

Rotator cuff tear: the Drop arm test

The patient. A 62-year-old has had shoulder pain and weakness lifting the arm for two months. There was no clear injury.

Starting chance. For this exercise, assume a 30% chance of rotator cuff tear before testing. This is a teaching assumption, not a published figure.

Question. The drop arm test is negative. Has that ruled out a rotator cuff tear?

Teaching case: Answer

The test. Raise the arm passively to full abduction, then ask the patient to lower it slowly. Positive: The arm drops or cannot be lowered with control, usually around 90°.

Why this test. The library rates this test as ‘best used to rule in’ for rotator cuff tear. Sensitivity 24%, specificity 96%; LR+ 6.45, LR– 0.79.

Result	Likelihood ratio	Chance after the test
Positive	6.45	about 73%
Negative	0.79	about 25%

Take-home point. The positive result is the useful one: it moves the chance from 30% to about 73%. A negative result brings it down to about 25%, so about 25 in 100 people like this would still have the condition; a negative does not rule it out on its own.

Figures: Jain NB, Luz J, Higgins LD, Dong Y, Warner JJP, Matzkin E, Katz JN. The Diagnostic Accuracy of Special Tests for Rotator Cuff Tear: The ROW Cohort Study. Am J Phys Med Rehabil. 2017;96(3):176-183. They describe the patients in that study, not every patient. Worked with odds: starting odds × likelihood ratio = odds after the test.