NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

SCOPE

1 Guideline title

Caesarean section (partial update of NICE clinical guideline 13)

1.1 Short title

Caesarean section (update)

2 The remit

This is a partial update of NICE clinical guideline 13 (2004): Caesarean section'. In the original remit, the Department of Health asked NICE to produce evidence based guidelines on, 'When a caesarean section is appropriate and the circumstances under which routine procedures in normal labour may be unnecessary'. Following changes to current practice and changes to the evidence base the following areas of the guideline have been prioritised for updating: morbidly adherent placenta, women who are HIV positive, time from decision to delivery, planned vaginal birth versus planned caesarean section following previous caesarean birth, and antibiotic prophylaxis. Other areas of the original scope will be considered for review at a later date.

3 Clinical need for the guideline

3.1 Epidemiology

a) Caesarean rates have been rising in developing countries over the past four decades. In England the rate in 1992 was 13%, whereas in 2004 it was 23%.

b) The likelihood of a woman having a caesarean section is influenced by several factors. Maternal factors include age, ethnicity, number of previous pregnancies, body mass index, socioeconomic status,

and medical disorders. Fetal factors include fetal presentation, size, health and gestational age. However, differences in rates of caesarean section are not accounted for by hospital populations and case-mix alone.

c) If a woman has had a previous caesarean section there is an increased risk of placenta praevia. The literature reports risk increases of between 30 and 60%. Of women who have a placenta praevia following a previous caesarean section, 2% will have a morbidly adherent placenta. The risk of this complication increases with the number of previous caesarean sections: 2% with one, 16% with two and 24% with three previous caesarean births. The morbidity associated with morbidly adherent placenta includes excessive blood loss, the potential need for hysterectomy, and complications associated with surgery. There is also an increased mortality risk, although the reported maternal mortality rate due to this condition in the UK is not high, being less than 1 in 100,000 maternities. More women are giving birth by caesarean section and thus the incidence of morbid placental adherence and its consequences are also increasing.

3.2 Current practice

A striking feature of pregnancy care in developed countries over recent decades has been the progressive rise in caesarean section rates. There are many reasons for this. These include the safety of the lower uterine segment technique, improved anaesthetic techniques, the availability of blood products and antibiotics, a greater range of indications, and the concept of the fetus as a patient, More recently caesarean birth has become an issue of choice for women as a preferred mode of delivery. As a consequence of the rising rates there has been a secondary rise in repeat caesarean delivery with its increased rates of severe complications, especially morbidly adherent placenta.

Caesarean sections can be classified according to whether they are carried out as planned procedures (approximately one third of cases) or as an emergency/unplanned procedure (approximately two thirds of cases). The four main clinical indications for caesarean section are dystocia (inadequate labour progress), suspected fetal compromise, fetal malpresentation and previous caesarean birth. These account for more than 70% of caesarean births. Programmes designed to alter caesarean delivery rates have tended to focus on modifying these four primary operative indications.

3.3 Topic areas to be updated

a) Imaging techniques (colour-flow ultrasound and magnetic resonance imaging [MRI]) are sometimes used as diagnostic aids for placental problems such as morbidly adherent placenta, but their use in practice is variable and there is uncertainty about whether they are accurate as diagnostic tools. There is also uncertainty about whether a diagnosis using these techniques improves outcomes for women and their babies.

b) The 2004 caesarean section guideline recommended that HIV-positive women who are pregnant should be offered a planned caesarean section ‘because it reduces the risk of mother-to-child transmission (MCT) of HIV’. New evidence that challenges this recommendation needs evaluating. In particular, vaginal birth may be possible in the presence of low viral counts and modern antiretroviral treatment with no significant increase in the risk of mother-to-child transmission.

c) Since the publication of the original guideline there has been much debate in the literature about the recommendation relating to the use of a decision-to-delivery interval of less than 30 minutes as an audit standard for maternal or fetal compromise. This 30-minute audit standard has in some instances been adopted as a clinically significant threshold, but the evidence for this is poor and there is

ongoing discussion about whether it is an appropriate clinical standard.

d) The 2004 guideline made no recommendations on planned caesarean section versus planned vaginal birth in women who have had a previous caesarean birth. This is an important issue for women who have had a caesarean section and new evidence published in this area will be reviewed.

e) The 2004 guideline made a recommendation for research into how the timing of administering antibiotic prophylaxis in relation to cord clamping affected neonatal outcomes. It is anticipated that there will be new evidence in this area to review. There is also variation in practice about whether to use one dose of antibiotics or more.

4 The guideline

The guideline development process is described in detail on the NICE website (see section 6, 'Further information').

This scope defines what the guideline will (and will not) examine, and what the guideline developers will consider.

The areas that will be addressed by the guideline are described in the following sections.

4.1 Population

4.1.1 Groups that will be covered

a) Women who plan for or may require a caesarean section.

b) Particular consideration will be given to the following subgroups:

- women who have had a previous caesarean section
- women who are pregnant and HIV positive, with high or low viral load

- women in labour who require emergency or urgent caesarean section.

4.1.2 Groups that will not be covered

a) Women with clinical conditions arising during pregnancy, such as pre-eclampsia or gestational diabetes that require specialist care.

b) Pregnant women or babies with rare conditions or with complex or unusual co-morbidities, such as maternal congenital heart disease, that require specialist care.

4.2 Healthcare setting

Primary, community, secondary and tertiary healthcare.

