

# Reply to Comment on Ultrasonography-guided Erector Spinae Plane Nerve Block May not Always Contribute to Enhanced Recovery after Spine Surgery

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Dear Editor,

We thank Dr. Hamilton on the assertive comments about our case experience with erector spinae plane nerve (ESPN) block in lumbar spine surgery.<sup>[1]</sup> It is acknowledged herewith that a conclusive remark on ESPN block in spine surgery based on a single case experience can be arduous, yet our observations remain valid based on a review of literature of ESPN block.

Although it is hypothesized that mechanisms of ESPN block rely on local anaesthetic (LA) effect in sites distant from site of injection,<sup>[2]</sup> there is equivocal evidence in contrary to this assumption. Choi *et al.*<sup>[3]</sup> compared the spread of local versus distant spread of injectate dye volume, on thoracic level ESPN block, in embalmed cadavers. On subsequent endoscopic evaluations after the ESPN block, the authors found no paravertebral spread with low injectate volumes (10 mL). Anatomic dissection after ESPN block found consistent lateral and posterior spread of dye into the back muscles with high volume injectates (30 mL), yet a paravertebral spread was variable and not pronounced. Hence, it could be hypothesized that the lumbar erector spinae plane being a more thickly muscular compartment a distant paravertebral spread of high volume injectates, we use could virtually be absent. The analgesic effects of lumbar ESPN block could predominantly be attributed to the intermuscular and interfascial spread of LA. With preoperative ESPN block, the surgical dissection, warm saline washes, and suction aspirations of surgical site proceed within minutes after the ESPN block. Hence, LA loss from the intermuscular and interfascial planes could be contributory to

the weaning efficacy of ESPN blocks, especially at lumbar levels.

Assessment of pain using either Visual Analog Scale or Verbal Numeric Scale in the immediate postoperative period has limitations as patients find it difficult to comprehend both during emergence from general anesthesia. Irrespective of the pain score used for such assessments, postoperative pain evaluated at rest and during movement at 6, 12, and 24 h intervals after surgery are standardized end-points of optimal patient recovery in perioperative medicine.<sup>[4]</sup>

Multimodal analgesia is quintessential to control postoperative pain and enhance recovery, yet the side effects of intravenous analgesics and opioids preclude their use. This unarguably offers an upper hand for regional analgesia techniques. We do not underestimate the available evidence from randomized control trials on ESPN blocks in spine surgery,<sup>[5]</sup> rather we describe an unexplored rationale for reduced efficacy of ESPN block in lumbar spine surgery; this being unique that the regional block and the surgery is undertaken at the same site.

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## Conflicts of interest

There are no conflicts of interest.

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