

Medical study shows epidurals and spinal anesthetics are safer than previously reported

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The largest ever prospective study into the major complications of epidurals and spinal anaesthetics published in the *British Journal of Anaesthesia* today concludes that previous studies have over-estimated the risks of severe complications of these procedures. The study concludes that the estimated risk of permanent harm following a spinal anaesthetic or epidural is lower than 1 in 20,000 and in many circumstances the estimated risk is considerably lower.

The study finds that the risk of permanent injury (of whatever severity) is about 1 in 23-50,000. In betting terms, the odds of being badly injured by an epidural or spinal anaesthetic are considerably better than 20,000-to-1 against. The risk of being paralysed by one of these injections is 2-3 times rarer than of suffering any permanent harm. The risk for women requiring pain relief for labour or Caesarean section is lower still, the most pessimistic estimate of permanent harm is 1 in 80,000 and it may be much lower. A similarly low risk was found in procedures performed for chronic pain and in children.

The study also finds that the risk of harm when an epidural is used for surgery is considerably higher than the estimated risk of using it during childbirth: between 1 in 6,000 and 1 in 12,000. However, while these figures may appear high, they too are still considerably lower than many previous estimates, and Dr Tim Cook, a consultant anaesthetist at the Royal United Hospital, Bath who led the project believes there are other reasons to explain these figures: "It has been known for a long time that these complications occur more often after surgery. The reason is likely

to be that many of these patients are elderly with medical problems and that the process of having surgery itself increases risks. Major surgery leads to severe pain and may mean that an epidural has to stay in place for several days. Epidurals are generally only used for the biggest most painful operations and it is probably the least fit patients who have the most to gain from these techniques. What the project has shown is that many complications of epidurals occur after major surgery in elderly unhealthy patients. The risks must also be balanced against the generally accepted benefits of epidurals."

The project's results are based on the voluntary participation of every hospital in England, Scotland, Wales and Northern Ireland. A national census identified over 700,000 spinals and epidurals performed in the UK National Health Service each year. All major complications of these procedures were identified by the project team for one year. Each complication was reviewed by an expert panel, which assessed the cause and severity of all permanent injuries. In the year of the study, depending on interpretation, there were 14-30 patients who suffered permanent injury: injuries ranging from numbness in a part of the legs to paraplegia or death. Of the harmed patients 5-13 were paralysed and 3-6 died. Most complications were judged to be unavoidable.

Dr Tim Cook says, "The results are reassuring for patients with all procedures and settings being lower risk than many previous estimates. It is likely that this study will become widely quoted as the definitive estimate of these rare but potentially catastrophic complications."

However, Dr Cook believes anaesthetists should not be complacent: "Although complications related to epidurals are rare, the profession still needs to examine how and why these complications arise and make steps to reduce their frequency. For instance, it is likely that the number of complications could be further reduced by a greater appreciation that prolonged weakness of the legs after an epidural or spinal is not normal

and should be investigated by an experienced doctor to ensure a major complication is not developing."

Writing in an editorial that accompanies the paper in the *British Journal of Anaesthesia*, Dr Donal Buggy, a consultant anaesthetist at the Mater Hospital, Dublin, describes the report as, "a triumph not only for its authors and the NHS anaesthetists who delivered it, but also for UK NHS risk management systems, audit databases, and processes." Dr Buggy asserts that "the primary achievement of the project is that it enables anaesthetists and patients to more accurately define the risk of the specific rare but devastating complications of these procedures."

Source: Oxford University

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