NICE National Institute for Health and Care Excellence

NICE guideline

# Intrapartum care

NICE guideline
Published: 29 September 2023

www.nice.org.uk/guidance/ng235

# Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

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This guideline replaces CG190.

This guideline is the basis of QS105.

This guideline should be read in conjunction with NG137.

# Overview

This guideline covers the care of women and their babies during labour and immediately after birth. It focuses on women who give birth between 37 and 42 weeks of pregnancy ('term'). The guideline helps women to make informed choices about where to have their baby and about their care in labour. It also aims to reduce variation in aspects of care.

Using inclusive language in healthcare is important for safety, and to promote equity, respect and effective communication with everyone. This guideline does not use inclusive language because it was developed before NICE's style change to use gender-inclusive language.

Healthcare professionals should use their clinical judgement when implementing recommendations, taking into account the individual's circumstances, needs and preferences, and ensuring all people are treated with dignity and respect throughout their care.

NICE has also produced guidelines on intrapartum care for women with existing medical conditions or obstetric complications and their babies, fetal monitoring in labour and caesarean birth. For information on other related topics, see our women's and reproductive health summary page.

# Who is it for?

- Healthcare professionals
- Commissioners and providers
- Healthy women who have had a straightforward pregnancy and give birth between 37 and 42 weeks of pregnancy

# Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in NICE's information on making decisions about your care.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

## 1.1 Antenatal education about labour

1.1.1 Give all women information antenatally about:

- what to expect in the latent first stage of labour
- how to work with any pain they experience
- how to contact their midwifery care team and what to do in an emergency. **[2014, amended 2023]**

1.1.2 Offer all women antenatal education about the signs of labour, consisting of:

- how to differentiate between Braxton Hicks contractions and active labour contractions
- the expected frequency of contractions and how long they last
- recognition of amniotic fluid ('waters breaking')
- description of normal vaginal loss. **[2014, amended 2023]**

1.1.3 For all women, discuss their preferences and choices for care during labour and birth as early as possible in their pregnancy, and record these choices. Emphasise that:

- making and recording care choices in advance will mean they will have more time to think about all their options
- they are free to make their decisions and change their mind at any time, including during labour or while giving birth
- choices and decisions may need to be discussed again if problems or changes occur during pregnancy or labour. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on antenatal education about labour.

## 1.2 Service organisation

1.2.1 Commissioners and providers, including networks of providers, should ensure that all 4 birth settings (home, freestanding midwifery unit, alongside midwifery unit and obstetric unit) are available to all women (in the local area or in a neighbouring area). **[2014, amended 2023]**

1.2.2 Ensure that all women giving birth have timely access to an obstetric unit if they need transfer of care for medical reasons or because they request regional analgesia. Audit and publish transfer times and reasons for delay in transfers so women can be informed of local service availability. **[2014, amended 2023]**

1.2.3 Commissioners and providers, including networks of providers, should ensure that there are:

- robust protocols in place for transfer of care between settings (see also section 1.5)
- clear local pathways for the continued care of women who are transferred from one setting to another, including:
  - when crossing provider boundaries
  - if the nearest obstetric or neonatal unit is closed to admissions or the local midwifery-led unit is full. **[2014]**

1.2.4 Commissioners and providers, including networks of providers, should ensure that there are multidisciplinary clinical governance structures in place to enable the oversight of all birth settings. These structures should include, as a minimum, midwifery, obstetric, anaesthetic and neonatal expertise, and adequately supported user representation. **[2014, amended 2023]**

# 1.3 Planning place of birth

## All women at low risk of complications

1.3.1 Explain to both multiparous and nulliparous women who are at low risk of complications that giving birth is generally very safe for both the woman and her baby. **[2014]**

1.3.2 Advise women that additional resources to help them plan their place of birth are available on the tools and resources page for this guideline and the NHS website. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on planning place of birth.

1.3.3 Explain to both multiparous and nulliparous women that they may choose any birth setting (home, freestanding midwifery unit, alongside midwifery unit or obstetric unit), and support them in their choice of setting wherever they choose to give birth:

- Advise low-risk multiparous women that planning to give birth at home or in a midwifery-led unit (freestanding or alongside) is associated with a lower rate of interventions and the outcome for the baby is no different compared with an obstetric unit.
- Advise low-risk nulliparous women that planning to give birth in a midwifery-led unit (freestanding or alongside) is associated with a lower rate of interventions and the outcome for the baby is no different compared with an obstetric unit. Explain that if they plan birth at home, there is a small increase in the risk of an adverse outcome for the baby. **[2014, amended 2023]**

1.3.4 Ensure that all healthcare professionals involved in the care of pregnant women are familiar with the types and frequencies of serious medical problems that can affect babies (see appendix A), in order to be able to provide this information to women if they request it. **[2014]**

1.3.5 Discuss with women the following information, including local statistics, about all local birth settings, and update them if this changes during their pregnancy:

- access to midwives, including:
  - the likelihood of being cared for in labour by a familiar midwife
  - the likelihood of receiving one-to-one care throughout labour (not necessarily being cared for by the same midwife for the whole of labour)
- access to medical staff (obstetric, anaesthetic and neonatal)
- availability of birthing pools
- access to pain relief, including Entonox (a 50:50 mixture of oxygen and nitrous oxide) and medicines (for example, pethidine, diamorphine, patient-controlled analgesia and regional analgesia)
- the likelihood of being transferred to an obstetric unit (if this is not the woman's chosen place of birth), the reasons why this might happen, the time it may take, the delay in obstetric or neonatal care this may cause, and how her birth companion will travel; refer to table 1 if no local data is available.

  More information on transfer to an obstetric unit for different groups of women is included in table 2 and table 4. **[2014, amended 2023]**

**Table 1 Primary reasons for transfer to an obstetric unit by number of women transferred (% of total transferred from each setting)**

| Main reason for transfer to an obstetric unit for each woman (there may be more than 1 reason) | From home (n=3,529) | From a freestanding midwifery unit (n=2,457) | From an alongside midwifery unit (n=4,401) |
|---|---|---|---|
| Delay during first or second stage of labour | 1,144 (32.4%) | 912 (37.1%) | 1,548 (35.2%) |
| Abnormal fetal heart rate | 246 (7.0%) | 259 (10.5%) | 477 (10.8%) |
| Request for regional analgesia | 180 (5.1%) | 163 (6.6%) | 585 (13.3%) |
| Meconium staining | 432 (12.2%) | 301 (12.2%) | 538 (12.2%) |
| Retained placenta | 250 (7.0%) | 179 (7.3%) | 203 (4.6%) |
| Repair of perineal trauma | 386 (10.9%) | 184 (7.5%) | 369 (8.4%) |
| Postpartum neonatal concerns | 180 (5.1%) | 63 (2.6%) | 5 (0.11%) |
| Other | 711 (20.1%) | 396 (16.2%) | 676 (16.3%) |

Source: Birthplace in England research study, 2011.

## Impact of BMI on choice of place of birth

1.3.6 Advise women that, in general, the higher their body mass index (BMI) at booking (and particularly with a BMI above 35 kg/m$^2$), the greater the likelihood of complications, so this may be something they wish to think about when planning their place of birth. Discuss with them that:

- these complications include unplanned caesarean birth, postpartum haemorrhage, transfer from home to an obstetric unit, stillbirth, neonatal death or the baby needing neonatal care

- the risk of complications may depend on whether the woman is nulliparous or multiparous, but in general the risks of complications are higher for nulliparous women with an increased BMI compared with multiparous women with an increased BMI
- in the event of complications arising, advanced care can generally be given more quickly in an obstetric unit or an alongside midwifery unit than at home or in a freestanding midwifery unit.

  For more detail on the risks associated with increased BMI in different places of birth, see appendix B. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on impact of BMI on choice of place of birth.

Full details of the evidence and the committee's discussion are in evidence review A: impact of BMI on choice of place of birth.

## Low-risk multiparous women

1.3.7 Using tables 2 and 3, explain to low-risk multiparous women that:

- planning birth at home or in a freestanding midwifery unit is associated with a higher rate of spontaneous vaginal birth than planning birth in an alongside midwifery unit, and these 3 settings are associated with higher rates of spontaneous vaginal birth than planning birth in an obstetric unit
- planning birth in an obstetric unit is associated with a higher rate of interventions, such as vaginal birth with forceps or ventouse, unplanned caesarean birth and episiotomy, compared with planning birth in other settings
- there are no differences in outcomes for the baby associated with planning birth in any setting. **[2014, amended 2023]**

**Table 2 Low-risk multiparous women: Rates of different modes of birth, transfer to an obstetric unit and obstetric interventions for each planned place of birth (number of incidences per 1,000 women giving birth by location)**

| Type of birth | Home | Freestanding midwifery unit | Alongside midwifery unit | Obstetric unit |
|---|---|---|---|---|
| Spontaneous vaginal birth | 984 | 980 | 967 | 927 |
| Birth with forceps or ventouse | 9 | 12 | 23 | 38 |
| Unplanned caesarean birth | 7 | 8 | 10 | 35 |
| Transfer to an obstetric unit | 115 | 94 | 125 | 10 |
| Regional analgesia (epidural and/or spinal) | 28 | 40 | 60 | 121 |
| Episiotomy | 15 | 23 | 35 | 56 |
| Blood transfusion | 4 | 4 | 5 | 8 |

Sources: Birthplace in England research study, 2011; Outcomes of planned home births and planned hospital births in low-risk women in Norway between 1990 and 2007 (Blix et al. 2012).

For obstetric unit transfer to an obstetric unit, the 10 cases noted in table 2 are the estimated transfer rate from one obstetric unit to a different obstetric unit owing to lack of capacity or expertise. For regional anaesthesia, Blix et al. reported epidural analgesia and the Birthplace in England study reported spinal or epidural analgesia.

**Table 3 Low-risk multiparous women: Outcomes for the baby for each planned place of birth (by number of babies per 1,000 births)**

| Population | Home | Freestanding midwifery unit | Alongside midwifery unit | Obstetric unit |
|---|---|---|---|---|
| Babies without serious medical problems | 997 | 997 | 998 | 997 |
| Babies with serious medical problems | 3 | 3 | 2 | 3 |

Source: Birthplace in England research study, 2011.

Serious medical problems were combined in table 3: neonatal encephalopathy and meconium aspiration syndrome were the most common adverse events, together accounting for 75% of the total. Stillbirths after the start of care in labour and death of the baby in the first week of life accounted for 13% of the events. Fractured humerus and clavicle were uncommon outcomes (less than 4% of adverse events). For the frequency of these events (how often any of them actually occurred), see appendix A.

## Low-risk nulliparous women

1.3.8 Using tables 4 and 5, explain to low-risk nulliparous women that:

- planning birth at home or in a freestanding midwifery unit is associated with a higher rate of spontaneous vaginal birth than planning birth in an alongside midwifery unit, and these 3 settings are associated with higher rates of spontaneous vaginal birth than planning birth in an obstetric unit
- planning birth in an obstetric unit is associated with a higher rate of interventions, such as vaginal birth with forceps or ventouse, unplanned caesarean birth and episiotomy, compared with planning birth in other settings
- there are no differences in outcomes for the baby associated with planning birth in an alongside midwifery unit, a freestanding midwifery unit or an obstetric unit
- planning birth at home is associated with an overall small increase in the risk of a baby having a serious medical problem (about 4 more per 1,000 births) compared with planning birth in other settings. **[2014, amended 2023]**

**Table 4 Low-risk nulliparous women: Rates of different modes of birth, transfer to an obstetric unit and obstetric interventions for each planned place of birth (number of incidences per 1,000 women giving birth by location)**

| Type of birth | Home | Freestanding midwifery unit | Alongside midwifery unit | Obstetric unit |
|---|---|---|---|---|
| Spontaneous vaginal birth | 794 | 813 | 765 | 688 |
| Birth with (forceps or ventouse) | 126 | 118 | 159 | 191 |

| Type of birth | Home | Freestanding midwifery unit | Alongside midwifery unit | Obstetric unit |
|---|---|---|---|---|
| Unplanned caesarean birth | 80 | 69 | 76 | 121 |
| Transfer to an obstetric unit | 450 | 363 | 402 | 10 |
| Regional analgesia (epidural and/or spinal) | 218 | 200 | 240 | 349 |
| Episiotomy | 165 | 165 | 216 | 242 |
| Blood transfusion | 12 | 8 | 11 | 16 |

Sources: Birthplace in England research study, 2011; Outcomes of planned home births and planned hospital births in low-risk women in Norway between 1990 and 2007 (Blix et al. 2012).

For obstetric unit transfer to an obstetric unit, the 10 cases noted in table 4 are the estimated transfer rate from one obstetric unit to a different obstetric unit owing to lack of capacity or expertise. For regional anaesthesia, Blix et al. reported epidural analgesia and the Birthplace in England study reported spinal or epidural analgesia.

**Table 5 Low-risk nulliparous women: Outcomes for the baby for each planned place of birth (by number of babies per 1,000 births)**

| Population | Home | Freestanding midwifery unit | Alongside midwifery unit | Obstetric unit |
|---|---|---|---|---|
| Babies without serious medical problems | 991 | 995 | 995 | 995 |
| Babies with serious medical problems | 9 | 5 | 5 | 5 |

Source: Birthplace in England research study, 2011.

Serious medical problems were combined in table 5: neonatal encephalopathy and meconium aspiration syndrome were the most common adverse events, together accounting for 75% of the total. Stillbirths after the start of care in labour and death of the baby in the first week of life accounted for 13% of the events. Fractured humerus and clavicle were uncommon outcomes (less than 4% of adverse events). For the frequency of

these events (how often any of them actually occurred), see appendix A.

## Medical conditions and other factors that may affect planned place of birth

1.3.9 Use tables 6 to 9 as part of an assessment for a woman choosing her planned place of birth:

- tables 6 and 7 show medical conditions or other situations in which there is increased risk for the woman or baby during or shortly after labour, where care in an obstetric unit would be expected to reduce this risk
- the factors listed in tables 8 and 9 are not reasons in themselves for advising birth within an obstetric unit, but indicate that further consideration of birth setting may be needed
- discuss these risks and the additional care that can be provided in the obstetric unit with the woman so that she can make an informed choice about planned place of birth. **[2007, amended 2014]**

**Table 6 Medical conditions indicating increased risk and suggesting planned birth at an obstetric unit**

| Disease area | Medical condition |
|---|---|
| Cardiovascular | • Confirmed cardiac disease<br>• Hypertensive disorders |
| Respiratory | • Asthma requiring an increase in treatment or hospital treatment<br>• Cystic fibrosis |

| Disease area | Medical condition |
| --- | --- |
| Haematological | • Haemoglobinopathies, such as sickle-cell disease, beta-thalassaemia major<br>• History of thromboembolic disorders<br>• Immune thrombocytopenia purpura or other platelet disorder or platelet count below $100\times10^9$/litre<br>• Von Willebrand's disease<br>• Bleeding disorder in the woman or unborn baby<br>• Atypical antibodies which carry a risk of haemolytic disease of the newborn |
| Endocrine | • Hyperthyroidism<br>• Diabetes needing medication |
| Infective | • Hepatitis B or C with abnormal liver function tests<br>• Toxoplasmosis – women receiving treatment<br>• Current active infection of chicken pox, rubella or genital herpes in the woman or baby<br>• Tuberculosis under treatment |
| Immune | • Systemic lupus erythematosus<br>• Scleroderma |
| Renal | • Abnormal renal function<br>• Renal disease requiring supervision by a renal specialist |

| Disease area | Medical condition |
|---|---|
| Neurological | • Epilepsy<br>• Myasthenia gravis<br>• Previous cerebrovascular accident |
| Gastrointestinal | Liver disease associated with current abnormal liver function tests |
| Psychiatric | Psychiatric disorder requiring current inpatient care |

**Table 7 Other factors indicating increased risk and suggesting planned birth at an obstetric unit**

| Factor | Additional information |
|---|---|
| Previous complications | • Unexplained stillbirth or neonatal death, or previous death related to intrapartum difficulty<br>• Previous baby with neonatal encephalopathy<br>• Pre-eclampsia requiring preterm birth<br>• Placental abruption with adverse outcome<br>• Eclampsia<br>• Uterine rupture<br>• Primary postpartum haemorrhage requiring additional treatment or blood transfusion<br>• Caesarean birth<br>• Shoulder dystocia |

| Factor | Additional information |
| --- | --- |
| Current pregnancy | • Multiple birth<br>• Placenta praevia<br>• Pre-eclampsia or pregnancy-induced hypertension<br>• Preterm labour or preterm prelabour rupture of membranes<br>• Placental abruption<br>• Anaemia – haemoglobin less than 85 g/litre at onset of labour<br>• Confirmed intrauterine death<br>• Substance misuse<br>• Alcohol dependency requiring assessment or treatment<br>• Gestational diabetes needing medication<br>• Malpresentation – breech or transverse lie<br>• Recurrent antepartum haemorrhage<br>• Small for gestational age in this pregnancy (less than third centile or reduced growth velocity on ultrasound as defined in the NHS Saving babies lives version 3)<br>• Abnormal fetal heart rate, umbilical or fetal doppler studies<br>• Ultrasound diagnosis of oligo- or polyhydramnios |
| Previous gynaecological history | • Myomectomy<br>• Hysterotomy |

**Table 8 Medical conditions indicating individual assessment is needed when planning place of birth**

| Disease area | Medical condition |
|---|---|
| Cardiovascular | Cardiac disease without intrapartum implications |
| Haematological | • Atypical antibodies not putting the baby at risk of haemolytic disease<br>• Sickle-cell trait<br>• Thalassaemia trait<br>• Anaemia – haemoglobin 85 to 105 g/litre at onset of labour |
| Endocrine | Unstable hypothyroidism such that a change in treatment is needed |
| Infective | • Group B streptococcus where intrapartum intravenous antibiotics are recommended<br>• Hepatitis B or C with normal liver function tests (as baby will need paediatric review after birth)<br>• Carrier of or infected with HIV |
| Immune | Non-specific connective tissue disorders |
| Skeletal/ Neurological | • Spinal abnormalities<br>• Previous fractured pelvis<br>• Neurological deficits |
| Gastrointestinal | • Liver disease without current abnormal liver function<br>• Crohn's disease<br>• Ulcerative colitis |

**Table 9 Other factors to take into account when planning place of birth**

| Factor | Additional information |
|---|---|
| Previous complications | • Stillbirth or neonatal death with a known non-recurrent cause<br>• Pre-eclampsia developing at term<br>• Placental abruption with good outcome<br>• History of previous baby more than 4.5 kg<br>• Extensive vaginal, cervical, or third- or fourth-degree perineal trauma<br>• Retained placenta needing manual removal in theatre<br>• Previous term baby with jaundice requiring exchange transfusion<br>• Major gynaecological surgery |

| Factor | Additional information |
| --- | --- |
| Current pregnancy | • Antepartum bleeding of unknown origin (single episode after 24 weeks of pregnancy)<br>• Body mass index (BMI) at booking (see the section on impact of BMI on choice of place of birth)<br>• Blood pressure of 140 mmHg systolic or 90 mmHg diastolic or more on 2 occasions<br>• Clinical or ultrasound suspicion of macrosomia<br>• Induction of labour<br>• Grand multiparity (parity 4 or more)<br>• Recreational drug use<br>• Under current outpatient psychiatric care<br>• Age 40 or over at booking<br>• Fibroids<br>• Fetal abnormality |

1.3.10 If further discussion is wanted by either the midwife or the woman about the choice of planned place of birth, arrange this with an appropriately trained senior or consultant midwife and/or a senior or consultant obstetrician if there are obstetric issues. **[2014, amended 2023]**

1.3.11 When discussing the woman's choice of place of birth with her, do not disclose personal views or judgements about her choices. **[2014]**

## 1.4 Care throughout labour in all birth settings

1.4.1 For all women giving birth in all birth settings, follow the principles in the NICE guideline on patient experience in adult NHS services and the NICE guideline on shared decision making, and support the woman's choices.

