The accuracy of subacromial bursa injections is limited. High frequency of infiltrating rotator cuff is worrisome.
- Practical use of diagnostic injections is limited; the value of the Neer impingement test for doing subacromial decompression is also probably limited

Comments:
- It appears that the rotator cuff was injected in 16 of the 33 injections, approximately a 50% frequency
- Randomization was to anteromedial versus posteromedial approaches, showing that accuracy was limited in both approaches
  - No imaging guidance was used for any injections; no statement can be made regarding any advantage of imaging guidance over landmark guidance of subacromial injections, either for accuracy or for clinical outcome
- Dogu 2012 also used gadolinium contrast to ascertain placement of the injectate into the subacromial space, and also reported that other shoulder structures (deltoid or rotator cuff) were sometimes hit, but reported that the clinical outcomes were not significantly different between the group with ultrasound-guided and landmark-guided injections; the ultrasound-guided group had a lateral approach and the blinded group had a posterior approach
  - The blinded injections hit the rotator cuff in 4 of 23 (17%) of cases, much less than the 50% rate in this study, where 9 of 17 cases with the posterior approach had some contrast material in the rotator cuff

Assessment: Adequate for evidence that when no imaging guidance is used, there are no differences between anteromedial versus posteromedial approaches to subacromial injection with respect to accuracy or effectiveness, and that the rotator cuff is frequently inadvertently injected in either approach. No evidence regarding any comparisons of landmark and imaging guidance for subacromial injections.

Reference: