30 minutes after injection, which seems to provide the same information that our colleagues believe would have been "more appropriate."

Finally, we *do* agree with our colleagues' conclusion that, "this [study's] negative result is very interesting because it confirms that the interscalene block should not be used as a first indication for hand and forearm surgery…"

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The authors declare no conflict of interest.

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Toward a Better Understanding of Brachial Plexus Anatomy for Shoulder, Forearm, and Hand Anesthesia

Accepted for Publication: July 23, 2013.

To the Editor:

I read with great interest the article by Madison et al[1] regarding ultrasound-guided injection of the most distal visible neural elements during interscalene block (ISB). I would like some clarification, however, on 2 issues.

The first regards a detail of brachial plexus anatomy used throughout the study. The authors pair the C7 nerve root with the inferior trunk, implying that it is a continuation of C7[1] when in fact it is formed by C8 and T1.[2] The correct description would pair C7 with the middle trunk.[2]

The second concerns the use of axillary nerve function as an accurate predictor of adequacy of surgical anesthesia after ISB. Loss of shoulder abduction was reported in 100% of cases, but 16% failed to exhibit surgical anesthesia. Contribution to the innervation of the shoulder joint and associated structures via the suprascapular nerve has been reported to approach 70%.[3] In contrast, the axillary nerve is responsible for supplying a much smaller proportion, along with relatively minor contributions from the lateral cutaneous, musculocutaneous, and subscapular nerves.[4] Did the authors consider using assessment of suprascapular nerve function (ie, loss of external rotation) as a potentially more accurate assessment of the density of ISB anesthesia?

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Reply to Dr Price

Accepted for Publication: August 23, 2013

To the Editor:

We would like to thank Dr Price for his thoughtful letter raising important questions regarding our prospective clinical trial.[1]

Regarding Dr Price's first issue, he is correct in that the deepest nerve root is T1. However, it was not our intention to "pair"—or make equivalent in any way—the C7 nerve root and the inferior trunk. Rather, each of these structures is the deepest visualized of their respective brachial plexus locations. The inferior trunk and C7 nerve root were correctly included in the caption of Figure 1, in which 3 neural elements were imaged. Because it is difficult to conclusively determine if these neural elements were nerve roots or trunks—and in the figure, we highlighted and then referred to the "deepest-visualized neural element"[1]—we labeled this neural element either the inferior trunk (deepest trunk) or the C7 root (third deepest nerve root).

To address Dr Price's second issue, we did not "consider using assessment of suprascapular nerve function (ie, loss of external rotation) as a potentially more accurate assessment of the density of ISB." Although assessment of suprascapular function could have been used as an end point for a successful surgical block (and the suprascapular nerve is certainly involved in postoperative shoulder pain), we felt that the more distal departure of the axillary nerve off the brachial plexus would allow it to better represent the brachial plexus aggregate. Therefore, surgical anesthesia of the shoulder, defined as "the inability to abduct at the shoulder joint within 30 minutes of local anesthetic deposition,"[1] was ensured to be a result of brachial plexus anesthesia rather than suprascapular anesthesia. As Dr Price noted, in 100% of cases, there was a loss of shoulder abduction indicating a 100% success rate for accurate deposition of the local anesthetic bolus (as defined by our protocol).

In regard to Dr Price's concern that although loss of shoulder abduction was found in 100% of cases but 16% of the subjects failed to achieve tolerance to 50 mA of current delivered cutaneously over the inferior deltoid muscle,