NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Guideline scope

Intrapartum care for high-risk women

Topic

The Department of Health in England has asked NICE to develop a guideline for intrapartum care of 'high risk' women, including risk assessment and place of birth.

This guideline will sit alongside NICE's existing guideline on the care of healthy women and their babies during childbirth, and cover labours in which either the pregnant women or her baby is at high risk of adverse outcomes because of a medical condition affecting the woman or an obstetric complication.

For more information about why this guideline is being developed, and how the guideline will fit into current practice, see the context section.

Who the guideline is for

- Pregnant women, their families and carers and the public.
- Obstetricians, midwives, anaesthetists and other healthcare professionals involved in the care of women in labour, including in maternity services.
- Providers and commissioners of maternity services.

NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the Welsh Government, Scottish Government, and Northern Ireland Executive.

Equality considerations

NICE has carried out an equality impact assessment during scoping. The assessment:

- lists equality issues identified, and how they have been addressed
- explains why any groups are excluded from the scope, if this was done.

The guideline will look at inequalities relating to women who have complicating social factors who find it difficult to access and/or derive full benefit from the care available, such as recent migrants, travellers, women who have difficulty understanding and speaking English, and women with disabilities.

1 What the guideline is about

This guideline covers aspects of intrapartum care for women who are identified before or during labour as being at high risk of adverse outcomes.

1.1 Who is the focus?

Groups that will be covered

Women who go into labour who are at term (from 37^{+0} weeks) and at high risk of adverse outcomes for themselves and/or their baby.

Two main groups of women in labour are the focus of this guideline:

- women in labour who are identified as high risk before or during labour because of pre-existing medical conditions
- women in labour who are identified as high risk because of obstetric complications, women who have no antenatal care, and women in labour whose baby is identified before or during labour to be at high risk of adverse outcomes.

Groups that will not be covered

- Women in labour whose baby is identified antenatally to be at high risk of adverse outcomes because the baby has a congenital disorder.
- Women in preterm labour.
- Women in labour who are identified to be at high risk before or during labour because of personal or social circumstances.

- Women in labour without known medical conditions who have a caesarean section that is planned as part of antenatal care.

1.2 Settings

Settings that will be covered

- Hospital obstetric units, midwifery units located alongside obstetric units, and community settings including freestanding midwifery units and home.

1.3 Activities, services or aspects of care

Key areas that will be covered

- Place of birth for women at high risk of adverse outcomes in labour, including transfer of care for women who are identified as being at low risk at the start of labour who develop a complication or obstetric emergency.
- Risk assessment and intrapartum care for women who are at high risk of adverse outcomes because of medical conditions:
  - women with cardiac disease (for example women with mitral valve regurgitation)
  - women with respiratory disease (including asthma and those with long-term steroid medication)
  - women with non-thrombophilic haematological disorders
  - women with subarachnoid haemorrhage and/or arterio-venous malformations of the brain and platelet disorders
  - women with renal problems
  - women with liver disease
  - women who are obese.

- Risk assessment and intrapartum care for women at high risk of adverse outcomes not as a result of medical conditions:
  - care of women with obstetric complications:
    - ◊ women with sepsis
    - ◊ women who have babies with shoulder dystocia

- ◊ women with pyrexia
- ◊ women with malpresentation or malposition of the baby in labour (including breech presentation)
- ◊ women with intrapartum haemorrhage
- ◊ women who are in labour after 42 weeks of pregnancy

– care of women during vaginal birth after a previous caesarean section

– care of women with a small-for-dates baby or a large-for-dates baby

– care of women who present in labour who have had no antenatal care.

Areas that will be covered by incorporation from or updating of the NICE guideline on intrapartum care

- Care of women with delay in the third stage of labour (retained placenta).
- Care of women who have a postpartum haemorrhage.
- Monitoring (management when cardiotocography is abnormal) during labour.

Areas that will not be covered

The following populations will not be covered in this guideline because:

- they are covered in other NICE guidelines
- it is planned that the area of intrapartum care will be part of updated scopes of previously published NICE guidelines
- they are covered in related guidelines that are NICE-accredited (Royal College of Obstetricians and Gynaecologists [RCOG] Green-top Guidelines)
- they cover only a very small group of women presenting in labour.

