

Special Issue on Advances in Techniques for Motor-Sparing Neural Intervention

CALL FOR PAPERS

Trends are always ahead of models. The concept of motor-sparing is leading the development of novel techniques for neural intervention. For lower limb surgeries, motor-sparing blocks have been developed to maximise postoperative functional recovery in terms of early ambulation and to minimise weakness and fall risks (e.g., pericapsular nerve group block for hip analgesia; adductor canal block and Infiltration between the popliteal artery and capsule of the knee for knee analgesia; ankle block for foot and ankle analgesia). To achieve a more complete block after total knee replacement, especially for day 0 analgesia, investigations are warranted into more distal blockade (e.g., genicular nerve block) compared to the mainstream block at the adductor canal level. For upper limb surgeries, motor-sparing intends to protect the insensate limb and emphasises on the importance of preserving motor function of the visceral organs under certain circumstances, such as preventing associated diaphragmatic paralysis in patients with borderline pulmonary function (e.g., clavipectoral fascia plane block for clavicle analgesia). Because of inherently less motor involvement, truncal blocks (e.g., paravertebral block, pectoral nerve block, erector spinae plane block, quadratus lumborum block, transversus abdominis plane block) are under intense investigation. In cases of chronic pain, compared to the conventional radiofrequency thermo-coagulation, pulsed or pulse-dose radiofrequency is a promising technical modification for motor-sparing analgesia of the extremity nerves with a mixed sensorimotor function. Furthermore, percutaneous microlead implantation for continuous peripheral nerve stimulation has been developed to affect the sensory fibres preferentially (SPRint PNS system) with an adjustable period of action.

The duration of postoperative pain is frequently greater than that of one administration of local anaesthetics. By targeting the motor-sparing techniques, efforts in prolongation of the analgesic effects are made to fit the duration of pain stimuli adequately without major concerns. Current strategies to prolong the effects of local anaesthetics include perineural catheterisation for continuous local anaesthetic infusion and adding local anaesthetic adjuvants for the one-shot block, both of which are hot topics under debate. Furthermore, achieving a prolonged analgesic effect by preparing liposome-based local anaesthetics can possibly be a game-changing innovation. To increase the clinical application, methods to prolong the analgesic effect should be extensively investigated in motor-sparing models because they are both complementary and mutually beneficial. Education and consensus development are as important as technical innovation.

This Special Issue invites investigators to submit randomised-controlled trials, cadaveric dissection studies, technical reports, laboratory investigations, as well as focused reviews (with or without meta-analysis) that will stimulate continuing efforts to develop a better choice for motor-sparing neural interventions.

Potential topics include but are not limited to the following:

- ▶ Novel techniques for motor-sparing neural intervention
- ▶ Approaches that will improve motor-sparing quality or facilitate the practice of motor-sparing techniques
- ▶ Optimal motor-sparing protocols for extremity surgery
- ▶ Optimal analgesic protocols for motor-sparing neural intervention
- ▶ Phrenic nerve-sparing blocks for shoulder or clavicle analgesia
- ▶ Cadaveric dissection exploring the anatomical knowledge of motor-sparing techniques
- ▶ Technologies or technical protocols to preferentially target sensory components of the nerves in either acute pain or chronic pain scenarios.
- ▶ Modalities (techniques, technologies, or drug regimen) to prolong the effect of local anaesthetics
- ▶ Mechanisms underlying the prolonged effect of neural intervention
- ▶ Comparison of one motor-sparing technique to another for a specific condition
- ▶ Comparison of different applications or approaches to one specific motor-sparing technique or truncal block in comprehensive aspects

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.hindawi.com/submit?specialIssue=172735>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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