**[2014, amended 2023]**

1.4.2 When providing information on the benefits and risks of care options or suggested interventions:

- encourage the woman to ask questions
- if possible, give her time to think about the options **and**
- help her make a supported decision.

Obtain consent before carrying out the chosen care option or intervention. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on care throughout labour in all birth settings.

1.4.3 All staff and organisations should ensure that all birth settings have a culture of respect for each woman as an individual undergoing a significant and emotionally intense life experience, so that the woman is in control, is listened to, her choices are supported, and she is cared for with compassion. **[2014, amended 2023]**

1.4.4 All staff should demonstrate, through their own words and behaviour, appropriate ways of relating to and talking about women and their birth companion(s), and of talking about birth and the choices to be made when giving birth. **[2014, amended 2023]**

## One-to-one care in all birth settings

1.4.5 Maternity services should:

- provide a model of care that supports one-to-one care in labour for all women **and**
- benchmark services and identify overstaffing or understaffing by using workforce planning models and/or woman-to-midwife ratios. **[2014]**

1.4.6 Do not leave a woman in established labour on her own except for short

periods or at the woman's request. **[2007]**

1.4.7 For guidance on ensuring continuity of care, see recommendation 1.4.1 in the NICE guideline on patient experience in adult NHS services. **[2016]**

## Communication

1.4.8 When giving a woman (and her birth companions) information about care during labour:

- use clear, plain language and confirm with the woman that they have understood the information
- tailor the content and delivery of information to the needs and preferences of the woman
- ensure that the woman is empowered to make a supported decision with her healthcare team, which may include:
  - using reliable interpreting services when needed (for example, for languages other than English, British Sign Language, or Makaton)
  - using interpreters who are independent of the woman (rather than, for example, a family member or friend)
  - using culturally sensitive language
  - adapting communication when necessary, for example, by using healthcare passports for people with learning disabilities or autism. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on communication.

1.4.9 Treat all women in labour with kindness, dignity and respect. **[2007, amended 2023]**

1.4.10 Ensure that the woman is empowered, informed and central to making decisions about her care, and recognise that the way in which care is given is key to this. Support the woman so she:

- can continue to make decisions about her care
- feels confident that her care team is there to assist her
- understands that she can accept or decline care that is offered, can change her mind, and that decisions she makes will not affect how care is provided to her.

  To ensure this happens, establish a rapport with the woman, ask her about her wants and expectations for labour, and be aware of the importance of both tone and demeanour and the actual words used. Use this information to support her and guide her care through her labour. **[2007, amended 2023]**

1.4.11 To establish communication with the woman:

- greet her and her birth companion(s) with a smile and a personal welcome, introduce yourself and explain your role in her care
- ask her what she wants to be called
- maintain a calm, confident and professional approach
- respect the woman's personal space, privacy and dignity, and ask others to do the same (for example, knock and wait before entering the woman's room)
- ask how the woman is feeling and whether there is anything in particular she would like to discuss or if she has any concerns
- discuss the woman's labour and birth preferences, and review and discuss any written birth plan
- ensure the woman is aware of pain relief options, and provide both the opportunity to discuss these options and give information if she requests it to establish what her choices are
- encourage the woman to adapt the environment to meet her individual needs
- explain all procedures and observations before they take place and ask for consent for them, focusing on the woman rather than the technology or the documentation
- show the woman and her birth companion(s) how to summon help, and

reassure her that she can do so whenever and as often as she needs to

- when leaving the room, let her know when you will return
- involve the woman in any handover of care to another professional, either when additional expertise has been brought in or at the end of a shift – this should occur in the room, when appropriate, with the woman at the centre of the handover discussion. **[2007, amended 2023]**

## Position and mobilisation

1.4.12 Encourage and help the woman to move and adopt whatever positions she finds most comfortable throughout labour, except lying flat on her back. **[2007, amended 2023]**

## Support

1.4.13 Encourage the woman to have support from birth companion(s) of her choice. **[2007]**

## Hygiene measures

1.4.14 Tap water may be used if cleansing is needed before vaginal examination. **[2007]**

1.4.15 Routine hygiene measures taken by staff caring for women in labour, including standard hand hygiene and single-use, non-sterile gloves, are appropriate to reduce cross-contamination between women, babies and healthcare professionals. **[2007]**

1.4.16 Selection of personal protective equipment for healthcare professionals must be based on an assessment of the risk of exposure to blood and/or bodily fluids, non-intact skin or mucous membranes. Standard infection control procedures to prevent transmission of recognised and unrecognised infections must be followed. See NHS England's national infection prevention and control manual. **[2007, amended 2023]**

## 1.5 Transfer of care and changing place of birth

Transfer of care refers to the transfer between midwifery-led care and obstetric-led care. This may or may not involve transport from one location to another. Women who are receiving midwifery-led care in an obstetric unit can have responsibility for their care transferred to being obstetric-led without being moved.

1.5.1 Base any decisions about transfer of care on clinical findings and discuss the options with the woman and her birth companion(s). **[2014]**

1.5.2 If contemplating transfer of care:

- talk with the woman and her birth companion(s) about the reasons for this and what they can expect, including the time needed for transfer
- address any concerns she has and try to allay any anxiety about the transfer
- ensure that her wishes are respected and her informed consent is obtained. **[2014]**

1.5.3 When arranging transfer of care, the midwife attending the labour should contact the ambulance service (if appropriate) and the coordinating midwife in the obstetric unit. The coordinating midwife should then alert the relevant healthcare professionals (obstetric, anaesthetic and neonatal). **[2014]**

1.5.4 Carry out transfer of care of women in labour as soon as possible after the decision to transfer has been made. Categorise transfers as:

- life-threatening emergency (ambulance service category 1)
- urgent, for example for pain relief (ambulance service category 2). **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on transfer of care and changing place of birth.

1.5.5 When arranging transfer from one location to another, ensure the following:

- before transfer, the woman is dressed, wrapped in a blanket or otherwise covered in a way that she feels is comfortable and appropriate
- the woman is made to feel as comfortable as possible before and during transfer
- any ambulance staff or other personnel involved are aware that some positions may make the woman uncomfortable or afraid and could affect her labour, so she should be encouraged to choose how to move and what position to adopt if possible, in accordance with ambulance service protocols
- communication and companionship are maintained:
  - explain the arrangements for transfer to the woman and her birth companion(s)
  - ensure a midwife who has been involved in the woman's care up to that point travels with her
  - carry out a handover of care that involves the woman
- the woman is monitored throughout the transfer, as appropriate for her stage of labour, including intermittent auscultation of the fetal heart if possible and safe to do
- enable the woman's birth companion(s) to travel with her in the ambulance if that is what she wants and this is agreed by her care team and the ambulance crew. **[2014, amended 2023]**

1.5.6 If a woman is transferred to an obstetric unit after the birth (see the section on care of the woman after birth), ensure that her baby goes with her. **[2014]**

# 1.6 Pain relief during labour

## Attitudes to pain and pain relief in childbirth

1.6.1 Healthcare professionals should think about how their own values and beliefs inform their attitude to coping with pain in labour and ensure their care supports the woman's choice. **[2007]**

1.6.2 Take into account that every woman's experience of pain is unique and may be expressed in different ways, both verbally and non-verbally. In particular, this may vary because of:

- their cultural background and beliefs
- their socioeconomic status
- any neurodiverse conditions they may have. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on attitudes to pain and pain relief in childbirth.

## Non-pharmacological pain-relieving strategies

1.6.3 Advise women that breathing exercises, having a shower or bath, and massage may reduce pain during the latent first stage of labour. **[2014, amended 2023]**

1.6.4 Do not offer or advise aromatherapy, yoga or acupressure for pain relief during the latent first stage of labour. If a woman wants to use any of these techniques, support her choice. **[2014, amended 2023]**

1.6.5 If a woman chooses to use breathing and relaxation techniques in labour, support her choice. **[2007]**

1.6.6 If a woman chooses to use massage techniques in labour that have been taught to birth companions, support her choice. **[2007]**

1.6.7 Advise women who wish to use transcutaneous electrical nerve stimulation (TENS) that:

- TENS devices are not provided by the NHS, but if a woman wants to use TENS to manage her comfort during labour, support her choice
- there is very little evidence of its effectiveness in established labour, but no evidence of harm

- other forms of pain relief can be used alongside TENS if needed by the woman. **[2007, amended 2023]**

1.6.8 Do not offer acupuncture, acupressure or hypnosis during labour. If a woman wants to use any of these techniques, support her choice. **[2007, amended 2023]**

1.6.9 Support the playing of music of the woman's choice in labour. **[2007]**

1.6.10 Offer the woman the opportunity to labour in water for pain relief. **[2007]**

1.6.11 For women labouring in water, monitor the temperature of the woman and the water hourly to ensure that the woman is comfortable and not becoming pyrexial. The temperature of the water should not be above 37.5°C. **[2007]**

1.6.12 Keep baths and birthing pools clean using a protocol agreed with the local microbiology department or infection control guidance and, in the case of birthing pools, in accordance with the manufacturer's guidelines. **[2007, amended 2023]**

## Sterile water injections

1.6.13 Consider intracutaneous or subcutaneous sterile water injections as a pain relief option for women in labour with back pain. These injections can be given by a midwife trained in the use of sterile water injections. **[2023]**

1.6.14 Explain to the woman that sterile water injections can provide relief of back pain from 10 minutes after the injection for up to 3 hours, but there can be an initial stinging sensation. **[2023]**

1.6.15 If the woman chooses to have sterile water injections, give these at 4 different injection points around the Rhombus of Michaelis, using doses of 0.1 ml intracutaneously or 0.5 ml subcutaneously at each injection point. **[2023]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on sterile water injections.

Full details of the evidence and the committee's discussion are in evidence review C: sterile water injections.

## Inhalational analgesia

1.6.16 Ensure that Entonox (a 50:50 mixture of oxygen and nitrous oxide) is available in all birth settings as it may reduce pain in labour, but inform the woman that it may make her feel nauseous and light-headed. **[2007]**

## Pharmacological analgesia

1.6.17 Ensure that pethidine, diamorphine or other opioids are available in all birth settings. Inform the woman that these will provide limited pain relief during labour and may have significant side effects for both her (for example, drowsiness, nausea and vomiting) and her baby (for example, short-term respiratory depression and drowsiness, which may last several days and may make it more difficult to breastfeed). **[2007, amended 2023]**

1.6.18 If an intravenous or intramuscular opioid is used, also administer an antiemetic. **[2007]**

1.6.19 Women should not enter water (a birthing pool or bath) within 2 hours of opioid administration or if they feel drowsy. **[2007]**

1.6.20 Consider intravenous remifentanil patient-controlled analgesia (PCA), at 40 micrograms per bolus with a 2-minute lockout period, as an option for women who want ongoing pain relief during labour and birth.

In September 2023, this was an off-label use of remifentanil. See NICE's information on prescribing medicines. **[2023]**

1.6.21 Only use remifentanil PCA in obstetric units because of the risk of

respiratory depression in women that may need anaesthetic support. **[2023]**

1.6.22 Discuss the risks and benefits of remifentanil PCA with the woman and help them make a supported decision about its use. Explain that, with 40 micrograms of remifentanil compared with intramuscular pethidine:

- they are less likely to need an epidural or have a birth using forceps or ventouse if using remifentanil PCA
- they are more likely to have a spontaneous vaginal birth or need supplemental oxygen when using remifentanil PCA.

  For more detail on the risks and benefits associated with the use of remifentanil, see appendix C. **[2023]**

1.6.23 When using remifentanil PCA, ensure that:

- there is the continuous presence of a midwife trained in the care of women receiving remifentanil PCA (one-to-one care)
- there is continuous cardiotocography monitoring if there are other risk factors
- there is continuous monitoring of respiratory function (observation of breathing and pulse oximetry)
- units have clear guidelines on responding to respiratory depression
- supplemental oxygen is immediately available
- immediate anaesthetic support is available in case of respiratory depression. **[2023]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on remifentanil patient-controlled analgesia.

Full details of the evidence and the committee's discussion are in evidence review D: remifentanil patient-controlled analgesia.

# Regional analgesia

## Information about regional analgesia

1.6.24 If a woman requests regional analgesia, talk with her about the benefits and risks and the effect it may have on her pain and her labour. **[2007, amended 2023]**

1.6.25 Provide information to women about epidural analgesia, including the following:

- it is available only in obstetric units so transfer will be necessary if she is in another setting
- it provides more effective pain relief than opioids
- it may not always be fully effective and may need to be adjusted or replaced
- complications during insertion of the epidural may cause a severe postnatal headache
- it is not associated with long-term backache
- it is not associated with a longer first stage of labour or an increased chance of an unplanned caesarean birth
- it is associated with a longer second stage of labour and an increased chance of birth with forceps or ventouse
- it will be accompanied by a more intensive level of monitoring and intravenous access, so mobility may be reduced. **[2007, amended 2023]**

1.6.26 If, after a discussion of the benefits and risks, a woman in labour chooses regional analgesia, support her decision. **[2007, amended 2023]**

## Care and observations for women with regional analgesia

1.6.27 Always secure intravenous access before starting regional analgesia. **[2007]**

1.6.28 Preloading and maintenance fluid infusion do not need to be

administered routinely before establishing low-dose epidural analgesia and combined spinal–epidural analgesia. **[2007]**

1.6.29 Undertake the following additional observations for women with regional analgesia:

- during establishment of regional analgesia or after further boluses (10 ml or more of low-dose solutions), measure blood pressure every 5 minutes for 15 minutes
- if the woman is not pain-free 30 minutes after each administration of local anaesthetic or opioid solution, ask the anaesthetist to review
- assess the level of the sensory block hourly
- if the woman is not mobilising, assess the level of motor block hourly by asking the woman to do a straight leg raise. If she is unable to do this, ask the anaesthetist to review. **[2007, amended 2023]**

1.6.30 Encourage women with regional analgesia to adopt whatever positions, including upright, they find comfortable throughout labour, except lying flat on their back. **[2007, amended 2023]**

1.6.31 Advise women with an epidural in situ that if they have sufficient leg strength and sensation, as checked and confirmed by a midwife trained in caring for women with epidurals, they can mobilise with assistance, but their legs may feel heavier than usual. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on care and observations for women with regional analgesia.

1.6.32 Once established, continue regional analgesia until after completion of the third stage of labour and any necessary perineal repair. **[2007]**

1.6.33 On confirmation of full cervical dilatation in a woman with regional analgesia, unless the woman has an urge to push or the baby's head is visible, pushing may be delayed by 1 hour for multiparous women and up to 2 hours for nulliparous women, after which actively encourage her to

push during contractions. **[2007, amended 2023]**

1.6.34 Do not routinely use oxytocin in the second stage of labour for women with regional analgesia. **[2007]**

1.6.35 Perform continuous cardiotocography for at least 30 minutes during establishment of regional analgesia and after administration of each further bolus of 10 ml or more. **[2007, amended 2014]**

### Establishing and maintaining regional analgesia

1.6.36 Use either epidural or combined spinal–epidural analgesia for establishing regional analgesia in labour. **[2007]**

1.6.37 If rapid analgesia is needed, use combined spinal–epidural analgesia. **[2007]**

1.6.38 Establish combined spinal–epidural analgesia with bupivacaine (or an equivalent local anaesthetic) and fentanyl. **[2007, amended 2023]**

1.6.39 Establish epidural analgesia with a low-concentration local anaesthetic and fentanyl solution. The initial dose is essentially a test dose, so administer it cautiously to ensure that inadvertent intrathecal or intravascular placement of the epidural catheter has not occurred. **[2007, amended 2023]**

1.6.40 Use low-concentration local anaesthetic and opioid solutions (0.0625% to 0.1% bupivacaine or equivalent combined with 2.0 micrograms per ml fentanyl) for maintaining epidural analgesia in labour. **[2007]**

1.6.41 Use patient-controlled epidural analgesia, programmed intermittent epidural bolus or intermittent bolus given by a trained healthcare professional for maintaining epidural analgesia. **[2023]**

1.6.42 Do not use high concentrations of local anaesthetic solutions (0.25% or above of bupivacaine or equivalent) routinely for either establishing or maintaining epidural analgesia. **[2007]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on programmed intermittent epidural bolus.

