These clinical case scenarios accompany the clinical guideline: ‘Caesarean section (update)’ (available at www.nice.org.uk/guidance/CG132)

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It is not NICE guidance.

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Introduction

**NICE clinical case scenarios**
Clinical case scenarios are an educational resource that can be used for individual or group learning. Each question should be considered by the individual or group before referring to the answers.

These four clinical case scenarios have been put together to improve and assess users’ knowledge of indications for caesarean section and its application in practice. They illustrate how the recommendations from the NICE clinical guideline 132 on [Caesarean section (update)](update) can be applied to the care of pregnant women and women who have had a Caesarean section.

The clinical case scenarios are available in two formats: this PDF, which can be used for individual learning, and a slide set that can be used for groups. Slides from the clinical case scenario slide set can be added to the [standard NICE slide set](slide set) produced for this guideline.

You will need to refer to the NICE clinical guideline to help you decide what steps you would need to follow to diagnose and manage each case, so make sure that you or your users have access to a copy (either [online](online) or as a printout). You may also want to refer to the [NICE pathway](pathway).

Each case scenario includes details of the woman’s initial presentation and a brief summary of her obstetric history. The clinical decisions about diagnosis and management are then examined using a question and answer approach. Relevant recommendations from the NICE guideline are quoted in the text (after the answer), with corresponding recommendation numbers.
Learning objectives

- To apply the NICE clinical guideline CG132 to practice in four key areas:
  - morbidly adherent placenta
  - maternal request for caesarean section
  - HIV and viral load status relating to caesarean section
  - information for women who have had a caesarean section and are planning mode of delivery in a subsequent pregnancy.

- To understand NICE recommendations on what tests should be carried out to confirm morbidly adherent placenta, and how to plan care once this is diagnosed.

- To gain insight into why a woman may request a caesarean section, and how to respond to such a request.

- To understand the rationale behind NICE recommendations on when caesarean section is appropriate for women who are HIV positive, and when vaginal delivery may be offered.

- To gain knowledge on the type of information and advice about planning mode of delivery in a subsequent pregnancy that should be offered to women who have had a caesarean section.
**Caesarean section**
There has been a steady increase in the caesarean section rate over recent decades. Caesarean section accounts for 20–25% of births in the UK. Caesarean section can be classified according to whether it is carried out as planned procedure, or as an emergency or unplanned procedure.

Around 40% of caesarean sections are planned, with the remaining 60% being unplanned or emergency procedures. About 70% of unplanned Caesarean deliveries are attributable to dystocia (prolonged labour), suspected fetal compromise, fetal malpresentation or previous caesarean birth.

As a result of the rising caesarean section rate there has been an increase in women having a repeat caesarean delivery for their next baby.
Clinical case scenarios for obstetrics

Case scenario 1: Morbidly adherent placenta

Presentation
Rebecca, a multiparous woman, gravida 2, para 1, attends your clinic. Her previous child was delivered by caesarean section. At her anomaly scan, low-lying placenta was detected. She has just attended for her repeat scan at 32 weeks, which has confirmed that the placenta is still low lying.

Next steps for diagnosis

1.1 Question
Which test would you recommend to assess whether the placenta may be morbidly adherent?
1.1 Answer
Colour-flow Doppler ultrasound should be the first diagnostic test for morbidly adherent placenta.

Related recommendation
If low-lying placenta is confirmed at 32–34 weeks in women who have had a previous caesarean section, offer colour-flow Doppler ultrasound as the first diagnostic test for morbidly adherent placenta. [new 2011] [1.2.6.1]

Next steps for diagnosis
The results of the colour-flow Doppler suggest that Rebecca has a morbidly adherent placenta. You think that she may benefit from an MRI scan to diagnose morbidly adherent placenta and clarify the degree of invasion.

1.2 Question
What information should you give to help her to decide whether this is acceptable?
1.2 Answer
You should discuss with the woman:

- the improved accuracy of MRI in addition to ultrasound
- what is involved in an MRI scan and what the woman can expect
- that current experience suggests that MRI is safe, but that there is a lack of evidence about any long-term risks to the baby.

Women may be concerned about:
- the risks of MRI scanning in pregnancy
- being in an enclosed space for the duration of the scan
- being able to fit into the scanner (because of the gestation period)
- being isolated within the scanner
- the noise levels involved in MRI scanning.

Related recommendation
If a colour-flow Doppler ultrasound scan result suggests morbidly adherent placenta:

- discuss with the woman the improved accuracy of magnetic resonance imaging (MRI) in addition to ultrasound to help diagnose morbidly adherent placenta and clarify the degree of invasion
- explain what to expect during an MRI procedure
- inform the woman that current experience suggests that MRI is safe, but that there is a lack of evidence about any long-term risks to the baby
- offer MRI if acceptable to the woman. [new 2011] [1.2.6.2]
Next steps for diagnosis

Rebecca consents to MRI scanning, which confirms morbidly adherent placenta.