Explanations for exclusion are given alongside each population only when these are related to published NICE guidelines or RCOG Green-top guidelines.

- Care of women with the following medical conditions:
  - women with mental health problems requiring medication

- women who are taking anti-coagulants (covered in: Thrombosis and embolism during pregnancy and the puerperium, reducing the risk [RCOG Green-top Guideline No. 37a])
- women with musculoskeletal disorders including back problems
- women with hepatitis B or C, or with HIV
- women with previous myomectomy or hysterotomy
- women with pelvic girdle pain
- women with neurological disorders such as epilepsy
- women with neuromuscular disorders such as multiple sclerosis
- women with sickle cell disease (covered in: Sickle cell disease in pregnancy, management of [RCOG Green-top Guideline No. 61])
- women with thyroid disease

• Care of women with the following obstetric complications:

- women with multiple pregnancy
- women with hypertension in pregnancy
- women with a 3rd or 4th degree tear (covered in: Third- and fourth-degree perineal tears, management [RCOG Green-top Guideline No. 29])
- women with diabetes in pregnancy
- women with obstetric cholestasis (covered in: Obstetric Cholestasis [RCOG Green-top Guideline No. 43])
- women in suspected preterm labour (covered in: Preterm labour and birth. NICE guideline expected November 2015)
- women with cord prolapse (covered in: Umbilical Cord Prolapse [RCOG Green-top Guideline No. 50])
- women who collapse in labour (covered in: Maternal Collapse in Pregnancy and the Puerperium [RCOG Green-top Guideline No. 56])
- women with suspected amniotic fluid embolism (covered in: Maternal collapse in pregnancy and the puerperium [RCOG Green-top Guideline No. 56])
- women infected by Group B streptococcus (GBS) in pregnancy

  - women with planned caesarean section for reasons other than maternal medical disorders
  - women with obstetric complications in a previous pregnancy, labour and/or birth including:
    - stillbirth or neonatal death
    - baby with neonatal encephalopathy
    - pre-eclampsia needing preterm birth
    - placental abruption with adverse outcome
    - eclampsia
    - uterine rupture
    - postpartum haemorrhage needing additional treatment or blood transfusion
    - retained placenta requiring manual removal in theatre
    - shoulder dystocia
- Women with personal and social complications.

1.4 Economic aspects

We will take economic aspects into account when making recommendations. We will develop an economic plan that states for each review question (or key area in the scope) whether economic considerations are relevant, and if so whether this is an area that should be prioritised for economic modelling and analysis. We will review the economic evidence and carry out economic analyses, using an NHS and personal social services (PSS) perspective as appropriate.

1.5 Key issues and questions

While writing this scope, we have identified the following key issues, and key review questions related to the intrapartum care of high risk women:

Review questions for intrapartum care for women at high risk of adverse outcomes because of medical conditions

1 What is the most appropriate planned place of birth for women with known risk factors for adverse outcomes in labour for the woman and/or her baby?

2 What are the most appropriate referral criteria for women with known risk factors for adverse outcomes in labour for the woman and/or her baby?

Women with cardiac disease:

3 What is the most appropriate fluid management regimen for women with different types of cardiac disease who are in labour?

4 What is the safety of regional analgesia compared with systemic narcotic analgesia for women with cardiac disease who are in labour?

5 How should the second stage of labour be managed for women with cardiac disease?

6 What is the most appropriate mode of birth for women with cardiac disease?

7 How should the third stage of labour be managed for women with cardiac disease?

Women with respiratory disease:

8 How should women with asthma be cared for during labour in order to prevent breathlessness?

9 Which forms of analgesia are the safest for women with asthma?

10 How should labour be managed in women on long-term steroid therapy?

Women with non-thrombophilic haematological disorders:

11 How should fetal monitoring be managed for women who are at increased risk of haemorrhage because of non-thrombophilic haematological disorders?

12 What additional measures are needed to ensure the safety of regional analgesia in women with non-thrombophilic haematological disorders?

13 How should the third stage of labour be managed for women who are at increased risk of haemorrhage because of non-thrombophilic haematological disorders?