Full details of the evidence and the committee's discussion are in evidence review E: programmed intermittent epidural bolus.

## 1.7 Prelabour rupture of membranes at term

1.7.1 Advise women with suspected rupture of membranes after 37+0 weeks to contact their midwife or maternity unit to have an initial triage assessment over the phone with a midwife. This should include when the membranes ruptured and an assessment of any risk factors, such as:

- meconium-stained liquor
- vaginal bleeding
- blood-stained liquor
- reduced fetal movements
- continuous abdominal pain
- unpleasant smelling liquor, or any change in the colour or smell of her vaginal loss
- the woman feeling unwell
- group B streptococcus carriage or infection in this or a previous pregnancy where a plan has been made for intrapartum antibiotic prophylaxis in this pregnancy
- the baby has abnormal lie or presentation (for example, transverse lie or breech)
- fetal growth restriction
- low-lying placenta.

If any of these factors are present or if there is any uncertainty, the woman

should be advised to immediately attend the maternity unit for an urgent in-person review (see the recommendations on the assessment of a woman in the first stage of labour, and recommendations 1.7.3 and 1.7.4). **[2023]**

1.7.2 For women after 37+0 weeks with suspected rupture of the membranes but no risk factors on initial phone triage assessment (see recommendation 1.7.1):

- see the woman in person as soon as possible if she has any concerns or wishes to be induced immediately **or**
- within 12 hours **and**
- if anything changes or the woman has any concerns, advise her to call her midwife or maternity unit back sooner than the planned review.

Offer to carry out the review at the woman's home, in a midwifery-led unit, or an assessment centre at an obstetric unit. **[2023]**

1.7.3 Do not carry out a speculum examination if it is certain that the membranes have ruptured. **[2007]**

1.7.4 If it is uncertain whether prelabour rupture of the membranes has occurred, offer the woman a speculum examination to determine whether the membranes have ruptured. Avoid digital vaginal examination in the absence of contractions. **[2007]**

1.7.5 Advise women presenting with prelabour rupture of the membranes at term that:

- the risk of serious neonatal infection is 1%, rather than 0.5% for women with intact membranes, and may increase over time
- intrapartum antibiotics are recommended in some situations (see the section on intrapartum antibiotics in NICE's guideline on neonatal infection)
- 60% of women with prelabour rupture of the membranes will go into labour within 24 hours. **[2007, amended 2023]**

1.7.6 Offer women with prelabour rupture of membranes at term (at or after 37+0 weeks) a choice of:

- expectant management for up to 24 hours **or**
- induction of labour as soon as possible (see the section on induction of labour in specific circumstances in NICE's guideline on inducing labour).

  Discuss the benefits and risks of these options with the woman, and take into account her individual circumstances and preferences. **[2023]**

1.7.7 For women who choose expectant management after prelabour rupture of the membranes at term (at or after 37+0 weeks), offer induction of labour if labour has not started naturally after approximately 24 hours. (see the section on induction of labour in specific circumstances in NICE's guideline on inducing labour). **[2023]**

1.7.8 Until the induction is started or if expectant management beyond 24 hours is chosen by the woman:

- do not offer lower vaginal swabs and measurement of maternal C-reactive protein
- to detect any infection that may be developing, advise the woman to record her temperature every 4 hours during waking hours and to report immediately any change in the colour or smell of her vaginal loss
- inform the woman that bathing or showering is not associated with an increase in infection, but that having sexual intercourse may be. **[2007]**

1.7.9 Assess fetal movement and heart rate at initial contact and then every 24 hours after rupture of the membranes while the woman is not in labour, and advise the woman to report immediately any decrease in fetal movements. **[2007]**

1.7.10 If labour has not started 24 hours after rupture of the membranes, advise the woman to give birth where there is access to neonatal services (this may be in an obstetric unit or an alongside midwifery unit) and to stay in hospital for at least 12 hours after the birth. **[2007, amended 2023]**

1.7.11 If a woman has prelabour rupture of membranes at term (at or after 37+0 weeks) and has had a positive group B streptococcus test at any time in their current pregnancy, or a previous pregnancy where the baby

developed group B streptococcus infection, offer immediate induction of labour, or caesarean birth if it had been planned. For advice on intrapartum antibiotics, see the section on intrapartum antibiotics in NICE's guideline on neonatal infection. **[2023]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on initial assessment of women reporting prelabour rupture of membranes.

Full details of the evidence and the committee's discussion are in evidence review B: initial assessment of women reporting prelabour rupture of membranes.

# 1.8 First stage of labour

## Definitions of the latent and established first stages of labour and early triage

1.8.1 For the purposes of this guideline, use the following definitions of labour:

- latent first stage of labour is a period of time, not necessarily continuous, when:
  - there are contractions **and**
  - there is some cervical change, including cervical position, consistency, effacement and dilatation up to 4 cm
- established first stage of labour is when:
  - there are regular contractions **and**
  - there is progressive cervical dilatation from 4 cm. **[2007, amended 2023]**

1.8.2 If a woman in labour contacts her midwife or maternity unit for advice, carry out an assessment of labour by telephone triage and determine whether a face-to-face assessment is needed. **[2014, amended 2023]**

1.8.3 Carry out a face-to-face early assessment of labour either:

- at home (regardless of planned place of birth) **or**
- in her planned place of birth (midwifery-led unit or obstetric unit), comprising one-to-one midwifery care for at least 1 hour. **[2014, amended 2023]**

1.8.4 Include the following in any early or triage assessment of labour:

- ask the woman how she is, and about her wishes, expectations and any concerns she has
- ask the woman about the baby's movements, including any changes
- give information about what the woman can expect in the latent first stage of labour and how to work with any pain she experiences
- give information about what to expect when she accesses care
- agree a plan of care with the woman, including guidance about who she should contact next and when
- provide guidance and support to the woman's birth companion(s). **[2014]**

1.8.5 The triage midwife should document the guidance that she gives to the woman. **[2014]**

1.8.6 If a woman seeks advice or attends a midwifery-led unit or obstetric unit with painful contractions, but is not in established labour:

- recognise that a woman may experience painful contractions without cervical change and offer her individualised support and analgesia if needed
- encourage her to remain at or return home, unless doing so leads to a significant risk that she could give birth without a midwife present or become distressed. **[2014, amended 2023]**

## Assessment of women in the first stage of labour

1.8.7 When performing an initial assessment of a woman in labour, listen to her story and support her preferences and her emotional and psychological needs. **[2014, amended 2023]**

1.8.8 Carry out an initial assessment to determine if midwifery-led care in any setting is suitable for the woman, irrespective of any previous plan including consultant-led care. This assessment should comprise the following:

- maternal factors:
  - review and discuss the antenatal notes (including all antenatal screening results)
  - review the personalised care plan
  - review if there are any antenatal or intrapartum risk factors for fetal hypoxia (see the NICE guideline on fetal monitoring in labour)
  - ask her about the length, strength and frequency of her contractions
  - ask her about any pain she is experiencing and discuss her options for pain relief
  - record her pulse, blood pressure, temperature and respiratory rate, and carry out urinalysis
  - record if she has had any vaginal loss
  - check if she needs intrapartum antibiotics for group B streptococcus prophylaxis and, if so, that these are available in her chosen place of birth if needed (see the section on intrapartum antibiotics in NICE's guideline on neonatal infection)
- observations of the unborn baby:
  - ask the woman about the baby's movements in the last 24 hours
  - palpate the woman's abdomen to determine the fundal height, the baby's lie, presentation, position, engagement of the presenting part, and frequency and duration of contractions
- auscultate the fetal heart rate for a minimum of 1 minute immediately after a contraction; palpate the woman's pulse to differentiate between the heartbeats of the woman and the baby
- if there is uncertainty about whether the woman is in established labour, a

vaginal examination may be helpful after a period of assessment, but is not always necessary

- if the woman appears to be in established labour, offer a vaginal examination. **[2014, amended 2023]**

1.8.9 When conducting a vaginal examination:

- be sure that the examination is necessary and will add important information to the decision-making process
- recognise that a vaginal examination can be very distressing for a woman, especially if she is already in pain, highly anxious and in an unfamiliar environment
- explain the reason for the examination and what will be involved
- ensure the woman's informed consent, privacy, dignity and comfort
- explain sensitively the findings of the examination and any impact on the birth plan to the woman and her birth companion(s)
- advise the woman that she can decline the examination before it starts, or ask to stop at any stage during the examination. **[2014, amended 2023]**

1.8.10 When performing a vaginal examination, determine:

- the station of the presenting part
- the position of the presenting part
- the presence or absence of caput or moulding
- cervical effacement
- cervical dilatation
- presence or absence of membranes. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on assessment of women in the first stage of labour.

1.8.11 Transfer the woman to obstetric-led care, following the general principles for transfer of care described in section 1.5, if any of the following are observed on initial assessment, taking into account that multiple risk factors may increase the urgency of the transfer, particularly if they have a cumulative effect:

- observations of the woman:
  - pulse over 120 beats a minute on 2 occasions 15 to 30 minutes apart
  - a single reading of either raised diastolic blood pressure of 110 mmHg or more or raised systolic blood pressure of 160 mmHg or more
  - either raised diastolic blood pressure of 90 mmHg or more or raised systolic blood pressure of 140 mmHg or more on 2 consecutive readings taken 15 to 30 minutes apart
  - respiratory rate of less than 9 or more than 21 breaths per minute on 2 occasions 15 to 30 minutes apart
  - a reading of 2+ of protein on urinalysis and a single reading of either raised diastolic blood pressure (90 mmHg or more) or raised systolic blood pressure (140 mmHg or more)
  - temperature of 38°C or above on a single reading, or 37.5°C or above on 2 consecutive readings 1 hour apart; for advice about intrapartum antibiotics, see the section on intrapartum antibiotics in NICE's guideline on neonatal infection
  - fresh red bleeding or blood-stained liquor
  - rupture of membranes more than 24 hours before the onset of established labour
  - the presence of meconium (see the section on the presence of meconium)
  - pain reported by the woman that differs from the pain normally associated with contractions
  - any risk factors recorded in the woman's notes that indicate the need for obstetric-led care

- observations of the unborn baby:
  - non-cephalic fetal presentation
  - high (4/5 to 5/5 palpable) or free-floating head in a nulliparous woman
  - suspected or diagnosed small for gestational age
  - diagnosed fetal growth restriction
  - diagnosis of oligohydramnios or anhydramnios on ultrasound
  - concerns about fetal monitoring, as described in the NICE guideline on fetal monitoring in labour
  - reduced fetal movements in the last 24 hours reported by the woman
  - cord presentation.

  If none of these are observed, continue with midwifery-led care unless the woman requests transfer. **[2014, amended 2023]**

1.8.12 If any of the factors in recommendation 1.8.11 are observed but birth is imminent, assess whether birth in the current location is preferable to transferring the woman to an obstetric unit and discuss this with the woman and the coordinating midwife. **[2014, amended 2023]**

## Measuring fetal heart rate as part of initial assessment

1.8.13 Offer auscultation of the fetal heart rate at first contact with a woman in suspected or established labour, and at each further assessment. **[2017, amended 2023]**

1.8.14 For advice on the choice and method of fetal monitoring during labour, including risk assessment and indications for continuous cardiotocography, see the NICE guideline on fetal monitoring in labour. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on measuring fetal heart rate as part of the initial assessment.

## Controlling gastric acidity

1.8.15 Do not routinely offer proton pump inhibitors to low-risk women. **[2007, amended 2023]**

1.8.16 Consider proton pump inhibitors (for example, omeprazole) for women who receive opioids, or who have or develop risk factors that make a caesarean birth more likely. **[2007, amended 2023]**

## Eating and drinking

1.8.17 Inform the woman that she can drink during labour when she is thirsty, but there is no benefit to drinking more than normal. Isotonic drinks may be more beneficial than water. **[2007, amended 2023]**

1.8.18 Inform the woman that she can eat a light diet in established labour unless she has received opioids or she develops risk factors that make a caesarean birth more likely. **[2007, amended 2023]**

## Ongoing assessment during the first stage of labour

1.8.19 Record the following observations during the first stage of labour:

- half-hourly documentation of frequency of contractions
- hourly pulse
- 4-hourly temperature, blood pressure and respiratory rate
- offer a 4-hourly vaginal examination (see recommendations 1.8.9 and 1.8.10), or in response to the woman's wishes if there is concern about progress (after abdominal palpation and assessment of vaginal loss). **[2007]**

1.8.20 Carry out an hourly risk assessment of the woman and her baby, and if

any of the following risks have developed, transfer the woman to obstetric-led care (following the general principles for transfer of care described in section 1.5), unless the risks of transfer outweigh the benefits. Take into account that multiple risk factors may increase the urgency of the transfer, particularly if they have a cumulative effect:

- observations of the woman:
  - pulse over 120 beats/minute on 2 occasions 15 to 30 minutes apart
  - a single reading of either raised diastolic blood pressure of 110 mmHg or more or raised systolic blood pressure of 160 mmHg or more
  - either raised diastolic blood pressure of 90 mmHg or more or raised systolic blood pressure of 140 mmHg or more on 2 consecutive readings taken 15 to 30 minutes apart
  - a reading of 2+ of protein on urinalysis and a single reading of either raised diastolic blood pressure (90 mmHg or more) or raised systolic blood pressure (140 mmHg or more)
  - respiratory rate of less than 9 or more than 21 breaths per minute on 2 occasions 15 to 30 minutes apart
  - temperature of 38°C or above on a single reading, or 37.5°C or above on 2 consecutive occasions 1 hour apart; for advice on intrapartum antibiotics, see the section on intrapartum antibiotics in NICE's guideline on neonatal infection
  - fresh red bleeding or blood-stained liquor
  - the new appearance of meconium (see the section on the presence of meconium)
  - pain reported by the woman that differs from the pain normally associated with contractions
  - confirmed delay in the first stage of labour
  - request by the woman for additional pain relief using regional analgesia
  - obstetric emergency, including antepartum haemorrhage, cord prolapse,

maternal seizure or collapse, or a need for advanced neonatal resuscitation

- observations of the unborn baby:
  - any non-cephalic presentation, including cord presentation
  - high (4/5 to 5/5 palpable) or free-floating head in a nulliparous woman
  - suspected fetal growth restriction or macrosomia
  - suspected anhydramnios or polyhydramnios
  - any changes in the fetal heart rate pattern (see the NICE guideline on fetal monitoring in labour)

  If none of these are observed, continue with midwifery-led care unless the woman requests transfer. **[2014, amended 2023]**

1.8.21 Do not routinely use verbal assessment using a numerical pain score. **[2007]**

1.8.22 Use a pictorial record of labour (partogram) once labour is established. **[2007, amended 2023]**

1.8.23 Review bladder care for women at least every 4 hours. This should include:

- frequency of passing urine and bladder sensation
- fluid balance monitoring if sensation is abnormal or absent, if there is an inability to pass urine, or the woman is receiving intravenous fluids (including oxytocin)
- offering to insert a catheter if there are any ongoing concerns over the woman's ability to pass urine. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on ongoing assessment during the first stage of labour.

1.8.24 Give ongoing consideration to the woman's emotional and psychological

needs, including her desire for pain relief. **[2007]**

1.8.25 Encourage the woman to say if she needs more analgesia at any point during labour. **[2007]**

## Presence of meconium

1.8.26 As part of ongoing assessment, document the presence or absence of meconium. **[2014, amended 2023]**

1.8.27 If meconium is present, consider the character of the meconium and discuss the option of transfer to obstetric-led care with the woman. Explain that meconium:

- may increase the risk to the baby
- means that continuous cardiotocography monitoring may be advised (see the NICE guideline on fetal monitoring in labour)
- may mean that healthcare professionals trained in advanced neonatal life support are needed as soon as the baby is born. **[2014, amended 2023]**

1.8.28 If the woman wishes to be transferred, provided that it is safe to do so and the birth is unlikely to occur before transfer is completed, follow the general principles for transfer of care described in section 1.5. Take into account that the presence of other risk factors (in addition to meconium) may increase the urgency of the transfer. **[2014, amended 2023]**

1.8.29 Be aware that meconium is more common after full term but should still trigger a full risk assessment and discussion with the woman about the option of transfer to obstetric-led care. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on presence of meconium.

## Duration of the first stage

1.8.30 Inform women that, while the length of established first stage of labour varies between women:

- first labours last on average 8 hours and are unlikely to last over 18 hours
- second and subsequent labours last on average 5 hours and are unlikely to last over 12 hours. **[2007]**

1.8.31 Do not offer or advise clinical intervention if labour is progressing normally and the woman and baby are well. **[2007]**

1.8.32 In all stages of labour, women who have left the normal care pathway because of the development of complications can return to it if or when the complication is resolved. **[2007]**

## Interventions in the first stage

1.8.33 Do not routinely perform amniotomy in normally progressing labour. **[2007]**

1.8.34 Do not routinely use combined early amniotomy with use of oxytocin. **[2007]**

## Delay in the first stage

1.8.35 If delay in the established first stage is suspected, take the following into account:

- parity
- cervical dilatation and rate of change
- uterine contractions
- station and position of presenting part.

Offer the woman support, hydration, and appropriate and effective pain relief. **[2007, amended 2023]**

1.8.36 If delay in the established first stage is suspected, assess all aspects of progress in labour when diagnosing delay, including:

- cervical dilatation of less than 2 cm in 4 hours for first labours
- cervical dilatation of less than 2 cm in 4 hours or a slowing in the progress of labour for second or subsequent labours
- descent and rotation of the baby's head
- changes in the strength, duration and frequency of uterine contractions. **[2007]**

1.8.37 If delay in the established first stage of labour is suspected, discuss the findings (see recommendation 1.8.36) and the options available with the woman, and support her decision. **[2007, amended 2023]**

1.8.38 Offer all women with delay in the established first stage of labour support and effective pain relief. **[2007]**

1.8.39 Advise all women with suspected delay in the established first stage of labour to have a vaginal examination 2 hours later, and diagnose delay if progress is less than 1 cm. **[2007]**

1.8.40 If delay in the established first stage of labour is diagnosed, consider amniotomy for all women with intact membranes, after explanation of the procedure and advice that it will shorten labour by about an hour and may increase the strength and pain of contractions. **[2007, amended 2023]**

1.8.41 Do not advise transfer to obstetric-led care for amniotomy alone. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on delay in the first stage.