1.3 Question
What special arrangements would need to be made for her delivery, according to the NICE guideline (or your related updated local protocol)?
1.3 Answer

- A caesarean section should be booked, at which a consultant obstetrician and a consultant anaesthetist are present
- An experienced paediatrician is present
- Sufficient cross-matched blood and blood products are readily available
- A senior haematologist is available for advice
- A critical care bed is available
- The consultant obstetrician should decide which other healthcare professionals need to be consulted or present.

Related recommendations
Discuss the interventions available for delivery with women suspected to have morbidly adherent placenta, including cross matching of blood and planned caesarean section with a consultant obstetrician present. [new 2011] [1.2.6.3]

When performing a caesarean section for women suspected to have morbidly adherent placenta, ensure that:

- a consultant obstetrician and a consultant anaesthetist are present
- an experienced paediatrician is present
- a senior haematologist is available for advice
- a critical care bed is available
- sufficient cross-matched blood and blood products are readily available. [new 2011] [1.2.6.4]

When performing a caesarean section for women suspected to have morbidly adherent placenta, the consultant obstetrician should decide which other healthcare professionals need to be consulted or present. [new 2011] [1.2.6.5]

All hospitals should have a locally agreed protocol for managing morbidly adherent placenta that sets out how these elements of care should be provided. [new 2011] [1.2.6.6]
Case scenario 2: Maternal request for caesarean section

Presentation
Anna, a 30 year old nulliparous woman, attends your antenatal clinic. She is 24 weeks pregnant. She tells you that she would like to book a caesarean section.

Next steps for management

2.1 Question
What further information would you ask for from Anna?
2.1 Answer

You would need to explore the reasons why Anna wants to have a caesarean section, discuss these and record the specific reasons.

There are many reasons why women may request a caesarean section. These are not always revealed by women or accurately documented.

Fear concerning childbirth may relate to pain, obstetric injury, unplanned caesarean section, healthcare staff and the effects of family life. These fears are more common among nulliparous women. Among multiparous women, previous negative birth experiences may also be a factor.

**Related recommendation**

When a woman requests a caesarean section, explore, discuss and record the specific reasons for the request. [new 2011] [1.2.9.1]
Next steps for management

Anna tells you that she has a friend who experienced a traumatic vaginal birth after a prolonged labour. She admits to feeling ‘terrified’ and has been having nightmares. There are no clinical indications for caesarean section but she is clearly anxious.

2.2 Question

What action should you take?
2.2 Answer
You should discuss the risks and benefits of caesarean section compared with vaginal birth, and record this in her notes. If necessary, involve other members of the obstetric team in the discussion.

**Related recommendations**
If a woman requests a caesarean section when there is no other indication, discuss the overall risks and benefits of caesarean section compared with vaginal birth and record that this discussion has taken place (see box A on page 10 of the NICE guideline or go to the NICE pathway). Include a discussion with other members of the obstetric team (including the obstetrician, midwife and anaesthetist) if necessary to explore the reasons for the request, and ensure the woman has accurate information. [new 2011] [1.2.9.2]

**Next steps for management**
After discussion with Anna, she is still anxious about labour and vaginal delivery.

**2.3 Question**
What action should you take?
2.3 Answer
You should offer referral to a healthcare professional with expertise in providing perinatal mental health support to help Anna to address her anxiety. This may be a midwife, obstetrician or GP with the appropriate skills and knowledge or a specialist perinatal mental health practitioner.

Related recommendations
When a woman requests a caesarean section because she has anxiety about childbirth, offer referral to a healthcare professional with expertise in providing perinatal mental health support to help her address her anxiety in a supportive manner. [new 2011] [1.2.9.3]

Ensure the healthcare professional providing perinatal mental health support has access to the planned place of birth during the antenatal period in order to provide care. [new 2011] [1.2.9.4]

Next steps for management
Anna remains anxious about giving birth vaginally and would still like a caesarean section.

2.4 Question
What action should you take?
2.4 Answer
If, after receiving all of the information and support previously noted, Anna still requests a caesarean section, this should be offered to her.

As an obstetrician, you may decline a woman’s request for a caesarean section. If this is the case, refer the woman to an obstetrician who will carry out the caesarean section.

Related recommendations
For women requesting a caesarean section, if after discussion and offer of support (including perinatal mental health support for women with anxiety about childbirth), a vaginal birth is still not an acceptable option, offer a planned caesarean section. [new 2011] [1.2.9.5]

An obstetrician unwilling to perform a caesarean section should refer the woman to an obstetrician who will carry out the caesarean section. [new 2011] [1.2.9.6]
Case scenario 3: HIV infection and viral load status

Presentation
Michelle, a 25 year old primigravida who is HIV positive with an otherwise uncomplicated pregnancy, attends your antenatal clinic at 24 weeks gestation. She asks you about her options for the delivery of her child.

