

Emergency C-section rates are climbing, as is the need for accompanying emergency anaesthesia

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There is an increasing need for safe emergency anaesthesia as cases of emergency Caesarean section (CS) continue to rise, say experts speaking at Euroanaesthesia, the annual congress of the European Society of Anaesthesiology (ESA).

Dr Geraldine O'Sullivan (Lead clinician for obstetric anaesthesia, Guy's and St Thomas' NHS Foundation Trust, London, UK) discusses how in the UK between 25-30% of deliveries are by CS, well above the WHO recommended rate of 15% (England 25%, Scotland/Wales 26%, [Northern Ireland](#) 30%, UK overall 25%). The 25% overall rate in the UK is made up of approximately 15% emergency CS, and 10% elective CS. Back in 1990, just 11% of UK births were CS, made up of 5% elective and 6% emergency. (see accompanying slides)

"Other countries in Europe are experiencing similar issues to varying degrees and we need to ask why this is happening," says O'Sullivan, who is also on the Board of ESA. "Reasons could include better intra-partum fetal monitoring, fears of medico-legal claims, and, maternal demand. Whatever the cause for the rise in the CS rate, it is likely that, in the near future, performance indicators will be devised for hospitals to help explain/evaluate that hospital's CS rate." (see attached slide)

Maternal demand is perhaps the most controversial aspect of increasing rates of CS. The private sector has a higher rate than the [public health](#)

[system](#) (in the region of 50% for private UK hospitals, and even higher in countries such as Brazil where the private sector CS rate is 70%).

"There is also a knock-on effect for future pregnancies, since once a woman has undergone one CS, she is then at greater risk of having an emergency CS in the next [pregnancy](#), though in most cases she would demand another elective CS anyway," says O'Sullivan. "Even for those women who have chosen [vaginal birth](#) following a previous CS, around half will end up having a CS."

"The increased CS rate is putting anaesthesia, obstetric, and [midwife](#) teams under much greater strain at a time when there are increasingly reduced resources across healthcare systems in Europe." The UK experiences 700,000 births per year, so O'Sullivan says even a small reduction in the UK-wide CS rate of 25% would cause large reductions in costs, since each CS costs the UK National Health Service (NHS) approximately GBP500 to 1000 extra compared with a vaginal delivery.

Emergency (unplanned) CS, which account for 66% of all CS in the UK, are associated with a higher morbidity and mortality than a planned CS. This mortality has been shown to be higher if a woman has a general as opposed to an epidural/spinal anaesthetic for her CS. "Women who require an emergency CS during labour, but who have already had an epidural catheter sited during the labour, are in a good position to receive emergency anaesthesia for CS, since stronger drugs can be injected down the epidural," says O'Sullivan. "The use of these drugs, which are essentially stronger solutions of the drugs used for pain relief in labour, means that the mother can be ready for her emergency surgery within 10-12 minutes of the anaesthetist being informed that emergency delivery is required."

Dr Matt Wilson (National Institute for Health Research (NIHR) Clinician Scientist and Senior Lecturer, [Anaesthesia](#), University of Birmingham, UK), who is also speaking on this subject, describes how

the proportion of deliveries by CS in developed countries has been rising inexorably for more than a decade. In the UK more than a quarter of all births are now by CS. This rise has not been confined to "elective" CS, since the increase in prevalence of unplanned CS has kept pace.

"Population science can shed light upon the reasons for this trend. An advancing maternal age for first pregnancy, as women delay starting a family, has contributed. Improved obstetric monitoring and care to accurately identify babies at risk during labour has resulted in better early decision making," says Wilson. "Crucially, since women who have previously delivered by CS are more likely to do so for further pregnancies, the trend becomes self-sustaining. There is good evidence to suggest that vaginal birth after CS is declining."

Tri-annual data collection on all maternal deaths in the UK, collected via the UK's Confidential Enquiry into Maternal and Child Health (CEMACH) initiative, suggests that whilst overall maternal mortality remains reassuringly rare, changes in pattern have occurred. "Maternal cardiac disease is itself more likely to result in delivery by CS, and is now a primary cause of maternal mortality, reflecting this population shift," says Wilson.

"There is compelling evidence that maternal obesity creates an additional risk of unplanned intervention." He refers to a recent report by the UK Royal College of Obstetricians and Gynaecologists that cited an observational study demonstrating a linear relationship between body-mass index and CS rate.

Wilson also says that substantial advances have been made in the effectiveness and provision of epidural analgesia have been made over the past few decades. Large, well conducted clinical trials have confirmed that epidural pain relief does not increase the likelihood of CS. Whilst providing better pain relief, Wilson will say there is no evidence that refinements of epidural technique such as 'patient

controlled epidural analgesia' have had an impact on delivery mode.

The UK's National Health Service (NHS) has adopted a categorisation system of urgency of unplanned CS to systemise the response of care teams and facilitate audit. Wilson says this has proven a mixed blessing, with the potential for 'category creep' and as yet, little evidence that achieving 'decision-to-delivery' time targets influence neonatal outcomes, even in the most urgent [CS](#).

"Haemorrhage remains the principle cause for maternal admission to intensive care and there are several new interventions, including targeted coagulation therapy and intra-operative red cell salvage which, whilst promising, are yet to be proven by randomised trials," concludes Wilson.

Provided by European Society of Anaesthesiology

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