1.8.42 After amniotomy, advise the woman to have a repeat vaginal examination 2 hours later. **[2007, amended 2023]**

1.8.43 If there is no progress 2 hours after the amniotomy, diagnose delay and

transfer the woman to obstetric-led care. Follow the general principles for transfer of care described in section 1.5. Take into account that the presence of other risk factors (in addition to delay) may increase the urgency of the transfer. **[2014, amended 2023]**

1.8.44 For all women with confirmed delay in the established first stage of labour, an obstetrician should offer a full assessment. The obstetric review should include abdominal palpation and vaginal examination and consideration of oxytocin. **[2007, amended 2023]**

1.8.45 Discuss the use of oxytocin with the woman and make a decision with her about its use. Explain that:

- her choice to start, stop or restart the oxytocin will be supported
- using oxytocin after spontaneous or artificial rupture of the membranes will bring forward the time of birth but will not influence the mode of birth or neonatal outcomes
- oxytocin will increase the frequency and strength of contractions and that its use will mean that her contractions and her baby's heartbeat will be monitored continuously using cardiotocography; see the NICE guideline on fetal monitoring in labour
- oxytocin can cause hyperstimulation, which may increase the chance of transient fetal hypoxia, and if hyperstimulation occurs the dose will be reduced or stopped. **[2007, amended 2023]**

1.8.46 Offer the woman an epidural before oxytocin is started or if she requests it later. **[2007, amended 2023]**

1.8.47 When starting intravenous oxytocin in the first stage of labour:

- do not start separate intravenous fluids without a clinical indication (for example, the woman is not drinking, is dehydrated, or is hypotensive)
- monitor fluid balance. **[2023]**

1.8.48 If oxytocin is used in the first stage of labour, ensure that the time between increments of the dose is no more frequent than every

30 minutes. Increase oxytocin until there are 3 to 4 contractions in 10 minutes. **[2023]**

1.8.49 Use oxytocin in labour with caution. If the woman has contractions more frequently than 4 in 10 minutes, reduce or stop the oxytocin until the woman is having 4 or fewer contractions in 10 minutes. **[2023]**

1.8.50 Oxytocin must be discontinued immediately if the cardiotocography is pathological, and urgent obstetrician or senior midwife review sought. See the NICE guideline on fetal monitoring in labour. **[2023]**

1.8.51 Consider restarting oxytocin in the first stage of labour if:

- obstetric review has been carried out and the cardiotocography is no longer pathological
- the woman agrees that it can be restarted.

  Base the dose when restarting on a full clinical assessment, taking into consideration the previous dose. **[2023]**

1.8.52 Advise the woman to have a vaginal examination 4 hours after the oxytocin infusion has led to regular contractions in established labour:

- if cervical dilatation has increased by less than 2 cm after 4 hours of oxytocin, further obstetric review is needed to assess whether a caesarean birth is advisable
- if cervical dilatation has increased by 2 cm or more, advise 4-hourly vaginal examinations. **[2007, amended 2023]**

1.8.53 If oxytocin is restarted in the first stage of labour, base the timing of the next vaginal examination on a clinical assessment of the woman and her individual circumstances. **[2023]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on the use of oxytocin in the first or second stage of labour.

Full details of the evidence and the committee's discussion are in evidence review F: oxytocin in the first or second stage of labour.

# 1.9 Second stage of labour

## Definition of the second stage

1.9.1 For the purposes of this guideline, use the following definitions of labour:

- passive second stage of labour: when there is full dilatation of the cervix (determined by either vaginal examination or noting other external signs of full dilatation) before or in the absence of involuntary or active pushing
- the passive second stage of labour may be up to 2 hours when a woman with an epidural in place has been advised to delay pushing (see recommendations 1.9.7 to 1.9.10)
- onset of the active second stage of labour is when:
  - the baby is visible **or**
  - there is involuntary or active pushing with full dilatation of the cervix. **[2007, amended 2023]**

## Assessment of women during the second stage of labour

1.9.2 Continue with observations of the woman and baby, and assessment of risk as described for the first stage of labour (see recommendations 1.8.19 and 1.8.20), but be aware that the frequency of fetal monitoring should increase. See the NICE guideline on fetal monitoring in labour. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on assessment of women during the second stage of labour.

1.9.3 Offer a vaginal examination (see recommendations 1.8.9 and 1.8.10) hourly in the active second stage, or in response to the woman's wishes (after abdominal palpation and assessment of vaginal loss). To assess progress, the vaginal examination should include:

- position of the head
- descent
- caput and moulding. **[2007, amended 2023]**

1.9.4 During the second stage of labour:

- continue to take the woman's emotional and psychological needs into account
- assess progress, which should include the woman's behaviour, the effectiveness of pushing and the baby's wellbeing, taking into account the baby's position and station at the onset of the second stage; these factors will assist in deciding the timing of further vaginal examinations and any need for transfer to obstetric-led care
- assess the frequency, strength and duration of contractions
- perform intermittent auscultation of the fetal heart rate immediately after a contraction for at least 1 minute, at least every 5 minutes. Palpate the woman's pulse every 5 minutes to differentiate between the 2 heartbeats; see the NICE guideline on fetal monitoring in labour
- ongoing consideration should be given to the woman's position, hydration, coping strategies and pain relief throughout the second stage. **[2007, amended 2023]**

## The woman's position and pushing in the second stage

1.9.5 Advise a woman with an epidural in place during the second stage of

labour that:

- lying flat on her back can lead to a decrease in blood pressure and may reduce placental blood flow
- lying on her side may increase the chance of a spontaneous vaginal birth, but she can use any other position she finds comfortable to give birth, including upright positions. **[2023]**

1.9.6 Advise a woman without an epidural in place during the second stage of labour that:

- lying flat on her back can lead to a decrease in blood pressure and may reduce placental blood flow
- she can use any other position she finds comfortable to give birth
- upright positions and keeping mobile may be beneficial (as they may reduce fetal heart rate abnormalities, episiotomy rates and improve her birthing experience). **[2023]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on position for birth.

Full details of the evidence and the committee's discussion are in evidence review G: position for birth.

1.9.7 Advise women without an epidural in place that:

- spontaneous pushing may shorten the second stage of labour compared with directed pushing
- if directed pushing is used, pushing while exhaling may shorten the active second stage of labour for multiparous women. **[2023]**

1.9.8 If full dilatation of the cervix has been confirmed in a woman without an epidural in place, but she does not get an urge to push, offer to carry out further assessment after 1 hour. **[2007]**

1.9.9 Advise nulliparous women with an epidural that:

- directed pushing rather than spontaneous pushing may reduce the likelihood of having an unplanned caesarean birth
- delayed directed pushing (up to 2 hours after full dilatation) may shorten the active second stage of labour. **[2023]**

1.9.10 Advise multiparous women with an epidural that:

- delayed directed pushing (by 1 hour after full dilatation) may reduce the likelihood of needing birth with forceps or ventouse
- delayed directed pushing (by 1 hour after full dilatation) may shorten the active second stage of labour. **[2023]**

1.9.11 If pushing is ineffective or if requested by the woman, offer strategies to assist birth, such as support, change of position, emptying of the bladder and encouragement. **[2007]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on pushing techniques.

Full details of the evidence and the committee's discussion are in evidence review H: pushing techniques.

## Intrapartum interventions to reduce perineal trauma

1.9.12 Discuss the woman's preferences for techniques to reduce perineal trauma during birth and support her choices. **[2023]**

1.9.13 Once the presenting part distends the perineum in the second stage of labour, offer to apply a warm wet compress to the perineum and continue this until birth. Check the temperature of the compress is comfortable for the woman. **[2023]**

1.9.14 Consider massage of the perineum with a water-soluble lubricant in the second stage of labour, if perineal massage is acceptable to the woman and she prefers this to a warm compress. **[2023]**

1.9.15 Do not offer lidocaine spray to reduce pain in the second stage of labour. **[2007]**

1.9.16 Do not carry out a routine episiotomy during spontaneous vaginal birth. **[2007]**

1.9.17 Inform any woman with a history of severe perineal trauma that her risk of repeat severe perineal trauma is not increased in a subsequent birth, compared with women having their first baby. **[2007]**

1.9.18 Do not offer episiotomy routinely at vaginal birth after previous third- or fourth-degree trauma. **[2007]**

1.9.19 In order for a woman who has had previous third- or fourth-degree trauma to make an informed choice, talk with her about the future mode of birth, encompassing:

- current urgency or incontinence symptoms
- the degree of previous trauma
- risk of recurrence
- the success of the repair undertaken
- the psychological effect of the previous trauma
- management of her labour. **[2007]**

1.9.20 Inform any woman with infibulated genital mutilation of the risks of difficulty with vaginal examination, catheterisation and application of fetal scalp electrodes. Inform her of the risks of delay in the second stage and spontaneous laceration together with the possible need for defibulation in labour. **[2007, amended 2023]**

1.9.21 If an episiotomy is performed, the recommended technique is a mediolateral episiotomy originating at the vaginal fourchette and usually directed to the right side. The angle to the vertical axis should be between 45 and 60 degrees at the time of the episiotomy. **[2007]**

1.9.22 Perform an episiotomy if there is a clinical need, such as birth with forceps or ventouse or suspected fetal compromise. **[2007]**

1.9.23 Provide tested, effective analgesia before carrying out an episiotomy, except in an emergency because of acute fetal compromise. **[2007]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on interventions to reduce perineal trauma.

Full details of the evidence and the committee's discussion are in evidence review I: interventions to reduce perineal trauma.

## Water birth

1.9.24 Inform women that there is insufficient high-quality evidence to either support or discourage giving birth in water. **[2007]**

## Duration of the active second stage and definition of delay

1.9.25 For a nulliparous woman without an epidural:

- birth would be expected to take place within 3 hours of the start of the active second stage in most women
- after 1 hour of active pushing, reassess the clinical picture, including progress, contractions, and maternal and fetal wellbeing:
  - if there are signs of progress (in terms of rotation or descent of the presenting part), encourage the woman to continue pushing
  - if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact; if there is still no progress, diagnose delay and escalate for senior review
- if birth is not imminent after 2 hours of pushing, refer the woman for a senior review and a decision on place and mode of birth. **[2007, amended 2023]**

1.9.26 For a multiparous woman without an epidural:

- birth would be expected to take place within 2 hours of the start of the active second stage in most women
- after 30 minutes of active pushing, reassess clinical picture, including progress, contractions, and maternal and fetal wellbeing:
  - if there are signs of progress (in terms of rotation or descent of the presenting part), encourage the woman to continue pushing
  - if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact; if there is still no progress, diagnose delay and escalate for senior review
- if birth is not imminent after 1 hour of pushing, refer the woman for senior review and decision on place and mode of birth. **[2007, amended 2023]**

1.9.27 For a nulliparous woman with an epidural:

- birth would be expected to take place within 3 hours of the start of the active second stage in most women, but be aware that these women may have had a passive stage of up to 2 hours after full dilatation before commencing active pushing (see recommendation 1.9.9)
- after 1 hour of active pushing, reassess the clinical picture, including progress, contractions, and maternal and fetal wellbeing:
  - if there are signs of progress (in terms of rotation or descent of the presenting part), encourage the woman to continue pushing
  - if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact; if there is still no progress, diagnose delay and escalate for senior review
- if birth is not imminent after 2 hours of pushing, refer the woman for a senior review and decision on place and mode of birth. **[2007, amended 2023]**

1.9.28 For a multiparous woman with an epidural:

- birth would be expected to take place within 2 hours of the start of the active second stage in most women, but be aware that these women may have had a passive stage of up to 1 hour after full dilatation before commencing active pushing (see recommendation 1.9.10)

- after 30 minutes of active pushing, reassess clinical picture, including progress, contractions, and maternal and fetal wellbeing:
  - if there are signs of progress (in terms of rotation or descent of the presenting part), encourage the woman to continue pushing
  - if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact; if there is still no progress, diagnose delay and escalate for senior review
- if birth is not imminent after 1 hour of pushing, refer the woman for a senior review and decision on place and mode of birth. **[2007, amended 2023]**

## Delay in the second stage

1.9.29 If there is delay in the second stage of labour (see the section on the duration of the active second stage), or if the woman is excessively distressed, provide support and sensitive encouragement and ask her if she needs analgesia or anaesthesia. **[2007, amended 2023]**

1.9.30 If there is delay in the second stage of labour and the decision is made to transfer the woman to obstetric-led care, follow the general principles for transfer of care described in section 1.5. Take into account that the presence of other risk factors (in addition to delay) may increase the urgency of the transfer. **[2014, amended 2023]**

1.9.31 An obstetrician should carry out an in-person assessment of a woman with confirmed delay in the second stage after transfer to obstetric-led care before contemplating the use of oxytocin. This should include:

- assessment and confirmation of fetal wellbeing (including presentation, position and heart rate)
- differentiation between the fetal and maternal heart rates
- confirmation that there are no signs of obstructed labour
- confirmation that contractions are infrequent or ineffective. **[2014, amended 2023]**

1.9.32 If the decision is made to start oxytocin in the second stage of labour, ensure that the time between increments of the dose is no more frequent than every 30 minutes. Increase oxytocin until there are 3 to 4 contractions in 10 minutes (see recommendation 1.8.48). **[2023]**

1.9.33 After initial obstetric assessment of a woman with delay in the second stage, maintain ongoing obstetric review every 15 to 30 minutes. **[2007]**

## Expediting birth

1.9.34 If the birth needs to be expedited for maternal or fetal reasons, assess both the risk to the baby and the safety of the woman. The assessment should include:

- the degree of urgency
- clinical findings on abdominal and vaginal examination
- the mode of birth (and whether to use forceps or ventouse if indicated)
- anticipated degree of difficulty, including the likelihood of success if birth with forceps or ventouse is attempted
- location
- any time that may be needed for transfer to obstetric-led care
- the need for additional analgesia or anaesthesia
- the woman's preferences. **[2014]**

1.9.35 Talk with the woman and her birth companion(s) about why the birth needs to be expedited and what the options are. **[2014]**

1.9.36 Inform the team about the degree of urgency. **[2014]**

1.9.37 Record the time at which the decision to expedite the birth is made. **[2014]**

## Birth with forceps or ventouse in delayed second stage

1.9.38 Offer birth with forceps or ventouse if there is concern about the baby's wellbeing, there is a prolonged second stage or the woman requests assistance. **[2007, amended 2023]**

1.9.39 If a woman declines a birth with forceps or ventouse:

- discuss her remaining options (vaginal birth, caesarean birth or reconsidering her decision about forceps or ventouse)
- advise her that her choices may be limited by clinical safety or degree of urgency (for example, if a caesarean birth is no longer an option because the baby's head is too low in the pelvis)
- support her decision. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on birth with forceps or ventouse in delayed second stage.

1.9.40 Base the choice of instrument on a balance of clinical circumstance and practitioner experience. **[2007, amended 2023]**

1.9.41 Discuss pain relief options for birth with forceps or ventouse. The option used should be based on the woman's preference and the clinical situation. **[2007, amended 2023]**

1.9.42 Ensure the level of pain relief is acceptable to the woman before using forceps or ventouse during birth. **[2007, amended 2023]**

1.9.43 Offer women who have had a birth with forceps or ventouse a single dose of intravenous co-amoxiclav (or a locally agreed alternative for women who are allergic to penicillin) within 6 hours after cord clamping. **[2023]**

1.9.44 Advise the woman to have a caesarean birth if vaginal birth is not possible. See the NICE guideline on caesarean birth. **[2007]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on prophylactic antibiotics for birth with forceps or ventouse.

Full details of the evidence and the committee's discussion are in evidence review J: prophylactic antibiotics for birth with forceps or ventouse.