4.3 Clinical management

4.3.1 Key clinical issues that will be covered

a) Imaging techniques (colour-flow ultrasound and MRI) for diagnosis of a morbidly adherent placenta in pregnant women who have had a previous caesarean section and are currently diagnosed with placenta praevia.

b) Does a diagnosis of morbidly adherent placenta using imaging techniques lead to improved outcomes in pregnant women with a previous caesarean section currently diagnosed with placenta praevia? (Please note: this question will be addressed *only* if the diagnostic accuracy of either imaging technique in (a) is found to be good – the required level of accuracy to be determined by GDG consensus).

c) Effectiveness of elective caesarean section compared with vaginal birth at decreasing the mother-to-child transmission of the virus in pregnant women with HIV, for both low and high viral load.

d) Optimum decision-to-delivery interval in caesarean section in cases of maternal or fetal compromise.

e) Effectiveness of planned vaginal birth compared with planned caesarean section at term at improving maternal and neonatal outcomes in women who have had a previous caesarean section.

f) Does the administration of antibiotics at the start of a caesarean section rather than after cord clamping improve maternal and neonatal outcomes?

g) Do two or more doses of antibiotics lead to better maternal outcomes than one dose?

4.3.2 Clinical issues that will not be covered

a) The risks and benefits of caesarean section as a therapeutic intervention for specific clinical conditions arising during pregnancy such as pre-eclampsia or gestational diabetes.

b) The care of pregnant women or babies with rare conditions, or with complex or unusual comorbidities such as maternal congenital heart disease.

c) Areas addressed in the 2004 guideline that will not be updated are:

- Woman centred care: provision of information, consent for caesarean section, and classification of urgency.
- Planned caesarean section: breech presentation, multiple pregnancy, preterm birth, small for gestational age, predicting caesarean section for cephalopelvic disproportion in labour, mother-to-child transmission of Hepatitis B, Hepatitis C, and Herpes simplex, and maternal request.
- Factors affecting likelihood of caesarean section during intrapartum care: place of birth, factors reducing the likelihood, factors with no influence on the likelihood, caesarean section and ‘failure to progress’ in labour, and eating during labour.
- Procedural aspects of caesarean section: timing of planned caesarean section, preoperative testing and preparation, anaesthesia and surgical techniques

- Care of the baby born by caesarean section: presence of appropriately trained practitioner at caesarean section, neonatal encephalopathy/cerebral palsy, birth injuries, thermal care for babies, maternal contact (skin to skin) and breastfeeding (however, these issues will be considered for inclusion as key outcomes in the evidence reviews undertaken for this update).
- Care of the woman after caesarean section: routine monitoring, pain management, early eating and drinking, urinary catheter removal, respiratory physiotherapy, debriefing, and length of hospital stay and readmission to hospital.
- Post-operative recovery following caesarean section.

4.4 Main outcomes

a) Diagnostic accuracy of colour-flow ultrasound and MRI.

b) Maternal outcomes: mortality, blood loss, admission to intensive care units, thromboembolic disease, infection, breastfeeding, psychological sequelae such as postnatal depression. Uterine rupture will be an additional outcome for women having a planned vaginal birth after a previous caesarean section.

c) Baby outcomes: 5 minute Apgar score, preterm birth rate, respiratory complications, neurological complications, length of stay. Mother-to-child transmission will be included for babies born to HIV positive women.

4.5 Economic aspects

Developers will take into account both clinical and cost effectiveness when making recommendations involving a choice between alternative interventions. A review of the economic evidence will be conducted and analyses will be carried out as appropriate. The preferred unit of effectiveness is the quality-adjusted life year (QALY), and the costs considered will usually be only from an NHS and personal social services (PSS) perspective. Further

detail on the methods can be found in 'The guidelines manual' (see ‘Further information’).

4.6 Status

4.6.1 Scope

This is the consultation draft of the scope. The consultation dates are 24 February to 24 March 2010.

4.6.2 Timing

The development of the guideline recommendations will begin in June 2010.

5 Related NICE guidance

5.1 Related NICE guidance

- Induction of labour. NICE clinical guideline 70 (2008). Available from www.nice.org.uk/guidance/CG70
- Diabetes in pregnancy. NICE clinical guideline 63 (2008). Available from www.nice.org.uk/guidance/CG63
- Antenatal care. NICE clinical guideline 62 (2008). Available from www.nice.org.uk/guidance/CG62
- Maternal and child nutrition. NICE public health guidance 11 (2008). Available from www.nice.org.uk/guidance/PH11
- Intrapartum care NICE clinical guideline 55 (2007). Available from www.nice.org.uk/guidance/CG55
- Antenatal and postnatal mental health. NICE clinical guideline 45 (2007). Available from www.nice.org.uk/guidance/CG45
- Urinary incontinence NICE clinical guideline 40 (2006). Available from www.nice.org.uk/guidance/CG40

5.2 Guidance under development

NICE is currently developing the following related guidance (details available from the NICE website):

- Hypertensive disorders during pregnancy. NICE clinical guideline. Publication expected April 2010.
- Pregnancy and complex social factors. NICE clinical guideline. Publication expected September 2010.
- Multiple pregnancy. NICE clinical guideline. Publication expected September 2011.

6 Further information

Information on the guideline development process is provided in:

- 'How NICE clinical guidelines are developed: an overview for stakeholders the public and the NHS'
- 'The guidelines manual'.

These are available from the NICE website (www.nice.org.uk/GuidelinesManual). Information on the progress of the guideline will also be available from the NICE website (www.nice.org.uk).