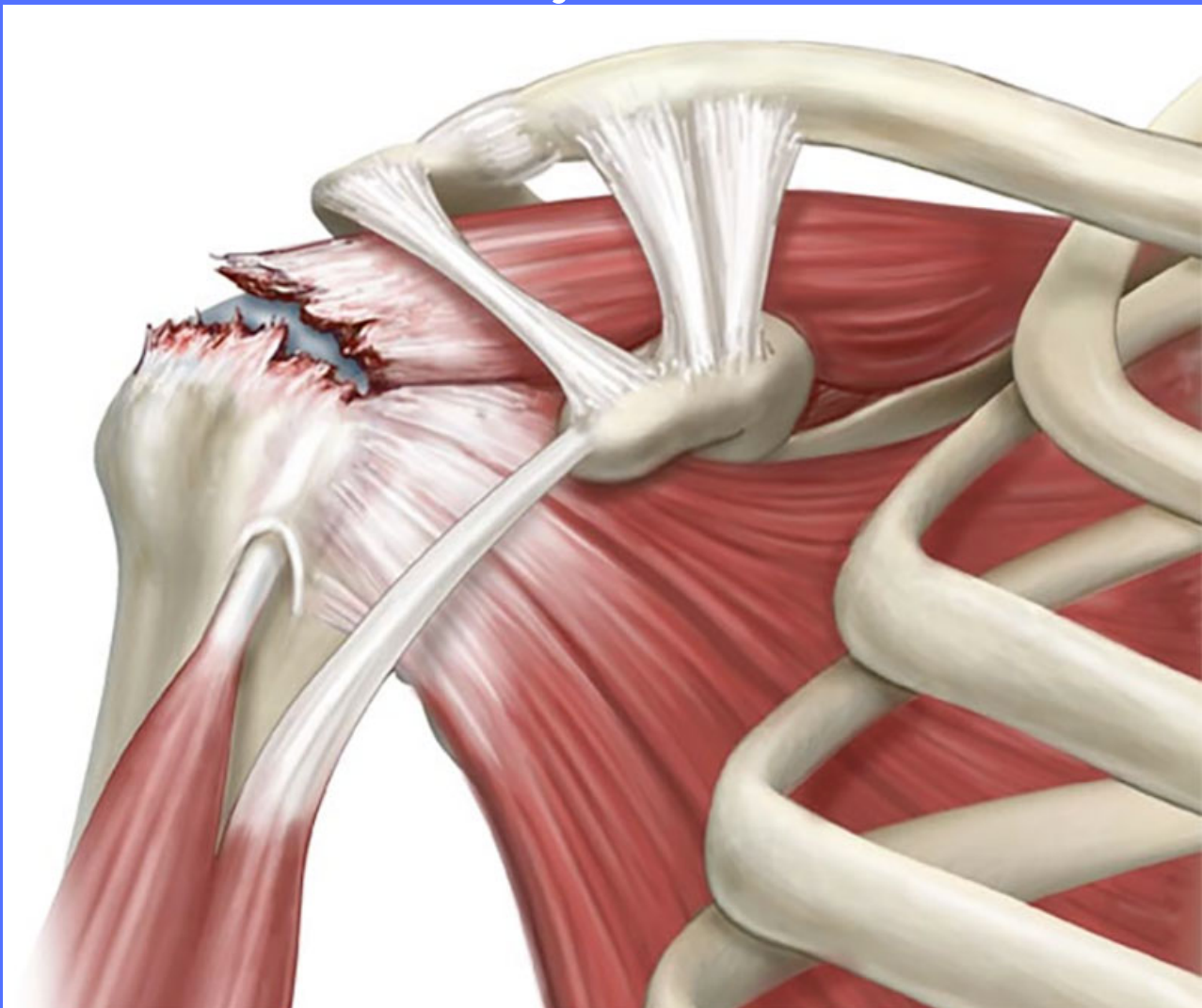
Other risk factors likely exist, however meta-analysis was unable to be performed with the data available in the included studies.

Further high-quality prospective studies are required to identify the **exact risk factors for rotator cuff tendinopathy.**

MRI V. MRA TO DIAGNOSE ROTATOR CUFF TEARS

[Click for Full Text](#)
([Liu, et al. 2020](#))

This research performed a meta-analysis on the diagnostic accuracy of MRI and MRA in the assessment of rotator cuff partial-, full-thickness or any tear.



KEY FINDINGS

12 studies included; 1030 patients & 1032 shoulders.