# 1.10 Third stage of labour

1.10.1 Recognise that the time immediately after the birth is when the woman and her birth companion(s) are meeting and getting to know the baby. Ensure that any care or interventions are sensitive to this and minimise separation or disruption of the mother and baby. **[2014]**

## Definition of the third stage

1.10.2 For the purposes of this guideline, use the following definitions:

- the third stage of labour is the time from the birth of the baby to the expulsion of the placenta and membranes
- active management of the third stage involves a package of care comprising the following components:
  - routine use of uterotonic drugs
  - cord clamping and cutting of the cord (see recommendation 1.10.14)
  - controlled cord traction after signs of separation of the placenta
- physiological management of the third stage involves a package of care that includes the following components:
  - no routine use of uterotonic drugs
  - no clamping of the cord until pulsation has stopped, or after delivery of the placenta
  - delivery of the placenta spontaneously or by maternal effort. **[2014,**

**amended 2023]**

## Observations in the third stage

1.10.3 Record the following observations for a woman in the third stage of labour:

- her general physical condition, as shown by her colour, respiration and her own report of how she feels
- vaginal blood loss. **[2014]**

1.10.4 If there is postpartum haemorrhage, a retained placenta or maternal collapse, or any other concerns about the woman's wellbeing:

- carry out frequent observations to assess whether resuscitation is needed
- transfer her to obstetric-led care; follow the general principles for transfer of care described in section 1.5, taking into account that multiple risk factors may increase the urgency of the transfer, particularly if they have a cumulative effect. **[2014, amended 2023]**

## Management of the third stage

1.10.5 Discuss with the woman antenatally, during her initial assessment and in labour:

- the different options for managing the third stage of labour, and what to expect with each option
- the benefits and risks associated with active and physiological management of the third stage (see tables 10 and 11). **[2023]**

**Table 10 Outcomes that were more or less likely for women having active management of the third stage compared with physiological management**

| Outcome | Active management of the third stage of labour | Physiological management of the third stage of labour | Risk difference |
|---|---|---|---|
| **Haemorrhage of more than 500 mL** | About 68 women per 1,000 would be expected to have a haemorrhage of more than 500 mL (so 932 per 1,000 would not) | About 188 women per 1,000 would be expected to have a haemorrhage of more than 500 mL (so 812 per 1,000 would not) | About 120 per 1,000 fewer women would be expected to have a haemorrhage of more than 500 mL with active management, so for 880 there would be no difference |
| **Haemorrhage of more than 1 litre** | About 13 women per 1,000 would be expected to have a haemorrhage of more than 1 litre (so 987 per 1,000 would not) | About 29 women per 1,000 would be expected to have a haemorrhage of more than 1 litre (so 971 per 1,000 would not) | About 16 per 1,000 fewer women would be expected to have a haemorrhage of more than 1 litre with active management, so for 984 there would be no difference |
| **Need for blood transfusion** | About 13 women per 1,000 would be expected to need a blood transfusion (so 987 per 1,000 would not) | About 35 women per 1,000 would be expected to need a blood transfusion (so 965 per 1,000 would not) | About 23 per 1,000 fewer women would be expected to need a blood transfusion with active management, so for 977 there would be no difference |
| **Postpartum anaemia (haemoglobin less than 9 g/dL)** | About 30 women per 1,000 would be expected to have anaemia (so 970 per 1,000 would not) | About 60 women per 1,000 would be expected to have anaemia (so 940 per 1,000 would not) | About 30 per 1,000 fewer women would be expected to have anaemia with active management, so for 970 there would be no difference |

| Outcome | Active management of the third stage of labour | Physiological management of the third stage of labour | Risk difference |
|---|---|---|---|
| **Need for further uterotonics** | About 47 women per 1,000 would be expected to need further uterotonics (so 953 per 1,000 would not) | About 247 women per 1,000 would be expected to need further uterotonics (so 753 per 1,000 would not) | About 200 per 1,000 fewer women would be expected to need further uterotonics with active management, so for 800 there would be no difference |
| **Side effects (nausea and vomiting, headache, hypertension, readmission for bleeding)** | About 186 women per 1,000 would be expected to have these side effects (so 814 per 1,000 would not) | About 90 women per 1,000 would be expected to have these side effects (so 910 per 1,000 would not) | About 96 per 1,000 more women would be expected to have these side effects with active management, so for 904 there would be no difference |

**Table 11 Outcomes that were similar for both active and physiological management of the third stage**

| Outcome |
|---|
| Retained placenta beyond 1 hour or need for manual removal |
| Antibiotics for bleeding (discharge to 6 weeks) |
| Satisfied with third-stage management |
| Felt in control during labour |

1.10.6 Advise women that active management of the third stage of labour is associated with a lower risk of a postpartum haemorrhage or blood transfusion. **[2014]**

1.10.7 If a woman requests physiological management of the third stage:

- discuss her level of risk so she can make an informed decision **and**
- support her in her choice. **[2014, amended 2023]**

1.10.8 Document in her records the decision that is agreed with the woman about management of the third stage. **[2014]**

1.10.9 For a woman who is having a vaginal birth and has chosen to have an active third stage, discuss the choice of uterotonic for active management. Include that:

- oxytocin plus ergometrine may be more effective than oxytocin alone at reducing the risk of postpartum haemorrhage
- oxytocin plus ergometrine is advised if there are risk factors which could increase the risk of postpartum haemorrhage
- oxytocin plus ergometrine is more likely to lead to nausea and vomiting compared with oxytocin alone
- oxytocin plus ergometrine is contraindicated in women with severe hypertension, pre-eclampsia, eclampsia, or severe cardiac, hepatic or renal disease. **[2023]**

1.10.10 Offer antiemetics (for example, cyclizine) to women having oxytocin plus ergometrine. **[2023]**

1.10.11 For active management after vaginal birth, administer 10 units of oxytocin (by intramuscular injection), 5 units of oxytocin (by intravenous injection, see recommendation 1.10.12) or 5 units of oxytocin plus 500 micrograms of ergometrine (by intramuscular injection) immediately after the birth of the baby and before the cord is clamped and cut. **[2023]**

1.10.12 If oxytocin is used, administer it by:

- intramuscular injection **or**
- slow intravenous injection over 3 to 5 minutes for women who have received oxytocin during labour. **[2023]**

1.10.13 For women who have had a caesarean birth, offer carbetocin by slow intravenous injection for the prevention of postpartum haemorrhage. **[2023]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on management of the third stage of labour.

Full details of the evidence and the committee's discussion are in:

- evidence review K: active and physiological management of the third stage
- evidence review L: route of administration of oxytocin in the third stage of labour
- evidence review M: uterotonics for prevention of postpartum haemorrhage.

1.10.14 After administering the uterotonic, clamp and cut the cord, but:

- do not clamp the cord earlier than 1 minute from the birth of the baby unless there is concern about the integrity of the cord or the baby has a heart rate below 60 beats a minute that is not getting faster
- clamp the cord before 5 minutes in order to perform controlled cord traction as part of active management
- if the woman requests that the cord is clamped and cut later than 5 minutes, support her choice. **[2014, amended 2023]**

For a short explanation of why the committee did not make any recommendations about the position of the baby during cord clamping, see the rationale and impact section on position of the baby during cord clamping.

Full details of the evidence and the committee's discussion are in evidence review N: position of the baby during cord clamping.

1.10.15 After cutting the cord, perform controlled cord traction as part of active management only after administration of oxytocin and signs of separation of the placenta. **[2014, amended 2023]**

1.10.16 Record the timing of cord clamping in both active and physiological management. **[2014]**

1.10.17 Advise a change from physiological management to active management if either of the following occur:

- haemorrhage
- the placenta is not delivered within 1 hour of the birth of the baby. **[2014]**

1.10.18 Offer a change from physiological management to active management if the woman wants to shorten the third stage. **[2014]**

1.10.19 Do not use either umbilical oxytocin infusion or prostaglandin routinely in the third stage of labour. **[2014]**

## Prolonged third stage

1.10.20 Diagnose a prolonged third stage of labour if it is not completed within 30 minutes of the birth with active management or within 60 minutes of the birth with physiological management. Follow the recommendations on managing a retained placenta. **[2014]**

## Retained placenta

1.10.21 Secure intravenous access if the placenta is retained, and explain to the woman why this is needed. **[2014]**

1.10.22 Do not use umbilical vein agents if the placenta is retained. **[2014]**

1.10.23 Do not use intravenous oxytocic agents routinely to deliver a retained placenta. **[2014]**

1.10.24 Give intravenous oxytocic agents if the placenta is retained and the woman is bleeding excessively. **[2014]**

1.10.25 If the placenta is retained and there is concern about the woman's condition:

- offer a vaginal examination to assess the need to undertake manual removal of the placenta

- explain that this assessment can be painful and advise her to have analgesia. **[2014]**

1.10.26 If the woman reports inadequate analgesia during the assessment, stop the examination and address this immediately. **[2014]**

1.10.27 If the placenta is retained and the woman is not already in an obstetric unit, arrange transfer. Follow the general principles for transfer of care described in section 1.5, taking into account that multiple risk factors may increase the urgency of the transfer, particularly if they have a cumulative effect. **[2014, amended 2023]**

1.10.28 Do not carry out uterine exploration or manual removal of the placenta without an anaesthetic. **[2014]**

## Postpartum haemorrhage

### Risk factors for postpartum haemorrhage

1.10.29 Advise women with antenatal risk factors for postpartum haemorrhage to give birth in an obstetric unit, where more emergency treatment options are available. Risk factors include:

- previous postpartum haemorrhage over 1,000 mL or requiring blood transfusion
- placenta accreta spectrum
- pre-eclampsia
- maternal haemoglobin level below 85 g/litre at onset of labour
- BMI greater than 35 kg/$m^2$
- grand multiparity (parity 4 or more)
- antepartum haemorrhage or placental abruption
- overdistention of the uterus (for example, multiple pregnancy, polyhydramnios)
- existing uterine abnormalities (for example, fibroids)

- low-lying placenta. **[2007, amended 2023]**

1.10.30 Continue to assess risk factors for postpartum haemorrhage during labour, taking into account antenatal risk factors and any risk factors that have arisen during labour. These can include:

- induction or augmentation of labour with oxytocin or prostaglandins
- prolonged first or second stage of labour
- sepsis
- oxytocin use during labour
- precipitate labour
- birth with forceps or ventouse
- caesarean birth
- shoulder dystocia
- delay in delivery of the placenta. **[2007, amended 2023]**

1.10.31 Be aware that taking selective serotonin reuptake inhibitor (SSRI) or serotonin-noradrenaline reuptake inhibitor (SNRI) antidepressants in the month before birth may result in a small increased risk of postpartum haemorrhage, and that this should be taken into account as part of the bleeding and thrombotic risk assessment. See the Medicines and Healthcare products Regulatory Agency (MHRA) advice on the use of SSRI and SNRI antidepressants in the month before birth. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on risk factors for postpartum haemorrhage.

1.10.32 If a woman has risk factors for postpartum haemorrhage, highlight these in her notes, and agree with her a care plan covering the third stage of labour. **[2007]**

## Management of postpartum haemorrhage

1.10.33 If a woman has a postpartum haemorrhage:

- call for help
- give immediate clinical treatment:
  - emptying of the bladder **and**
  - uterine massage **and**
  - uterotonic drugs **and**
  - intravenous fluids **and**
  - controlled cord traction if the placenta has not yet been delivered
- continuously assess blood loss and the woman's condition, and identify the source of the bleeding
- consider giving supplementary oxygen (starting at 15 L/minute to obtain a target oxygen saturation of 94% to 98%, using a non-rebreathing mask with a reservoir bag)
- arrange for transfer of the woman to obstetric-led care (following the general principles for transfer of care described in section 1.5). **[2014, amended 2023]**

1.10.34 Administer 1 of the following (see table 12) as first-line treatment for postpartum haemorrhage, taking into account which uterotonics have already been administered as part of active management of the third stage of labour. Offer further treatment for postpartum haemorrhage if needed. **[2023]**

**Table 12 Choice of uterotonics for the treatment of postpartum haemorrhage**

| Uterotonic used in the third stage of labour as prophylaxis | Suggested first-line treatment of postpartum haemorrhage | Suggested second-line treatment of postpartum haemorrhage | Additional treatments that can be offered, depending on clinical need |
|---|---|---|---|
| No uterotonic used – physiological management | • Oxytocin plus ergometrine by intramuscular injection (if contraindicated, give carboprost), **or**<br>• Oxytocin infusion as soon as intravenous access is available | Carboprost intramuscular injection | • Carboprost intramuscular injection (can be repeated at intervals not less than 15 minutes up to a maximum of 8 doses), **or**<br>• Misoprostol 800 micrograms sublingually or rectally (may be used earlier if intravenous route not available), **or**<br>• Carbetocin slow intravenous injection |
| Oxytocin alone | • Ergometrine intramuscular injection (if contraindicated give carboprost), **or**<br>• Oxytocin infusion as soon as intravenous access is available | Carboprost intramuscular injection | • Carboprost intramuscular injection (can be repeated at intervals not less than 15 minutes up to a maximum of 8 doses), **or**<br>• Misoprostol 800 micrograms sublingually or rectally (may be used earlier if intravenous route not available), **or**<br>• Carbetocin slow intravenous injection |

| Uterotonic used in the third stage of labour as prophylaxis | Suggested first-line treatment of postpartum haemorrhage | Suggested second-line treatment of postpartum haemorrhage | Additional treatments that can be offered, depending on clinical need |
|---|---|---|---|
| Oxytocin plus ergometrine | • Carboprost intramuscular injection, **or**<br>• Oxytocin infusion as soon as intravenous access is available | Repeat carboprost after 15 minutes | • Carboprost intramuscular injection (can be repeated at intervals not less than 15 minutes up to a maximum of 8 doses), **or**<br>• Misoprostol 800 micrograms sublingually or rectally (may be used earlier if intravenous route not available), **or**<br>• Carbetocin slow intravenous injection |
| Carbetocin | Ergometrine intramuscular injection | Carboprost intramuscular injection | • Carboprost intramuscular injection (can be repeated at intervals not less than 15 minutes up to a maximum of 8 doses), **or**<br>• Misoprostol 800 micrograms sublingually or rectally |

In September 2023, this was an off-label use of misoprostol, so the dosage is included in table 12. Consult the BNF for dosages of other drugs listed. See NICE's information on prescribing medicines.

1.10.35 In addition to uterotonic drugs, give tranexamic acid (1 g by intravenous injection over 10 minutes). Repeat if necessary after at least 30 minutes

for managing continuing postpartum haemorrhage. **[2023]**

For a short explanation of why the committee made the 2023 recommendations, see the rationale and impact section on the pharmacological management of postpartum haemorrhage.

Full details of the evidence and the committee's discussion are in evidence review O: pharmacological management of postpartum haemorrhage.

1.10.36 Allocate a member of the healthcare team to stay with the woman and her birth companion(s), explain what is happening, answer any questions and offer support throughout the emergency situation. **[2014]**

1.10.37 If the haemorrhage continues:

- consider near-patient coagulation testing, if available
- consider administration of blood products (for example, packed red cells and clotting products)
- perform examination under anaesthetic
- ensure that the uterus is empty and repair any trauma
- consider balloon tamponade before surgical options. **[2014, amended 2023]**

1.10.38 Be aware that no particular surgical procedure can be recommended over any other for treating postpartum haemorrhage. **[2014]**

1.10.39 Ensure the maternity service and ambulance service have strategies in place to respond quickly and appropriately if a woman has a postpartum haemorrhage in any setting. **[2014]**

# 1.11 Care of the newborn baby

## Initial assessment of the newborn baby and mother–baby bonding

1.11.1 Record the Apgar score routinely at 1 minute and 5 minutes for all births.

**[2007]**

1.11.2 When assessing the colour element of the Apgar score:

- assess central oxygenation by looking inside the mouth at the mucous membranes and tongue
- assess peripheral oxygenation by looking at the colour of the nail beds. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on initial assessment of the newborn baby.

1.11.3 Record the time from birth to the onset of regular respirations. **[2014]**

1.11.4 If the baby is born in poor condition (for example, with abnormal breathing, heart rate or tone):

- follow recommendations on neonatal resuscitation **and**
- take paired cord-blood samples for blood gas analysis, after double-clamping the cord using 2 clamps.

  Continue to evaluate and record the baby's condition until it is improved and stable. **[2014]**

1.11.5 Do not take paired cord-blood samples (for blood gas analysis) routinely. **[2014]**

1.11.6 Ensure that a second clamp to allow double-clamping of the cord is available in all birth settings. **[2014]**

1.11.7 Encourage women to have skin-to-skin contact with their babies as soon as possible after the birth. If the woman is not well enough, encourage her birth companion to have skin-to-skin contact instead. **[2007, amended 2023]**

1.11.8 In order to keep the baby warm, dry and cover them with a warm, dry blanket or towel while maintaining skin-to-skin contact with the woman. **[2007]**

1.11.9 Prioritise optimal baby airway positioning, ensuring the head is supported so the airway does not become obstructed during skin-to-skin contact and explain to the woman and her birth companion(s) how to maintain the baby's airway. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on optimal positioning during skin-to-skin contact.

1.11.10 Avoid separating the woman and her baby within the first hour of the birth for routine postnatal procedures, for example, weighing, measuring and bathing, unless these measures are requested by the woman or are necessary for the immediate care of the baby. **[2007]**

1.11.11 Encourage initiation of breastfeeding as soon as possible after the birth, ideally within 1 hour. **[2007]**

1.11.12 Record head circumference, and birth weight soon after the first hour following birth and plot on the centile chart. **[2007, amended 2023]**

1.11.13 Check the baby's body temperature is in the normal range. **[2007, amended 2023]**

1.11.14 Undertake an initial examination to detect any major physical abnormality and to identify any problems that need referral. **[2007]**

1.11.15 Undertake additional monitoring of the baby for women who have taken SSRI or SNRI antidepressants during pregnancy as these may result in a small increased risk of persistent pulmonary hypertension of the newborn or neonatal withdrawal symptoms. See the NICE guideline on antenatal and postnatal mental health and the MHRA advice on the use of SSRI and SNRI antidepressants in pregnancy. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on additional monitoring for babies exposed to antidepressants in utero.

1.11.16 Ensure that any examination or treatment of the baby is undertaken with the consent of the parents and either in their presence or, if this is not possible, with their knowledge. **[2007]**

## Neonatal resuscitation

1.11.17 In the first minutes after birth, evaluate the condition of the baby (specifically respiration, heart rate and tone) in order to determine whether resuscitation is needed according to nationally accredited guidelines on neonatal resuscitation. **[2014]**

1.11.18 All relevant healthcare professionals caring for women during birth should attend annually a course in neonatal resuscitation that is consistent with nationally accredited guidelines on neonatal resuscitation. **[2014]**

1.11.19 In all birth settings:

- bear in mind that it will be necessary to call for help if the baby needs resuscitation, and plan accordingly
- ensure that there are facilities for resuscitation, and for transferring the baby to another location if necessary
- develop emergency referral pathways for both the woman and the baby, and implement these if necessary. **[2014]**

1.11.20 If a newborn baby needs basic resuscitation, start with air. **[2014]**

1.11.21 Minimise separation of the baby and mother, taking into account the clinical circumstances. **[2014]**

1.11.22 Throughout an emergency situation in which the baby needs resuscitation, allocate a member of the healthcare team to talk with, and offer support to, the woman and any birth companion(s). **[2014]**

## Care of babies in the presence of meconium

1.11.23 In the presence of any degree of meconium:

- do not suction the baby's upper airways (nasopharynx and oropharynx) before birth of the shoulders and trunk
- do not suction the baby's upper airways (nasopharynx and oropharynx) if the baby has normal respiration, heart rate and tone
- do not intubate if the baby has normal respiration, heart rate and tone. **[2014]**

1.11.24 If there has been any degree of meconium and the baby does not have normal respiration, heart rate and tone, follow nationally accredited guidelines on neonatal resuscitation. **[2014, amended 2023]**

1.11.25 If there has been significant meconium and the baby is healthy, closely observe the baby within a unit with immediate access to a neonatologist. Perform these observations at 1 and 2 hours old and then 2-hourly until 12 hours old. **[2014]**

1.11.26 If there has been non-significant meconium, observe the baby at 1 and 2 hours old in all birth settings. **[2014]**

1.11.27 If any of the following are observed after any degree of meconium, ask a neonatologist to assess the baby. Transfer both the woman and baby if they are at home or in a freestanding midwifery unit. Follow the general principles for transfer of care described in section 1.5, taking into account that multiple risk factors may increase the urgency of the transfer, particularly if they have a cumulative effect:

- respiratory rate above 60 breaths per minute
- the presence of grunting
- heart rate below 100 or above 160 beats per minute
- capillary refill time above 3 seconds
- body temperature of 38°C or above, or 37.5°C on 2 occasions 15 to 30 minutes apart
- oxygen saturation below 95% (measuring oxygen saturation is optional after non-significant meconium)

- presence of central cyanosis, confirmed by pulse oximetry if available. **[2014, amended 2023]**

1.11.28 Explain the findings to the woman, and inform her about what to look out for and who to talk to if she has any concerns. **[2014]**

## Babies born to women with prelabour rupture of the membranes at term

1.11.29 Closely observe any baby born to a woman with prelabour rupture of the membranes (more than 24 hours before the onset of established labour) at term for the first 12 hours of life (at 1, 2, 6 and 12 hours) in all settings. Include assessment of:

- temperature
- heart rate
- respiratory rate
- presence of respiratory grunting
- significant subcostal recession
- presence of nasal flare
- presence of central cyanosis, confirmed by pulse oximetry if available
- skin perfusion assessed by capillary refill
- floppiness
- concerns about general wellbeing and feeding.