Women with subarachnoid haemorrhage and/or arterio-venous malformations of the brain and platelet disorders:

14 How should the second stage of labour be managed for women with subarachnoid haemorrhage and/or arterio-venous malformations of the brain and platelet disorders?

Women with renal problems:

15 What is the most effective treatment for achieving fluid balance during labour for women with renal diseases?

16 What is the appropriate intrapartum care for women with renal diseases?

Women with liver disorders:

17 What is the most effective and safe method of analgesia for women with liver disorders?

18 How should labour be managed for women with liver disorders?

Women who are obese:

19 How should fetal monitoring be managed during labour for women who are obese?

20 What is the value of assessing fetal presentation and position early in labour for women who are obese to predict mode of birth?

21 How should progress in labour be assessed in women who are obese?

22 What interventions improve the effectiveness of regional analgesia in women who are obese?

23 How should the second stage of labour be managed for women who are obese in order to improve maternal and fetal outcomes?

Review questions for women at high risk of adverse outcomes in labour not as a result of medical conditions

24 How should fetal monitoring be managed during labour for women at high risk of adverse outcomes in labour for the woman and/or her baby?

25 What maternal observations should be performed for women at high risk of adverse outcomes in labour for the woman and/or her baby?

26 Does type of analgesia influence outcomes for the woman and/or her baby?

27 What thromboprophylaxis should be offered to women at high risk of adverse outcomes in labour for the woman and/or her baby?

28 What immediate postpartum care should be provided for women following adverse outcomes in labour for the woman and/or her baby?

Women with obstetric complications

Women with sepsis:

29 What are the symptoms and signs of sepsis for women in labour?

30 What are the most effective and safest methods of analgesia and anaesthesia for women with sepsis in labour?

31 What diagnostic tools are most effective when sepsis is suspected for women in labour?

32 What is the most clinical and cost effective antimicrobial therapy for women with sepsis in labour?

33 How should fetal monitoring be managed for women with sepsis who present in labour?

34 What is the most appropriate mode of birth for women with sepsis?

35 What is the most appropriate timing of birth for women with sepsis?

36 What is the most appropriate management for women with sepsis in the first 24 hours after the birth?

Women who have babies with shoulder dystocia:

37 What risk factors are indicative of shoulder dystocia?

38 What are the effective manoeuvres in management of shoulder dystocia in labour?

Women with pyrexia:

39 Does the use of anti-pyretics improve maternal and neonatal outcomes?

40 Does the use of fetal blood sampling (in conjunction with electronic fetal monitoring) improve neonatal outcomes?

41 Does investigating the cause of pyrexia in labour improve maternal and neonatal outcomes?

Women with malpresentation or malposition of the baby in labour

42 What is the best method of delivering the head where there is a breech presentation?

43 How should the second stage of labour be managed for women with an unborn baby in breech presentation?

Women with intrapartum haemorrhage:

44 What is the most appropriate mode of delivery for women with intrapartum haemorrhage?

Women in labour after 42 weeks of pregnancy (including spontaneous labour):

45 What monitoring of the woman and baby should be carried out during labour for women in labour after 42 weeks of pregnancy?

Women having a vaginal birth after a previous caesarean section:

46 What is the most appropriate planned place of birth for women who give birth vaginally and have had a previous caesarean section?

47 How should fetal monitoring be managed during labour for women who give birth vaginally and have had a previous caesarean section?

Women with a small-for-dates baby or a large-for-dates baby:

48 How should fetal monitoring be managed during labour for women with a small-for dates baby?

49 How should the second stage of labour be managed for women with a large-for-dates baby?

Women who present in labour with no antenatal care

50 What are the most appropriate systems for risk assessment and management for women who present in labour with no antenatal care?

Women who were considered to be low risk at the start of labour but who develop complications

51 When and where should care be transferred for women who were considered low risk at the start of labour but develop complications after the start of labour?

1.6 Main outcomes

The main outcomes that will be considered when searching for and assessing the evidence are:

For the woman:

1 mortality
2 major morbidities (such as genital tract trauma, blood loss)
3 mode of birth
4 women's experience of labour and birth (including psychological wellbeing)
5 length of hospital stay and high dependency unit/intensive care unit admission
6 type of analgesia
7 other major morbidity specific to the topic.

