

A modification of the combined spinal and epidural technique

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<http://www.nickalls.org/dick/papers/anes/spinalclip1984.pdf>

We would like to describe a modification of the combined ‘spinal and epidural’ technique using a single lumbar space, as described by both Coates (*Anaesthesia* 1982; 37, 89–90) and Mumtaz *et al.* (*Anaesthesia* 1982; 37, 90).

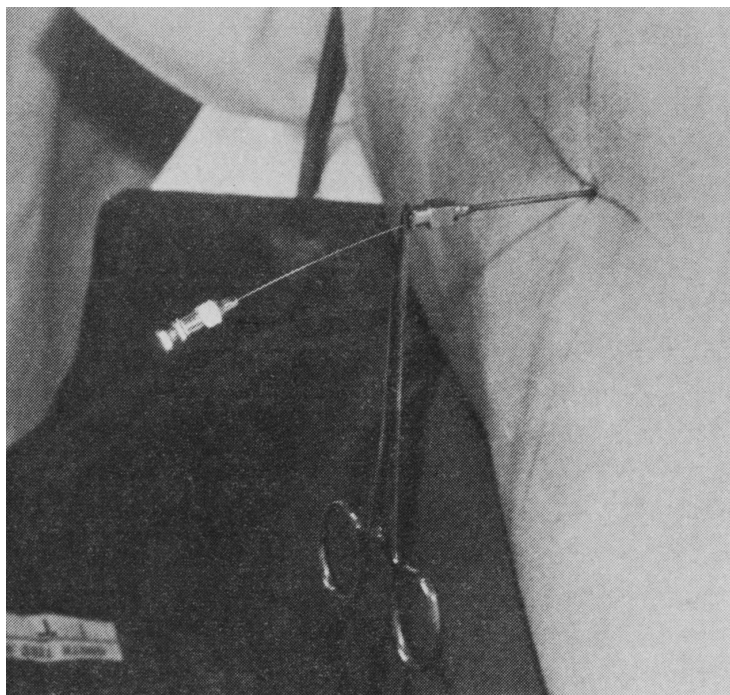


Figure 1:

We introduce a 15 cm, 26-gauge spinal needle (Steriseal Ltd, Redditch) through a standard Tuohy needle (9.6 cm, 16-gauge) which has its tip in the epidural space. Once the dura has been punctured the spinal needle is only really held in place by the dura. It is therefore quite difficult to attach the syringe of local anaesthetic and then inject without inadvertently placing the tip of the spinal needle outside the dura; either by

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pulling it out slightly, or by pushing it in too far and out the other side. Either way, if one sees local anaesthetic coming back inside the Tuohy needle while injecting down the spinal needle, one does not know exactly how much local anaesthetic, if any, has been placed inside the dura. Another problem which sometimes occurs, is the leakage of local anaesthetic at the syringe-needle connexion.

Our modification, which eliminates these difficulties, is as follows: as soon as the dura has been punctured we clamp the spinal needle with a sterile, lightweight artery clip (Halsted, straight jaws) just at the point where it enters the Tuohy needle (Fig. 1). It is important that the artery clip grips the 26-gauge needle firmly and does not allow it to slide. The toothed artery clips are very much better at doing this than the plain variety. Once the artery clip is in place, the introducer can be withdrawn, the syringe applied firmly, and the prescribed amount of local anaesthetic injected into the cerebrospinal fluid (Fig. 2). We use between 1.6 ml for short patients and 1.75 ml for tall patients of 0.5% plain bupivacaine for Caesarean sections, which gives a reliable sensory block from S5 to T2–T4.

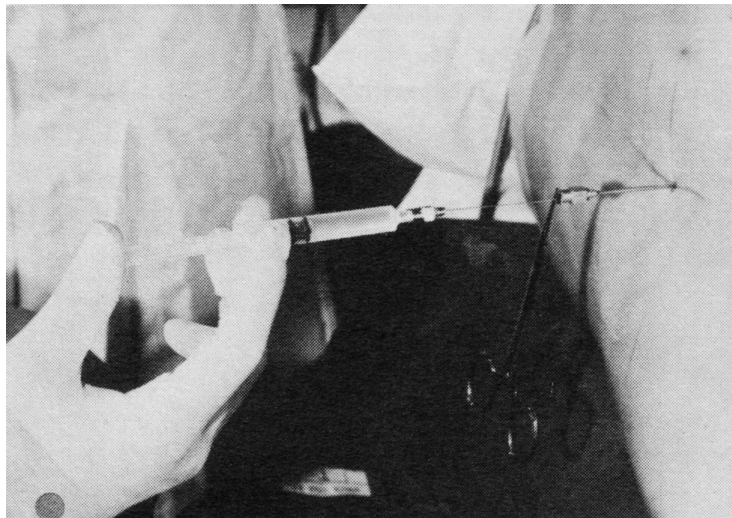


Figure 2:

The artery clip serves several purposes: it allows one to use any spinal needle which projects sufficiently far beyond the end of the Tuohy needle; it allows one to use as much force as is necessary to make the syringe-needle connexion leakproof; it prevents the needle being inadvertently pushed further in; and it makes it immediately apparent when the needle has been accidentally withdrawn slightly. Indeed, should this occur, it is then easy to replace the needle to just the correct position before injection.

Finally, while Dr Coates recommends using a spinal needle which is only 1 cm longer than the Tuohy needle, our experience suggests that a longer spinal needle will occasionally be required. So far we have used this 'artery-clip' technique in only eight patients, and already the distance the spinal needle has had to be advanced past the end of the Tuohy needle in order to just puncture the dura, ranges from 0.3 to 1.05 cm. We are therefore inclined to continue using the long spinal needle.