MRI vs. MRA for Full-Thickness Tears (8 studies; 513 shoulders)

Pooled sensitivity: MRI (81%), MRA (98%)

Specificity: MRI (95%), MRA (98%)

Area under the HSROC curve: MRI (4.15), MRA (8.20)

MRI vs. MRA for Partial-Thickness Tears (9 studies; 592 shoulders)

Pooled sensitivity: MRI (70%), MRA (45%)

Specificity: MRI (95%), MRA (76%)

Area under the HSROC curve: MRI (4.02), MRA (0.51)

Accuracy in Detecting Any Tear (9 studies; 763 shoulders)

Pooled sensitivity: MRI (84%), MRA (97%)

Specificity: MRI (92%), MRA (97%)

Area under the HSROC curve: MRI (4.00), MRA (7.00)

MAIN TAKEAWAYS

MRA has a higher sensitivity and specificity than MRI for the detection of any tear and full-thickness tears.

However, for the detection of partial-thickness tears, MRI has similar performance with MRA.

MRI is recommended to be a first-choice imaging modality for the detection of rotator cuff tears.

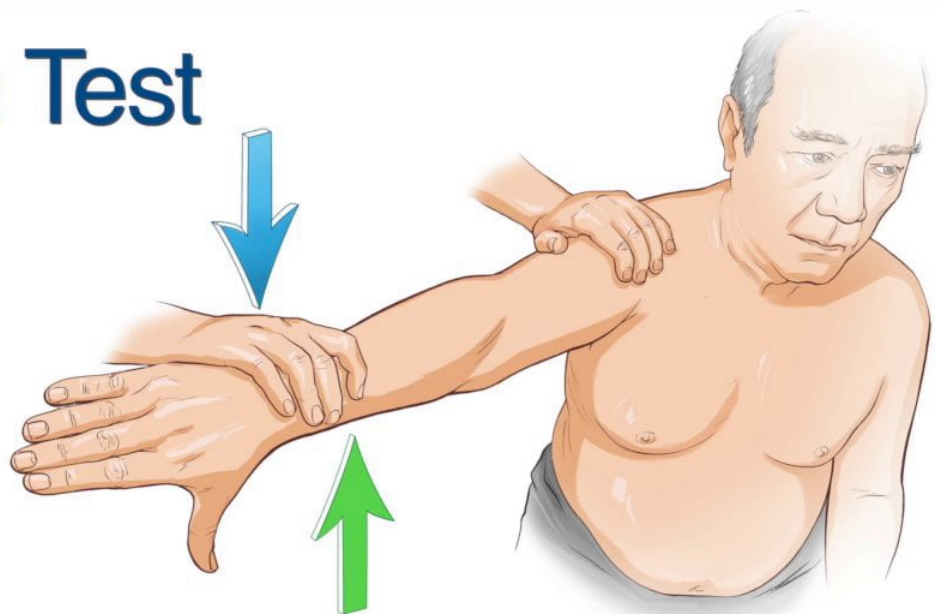
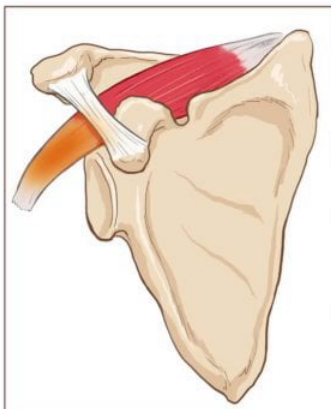
Although MRA have a higher sensitivity and specificity, it cannot replace MRI after the comprehensive consideration of accuracy and practicality.

ACCURACY OF SPECIAL TESTS TO DIAGNOSE ROTATOR CUFF TEARS

[Click for Full Text
\(Cruciani et al. 2019\)](#)

This study assessed the sensitivity, specificity, and likelihood ratio of 15 shoulder special tests that are described for the rotator cuff and biceps tendon.

Empty Can Test



KEY FINDINGS

208 participants with shoulder pain were recruited in a cohort study.

Tests for Supraspinatus tears:

Jobe test:

Sensitivity of 88% | Specificity of 62% | Likelihood ratio of 2.30

Full Can Test:

Sensitivity of 70% | Specificity of 81%

Tests for Infrapinatus tears:

External rotation lag signs at 0 degrees:

Specificity of 98% | Likelihood ratio of 6.06

Hornblower sign:

Specificity of 96% | Likelihood ratio of 4.81

[Large Table of All Tests & Values in Full Text \(CLICK HERE\)](#)

MAIN TAKEAWAYS

Many of the Special tests **ranged in sensitivity and specificity.**

Jobe's test and Full can test had high sensitivity and specificity for Supraspinatus tears.

Hornblower's sign performed well for infrapinatus tears.

Special tests described for **subscapularis tears have high specificity but low sensitivity.**

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