

MIDIRS ReView

Classification of Urgency of Caesarean Section - A Continuum of Risk

Royal College of Obstetricians and Gynaecologists,
Royal College of Anaesthetists (2010).

Classification of Urgency of Caesarean Section - A Continuum of Risk. London: RCOG.



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This document is the latest addition to an ongoing debate about the classification of caesarean section, on the basis that the traditional categories of 'emergency' and 'elective' can be confusing in practice, and are of limited use in research and audit because they do not necessarily convey information about the degree of risk faced by the woman and/or baby and thus the urgency of the caesarean section.

'[T]he spectrum of urgency that occurs in obstetrics is lost within a single 'emergency' category' (RCOG & RCA 2010:1).

Created jointly by members of two relevant professional bodies, the overall purpose of the document is to *'...encourage universal use of a nationally accepted classification of urgency of caesarean section...'* (RCOG & RCA 2010:1) and *'...formalise the concept that urgency of caesarean section represents a continuum of risk'* (RCOG & RCA 2010:1).

Classification

The revised classification of caesarean section urgency is a modified version of that initially proposed by Lucas *et al* (2000) and uses a coloured spectrum to emphasise the continuum of risk (Fig 1) while also offering four defined categories of caesarean section which can be used for the purposes of audit and research, where quantification and categorisation are important.

Figure 1. A classification relating the degree of urgency to the presence or absence of maternal or fetal compromise

Urgency	Definition	Category
Maternal or fetal compromise	Immediate threat to life of woman or fetus	1
	No immediate threat to life of woman or fetus	2
No maternal or fetal compromise	Requires early delivery	3
	At a time to suit the woman and maternity services	4

Urgency

A number of points are raised in relation to the urgency of caesarean section, including that:

- While the 'Sentinel' caesarean section audit suggested that a decision to delivery interval (DDI) of 15 minutes was feasible, this was not achieved in the case of many category-1 caesarean sections (Thomas & Paranjothy 2001).
- A DDI of up to 75 minutes does not appear to increase the risk of compromise, while a DDI of less than 30 minutes may not always result in a good outcome (Thomas *et al* 2004, Bloom *et al* 2006).

Because of this, it is proposed that:

'Once a decision to deliver has been made, therefore, delivery should be carried out with an urgency appropriate to the risk to the baby and the safety of the mother. Units should strive to design guidelines that result in the shortest safely achievable DDI.' (RCOG & RCA 2010:1-2).

While a target DDI of 30 minutes is recommended where there is fetal compromise, the authors suggest that:

- *'...certain clinical situations will require a much quicker DDI than 30 minutes and units should work towards improving their efficiency..'*
- *'...undue haste to achieve a short DDI can introduce its own risk, both surgical and anaesthetic, with the potential for maternal and neonatal harm...'* (RCOG & RCA 2010:2).

Communication

It is clear from the outset that the concepts embedded in this document are designed to improve communication and understanding within multi professional teams and to emphasise that the level of risk faced by a particular woman and/or baby is individually variable rather than something that can be put into one of a small number of boxes. The authors note that the time taken to reach the operating theatre is a critical factor in determining the DDI and propose that:

“Once a decision to deliver has been made, therefore, delivery should be carried out with an urgency appropriate to the risk to the baby and the safety of the mother”

“...the level of risk faced by a particular woman and/or baby is individually variable rather than something that can be put into one of a small number of boxes”

- **'Communication is frequently highlighted as an area for improvement in obstetric practice.**
- **All members of the multidisciplinary team must be informed of the need (or likely need) for caesarean delivery as early as possible, as well as specific instructions on the degree of urgency.**
- **Communication must ensure that all tasks and preparations for caesarean section that can be performed concurrently should be done so and that, where appropriate, roles are interchangeable.**
- **Communication could be more effective using a classification that confers a more precise and individual approach to degree of urgency.**
- **Categorisation of risk should be reviewed by the multidisciplinary team when the mother arrives in the operating theatre.' (RCOG & RCA 2010:2).**

Proposed Classification

As shown in Figure 1, the proposed classification system recognises and promotes four different categories of urgency and it is argued that this will lead to a number of benefits. These include that it will help to identify specific cases where women and/or their babies would benefit from immediate delivery; that it will enable individualisation of risk; that maternal risk may be reduced, for instance where general anaesthesia can be avoided in the majority of category-2, 3 and 4 caesarean sections and in some category-1 cases; and that it avoids time-based definitions.