If any of these are observed, ask a neonatologist to assess the baby. Transfer both the woman and baby if they are at home or in a freestanding midwifery unit. Follow the general principles for transfer of care described in section 1.5 and take into account that multiple risk factors may increase the urgency of the transfer, particularly if they have a cumulative effect. **[2014, amended 2023]**

1.11.30 If there are no signs of infection in the woman or in the baby, do not give antibiotics to either the woman or the baby, even if the membranes have

been ruptured for over 24 hours. **[2007, amended 2023]**

1.11.31 If there is evidence of infection in the woman or in the baby, see the section on antibiotics for suspected early-onset infection in NICE's guideline on neonatal infection for advice on when to consider antibiotics. **[2007, amended 2023]**

1.11.32 Advise women with prelabour rupture of the membranes to inform their healthcare professionals immediately of any concerns they have about their baby's wellbeing in the first 5 days after birth, particularly in the first 12 hours when the risk of infection is greatest. **[2007]**

1.11.33 Do not perform blood, cerebrospinal fluid and/or surface culture tests in an asymptomatic baby. **[2007]**

1.11.34 Refer a baby with any symptom of possible sepsis, or born to a woman who has evidence of chorioamnionitis, to a neonatal care specialist immediately. **[2007]**

# 1.12 Care of the woman after birth

## Initial assessment

1.12.1 Carry out the following observations of the woman after birth:

- record her temperature, pulse, blood pressure and respiratory rate. Transfer the woman (with her baby) to obstetric-led care if any of the relevant indications listed in recommendation 1.8.20 are met
- check uterine contraction and lochia
- examine the placenta and membranes: assess their condition, structure, cord vessels and completeness; transfer the woman (with her baby) to obstetric-led care if the placenta is incomplete
- make an early assessment of the woman's emotional and psychological condition in response to labour and birth; see the NICE guideline on postnatal care

- check for successful voiding of the bladder; if, after 6 hours, her bladder is palpable and she is unable to pass urine, advise catheterisation and consider transferring the woman (with her baby) to obstetric-led care.

  If transferring the woman to obstetric-led care, follow the general principles for transfer of care described in section 1.5 and take into account that multiple risk factors may increase the urgency of the transfer, particularly if they have a cumulative effect. **[2014, amended 2023]**

1.12.2 Check that women who have had regional analgesia or anaesthesia can perform a straight leg raise by 4 hours after the last anaesthetic dose. If not, contact the obstetric anaesthetist for urgent review. **[2023]**

For a short explanation of why the committee made the 2023 recommendation, see the rationale and impact section on care of the woman after birth.

## Perineal care

1.12.3 Define perineal or genital trauma caused by either tearing or episiotomy as follows:

- first degree – injury to skin only
- second degree – injury to the perineal muscles but not the anal sphincter
- third degree – injury to the perineum involving the anal sphincter complex:
  - 3a – less than 50% of external anal sphincter thickness torn
  - 3b – more than 50% of external anal sphincter thickness torn
  - 3c – internal anal sphincter torn
- fourth degree – injury to the perineum involving the anal sphincter complex (external and internal anal sphincter) and anal epithelium. **[2007]**

1.12.4 Before assessing for genital trauma:

- explain to the woman what is planned and why

- offer inhalational analgesia
- ensure good lighting
- position the woman so that she is comfortable and so that the genital structures can be seen clearly. **[2007]**

1.12.5 Offer all women systematic assessment, including a rectal examination, to exclude all genital tract trauma, including buttonhole tears. **[2007, amended 2023]**

1.12.6 Perform the initial examination gently and with sensitivity. It may be done in the immediate period after birth. **[2007]**

1.12.7 Include the following in a systematic assessment of genital trauma:

- further explanation of what is planned and why
- confirmation by the woman that tested effective local or regional analgesia is in place
- visual assessment of the extent of perineal trauma to include the structures involved, the apex of the injury and assessment of bleeding
- a rectal examination to assess whether there has been any damage to the external or internal anal sphincter if there is any suspicion that the perineal muscles are damaged. **[2007]**

1.12.8 Ensure that the timing of this systematic assessment does not interfere with mother–baby bonding unless the woman has bleeding that requires urgent attention. **[2007]**

1.12.9 Assist the woman to adopt a position that allows adequate visual assessment of the degree of trauma and for repair. Only maintain this position for as long as necessary for systematic assessment and repair. If it is not possible to adequately assess the trauma, transfer the woman (with her baby) to obstetric-led care, following the general principles for transfer of care described in section 1.5. **[2007, amended 2014]**

1.12.10 Seek advice from a more experienced midwife or obstetrician if there is uncertainty about the nature or extent of the trauma. Transfer the

woman (with her baby) to obstetric-led care (following the general principles for transfer of care described in section 1.5) if the repair needs further surgical or anaesthetic expertise. **[2007, amended 2014]**

1.12.11 Document the systematic assessment and its results fully, possibly pictorially. **[2007]**

1.12.12 All relevant healthcare professionals should attend training in perineal/genital assessment and repair and ensure that they maintain these skills. **[2007]**

1.12.13 Undertake repair of the perineum as soon as possible to minimise the risk of infection and blood loss. **[2007]**

1.12.14 When carrying out perineal repair:

- ensure that tested effective analgesia is in place, using infiltration with up to 20 ml of 1% lidocaine or equivalent
- top up the epidural or insert a spinal anaesthetic if necessary. **[2007]**

1.12.15 If the woman reports inadequate pain relief at any point, address this immediately. **[2007]**

1.12.16 Advise the woman that in the case of first-degree trauma, the wound should be sutured in order to improve healing, unless the skin edges are well opposed. **[2007]**

1.12.17 Advise the woman that in the case of second-degree trauma, the muscle should be sutured in order to improve healing. **[2007]**

1.12.18 If the skin is opposed after suturing of the muscle in second-degree trauma, there is no need to suture it. **[2007]**

1.12.19 If the skin does need suturing, use a continuous subcuticular technique. **[2007]**

1.12.20 Undertake perineal repair using a continuous non-locked suturing technique for the vaginal wall and muscle layer. **[2007]**

1.12.21 Use an absorbable synthetic suture material to suture the perineum. **[2007]**

1.12.22 Offer rectal non-steroidal anti-inflammatory drugs routinely after perineal repair of first- and second-degree trauma provided these drugs are not contraindicated. **[2007]**

1.12.23 Observe the following basic principles when performing perineal repairs:

- repair perineal trauma using aseptic techniques
- check equipment and count swabs and needles before and after the procedure
- ensure good lighting is available to see and identify the structures involved
- ensure that trauma is repaired in the appropriate place with appropriate anaesthesia, according to the clinician's judgement
- ensure that good anatomical alignment of the wound is achieved and that consideration is given to the cosmetic results
- ensure that suture material has not been accidentally inserted through the rectal mucosa by carrying out a rectal examination after completing the repair
- after completion of the repair, document an accurate detailed account covering the extent of the trauma, the method of repair and the materials used
- give the woman information about the extent of the trauma, pain relief, diet, hygiene and the importance of learning to do pelvic floor exercises, what to expect as they recover, and where and when to seek advice or psychological support if needed. **[2007, amended 2023]**

# Terms used in this guideline

This section defines terms that have been used in a particular way for this guideline. For other definitions, see the NICE glossary and the Think Local, Act Personal Care and Support Jargon Buster.

## Cephalic

The baby is positioned head-down, ready to be born head-first through the vagina.

## Hyperstimulation

This is overactivity of the uterus. It is variously defined as uterine tachysystole (more than 5 contractions per 10 minutes for at least 20 minutes), and uterine hypersystole or hypertonicity (a contraction lasting at least 2 minutes). These may or may not be associated with changes in the fetal heart rate pattern (persistent decelerations, tachycardia, or increased or decreased short-term variability).

## Significant meconium

This is defined as dark green or black amniotic fluid that is thick or tenacious, or any meconium-stained amniotic fluid containing lumps of meconium.

# Recommendations for research

The guideline committee has made the following recommendations for research.

## Key recommendations for research

### 1 Perineal care

What is the effectiveness of hands on, hands poised or Finnish grip in the second stage of labour for reducing perineal trauma? **[2023]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on interventions to reduce perineal trauma.

Full details of the evidence and the committee's discussion are in evidence review I: interventions to reduce perineal trauma.

### 2 Restarting oxytocin

What is the most effective dosage at which oxytocin should be recommenced once stopped in labour because of an abnormal cardiotocography? **[2023]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on the use of oxytocin in the first or second stage of labour.

Full details of the evidence and the committee's discussion are in evidence review F: oxytocin in the first or second stage of labour.

### 3 Position of the baby during cord clamping

What is the optimum position for the baby during delayed cord clamping in relation to the

mother's uterus? **[2023]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on position of the baby during cord clamping.

Full details of the evidence and the committee's discussion are in evidence review N: position of the baby during cord clamping.

## 4 Management of postpartum haemorrhage

What is the impact of pharmacological interventions for the management of postpartum haemorrhage on breastfeeding and women's and their birth companions' experience and satisfaction in the postnatal period? **[2023]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on the management of postpartum haemorrhage.

Full details of the evidence and the committee's discussion are in evidence review O: pharmacological management of postpartum haemorrhage.

## 5 Prophylactic antibiotics for birth with forceps or ventouse

What is the effectiveness and cost effectiveness of intravenous compared with oral antibiotics for preventing postnatal infections after birth with forceps or ventouse? **[2023]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on prophylactic antibiotics for birth with forceps or ventouse.

Full details of the evidence and the committee's discussion are in evidence review J: prophylactic antibiotics for birth with forceps or ventouse.

# Other recommendations for research

## Effect of information giving on place of birth

How does the provision of accurate, evidence-based information affect women's decision-making processes and choice of place of birth? **[2014]**

### Why this is important

A longitudinal narrative report of pregnant women in 3 maternity services in the UK identifies in detail why women make choices about where to give birth and how these choices can be influenced. Influences may include written and verbal information (both online and from midwives and doctors), previous experience, and word-of-mouth advice from friends and family. The Birthplace study concluded that giving birth outside an obstetric unit is the optimal choice for low-risk women. This finding should be used to restructure the way in which information is provided, so that it is presented in a more accurate, less risk-based way in order to support women's choices. This change should be evaluated in a quantitative observational study and/or qualitative study that records any changes in women's choice-making about place of birth. Outcomes include understanding why and how women make choices about where to give birth and how this can influence the provision of appropriate and accessible information, a measure of informed decision making, and fearfulness and absence of fearfulness when choosing place of birth.

## Long-term consequences of planning birth in different settings

What are the long-term consequences for women and babies of planning birth in different settings? **[2014]**

### Why this is important

The long-term consequences of birth experiences and birth outcomes are poorly understood, particularly in relation to place of birth. A large population-based observational study would compare women's experiences and outcomes in different birth settings (with subgroup analysis by mode of birth) in relation to the wellbeing of the women and their children over different periods of time (for example, 2, 5, 10, 15, 20 and 30 years). A secondary analysis could compare different providers where birth philosophies are different. Outcomes would be compared by accessing medical records

and through qualitative interviews. Primary outcomes are long-term physical morbidity, pain after birth, readmission to hospital, infection, psychological morbidity (for example, postnatal depression, bonding, relationship breakdown with partner, fear of giving birth in future) and breastfeeding rates. Secondary outcomes are impact on attachment between mother and child, obesity in children, autoimmune disease, chronic illness, educational achievement and family functioning.

## Oxytocin in the first stage of labour

What is the effectiveness of altering the dose of intravenous oxytocin to reduce excessive frequency of uterine contractions? **[2023]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on the use of oxytocin in the first or second stage of labour.

Full details of the evidence and the committee's discussion are in evidence review F: oxytocin in the first or second stage of labour.

## Postpartum haemorrhage

What is the most effective treatment for primary postpartum haemorrhage? **[2014]**

### Why this is important

There is uncertainty about the most effective drug treatments and dosage regimes, and about which other treatments should be used, for women who develop a postpartum haemorrhage. The most effective sequencing of interventions is also uncertain. The psychological impact of postpartum haemorrhage for women can be significant, and identifying the approach that minimises this impact is important. Randomised controlled trials comparing different dosage regimes for oxytocin and misoprostol, as well as comparisons with ergometrine and carboprost, are needed. Trials of mechanical measures such as intrauterine balloons or interventional radiology as early second-line treatment (rather than an alternative drug treatment) are also needed. Alternatively, a trial comparing the effectiveness of a complex intervention (for example, an educational component, sequence of interventions, immediate feedback and quality improvements) compared with

standard care could be undertaken. Important outcomes include blood and blood product transfusion, need for further intervention, need for hysterectomy and psychological outcomes for the woman.

# Rationale and impact

These sections briefly explain why the committee made the recommendations and how they might affect practice.

## Antenatal education about labour

Recommendation 1.1.3

### Why the committee made the recommendation

The committee were aware that the increased focus on supported decision making during labour meant that there were a number of points during labour where women were asked to make decisions on their care (for example, type of analgesia, use of oxytocin, perineal care, and active or physiological management of the third stage). The committee agreed that it would therefore be helpful if discussions of some of these options could begin during pregnancy, when women would have more time to think about their options.

### How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

## Planning place of birth

Recommendation 1.3.2

### Why the committee made the recommendation

The committee were aware that resources were available on the NICE and NHS websites that could help women and healthcare professionals when discussing place of birth, so they added a cross reference to these resources.

### How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

## Care throughout labour in all birth settings

Recommendation 1.4.2

### Why the committee made the recommendation

Based on stakeholder feedback, the committee added an additional overarching recommendation to emphasise that women should be given all the information they need to make a supported decision and consent should always be obtained.

### How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

## Communication

Recommendation 1.4.8

### Why the committee made the recommendation

As part of the editorial updates planned for this guideline (see supplement 3), the committee were asked to update the sections on communication and to bring them more in line with current NICE style and terminology and to increase the emphasis on supported decision making. The committee therefore added this new recommendation as these aspects of communication were not previously covered in the guideline. Based on stakeholder feedback, the use of healthcare passports for people with learning disabilities or autism has been included.

### How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

## Transfer of care and changing place of birth

Recommendation 1.5.4

### Why the committee made the recommendation

As part of the editorial updates planned for this guideline (see supplement 3), the committee were asked to clarify the existing wording on the criteria that necessitate an emergency or urgent transfer to obstetric care. The committee therefore added this new recommendation as this aspect of transfer was not previously covered in the guideline.

### How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

## Attitudes to pain and pain relief in childbirth

Recommendation 1.6.2

### Why the committee made the recommendation

Based on stakeholder feedback, the committee added a new recommendation to advise that experiences and reporting of pain may vary and this should be taken into consideration to avoid diagnostic overshadowing.

