primary endpoint of percentage change in systolic pressure or absolute change in systolic pressure.

We hope that this rather detailed answer provides the data you are looking for.

Declaration of interest
None declared.

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Rate of failed tracheal intubation in obstetric anaesthesia may differ significantly between institutions

Editor—We read with interest the article by Quinn and colleagues,1 which adds to our evolving knowledge of obstetric failed intubation.

The paper confirms a lot of our own findings.2 Some of these findings are replicated in the USA, Brigham’s Women’s Hospital paper.3 Failed intubation rates are low in countries that have a high rate of general anaesthetic usage, such as South Africa: failed intubation rate—1:750.4 Similarly, those countries where obstetric anaesthesia is administered by senior anaesthetists such as the USA also have a lower failed intubation rate.5

Our hospital houses a tertiary maternity unit with deliveries in the region of 8500 per annum. This large number of deliveries has ensured that the number of general anaesthetics administered remained sufficient to offer training opportunities and hence a low failed intubation rate. In our paper, a retrospective audit was performed of all obstetric general anaesthetics in our hospital over an 8 yr period to determine the incidence of difficult and failed intubation. Data were collected from a number of sources to ensure accuracy. A total of 3430 rapid sequence anaesthetics were given. None of the patients had a failed or oesophageal intubation, making the 95% confidence interval between 0 and 1:1143. We attributed the low incidence of failed intubation and airway complications to the average numbers of general anaesthesia in our hospital, senior cover, and specialized anaesthetic operating department assistants.

The rate of failed intubation is a key outcome measure of the quality of care provided during obstetric general anaesthesia. This standard of care is likely to show significant variation between institutions, which will only be evident from continuous audit over many years. It is vital to monitor this indicator as surveillance for significant changes in trends and to encourage further improvements in patient safety.

Declaration of interest
None declared.

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2 Djabatey E, Barclay P. Difficult and failed intubation in 3430 obstetric general anaesthetics. Anaesthesia 2009; 64: 1168–71


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Size may matter

Reply from the authors

Editor—We thank Drs Djabatey and Barclay for their comments on our study1 and for pointing out that there could be an inverse correlation between the number of deliveries (and general anaesthetics) and the number of failed intubations. As our study was conducted over a relatively short period (2 yr), we cannot comment on individual institutional general anaesthesia rates. However, we do know Liverpool has the highest number of maternities in the UK. Over 80% of UK consultant units have 5000 deliveries or less per year (http://www.birthchoiceuk.com/Professionals/Frame.htm). We collected data from 57 UK centres that had a failed intubation in the 2 yr sample period and extrapolated the frequency of general anaesthesia in these centres to calculate an overall annual incidence. Our assumption was that these units would be a representative sample of UK obstetric anaesthetic practice and thus our unit-based estimate of the denominator would be reasonably accurate. We need to bear in mind the fact that there may be UK centres where failed obstetric intubation is not occurring and that this may impact on the overall national incidence. In our discussion, we point out that we took the most conservative estimate available to us. There are many factors to
consider when comparing different units in addition to numbers of deliveries, for example, availability of obstetric anaesthetists with fibreoptic and difficult airway skills and equipment, thorough preoperative airway assessment to detect difficult cases early, the number of awake intubations performed and the overall GA vs regional rates, etc. We need to look carefully at the impact of our management of general anaesthesia on the risk of failed intubations in obstetrics and the risk factors of the patients. This is an interesting area for future research and further understanding could help to reduce and eliminate this most serious anaesthetic complication.

Declaration of interest

None declared.

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Prehospital analgesia

Editor—The paper by Albrecht and colleagues1 provides a fascinating insight into factors affecting the administration of analgesia to trauma patients in prehospital settings. We would like to raise two points.

First, the authors note in the discussion the possibility that unrelieved pain may be a consequence of patients themselves not requesting analgesia. However, this factor should be minimized by a competent prehospital practitioner. Trauma patients are likely to be anxious or confused, and may not think to ask for painkillers due to other distractions around them in an unfamiliar and potentially noisy environment. Indeed, they may not even realize that analgesia is available, appropriate, or both. Recognizing this and asking about pain in order to subsequently offer appropriate analgesia to a patient should therefore be part of our role as prehospital physicians.

Secondly, the authors commendably provide a breakdown of the details of patients whose Glasgow coma score decreased between prehospital assessment and arrival at hospital. Reading this table, it is clear that some patients seem to have received large doses of i.v. fentanyl, ketamine, or both. The i.v. anaesthetic induction dose of the latter drug is 1–2 mg kg\(^{-1}\).2 Assuming a normal range of body habitus, it is not surprising that the four patients who were given ketamine in the range 100–200 mg (in addition to fentanyl 50–300 \(\mu\)g) had a measurable fall in conscious level.

It could be argued that some of these patients were inadvertently anaesthetized, but without (as the study excluded intubated patients) appropriate airway protection in a cohort of unfasted trauma patients. We would highlight the role that prehospital emergency anaesthesia has in providing analgesia and amnesia for severely injured patients.3 This small group of patients requiring such large doses of narcotic and dissociative analgesia may have benefited from formal anaesthesia and intubation, ensuring a protected airway and adequate ventilation during transfer.

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None declared.

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Reply from the authors

Editor—We thank Drs Maddock and Ferris for their pertinent comments and their interest in our study.1 As correctly pointed out by these authors, a significant proportion of patients with moderate-to-severe pain do not in fact receive any form of analgesia, because of the absence of request1 or refusal of analgesics.3 These factors were not documented in our database and therefore we could not assess if they account for oligoanalgesia. However, our residents and physicians are continuously reminded to assess pain scores upon arrival at the emergency site and to provide safe and effective analgesia, even if individual physician practice differs in offering analgesia.

The recommended ketamine dose in our prehospital protocol is 0.2 mg kg\(^{-1}\), and the dose in Appendix 2 represents the cumulative titrated dose given during the entire mission: in these 14 patients, the mean average mission duration was 44 (13) min (so). It is difficult to retrospectively assess if these patients should have received immediate formal induction of anaesthesia with intubation, as nine out of 14 had to be first extricated from their vehicle. Nevertheless, the fact that our study collected data from over 1200 patients over a period of 10 yr attests to the safety of our protocol. In addition, severe pain alone does not belong to our intubation criteria even though we concur that induction of anaesthesia with