Next steps for management

3.1 Question
What clinical factors will influence the information that you give Michelle?
3.1 Answer
You will need to consider what kind of anti-retroviral treatment she is receiving, if any, and monitor her viral load throughout pregnancy.

Related recommendation
As early as possible give women with HIV information about the risks and benefits for them and their child of the HIV treatment options and mode of birth so that they can make an informed decision. [new 2011] [1.2.8.1]

Next steps for management
Michelle is being treated with highly active anti-retroviral therapy (HAART). Her viral load at booking is less than 400 copies per ml. This has fallen steadily, is undetectable at 32 weeks and remains undetectable.

3.2 Question
What mode of delivery should be offered to Michelle?
### 3.2 Answer
Michelle’s clinical circumstances mean that the risk of HIV transmission is the same for a caesarean section and a vaginal birth, so she should be offered a vaginal birth.

<table>
<thead>
<tr>
<th>Related recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not offer a caesarean section on the grounds of HIV status to prevent mother-to-child transmission of HIV to:</td>
</tr>
<tr>
<td>- women on highly active anti-retroviral therapy (HAART) with a viral load of less than 400 copies per ml or</td>
</tr>
<tr>
<td>- women on any anti-retroviral therapy with a viral load of less than 50 copies per ml.</td>
</tr>
<tr>
<td>Inform women that in these circumstances the risk of HIV transmission is the same for a caesarean section and a vaginal birth. [new 2011] [1.2.8.2]</td>
</tr>
</tbody>
</table>

Consider either a vaginal birth or a caesarean section for women on anti-retroviral therapy (ART) with a viral load of 50–400 copies per ml because there is insufficient evidence that a caesarean section prevents mother-to-child transmission of HIV. [new 2011] [1.2.8.3]

Offer a caesarean section to women with HIV who:

- are not receiving any anti-retroviral therapy or
- are receiving any anti-retroviral therapy and have a viral load of 400 copies per ml or more. [new 2011] [1.2.8.4]
Case scenario 4: Information for women who have had a caesarean section and are planning mode of delivery in a subsequent pregnancy

Presentation
You review Jill, para 1, on a postnatal ward round. Two days ago she had an emergency caesarean section in labour for dystocia and fetal distress. She asks you about the operation, and how it may affect her future pregnancies.

Next steps for management

4.1 Question
What information should you give to her?
4.1 Answer
You should discuss with Jill the reasons for her caesarean section, and give her both verbal and printed information about her birth options for any future pregnancies.

In particular you should discuss the risks and benefits of repeat caesarean section and the risks and benefits of planned vaginal birth after caesarean section, including risk of unplanned caesarean section.

Jill’s preferences and priorities should also be taken into consideration.

Related recommendations
While women are in hospital after having a CS, give them the opportunity to discuss with healthcare professionals the reasons for the CS and provide both verbal and printed information about birth options for any future pregnancies. If the woman prefers, provide this at a later date. [new 2011] [1.7.1.9]

When advising about the mode of birth after a previous caesarean section consider:
- maternal preferences and priorities
- the risks and benefits of repeat caesarean section
- the risks and benefits of planned vaginal birth after caesarean section, including the risk of unplanned caesarean section. [new 2011] [1.8.1]

Inform women who have had up to and including four caesarean sections that the risk of fever, bladder injuries and surgical injuries does not vary with planned mode of birth and that the risk of uterine rupture, although higher for planned vaginal birth, is rare. [new 2011] [1.8.2]

Next steps for management
Two years later, Jill returns to your antenatal clinic, expecting her second child. She would like to plan a vaginal birth.
4.2 Question
What additional care should Jill be offered during labour, in view of her previous history of caesarean delivery?
4.2 Answer

Jill should be offered electronic fetal monitoring during labour and care in an obstetric unit where there is immediate access to caesarean section and on-site blood transfusion services, as a precaution.

**Related recommendations**

Offer women planning a vaginal birth who have had a previous caesarean section:

- electronic fetal monitoring during labour
- care during labour in a unit where there is immediate access to caesarean section and on-site blood transfusion services. [2011] [1.8.3]

During induction of labour, women who have had a previous caesarean section should be monitored closely, with access to electronic fetal monitoring and with immediate access to caesarean section, because they are at increased risk of uterine rupture¹. [2004, amended 2011] [1.8.4]

¹For more information see ‘Induction of labour’ (NICE clinical guideline 70).
Other implementation tools

NICE has developed tools to help organisations implement the clinical guideline on caesarean section (update) (listed below). These are available on the NICE website (www.nice.org.uk/guidance/CG132).

- Slide set
- Costing report and template
- Audit support
- Podcast on maternal request for caesarean section

Practical ‘how to’ guides about the implementation of NICE guidance and changing practice are also available: How to Guides

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