

# Twin and triplet pregnancy

NICE guideline

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[www.nice.org.uk/guidance/ng137](https://www.nice.org.uk/guidance/ng137)

## 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 CG129.

This guideline partially replaces CG132.

This guideline is the basis of QS46.

This guideline should be read in conjunction with NG201, NG235 and NG229.

## Overview

This guideline covers care for pregnant women and pregnant people with a twin or triplet pregnancy in addition to routine care during pregnancy and labour. It aims to reduce the risk of complications and improve outcomes.

It should be read in conjunction with [NICE's guidelines on antenatal care](#), [intrapartum care](#) and [fetal monitoring](#).

## Who is it for?

- Healthcare professionals
- Commissioners and providers
- Pregnant women and pregnant people with a twin or triplet pregnancy and their families and carers

# 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](#).

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 in whole or in part because:

- the evidence has not been reviewed, and it is not certain from expert opinion which groups the advice covers, or
- the evidence has been reviewed, but the information available for some groups was too limited to make specific recommendations, or
- only a very limited number of recommendations have been updated in direct response to new evidence or to reflect a change in practice.

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.

[Making decisions using NICE guidance](#) 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.

## Box 1 Chorionicity and amnionicity in twin and triplet pregnancy

Type of pregnancy	Chorionicity and amnionicity
Dichorionic diamniotic twins	Both babies have a separate placenta and amniotic sac.
Monochorionic diamniotic twins	Both babies share a placenta but have separate amniotic sacs.

Type of pregnancy	Chorionicity and amnionicity
Monochorionic monoamniotic twins	Both babies share a placenta and amniotic sac.
Trichorionic triamniotic triplets	Each baby has a separate placenta and amniotic sac.
Dichorionic triamniotic triplets	One baby has a separate placenta and 2 of the babies share a placenta. All 3 babies have separate amniotic sacs.
Dichorionic diamniotic triplets	One baby has a separate placenta and amniotic sac. Two of the babies share a placenta and amniotic sac.
Monochorionic triamniotic triplets	All 3 babies share 1 placenta. All 3 babies have separate amniotic sacs.
Monochorionic diamniotic triplets	All 3 babies share 1 placenta. One baby has a separate amniotic sac and 2 babies share 1 sac.
Monochorionic monoamniotic triplets	All 3 babies share a placenta and amniotic sac.

## 1.1 Determining gestational age and chorionicity

### Gestational age

- 1.1.1 Offer women with a twin or triplet pregnancy a first trimester ultrasound scan to estimate gestational age and determine chorionicity and amnionicity (ideally, these should all be performed at the same scan; see the recommendations on determining chorionicity and amnionicity and assigning nomenclature). See the recommendations on screening for chromosomal conditions. **[2011, amended 2019]**
- 1.1.2 Estimate gestational age from the largest baby in a twin or triplet pregnancy to avoid the risk of estimating it from a baby with early growth pathology. **[2011]**

## Chorionicity and amnionicity

- 1.1.3 Determine chorionicity and amnionicity at the time of detecting a twin or triplet pregnancy by ultrasound using:
- the number of placental masses
  - the presence of amniotic membrane(s) and membrane thickness
  - the lambda or T-sign. **[2011, amended 2019]**
- 1.1.4 Assign nomenclature to babies (for example, upper and lower, or left and right) in a twin or triplet pregnancy, and document this clearly in the woman's notes to ensure consistency throughout pregnancy. **[2011]**
- 1.1.5 If a woman with a twin or triplet pregnancy presents after 14+0 weeks, determine chorionicity and amnionicity at the earliest opportunity by ultrasound using all of the following:
- the number of placental masses
  - the presence of amniotic membrane(s) and membrane thickness
  - the lambda or T-sign
  - discordant fetal sex. **[2011, amended 2019]**
- 1.1.6 If it is not possible to determine chorionicity or amnionicity by ultrasound at the time of detecting the twin or triplet pregnancy, seek a second opinion from a senior sonographer or refer the woman to a healthcare professional who is competent in determining chorionicity and amnionicity by ultrasound scan as soon as possible. **[2011, amended 2019]**
- 1.1.7 If it is difficult to determine chorionicity, even after referral (for example, because the woman has booked late in pregnancy), manage the pregnancy as a monochorionic pregnancy until proven otherwise. **[2011]**
- 1.1.8 Provide regular training so that sonographers can identify the lambda or T-sign accurately and confidently. Less experienced sonographers should have support from senior colleagues. **[2011]**