Discussion

These benefits have also been proposed as a result of related research studies, including Chaleur *et al*'s (2009) prospective cohort study of 68 women who underwent caesarean section in a French hospital. They found that a significant proportion of women experienced a longer DDI than was considered optimal. In a review of this study, McKeon-Clark and Marchant raised a number of issues relating to caesarean section classification that may be of concern to midwives, including the fact that '[f]or midwives, there is an overall dislike of pigeon-holing women into

boxes and categories' (2010:208). McKeon-Clark and Marchant (2010) also discussed Chaleur *et al*'s (2009) acknowledgement that there is a lack of agreement around the definition of the concept of an 'emergency'.

Another recent and related study is that carried out by Kinsella *et al* (2010) and the abstract of this study is reprinted on p30. The results showed significant differences between units in the use of regional versus general anaesthesia for different categories of caesarean sections and a high rate of use of the classification system described here but, again, many units did not meet the recommended DDI times for each of the different categories of caesarean sections.

The issues raised by this classification system are, as McKeon-Clark and Marchant noted, 'thorny' (2010:208) and worthy of further exploration. Few would argue with the notion that it is beneficial to define and use a classification system that offers greater clarity, individualises risk and reduces potential risk to women in relation to issues such as anaesthesia. There remain, however, a number of questions, not least of which relates to the differences between the categories. In Figure 1, category-3 relates to situations where there is no maternal or fetal compromise yet early delivery is still required, and this is apparently different to a category-4 caesarean section which can be scheduled at a time to suit the women and maternity services.

It is difficult to think of many scenarios where early delivery is genuinely required in the absence of maternal and/or fetal compromise; Lucas *et al* offered a couple of examples in their original paper, including a scenario wherein '*...a case booked as an elective procedure for malpresentation could eventually be classified as grade 3 [sic] if the mother goes into labour before the chosen date of surgery'* (2000:349), but the woolliness of this issue is not addressed within the paper at hand, nor are examples given. This is one area that is particularly worthy of further discussion, especially as one of the intentions of this document is to highlight the fluid nature of risk within this area of practice. Ultimately, whether the wider introduction of this classification system into maternity care is wholly beneficial to women and babies, or raises other non-intended consequences, is a question that is related very much to the way in which practitioners interpret this classification and use it in practice. This is a question that only time will answer.

“It is difficult to think of many scenarios where early delivery is genuinely required in the absence of maternal and/or fetal compromise”

A national survey of anaesthetic and perioperative management of category-1 caesarean section was sent to 245 consultant-led maternity units. There was a 70% response rate. The median (IQR [range]) general anaesthetic rate was 51% (29%-80% [6%-100%]), 12% (9%-16% [3%-93%]), 4% (2%-5% [$<1\%$ -18%]), for category-1 caesarean section, categories 1-3 (non-elective/emergency) and category-4 (elective) caesarean section, respectively. The main operating theatre for caesarean section is on the delivery suite in 151 (88%) units, and 112 (66%) units also have a second theatre in the same location. One hundred and thirty-nine (81%) use the standard urgency classification described in the NICE caesarean section guideline. However, only 72 (42%), 24 (14%), and 16 (9%) units comply with this guideline's recommended decision-delivery intervals for category-1 (≤ 30 min), category-2 (≤ 30 min) and category-3 (≤ 75 min) caesarean sections, respectively. Practice in the smaller units was similar to that in the larger units, although there was less availability of a dedicated anaesthetist, intra-uterine resuscitation guidelines and operating theatres on the delivery suite in the smaller units.

Kinsella SM, Walton B, Sashidharan R *et al* (2010). Category-1 caesarean section: a survey of anaesthetic and peri-operative management in the UK. *Anaesthesia* 65(4):362-368.

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