spinal injection safety system (SISS)© to prevent the inadvertent intrathecal injection of the wrong drug (vincristine) during treatment for leukemia. Medication drawn into the spinal syringe using a special SISS filling device cannot be given using existing needles, as these will not fit together. Conversely, medication put into Luer Lok syringes are not compatible with the SISS spinal needle. If adopted as a spinal drug administration standard by individual institutions and/or safety groups, we believe this forcing function; syringe/needle system will represent a major improvement in the safety of spinal drug administration. The SISS is currently under prototype development having received patent approval in early 2003.

We have started designing a similar safety system for epidural drug administration that should be of particular interest to anesthesiologists as the Canadian Anesthesiologists' Society Guidelines to the Practice of Anesthesia 2002, recommended, "Until a specific connection system is devised for neuraxial use, both sides of all Luer connections should be labelled".

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Ropivacaine 0.5% administered via a femoral catheter: is the obturator nerve also blocked?

To the Editor:

Weber *et al.*[1] sought to determine the optimal dose of ropivacaine 0.5% for analgesia injected through a femoral catheter, and as a secondary endpoint the success rate of obturator nerve block. The authors found a very high rate of effective block of the obturator nerve (up to 95%). This is in contrast with the results found by Parkinson *et al.*[2] We have some concerns regarding the observations of Weber *et al.*[1] due to the limitations of their study design. First, threading a femoral catheter up to 12 cm is hazardous. Capdevila *et al.*[3] demonstrated that threading the catheter 16 to 20 cm results in a correct placement close to the lumbar plexus in only 23% of the patients, emphasizing that the course of the catheter was unpredictable. Ritter[4] was unable to demonstrate in cadavers, a femoral nerve sheath capable of conveying a solution – or a catheter – from the inguinal ligament to the lumbar plexus. Unfortunately, Weber *et al.*[1] did not verify radiologically the position of the catheter tip, leaving some doubt regarding its position.

Bouaziz *et al.*[5] demonstrated that sensory tests (cold and light touch perception) – as used in Weber's study – are inadequate to assess obturator nerve block. After performing a selective obturator nerve block, supported by a marked decrease of adductor strength, the authors showed an absence of sensory cutaneous contribution in 57% of patients. Without electromyogram monitoring or adductor strength assessment, blockade of the obturator nerve is only speculative. In the model used by the authors, sensory assessment of the medial side of the knee is even more complex, since the sciatic nerve may also have sensory branches in this area. Weber *et al.*[1] found that 20 mL ropivacaine 0.5% was the most appropriate dose to block the femoral nerve. On the other hand, evidence of obturator nerve block is speculative, and the design of their study does not fully support this conclusion. We view that there is sufficient evidence in the current literature to doubt the existence of the three-in-one block.

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Reply:

We thank the editor for giving us the opportunity to reply to the comments of Jutzi et al. Firstly, our results cannot be compared with those of Parkinson who injected local anesthetic via a needle and not via a catheter.[1] Secondly, we threaded the catheters up to 12 cm in order to inject local anesthetic more cephalad to obtain a better block of the obturator nerve. Again, our results are difficult to compare with those of Capdevila[2] who threaded the catheters up to 16–20 cm. Furthermore, Ritter studied the spread of solution injected via a needle and not via a catheter.[3] However, there is a question that remains; are the study's conditions similar in cadavers and in patients undergoing surgery. Concerning radiological control of the catheters, the aim of our study was to explore, in clinical conditions, the effect of different doses of local anesthetic injected via a catheter regardless of the exact position of its tip. However, lack of radiological verification of catheters is well mentioned in the discussion.

We agree that testing of the obturator nerve blockade is a complex problem. As have many others authors,[2,4–6] we tested sensory obturator block at the medial aspect of the knee. In one of these studies, sensory and motor obturator blocks were tested and the results show that the sensory block is more consistent than the motor one. Recently, Bouaziz reported the lack of cutaneous innervation of the obturator nerve at the knee level in 57% of the subjects.[7] If these data are confirmed by other investigations, motor rather than the sensory block of the obturator nerve should be tested. Nevertheless, even in the absence of skin fibres, the obturator nerve contributes to sensory inervation of the knee joint. Very low pain scores documented four hours after the block support the finding of a high percentage of obturator block in our patients. Finally, there is perhaps some doubt about the existence of three-in-one block, but this term is currently used in the anesthetic literature.

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Delayed respiratory depression after interscalene blockade for shoulder surgery in geriatric patients

To the Editor:

In our institution, as in many others, surgery on the proximal part of upper arm is usually performed under interscalene brachial plexus block (ISB) with general anesthesia (GA) upon request of the surgeon. We recently experienced three cases of delayed respiratory distress after complete recovery of uneventful anesthesia in geriatric patients who received ISB and GA for surgeries on the upper arm or shoulder. In all cases ISB was performed using a nerve stimulator at first attempt by the Winnie approach.

In the first case, a 74-yr-old female received ISB with a 30 mL mixture containing ropivacaine 112 mg and lidocaine 150 mg with epinephrine, injected slowly in divided doses. Ten minutes later, GA was administered with sufentanil, propofol, sevoflurane and atracurium to facilitate tracheal intubation. At completion