acknowledgement that there is much overlap between anaesthesia and CPR is the correct one and to then contend in the conclusion that they should be recognized as entirely separate concepts is not supported by logic or clinical experience. It is precisely for this reason that many more options exist than simply ‘continue’ or ‘suspend’. On the sliding scale of intervention, with CPR at one end, it makes no more sense to draw an arbitrary line at that point to stop life-sustaining treatment, while making every effort up until then, than it does at any other.

The second area in which this new approach is fraught with both legal and ethical problems is with respect to euthanasia. This question raises an important issue in perioperative period. This ‘doctrine of double effect’ relies upon knowledge of the primary intention of euthanasia rather than the absence of sensation and relief of pain. Although this is likely to be exceptionally rare, it merits more consideration in any proposed guideline.

For these reasons, I would suggest that the current guideline represents the correct approach, with a presumption in favour of suspending a DNAR order perioperatively. This would limit the prospect of any suggestion of euthanasia and allow for a more balanced view of patient autonomy than the black and white approach proposed.

Does local infiltration anaesthesia really provide longer analgesia than intrathecal morphine?

Editor—I read the article by Kuchařík and colleagues with interest. However, their conclusion that local infiltration anaesthesia (LIA) provides better pain relief after 24 h compared with the intrathecal morphine has to be challenged. I believe that the study methodology is flawed and has favoured the LIA group by injecting a treatment drug mixture (ropivacaine, ketorolac, and epinephrine) at 24 h after the surgical procedure while injecting a placebo in the intrathecal morphine group.

As the authors state in their discussion, intrathecal morphine has been shown to provide good pain relief up to 24 h after injection, so injecting a treatment drug in the other group (LIA group) after the morphine effect would have worn off (in the ITM group) can only serve to advantage the LIA group. I am unclear why the authors chose to do this. If no top ups of the LIA injection were given, maybe then the results would have had more significance.

None declared.

K. Mukhtar
St Helens and Knowsley, UK
E-mail: karim.mukhtar@sthk.nhs.uk


doi:10.1093/bja/aeu175

Neuraxial anaesthesia in patients with scoliosis

Editor—Dr Bowens and colleagues have provided great help to those planning epidural and spinal blocks in scoliotic patients, with the publication of their recent paper. For many years, in our obstetric patients, we have followed the second of their recommendations with regard to epidural needle insertion, by using a midline approach, with the needle angled towards the convex side of the curve, with mostly satisfactory results, although increased volumes of local anaesthetic were often required. We have investigated 21 of our obstetric patients with idiopathic scoliosis, using epidural contrast injection and fluoroscopic screening ~24 h post-partum, after informed consent and ethics committee approval. A fairly consistent finding, present in 17 (81%) of these patients, was that the first 10–12 ml of contrast flowed most...
readily to the inside of the lumbar curve, and away from the convexity (Figs 1 and 2).

This reflects the clinical finding of preferential spread of local anaesthetic to the inside of the curve. Further doses of contrast or local anaesthetic eventually reached the outside of the curve, but the resulting nerve block was sometimes uneven. The patient described by Bowens and colleagues\(^1\) demonstrated preferential contrast flow towards the convexity, which we only observed in a minority (19%) of the subjects in our series. More work remains to be undertaken on the subject of neuraxial block in the presence of scoliosis, as in our hands, even minor degrees of scoliosis, of which the patient is frequently unaware, may disrupt the quality of analgesia in labour. Predominantly, unilateral blocks frequently develop, particularly when low-dose infusions of local anaesthetic are being used. We have found that, with knowledge of the patient’s spinal anatomy, it is often possible to predict in advance the spread of analgesia.

**Declaration of interest**
None declared.

C. B. Collier
Sydney, Australia
E-mail: nfi1@pacific.net.au

doi:10.1093/bja/aeu180

**Reply from the authors**
Editor—After reviewing Dr Collier’s letter to the editor, we are in agreement that scoliosis may affect the distribution of local anaesthetic for neuraxial anaesthesia, especially in the case of epidurals. One of the concerns with attempting neuraxial techniques in patients who have neuromuscular scoliosis would be that even successful placement may not produce effective analgesia because of difficulty of distributing local anaesthetic to the complex curves often seen in these patients. In the case report that we presented,\(^1\) fluoroscopic images revealed the local anaesthetic was distributed more on the convex-side. The patient also had a denser block on the left (convex-side) than the right. According to Dr Collier’s data, the distribution to the convex-side of the curve only occurred in 19% of scoliotic patients. However, we used a paramedian approach and no angulation of the Tuohy needle. Thus, the epidural catheter and subsequent local anaesthetic spread may have preferential distributed to the convex-side. We also agree that increased local anaesthetic volume may improve spread in the scoliotic patient.