Editor—Dr Chin makes a valid point and we thank him for his letter in response to our study. The author comments that our conclusions may not be justified because even the low volume (5 ml) group had a 45% risk of phrenic palsy. Our results would then be meaningless if the magnitude of decrease in spirometry values were the same in all patients who developed phrenic palsy. Table 1 displays the characteristics of group I (all low volume), group Ia (low volume, no palsy), group Ib (low volume, palsy), and group II (high volume, all of whom developed phrenic palsy). Differences between group Ib (low volume, palsy) and group II (high volume) have been compared using \( t \)-tests. Significance is assumed at \( P < 0.05 \).

Reassuringly it appears that even patients who get phrenic nerve palsy in the low-volume group have significantly better preservation of lung function than the high-volume group (Fig. 1). This adds further weight to our conclusion that low volume (5 ml) ultrasound-guided interscalene block provides equivalent analgesia, but causes significantly less respiratory compromise compared with high-volume (20 ml) block.

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Fig 1 Comparison of reduction (%) in vital capacity between patients who received a high volume (20 ml) and low volume (5 ml) ultrasound-guided interscalene block with further subdivision of the low-volume group into those who developed and those who did not develop diaphragmatic palsy as assessed by ultrasound. Median and inter-quartile range displayed. ‡Significant difference between the high-volume and low-volume palsy groups (\( P = 0.01 \)).

Transversus abdominis plane block for laparoscopic surgery

Editor—Transversus abdominis plane (TAP) block is gaining popularity as a method for pain relief after abdominal surgery.\(^1\)\(^2\) As with any novel approach, the indications for this block are expanding. We report the successful use of TAP blocks for laparoscopic surgery in five patients. Four of the patients were aged between 14 and 17 yr and underwent laparoscopic appendicectomy. The fifth patient was 79 yr old and had a laparoscopic incisional hernia repair.

Cases 1–4 had laparoscopic appendicectomy under general anaesthesia. Bilateral TAP blocks were performed under ultrasound guidance using a high-frequency 5–13 MHz linear array probe (Sonosite Micromaxx\(^\text{TM}\)). The different layers of the abdominal wall were identified from above downwards: skin, subcutaneous tissue and fat, external oblique muscle, internal oblique muscle, transversus abdominis muscle, and peritoneum (Fig. 1). An 80 mm needle (Pajunk, Germany) was inserted in plane with the ultrasound beam until it reached the plane between the internal oblique and the transversus abdominis muscle where 20 ml of 0.25% \( \text{l}-\) bupivacaine were injected (Fig. 1). This procedure was repeated on the opposite side of the midline. The surgical time was a mean of 45 min during which time no further analgesia was administered. All patients were prescribed regular acetaminophen and diclofenac for postoperative pain relief. Pain scores were recorded hourly for the first 12 h using a visual analogue scale (scores 0–10: 0, no pain; 10, maximum pain). None of the patients required rescue opiates in the first 12 h after operation, the pain scores ranging between 0 and 2. Two of the patients were so comfortable that they did not

![Correct needle placement in the plane between internal oblique and transversus abdominis.](https://example.com/fig1.png)

Transversus abdominis plane block for laparoscopic surgery


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receive any postoperative analgesia. No shoulder tip pain was observed in any of the patients.

Case 5 had a laparoscopic hernia repair under general anaesthesia. A left-sided unilateral TAP block was performed as detailed above. Surgical time was 140 min. The prescribed postoperative pain relief consisted of i.m. morphine, oral acetaminophen, and diclofenac as required. No opioids were needed in the immediate postoperative period. The patient was considered to be fit for discharge 24 h after surgery.

The TAP block has been found to be an effective method of providing postoperative analgesia in patients undergoing midline abdominal wall incision. Until now, the use of ultrasound-guided bilateral TAP blocks for laparoscopic surgery has not been tested. Our cases have shown that TAP blocks provide effective pain relief both intraoperatively and for several hours into the postoperative period after laparoscopic surgery. The use of TAP blocks reduced the need for intraoperative and postoperative opioids and the side-effects associated with their use. None of our patients was drowsy or required antiemetics in the postoperative period. Hence the technique is suitable for day-case laparoscopic surgery. The absence of shoulder tip pain has been a finding in all cases.

We suggest that TAP blocks can be incorporated as part of the analgesia regimen for day-case laparoscopic surgery. TAP blocks under ultrasound guidance are easy to perform, provide consistent analgesia, and have displayed a good safety profile.

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Pregabalin for acute pain management: a shift in paradigm

Editor—We would like to commend the authors for this interesting and intriguing use of pregabalin for perioperative pain relief. The use of pregabalin in the management of acute pain control after surgery has been attempted for a significant period of time. Although pregabalin may prevent central sensitization and potentially reduce chronic pain, its use in the acute setting is gaining greater importance particularly when referring to multimodal analgesic techniques. Although this paper refers to the use of a higher dose of pregabalin (150 mg), there is no concerted effort to maximize the pain control using regional techniques in the operative and perioperative phases. This, in addition, may have provided a longer duration of pain relief. We are also curious to see if the authors contacted these patients after 2 weeks to see if there was any residual pain. If this is the case, then the addition of pregabalin to preoperative premedication may very well be the ‘gold standard’ for managing pain.

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Editor—We thank Drs Siddiqui and Suresh for their comments on the use of preoperative single-dose pregabalin for attenuation of acute postoperative pain. Pain is a multi-factorial phenomenon and combinations of analgesics acting at different sites are advised. Thus, with synthetic variants of analgesic agents being developed, there is opportunity for innovation. The present study was conducted with this basic aim.

We would like to address some other concerns raised. We did not use any regional anaesthesia techniques in the present study because all the patients included in the study received i.v. fentanyl by a patient-controlled analgesia device. Secondly, our study concluded 24 h after operation and therefore we did not evaluate our patients thereafter. Evaluation at a later stage for residual pain, if any, certainly is an interesting idea and further clinical trials can be designed in this direction.

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Perioperative management of a patient with maple syrup urine disease

Editor—Maple syrup urine disease (MSUD) is an autosomal recessive metabolic disorder caused by a deficit of oxidative decarboxylation of branched-chain amino acids.