For the baby:

8 mortality

9 major neonatal morbidity (such as hypoxic ischaemic encephalopathy, brain injuries and respiratory complications)
10 neonatal infection
11 neonatal intensive care unit admission
12 long-term child developmental outcomes (such as cerebral palsy).

2 Links with other NICE guidance and NICE Pathways

2.1 NICE guidance

NICE guidance that will be incorporated unchanged in this guideline

- Intrapartum care (2014) NICE guideline CG190

NICE guidance about the experience of people using NHS services

NICE has produced the following guidance on the experience of people using the NHS. This guideline will not include additional recommendations on these topics unless there are specific issues related to the intrapartum care of women at high risk of adverse outcomes:

- Patient experience in adult NHS services (2012) NICE guideline CG138
- Service user experience in adult mental health (2011) NICE guideline CG136
- Medicines adherence (2009) NICE guideline CG76

NICE guidance in development that is closely related to this guideline

NICE is currently developing the following guidance that is closely related to this guideline:

- Preterm labour and birth. NICE guideline. Publication expected November 2015
- Sepsis: the recognition, diagnosis and management of severe sepsis. NICE guideline. Publication expected July 2016.

2.2 NICE quality standards

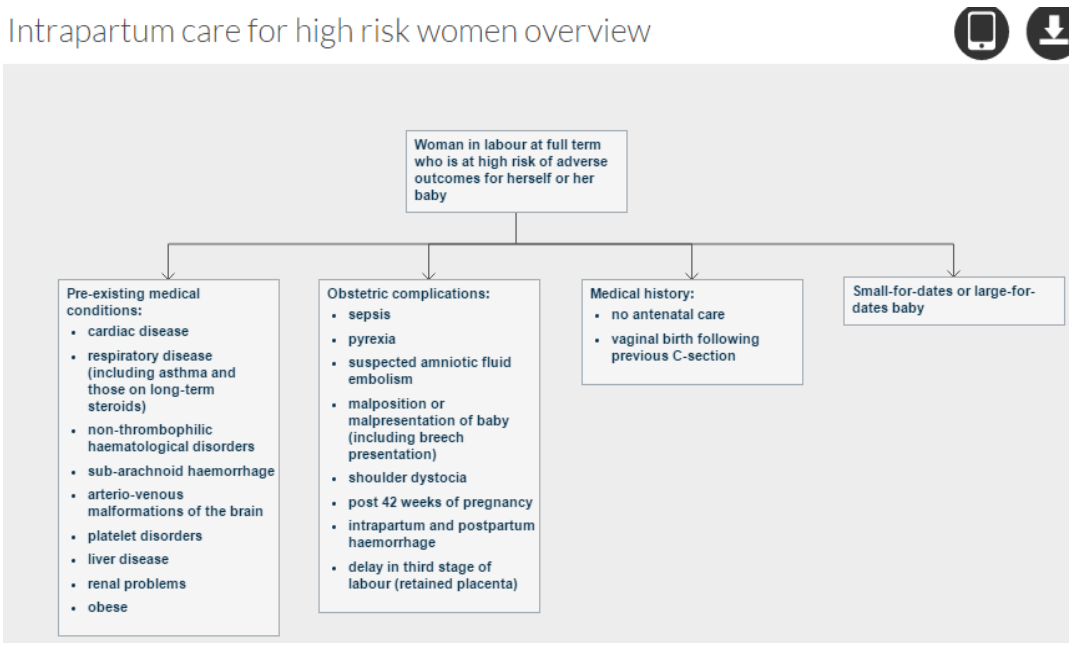
- Neonatal jaundice (2014) NICE quality standard QS57
- Asthma: diagnosis and management of asthma (2013) NICE quality standard QS25
- Antenatal care (2012) NICE quality standard QS22

2.3 NICE Pathways

NICE Pathways bring together all related NICE guidance and associated products on a topic in an interactive topic-based flow chart.

When this guideline is published, the recommendations will be added to a new NICE pathway, which will be accessible from the existing pathway on intrapartum care. An outline pathway, based on this scope, is included below. It will be adapted and more detail added as the recommendations are written during guideline development.

The new pathway will link to existing pathways that cover intrapartum care that are outside the scope of this guideline such as diabetes in pregnancy and hypertension in pregnancy.