### How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Care and observations for women with regional analgesia

Recommendation 1.6.31

## Why the committee made the recommendation

Based on their knowledge and experience, the committee were aware that women with an epidural in situ may not know that they can still mobilise, or may be discouraged from mobilising, but that they can do this safely with assistance. They therefore added a recommendation to state this. Based on stakeholder feedback, the need for the midwife to be trained was added.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Assessment of women in the first stage of labour

Recommendation 1.8.10

## Why the committee made the recommendation

The committee were aware that the guideline recommended a vaginal examination be carried out at a number of different timepoints but did not specify what should be assessed as part of this vaginal examination. Based on their knowledge and experience, the committee therefore added a recommendation with these details.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Measuring fetal heart rate as part of the initial assessment

Recommendation 1.8.14

## Why the committee made the recommendation

The detail about fetal monitoring has been removed from this guideline as it is now contained in a separate NICE guideline, so a cross-reference was added to explain this.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Ongoing assessment during the first stage of labour

Recommendation 1.8.23

## Why the committee made the recommendation

As part of the editorial updates planned for this guideline (see supplement 3), the committee were asked to update recommendations on monitoring of urine output and fluid balance during labour. The committee therefore added this new recommendation as this aspect of care was not previously covered in the guideline.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Presence of meconium

Recommendation 1.8.29

## Why the committee made the recommendation

The committee added this recommendation on meconium to the existing recommendations on the presence of meconium to ensure consistency with the advice given in the NICE guideline on fetal monitoring in labour.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Delay in the first stage

Recommendation 1.8.41

## Why the committee made the recommendation

The committee were aware that there may be uncertainty about the need to transfer for amniotomy. Based on their knowledge and experience, the committee were aware that amniotomy could be safely carried out in midwife-led settings and so made a recommendation to state this.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Assessment of women during the second stage of labour

Recommendation 1.9.2

## Why the committee made the recommendation

Instead of repeating the list of observations for the second stage of labour, the committee chose to make a new recommendation, cross-referring to the first stage list and the NICE guideline on fetal monitoring in labour.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Birth with forceps or ventouse in delayed second stage

Recommendation 1.9.39

## Why the committee made the recommendation

Stakeholders at consultation advised that there were no recommendations on the action to be taken if a women declined a birth with forceps or ventouse. Based on their knowledge and experience, the committee therefore added this recommendation to outline the options in this scenario.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Risk factors for postpartum haemorrhage

Recommendation 1.10.31

## Why the committee made the recommendation

As part of the editorial updates planned for this guideline (see supplement 3), the committee were asked to update recommendations on medications which may increase the risk of postpartum haemorrhage. The committee therefore added this new recommendation to alert healthcare professionals to the Medicines and Healthcare products Regulatory Agency (MHRA) warning about SSRI and SNRI antidepressants increasing the risk.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Initial assessment of the newborn baby

Recommendation 1.11.2

## Why the committee made the recommendation

As part of the editorial updates planned for this guideline (see supplement 3), the committee were asked to update recommendations on the use of the Apgar score for non-white babies. The committee therefore added this new recommendation to explain how the skin colour assessment of the Apgar score should be carried out.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Optimal positioning during skin-to-skin contact

Recommendation 1.11.9

## Why the committee made the recommendation

As part of the editorial updates planned for this guideline (see supplement 3), the committee were asked to update recommendations on skin-to-skin contact to include information on safe positioning and monitoring. The committee therefore added this new recommendation to ensure safety for the airway during skin-to-skin contact.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Additional monitoring for babies exposed to antidepressants in utero

Recommendation 1.11.15

## Why the committee made the recommendation

The committee were aware of an MHRA warning relating to the risk of persistent pulmonary hypertension or withdrawal symptoms in babies whose mothers had taken SSRI or SNRI antidepressants during pregnancy, so they added a recommendation to alert people to this.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Care of the woman after birth

Recommendation 1.12.2

## Why the committee made the recommendation

As part of the editorial updates planned for this guideline (see supplement 3), the committee were asked to update recommendations on monitoring of women with regional analgesia in light of updated guidelines from the Association of Anaesthetists and the Obstetric Anaesthetists' Association. The committee therefore added this new recommendation to ensure motor function was checked appropriately.

## How the recommendation might affect practice

This recommendation reinforces best practice and is unlikely to have any resource impact.

Return to recommendations

# Impact of BMI on choice of place of birth

Recommendation 1.3.6

## Why the committee made the recommendation

There was some evidence of increased risks for women with a body mass index (BMI) of 25 to 29.9 kg/$m^2$, 30 to 35 kg/$m^2$ and greater than 35 kg/$m^2$, compared with women with a lower BMI. Some of the increased risks were dependent on whether the woman was nulliparous or multiparous, and the evidence was from a number of different planned birth settings. The increased risks included increased rates of transfer from home to an obstetric unit, increased rates of unplanned caesarean birth, increased risks of postpartum haemorrhage and increased rates of neonatal admission, stillbirth or neonatal death. As the increased risks were reported across a variety of different planned places of birth (home, freestanding and alongside midwifery-led units, and obstetric units) the committee were unable to determine if the differences in risks for women of different BMIs were the same in all planned places of birth, but agreed that the information showed a trend for increased risk as BMI increased across a number of settings and should be made available to women to assist with their decision making about place of birth.

### How the recommendation might affect practice

The information on risks will help women make an informed, personal choice about their place of birth, and may result in more women at lower BMIs choosing to give birth at home or in a midwifery-led unit.

Return to recommendations

## Initial assessment of women reporting prelabour rupture of membranes

Recommendations 1.7.1, 1.7.2, 1.7.6, 1.7.7, 1.7.11

### Why the committee made the recommendations

No evidence was identified for this review, so the committee used their knowledge and experience to define the factors which may indicate that a woman with prelabour rupture of the membranes requires an immediate in-person clinical review. For other women without these factors, the committee agreed, based on their knowledge and experience, that an in-person review within 12 hours would ensure review within a safe time period, but would not put undue pressure on the woman to attend urgently.

Based on their knowledge and experience, the committee also amended the recommendations on actions to be taken when a woman presents with prelabour rupture of the membranes at term to align with the recommendations in the NICE guidelines on inducing labour and neonatal infection.

### How the recommendations might affect practice

The recommendations will reduce variation in practice and for some units may mean women are reviewed a few hours earlier than is currently the case.

Return to recommendations

## Sterile water injections

Recommendations 1.6.13 to 1.6.15

## Why the committee made the recommendations

There was evidence for the benefits of sterile water injections for back pain in labour, and some evidence that women found it a satisfactory treatment that they would use again. However, the committee were concerned about the quality of the evidence and chose only to recommend sterile water injections as an option for back pain.

There was evidence that both intracutaneous and subcutaneous sterile water injections were effective, and that while there was a greater quantity of evidence for intracutaneous administration, there was no difference between the effectiveness of the 2 types of injection. Based on their own knowledge and experience, the committee were aware that sterile water injections could lead to a stinging sensation when administered, but there was evidence that pain relief was apparent 10 minutes after the injection and could last up to 3 hours. A variety of doses were found to be effective. However, several studies used doses of 0.1 ml for intracutaneous administration or 0.5 ml for subcutaneous administration, usually injected into 4 sites in the Rhombus of Michaelis, so the committee recommended these doses.

The evidence showed that use of sterile injected water did not increase the risk of unplanned caesarean birth, birth with forceps or ventouse, use of rescue analgesia or neonatal unit admission.

## How the recommendations might affect practice

The recommendations may lead to increased use of sterile water injections for back pain in labour and will increase the number of treatment options available to women. As this is an inexpensive intervention, there is not expected to be a resource impact for the NHS.

Return to recommendations

# Remifentanil patient-controlled analgesia

Recommendations 1.6.20 to 1.6.23

## Why the committee made the recommendations

There was some evidence that using remifentanil patient-controlled analgesia (PCA), when compared with intramuscular opioids, reduced the use of epidural analgesia, reduced birth

with forceps or ventouse and increased vaginal birth, without causing any neonatal harms (such as neonatal respiratory depression or neonatal unit admission). Because of concerns over the quality and heterogeneity of this evidence, the committee agreed that they could not make a stronger recommendation about the use of remifentanil PCA.

As the evidence included studies which had used different doses of remifentanil, the committee based their recommendations on the dose used in the most recent and larger studies, which was the same dose as that already used in clinical practice.

There was evidence that intravenous remifentanil PCA led to an increase in maternal respiratory depression, and together with their knowledge and experience, the committee defined the appropriate settings, monitoring and safety procedures that should be in place for its use.

### How the recommendations might affect practice

The recommendations will increase the use of intravenous remifentanil PCA, and this will have resource implications but will be offset by reduced use of rescue analgesia (including epidurals) and is a cost-effective use of NHS resources.

Return to recommendations

## Programmed intermittent epidural bolus

Recommendation 1.6.41

### Why the committee made the recommendation

There was some evidence from different combinations of local anaesthetics and opioids that programmed intermittent epidural bolus (PIEB) used to maintain epidural analgesia led to reduced anaesthetist reattendance, reduced motor block, reduced labour pain, reduced duration of the second stage of labour, reduced caesarean birth and improved women's experience of labour, compared with other methods of maintaining epidural analgesia such as continuous epidural infusion, or patient-controlled epidural. There was conflicting evidence for the effects of PIEB on the rate of birth with forceps or ventouse, with evidence for both of an increased and decreased rate. As the evidence was limited, the committee agreed to recommend PIEB as an alternative option to epidural bolus

administered by a healthcare professional or patient-controlled.

### How the recommendation might affect practice

As PIEB is suggested as an alternative option to other methods of maintaining epidural analgesia, the resource impact is likely to be minimal. Most epidural pumps can already provide either patient-controlled or programmed intermittent boluses, so units would not need to purchase new pumps to implement these recommendations. There may be a reduction in staff time to administer the boluses and reduced anaesthetist reattendance.

Return to recommendations

## Use of oxytocin in the first or second stage of labour

Recommendations 1.8.47 to 1.8.51, 1.8.53 and 1.9.32

### Why the committee made the recommendations

There was no evidence about altering the dose of intravenous oxytocin, so the committee amended the recommendations from the previous version of the guideline. They based the changes on the summary of product characteristics for oxytocin and their knowledge and experience of the potential harms that may arise from hyperstimulation if oxytocin is administered at too high a dose or the dose is increased too rapidly.

There was no evidence for the optimum dose at which oxytocin should be restarted if stopped because of an abnormality in the cardiotocography, so the committee were unable to make recommendations about the dose to be used, but advised the decision should be based on the woman's previous dose and the full clinical picture.

Based on their knowledge and experience, the committee made recommendations to advise that the use of oxytocin, including whether to stop or restart it, should always be discussed with the woman and a supported decision should be made about its use. They also added a recommendation based on their knowledge and experience to advise cautious use of intravenous fluids and monitoring of fluid balance to limit the likelihood of fluid overload and hyponatremia.

As there was no evidence available, the committee made recommendations for research on restarting oxytocin and oxytocin in the first stage of labour.

### How the recommendations might affect practice

The recommendations may reduce variation in current practice.

Return to recommendations

## Position for birth

Recommendations 1.9.5 and 1.9.6

### Why the committee made the recommendations

For women with an epidural in situ, there was a statistically significant increase in spontaneous vaginal births for nulliparous women who were in the left or right lateral recumbent positions (lying on their side) compared with upright positions during the second stage of labour. This did not meet the pre-specified minimally important difference but the committee agreed women should be informed of this result so they could take this into account when deciding on their position. There was evidence of no difference for any other outcomes for women who adopted an upright or a recumbent position for birth, although the committee agreed that the definitions of these positions differed between studies, and the lack of clarification around semi-recumbent positions may have confounded some of the results. Based on this evidence and their knowledge and experience, the committee were aware that women with an epidural in situ may need more assistance to mobilise and find a comfortable position, and may choose to lie on their side but could adopt another position if more comfortable.

For women with no epidural in situ, there was some evidence for the benefits of an upright position on fetal heart rate abnormalities, episiotomy rates and women's experience of birth.

For all women, the committee were aware of the risks of women lying flat on their backs from aortocaval compression and for women with an epidural in situ, exacerbation of epidural-induced hypotension.

## How the recommendations might affect practice

The recommendations will reduce variation in practice.

Return to recommendations

# Pushing techniques

Recommendations 1.9.7, 1.9.9 and 1.9.10

## Why the committee made the recommendations

There was evidence for pushing techniques for women both with and without an epidural in place, and as the action of an epidural can affect a woman's urge and ability to push, the committee made recommendations for these 2 groups separately.

For women without an epidural, there was evidence that spontaneous pushing and directed pushing while exhaling may reduce the length of the second stage of labour, but that there was otherwise no difference for any outcomes so the committee could not recommend one technique over another.

For nulliparous women with an epidural in place, there was some evidence that directed pushing may reduce the likelihood of an unplanned caesarean birth and for multiparous women, some evidence that delayed pushing may reduce the likelihood of a birth with forceps or ventouse. For both nulliparous and multiparous women with epidurals, there was evidence that delayed pushing may reduce the duration of the active second stage. For all other outcomes, there was no difference between spontaneous and directed, or immediate or delayed, so the committee could not recommend one technique over another.

The committee used the evidence to determine by how many hours pushing should be delayed by for nulliparous and multiparous women with epidurals in place.

## How the recommendations might affect practice

The recommendations will reduce variation in practice.

Return to recommendations

# Interventions to reduce perineal trauma

Recommendation 1.9.12 to 1.9.14

## Why the committee made the recommendations

There was evidence that warm compresses applied to the perineum during labour reduced the incidence of third- and fourth-degree tears, urinary incontinence and postpartum perineal pain. There was some evidence that massage with lubricant also reduced the incidence of third- and fourth-degree tears, and a comparison of warm compresses and massage with lubricant showed a reduction in episiotomy with warm compresses. Therefore, the committee recommended that massage with lubricant could be considered as an alternative, but that warm compresses should be used in preference where possible.

The evidence for 'hands on' and 'hands poised' was mixed and had limitations, with no difference between the techniques for many outcomes, and benefits and harms seen for both techniques for other outcomes. The committee could therefore not recommend one technique over another.

As there was a lack of evidence that allowed the committee to decide between 'hands on' and 'hands poised' care, and as there was no evidence for a technique called 'the Finnish grip', the committee made a recommendation for research on perineal care.

## How the recommendations might affect practice

The recommendations will increase the use of warm compresses during labour and may increase the use of massage with lubricant. These are low-cost interventions and the long-term benefits of reducing third- and fourth-degree tears, urinary incontinence and pain are likely to make them cost effective.

Return to recommendations

# Prophylactic antibiotics for birth with forceps or ventouse

Recommendation 1.9.43

## Why the committee made the recommendation

There was good evidence that antibiotics administered within 6 hours reduced the risk of infection after birth with forceps or ventouse and did not cause any harms to the mother or baby. There was evidence for intravenous co-amoxiclav but the committee agreed, based on their experience, that in women who were allergic to penicillin, an alternative may be necessary.

As there was no evidence for oral antibiotics, the committee made a recommendation for research on prophylactic antibiotics for birth with forceps or ventouse.

## How the recommendation might affect practice

The recommendation will increase the use of intravenous antibiotics after birth with forceps or ventouse. However, the benefits of preventing infections and on quality of life are likely to make this intervention cost effective, and the resource impact is likely to be mitigated by a reduction in the costs of treating women with postpartum infection.

Return to recommendations

# Management of the third stage of labour

Recommendations 1.10.5, and 1.10.9 to 1.10.13

## Why the committee made the recommendations

There was evidence that active management had benefits compared with physiological management in terms of postpartum haemorrhage of 500 mL or more and 1,000 mL or more, anaemia, need for blood transfusion and need for additional uterotonics, but also harms in terms of increased side effects because of the use of uterotonics in active management. The committee were aware that some of the evidence was old and that methods for measuring blood and criteria for blood transfusion may have changed, which may impact the absolute rates of postpartum haemorrhage and blood transfusion quoted in the recommendations. However, they agreed that the increase in these risks with physiological management compared with active management still provided an indication to women of the difference in outcomes between the 2 management methods.

There was evidence of clinical effectiveness for some doses of oxytocin, oxytocin plus

ergometrine, carbetocin and some doses of misoprostol at reducing postpartum haemorrhage more than 1,000 mL, the need for additional uterotonics, blood transfusions and mean blood loss, compared with placebo. The committee agreed that reduction in postpartum haemorrhage was the most important outcome for decision making. The committee considered the evidence stratified by women who had a vaginal birth and women who had a caesarean birth. For vaginal birth, the most effective uterotonics that the committee agreed were suitable for use in a wide variety of settings without causing unacceptable side effects were oxytocin plus ergometrine or oxytocin alone. The cost-effectiveness evidence showed that for women who had a vaginal birth, the most cost-effective options were oxytocin alone or oxytocin plus ergometrine to reduce postpartum haemorrhage more than 1,000 mL. Based on their knowledge and experience, the committee were aware that oxytocin plus ergometrine may lead to more nausea and vomiting (so should be prescribed with an antiemetic) and the treatment is also contraindicated in women with some comorbidities. They therefore recommended a choice of oxytocin or oxytocin plus ergometrine, but highlighted that women with risk factors for postpartum haemorrhage should be advised to have oxytocin plus ergometrine as the clinical evidence had shown it may be more effective. The committee considered the use of carbetocin but based on the evidence, did not consider that carbetocin was cost effective for the prevention of postpartum haemorrhage for women who had a vaginal birth.

For women who had a caesarean birth, there was evidence showing that the most effective uterotonics at reducing postpartum haemorrhage were misoprostol 600 to 800 micrograms and intravenous carbetocin. The committee considered that misoprostol was not a suitable agent for routine use because of the high incidence of nausea and vomiting, diarrhoea and abdominal pain it caused. The most cost-effective option appeared to be carbetocin, and the committee noted that carbetocin would be considered cost effective compared with oxytocin if a person would be willing to trade 17 days in full health to avoid having a postpartum haemorrhage equal to or greater than 1,000 mL. The committee agreed this was a reasonable trade off, so agreed to recommend carbetocin.

There was evidence that oxytocin given intravenously as part of active management of the third stage of labour had benefits when compared with intramuscular injection of oxytocin, as it helped reduce:

- maternal admission to intensive care
- the risk of primary and severe postpartum haemorrhage

- the need for manual removal of placenta
- the use of additional uterotonic drugs.

The committee investigated the outcomes stratified by intravenous infusion or intravenous bolus injection, and by whether the woman had received oxytocin during labour. They agreed that there was sufficient clinical evidence of the benefits and no evidence of harms compared with intramuscular oxytocin, in terms of side effects, to offer oxytocin administered by intravenous bolus injection to women in the third stage of labour. However, because of insufficient evidence of the benefits for women who have not had oxytocin during labour, the committee chose to make a recommendation offering intravenous bolus oxytocin only to women who have already had oxytocin during labour. The committee agreed that this would also improve the feasibility and acceptability of the recommendation, as these women would already have intravenous access in place.

### How the recommendations might affect practice

The recommendations will reinforce current practice, which is to advise active management of the third stage of labour.

The recommendations will lead to increased use of oxytocin and ergometrine instead of oxytocin alone for women having a vaginal birth, and will increase the use of carbetocin instead of oxytocin for women having a caesarean birth, but both of these changes will be cost effective.

The recommendations will increase the administration of oxytocin by intravenous bolus injection for women in the third stage of labour who have already had oxytocin during labour, and this may have resource implications if an additional midwife is needed to assist with the intravenous administration.

Return to recommendations

## Position of the baby during cord clamping

### Why the committee did not make any recommendations

There was only a very small amount of evidence, mostly of low or very low quality, which showed no difference or an unclear difference between holding the baby at the vaginal

level, or abdominal or chest level. The committee did not therefore make any recommendations about the optimum position for the baby during cord clamping, but agreed that more data was needed, so made a recommendation for research on position of the baby during cord clamping.

