Kapral S, Greher M, et al. Ultrasonographic Guidance Improves the Success Rate of Interscalene Brachial Plexus Blockade. Reg Anesth Pain Med 2008;33:253-258.

Study question: in the setting of surgery for upper arm trauma, is brachial plexus blockade more successful with ultrasound guidance than with nerve stimulation guidance?

Reasons not to include as evidence:

- The study deals with a fairly technical question which is probably beyond the scope of a Workers' Compensation guideline, namely with techniques for induction of anesthesia when indications for surgery have been met
- The primary outcome, duration of sensory block, is difficult to translate in terms of patient-relevant outcomes
    - There were significant differences in the rate of conversion to general anesthesia between the two groups; 1/80 in the ultrasound group versus 7 of 80 in the nerve stimulation group; this is probably a more relevant outcome but is a secondary outcome as well
- The ultrasound group had multiple injections, and the nerve stimulation group had a single injection, potentially obscuring the comparison of techniques
- The evaluation of nerve blocks was done by an anesthesiologist who was "not involved in performance of the blocks;" this may mean that the anesthesiologist was blinded to the technique of the block, but this is not clearly stated
- It appears appropriate to leave the choice of anesthetic technique up to the choice of the anesthesiologist rather than to make a recommendation of one over the other
- An appropriate use of the study would probably to say that ultrasound guidance allows for visualization of the nerve roots and to adjust the placement of anesthetic to anatomic variations in their exact distribution