3 Context

3.1 Key facts and figures

Risk assessment and planning are key components of pregnancy care for pregnant women, so that any factors that are likely to have a negative impact on the pregnancy and/or birth can be identified in a timely manner. Care can then be delivered in order to maximise the chances of good outcomes for both the woman and her baby. This assessment and planning starts at the antenatal booking appointment and continues throughout pregnancy at each antenatal visit. During labour, routine monitoring of the women and her unborn baby and of the progress of labour is a continuation of the risk-screening process. Findings from these assessments will impact on the plan of care for labour and may result in changes to the plan being made antenatally or during labour if new complications are identified.

A pregnancy is 'high risk' when the likelihood of an adverse outcome for the woman and/or the baby is greater than that of the 'normal population'. A labour is 'high risk' when the adverse outcomes arise in association with labour.

The risk can be identified before pregnancy, during pregnancy or during labour. It can arise from a variety of processes, and can affect the woman and/or the baby. Examples are described in the following paragraphs.

- A woman may have a pre-existing medical condition that can be made worse by the physiological changes that occur in labour. The 2014 MBRACE-UK report on Saving lives, improving mothers' care states that there were approximately 10 maternal deaths per 100,000 women giving birth in the UK in 2010–12. Of these, two-thirds were the result of physical or mental health problems in pregnancy (indirect deaths) and only one-third resulted from direct complications of pregnancy such as bleeding. Cardiac disease remains the largest single cause of indirect maternal deaths.

- Pregnancy-related (obstetric) problems can develop that increase the risk of adverse labour and/or birth outcomes. Again, these can lead to mortality: one-third of maternal deaths resulting from direct complications of pregnancy were associated with thrombosis and thromboembolism, 15% with genital tract sepsis and 15% with haemorrhage.

- A woman can enter labour with no identified complications and be considered 'low risk' but problems may arise during labour that can be associated with adverse outcomes. These problems may develop gradually over the course of labour or arise as acute emergencies. The 2011 Birthplace in England study found that 10.1% of women considered 'low risk' before labour had one or more complicating conditions identified at the start of care in labour. The study also reported the following rates of adverse outcomes for women categorised as low risk at the end of pregnancy: intrapartum section, 5.8%; third-or fourth-degree perineal trauma, 2.7%; blood transfusion, 0.9%; admission of the baby to a neonatal intensive care unit, 2.1%. Although maternal mortality is rare, complications in labour cause significant morbidity, and can have long-term physical and psychological consequences. Furthermore, maternity claims represent the highest value and second highest number of clinical negligence claims reported to the NHS Litigation Authority (NHSLA).

- The 2014 MBRRACE-UK report showed that 22% of women who died in labour were overweight and 27% were obese. Women who receive little or no antenatal care are at increased risk of adverse birth outcomes, largely as a result of the lack of opportunity for full assessment and antenatal and intrapartum care planning.

3.2 Current practice

Women with risk factors for an adverse labour outcome that are known before the onset of labour will enter labour with a plan of care that includes the place of birth, level of intrapartum maternal and fetal monitoring, strategies for intrapartum analgesia and treatment and interventions specific to the woman's

condition. The woman is also likely to have made an individualised birth plan detailing her preferences for labour.

Variation in care can arise in any of these areas, depending on the severity of the condition or complication and the anticipated level of associated risk. Variation may also result from differences in birth unit protocols, opinions and preferences of senior medical staff and local availability of resources.

If the risk either arises or is identified after the woman has gone into labour, consideration still needs to be given to the changes to routine intrapartum care that are needed, although the options may be more limited depending on the setting. Transfer may be needed to a place of birth with the necessary facilities to care for the woman and her baby.

3.3 Policy, legislation, regulation and commissioning

Legislation, regulation and guidance

- Children and Families Act. October 2014

Commissioning

- Commissioning of Maternity Services. July 2012

One of the issues to be covered in this guideline that may impact on commissioning is transfer of intrapartum care from one place of care to another for women at high risk of adverse outcomes.

Further information

This is the draft scope for consultation with registered stakeholders. The consultation dates are 13 August to 11 September 2015. The guideline is expected to be published in November 2017.

You can follow progress of the guideline. Our website has information about how NICE guidelines are developed.