### How the recommendations might affect practice

There may currently be some variation in practice, with some babies held at vaginal level and some placed on the mother's abdomen or passed to her. This variation may continue in the short term as at present there is no evidence to suggest one technique is better or worse than the other.

Return to recommendations

## Management of postpartum haemorrhage

Recommendations 1.10.34 and 1.10.35

### Why the committee made the recommendations

There was good evidence that tranexamic acid reduced maternal death from bleeding compared with placebo, and some evidence that, when used in combination with oxytocin and ergometrine, it reduced blood loss volume and the need for additional surgical intervention, compared with oxytocin and ergometrine alone. There was no evidence for the benefits of oxytocin and ergometrine for the management of postpartum haemorrhage but based on their knowledge and experience, the committee knew these were effective so retained them in the guideline as treatment options. There was some evidence for the benefits of misoprostol, and carbetocin at reducing the need for additional surgical and pharmacological management, and evidence that carboprost reduced blood loss compared with oxytocin, so these were included as treatment options.

There was no evidence on the ideal sequencing of pharmacological treatments for postpartum haemorrhage, but the committee were aware that the choice of medication for the management of postpartum haemorrhage depended on uterotonics that had been received by the woman as part of active management, as a number of agents could not be repeated (for example, ergometrine and carbetocin).

As there was no evidence for the outcomes of breastfeeding or women's experience, the committee made a recommendation for research on management of postpartum haemorrhage.

## How the recommendations might affect practice

Tranexamic acid was already recommended in the previous version of the guideline as an option for the treatment of postpartum haemorrhage, but these recommendations may increase its use and standardise practice across the NHS. Carbetocin was not previously recommended to treat postpartum haemorrhage so this may increase its use, but all other medicines were recommended in the previous version of the guideline so this is unlikely to change practice.

Return to recommendations

# Context

Giving birth is a life-changing event. The care that a woman receives during labour has the potential to affect her – both physically and emotionally, in the short and longer term – and the health of her baby. Good communication, support and compassion from staff, and having her wishes respected, can help her feel in control of what is happening and contribute to making birth a positive experience for the woman and her birth companion(s).

This guideline covers the care of women who go into labour at term (37+0 to 41+6 weeks). About 600,000 women give birth in England and Wales each year, of whom about 40% are having their first baby. Most of these women are healthy and have a straightforward pregnancy. Almost 90% of women will give birth to a single baby after 37 weeks of pregnancy, with the baby presenting head-first. About two-thirds of women go into labour spontaneously. Therefore, most women giving birth in England and Wales are covered by this guideline.

Since the original guideline was published in 2014, the number of women giving birth in England and Wales each year has decreased, but the rate of intervention (births with forceps or ventouse and caesarean birth) has increased slightly, and there has been some reconfiguration of services. In 2019 to 2020, 57% of births were spontaneous vaginal births, 12% needed the use of forceps or ventouse and 31% of women had a caesarean birth (including planned and unplanned).

It is important that the woman is given information and advice about all available settings when she is deciding where to have her baby, so that she is able to make a fully informed decision. This includes information about outcomes for the different settings. It is also vital to recognise when transfer of care from midwifery-led care to obstetric-led care is indicated because of increased risk to the woman and/or her baby resulting from complications that have developed during labour.

Uncertainty and inconsistency of care has been identified in a number of areas, such as choosing place of birth, care during the latent first stage of labour, fetal assessment and monitoring during labour (particularly cardiotocography compared with intermittent auscultation) and management of the third stage of labour. These and other related topics are addressed in the guideline. The recommendations on fetal monitoring have been removed from this guideline and can now be found in the separate NICE guideline on fetal

monitoring in labour.

The guideline is intended to cover the care of women with uncomplicated pregnancies entering labour at low risk of developing intrapartum complications. In addition, recommendations are included that address the care of women who start labour as low risk but who go on to develop complications. These include the care of women with prelabour rupture of membranes at term, care of the woman and baby when meconium is present and the management of retained placenta and postpartum haemorrhage.

# Appendix A: Adverse outcomes for different places of birth

In order to be able to count enough adverse events to be able to say that the results recorded are not just a result of chance, the Birthplace UK (2011) study used a composite definition of 'adverse outcome'. The definition includes the following outcomes: stillbirth during labour, death of the baby in the first week after birth, neonatal encephalopathy (disordered brain function caused by oxygen deprivation before or during birth), meconium aspiration syndrome, and physical birth injuries (brachial plexus injury and bone fractures). The term 'serious medical problems' has been used to describe this composite outcome in the guideline recommendations.

**Table A1 Numbers and proportions of the individual components of the composite adverse outcomes measure recorded in the Birthplace UK (2011) study**

| Outcome | Actual number of babies affected out of 63,955 to 64,535 (number per 1,000) | Percentage of all adverse outcomes measured |
|---|---|---|
| Stillbirth after start of care in labour | 14 out of 64,535<br>(0.22 per 1,000) | 5% |
| Death of the baby in the first week after birth | 18 out of 64,292<br>(0.28 per 1,000) | 7% |
| Neonatal encephalopathy (disordered brain function caused by oxygen deprivation before or during birth): clinical diagnosis | 102 out of 63,955<br>(1.6 per 1,000) | 40% |
| Meconium aspiration syndrome (the baby breathes meconium into their lungs) | 86 out of 63,955<br>(1.3 per 1,000) | 34% |
| Brachial plexus injury | 24 out of 63,955<br>(0.38 per 1,000) | 9% |

| Outcome | Actual number of babies affected out of 63,955 to 64,535 (number per 1,000) | Percentage of all adverse outcomes measured |
|---|---|---|
| Bone fractures | 11 out of 63,955<br>(0.17 per 1,000) | 4% |
| Total of all outcomes included in the 'adverse outcome' composite measure | 255 out of 63,955 to 64,535<br>(approximately 4 per 1,000) | 99% (does not equal 100% because of rounding) |

Each of the categories in table A1 are mutually exclusive and outcomes listed higher in the table take precedence over outcomes listed lower down. For example, if a baby with neonatal encephalopathy died within 7 days, the outcome is classified as an early neonatal death. For actual number of babies affected, the denominator varies because of missing values.

# Appendix B: Outcomes for different places of birth – by BMI at booking

**Table B1 Nulliparous and multiparous women with planned birth in an obstetric unit: how body mass index (BMI) may affect the rate of stillbirth, neonatal death or the baby needing neonatal care**

| Body mass index (BMI) at booking ($kg/m^2$) | Nulliparous women: Average rate of stillbirth, neonatal death or baby needing neonatal care | Multiparous women: Average rate of stillbirth, neonatal death or baby needing neonatal care |
|---|---|---|
| **18.5 to 24.9** | 36 per 1,000 (so this does not happen in about 964 pregnancies per 1,000) | 17 per 1,000 (so this does not happen in about 983 pregnancies per 1,000) |
| **25 to 29.9** | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ |
| **30 to 35** | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ |
| **More than 35** | 67 per 1,000 (so this does not happen in about 933 pregnancies per 1,000). This is an average increase of 31 per 1,000 compared with women with a BMI 18.5 to 24.9 $kg/m^2$ (so for about 969 pregnancies per 1,000, the outcome was the same) | 27 per 1,000 (so this does not happen in about 973 pregnancies per 1,000). This is an average increase of about 10 per 1,000 compared with women with a BMI 18.5 to 24.9 $kg/m^2$ (so for about 990 pregnancies per 1,000, the outcome was the same) |

**Table B2 Nulliparous women with planned birth in an alongside midwifery unit: how BMI above or below 35 kg/m2 may affect the rate of caesarean birth and postpartum haemorrhage**

| Body mass index (BMI) at booking ($kg/m^2$) | Average rate of intrapartum caesarean birth (category 1, 2 or 3) | Average rate of emergency caesarean birth (category 1 or 2) | Average rate of postpartum haemorrhage |
|---|---|---|---|
| **35 or less** | 82 per 1,000 (so this does not happen in about 918 pregnancies per 1,000) | 65 per 1,000 (so this does not happen in about 935 pregnancies per 1,000) | 17 per 1,000 (so this does not happen in about 983 pregnancies per 1,000) |
| **More than 35** | 138 per 1,000 (so this does not happen in about 862 pregnancies per 1,000). This is an average increase of 56 per 1,000 compared with women with a BMI less than 35 $kg/m^2$ (so for about 944 pregnancies per 1,000, the outcome was the same) | 122 per 1,000 (so this does not happen in about 878 pregnancies per 1,000). This is an average increase of 57 per 1,000 compared with women with a BMI less than 35 $kg/m^2$ (so for about 943 pregnancies per 1,000, the outcome was the same) | 51 per 1,000 (so this does not happen in about 949 pregnancies per 1,000). This is an average increase of 34 per 1,000 compared with women with a BMI less than 35 $kg/m^2$ (so for about 966 pregnancies per 1,000, the outcome was the same) |

**Table B3 Multiparous women with planned birth in an alongside midwifery unit: how BMI above or below 35 kg/m2 may affect the rate of caesarean birth and postpartum haemorrhage**

| Body mass index (BMI) at booking ($kg/m^2$) | Average rate of intrapartum caesarean birth (category 1, 2 or 3) | Average rate of emergency caesarean birth (category 1 or 2) | Average rate of postpartum haemorrhage |
|---|---|---|---|
| **35 or less** | 7 per 1,000 (so this does not happen in about 993 pregnancies per 1,000) | 5 per 1,000 (so this does not happen in about 995 pregnancies per 1,000) | 20 per 1,000 (so this does not happen in about 980 pregnancies per 1,000) |

| Body mass index (BMI) at booking (kg/m$^2$) | Average rate of intrapartum caesarean birth (category 1, 2 or 3) | Average rate of emergency caesarean birth (category 1 or 2) | Average rate of postpartum haemorrhage |
|---|---|---|---|
| **More than 35** | No difference compared with women with a BMI 35 kg/m$^2$ or less | No difference compared with women with a BMI 35 kg/m$^2$ or less | No difference compared with women with a BMI 35 kg/m$^2$ or less |

**Table B4 Nulliparous and multiparous women: how BMI may affect the rate of transfer from home to an obstetric unit**

| Body mass index (BMI) at booking (kg/m$^2$) | Nulliparous women; Average rate of transfer from home to an obstetric unit | Multiparous women: Average rate of transfer from home to an obstetric unit |
|---|---|---|
| **18.5 to 24.9** | 448 per 1,000 (so this does not happen in about 552 pregnancies per 1,000) | 102 per 1,000 (so this does not happen in about 898 pregnancies per 1,000) |
| **25 to 29.9** | No difference compared with women with a BMI 18.5 to 24.9 kg/m$^2$ | No difference compared with women with a BMI 18.5 to 24.9 kg/m$^2$ |
| **30 to 35** | No difference compared with women with a BMI 18.5 to 24.9 kg/m$^2$ | 145 per 1,000 (so this does not happen in about 855 pregnancies per 1,000). This is an average increase of 43 per 1,000 compared with women with a BMI 18.5 to 24.9 kg/m$^2$ (so for about 957 pregnancies per 1,000, the outcome was the same) |

**Table B5 All women with planned birth in an obstetric unit: how BMI may affect the rate of caesarean birth or the rate of stillbirth, neonatal death or the baby needing neonatal care**

| Body mass index (BMI) at booking ($kg/m^2$) | Average rate of intrapartum caesarean birth (category 1, 2 or 3) | Average rate of stillbirth, neonatal death or the baby needing neonatal care | Average rate of birth with forceps or ventouse |
|---|---|---|---|
| **Less than 18.5** | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ |
| **18.5 to 24.9** | 95 per 1,000 (so this does not happen in about 905 pregnancies per 1,000) | 28 per 1,000 (so this does not happen in about 972 pregnancies per 1,000) | 156 per 1,000 (so this does not happen in about 844 pregnancies per 1,000) |
| **25 to 29.9** | 123 per 1,000 (so this does not happen in about 877 pregnancies per 1,000). This is an average increase of 28 per 1,000 compared with women with a BMI 18.5 to 24.9 $kg/m^2$ (so for about 972 pregnancies per 1,000, the outcome was the same) | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ | No difference compared with women with a BMI 18.5 to 24.9 $kg/m^2$ |

| Body mass index (BMI) at booking (kg/m$^2$) | Average rate of intrapartum caesarean birth (category 1, 2 or 3) | Average rate of stillbirth, neonatal death or the baby needing neonatal care | Average rate of birth with forceps or ventouse |
|---|---|---|---|
| **30 to 35** | 133 per 1,000 (so this does not happen in about 867 pregnancies per 1,000). This is an average increase of 38 per 1,000 compared with women with a BMI 18.5 to 24.9 kg/m$^2$ (so for about 962 pregnancies per 1,000, the outcome was the same) | No difference compared with women with a BMI 18.5 to 24.9 kg/m$^2$ | No difference compared with women with a BMI 18.5 to 24.9 kg/m$^2$ |
| **More than 35** | 137 per 1,000 (so this does not happen in about 863 pregnancies per 1,000). This is an average increase of 42 per 1,000 compared with women with a BMI 18.5 to 24.9 kg/m$^2$ (so for about 958 pregnancies per 1,000, the outcome was the same) | 51 per 1,000 (so this does not happen in about 949 pregnancies per 1,000). This is an average increase of 23 per 1,000 compared with women with a BMI 18.5 to 24.9 kg/m$^2$ (so for about 977 pregnancies per 1,000, the outcome was the same) | 85 per 1,000 (so this does not happen in 915 pregnancies per 1,000). This is a decrease of 71 per 1,000 compared with women with a BMI 18.5 to 24.9 kg/m$^2$ (so for about 929 pregnancies per 1,000, the outcome was the same) |

Source: evidence review A: impact of BMI on choice of place of birth. For more details on risks identified in different settings, see evidence review A.

For more information of the categories of caesarean birth, see the NICE guideline on caesarean birth.

The data in these tables are based on a population of women of mixed ethnicity. No data was available for different ethnic groups. New reference ranges defining overweight and

obesity for non-pregnant women from different ethnic groups are available in the NICE guideline on obesity, but the correlation of these revised ranges with intrapartum risks for women and their babies is not known.

# Appendix C: Outcomes for intravenous remifentanil patient-controlled analgesia (PCA) compared with intramuscular pethidine

**Table C1 Outcomes that were more or less likely for women using intravenous remifentanil PCA compared with intramuscular pethidine**

| Outcome | Intravenous remifentanil patient-controlled analgesia (PCA) | Intramuscular pethidine | Risk difference |
|---|---|---|---|
| Request for epidural analgesia | About 194 per 1,000 women would be expected to request epidural analgesia (so 806 would not) | About 407 per 1,000 women would be expected to request epidural analgesia (so 593 would not) | About 213 per 1,000 fewer women would be expected to request epidural analgesia with intravenous remifentanil PCA, so for 787 there would be no difference |
| Spontaneous vaginal birth | About 647 per 1,000 women would be expected to have a spontaneous vaginal birth (so 353 would not) | About 536 per 1,000 women would be expected to have a spontaneous vaginal birth (so 464 would not) | About 111 per 1,000 more women would be expected to have a spontaneous vaginal birth with intravenous remifentanil PCA, so for 889 there would be no difference |
| Birth with forceps or ventouse | About 145 per 1,000 women would be expected to have a birth with forceps or ventouse (so 856 would not) | About 245 per 1,000 women would be expected to have a birth with forceps or ventouse (so 756 would not) | About 100 per 1,000 fewer women would be expected to have a birth with forceps or ventouse with intravenous remifentanil PCA, so for 900 there would be no difference |

| Outcome | Intravenous remifentanil patient-controlled analgesia (PCA) | Intramuscular pethidine | Risk difference |
|---|---|---|---|
| Requirement for supplemental oxygen | About 461 per 1,000 women would be expected to need supplemental oxygen (so 539 would not) | About 13 women per 1,000 women would be expected to need supplemental oxygen (so 987 would not) | About 448 per 1,000 more women would be expected to need supplemental oxygen with intravenous remifentanil PCA, so for 552 there would be no difference |
| Maternal reduced oxygen saturation (less than 94% $SpO_2$) | About 138 per 1,000 women would be expected to have reduced oxygen saturation (so 862 would not) | About 52 per 1,000 women would be expected to have reduced oxygen saturation (so 948 would not) | About 86 per 1,000 more women would be expected to have reduced oxygen saturation with intravenous remifentanil PCA, so for 914, there would be no difference |

For more details, see evidence review D: remifentanil patient-controlled analgesia.

**Table C2 Outcomes that were similar regardless of the intervention for women using intravenous remifentanil PCA compared with women using intramuscular pethidine**

| Outcome |
|---|
| Maternal respiratory rate less than 8 breaths per minute |
| Caesarean birth |
| Pain in labour (based on a visual analogue scale) |
| Maternal satisfaction |
| Breastfeeding within first hour of birth |

# Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the NICE topic page on fertility, pregnancy and childbirth.

For full details of the evidence and the guideline committee's discussions, see the evidence reviews. You can also find information about how the guideline was developed, including details of the committee.

NICE has produced tools and resources to help you put this guideline into practice. For general help and advice on putting our guidelines into practice, see resources to help you put NICE guidance into practice.

# Update information

**September 2023:** We have reviewed the evidence and made new recommendations on pain relief, regional analgesia, prelabour rupture of membranes, care in all stages of labour and postpartum care. We have also made new recommendations based on committee consensus. These recommendations are marked **[2023]**.

We have also made some changes without an evidence review throughout the guideline. These recommendations are based on committee consensus and are marked **[2007, amended 2023]**, **[2014, amended 2023]** or **[2017, amended 2023]**.

Recommendations marked **[2007]**, **[2014]** or **[2017]** last had an evidence review in 2007, 2014 or 2017, respectively. In some cases, minor changes have been made to the wording to bring the language and style up to date, without changing the meaning.

The section on monitoring in labour has been deleted and replaced with the NICE guideline on fetal monitoring in labour.

See also the previous NICE guideline and supporting documents and supplement 3: editorial changes.

ISBN: 978-1-4731-5384-4

# Accreditation