- 1.1.9 Training should cover ultrasound scan measurements needed for women who book after 14+0 weeks and should emphasise that the risks associated with twin and triplet pregnancy are determined by chorionicity and not zygosity. **[2011]**
- 1.1.10 Conduct regular clinical audits to evaluate the accuracy of determining chorionicity and amnionicity. **[2011, amended 2019]**
- 1.1.11 If transabdominal ultrasound scan views are poor because of a retroverted uterus or a high BMI, use a transvaginal ultrasound scan to determine chorionicity and amnionicity. **[2011, amended 2019]**
- 1.1.12 Do not use 3-dimensional (3D) ultrasound scans to determine chorionicity and amnionicity. **[2011, amended 2019]**
- 1.1.13 Networks should agree care pathways for managing all twin and triplet pregnancies to ensure that each woman has a care plan in place that is appropriate for the chorionicity and amnionicity of her pregnancy. **[2011, amended 2019]**

## 1.2 General care

### Information and emotional support

- 1.2.1 Explain sensitively the aims and possible outcomes of all screening and diagnostic tests to women with a twin or triplet pregnancy to minimise their anxiety. **[2011]**

### Diet, lifestyle and nutritional supplements

- 1.2.2 Give women with a twin or triplet pregnancy the same advice about diet, lifestyle and nutritional supplements as in routine antenatal care (see [NICE's guideline on antenatal care](#)). **[2011]**
- 1.2.3 Be aware of the higher incidence of anaemia in women with a twin or triplet

pregnancy compared with women with a singleton pregnancy. **[2011]**

- 1.2.4 Perform a full blood count at 20 to 24 weeks to identify women with a twin or triplet pregnancy who need early supplementation with iron or folic acid (this is in addition to the test for anaemia at the routine booking appointment recommended in [NICE's guideline on antenatal care](#)). Repeat at 28 weeks as in routine antenatal care. **[2011]**

## 1.3 Delivery of antenatal and intrapartum care

### Antenatal care

- 1.3.1 Antenatal clinical care for women with a twin or triplet pregnancy should be provided by a nominated multidisciplinary team consisting of:
- a core team of named [specialist obstetricians](#), specialist midwives and sonographers, all of whom have experience and knowledge of managing twin and triplet pregnancies
  - an enhanced team for referrals, which should include:
    - a perinatal mental health professional
    - a women's health physiotherapist
    - an infant feeding specialist
    - a dietitian. **[2011, amended 2019]**
- 1.3.2 Members of the enhanced team should have experience and knowledge relevant to twin and triplet pregnancies. **[2011]**
- 1.3.3 Do not routinely refer all women with a twin or triplet pregnancy to the enhanced team but base the decision to refer on each woman's needs. **[2011]**
- 1.3.4 Coordinate clinical care for women with a twin or triplet pregnancy to:
- minimise the number of hospital visits

- provide care as close to the woman's home as possible
- provide continuity of care within and between hospitals and the community. **[2011]**

1.3.5 The core team should offer information and emotional support specific to twin and triplet pregnancies at their first contact with the woman and provide ongoing opportunities for further discussion and advice including:

- antenatal and postnatal mental health and wellbeing
- antenatal nutrition (see the [recommendation on giving advice in the section on diet, lifestyle and nutritional supplements](#))
- the risks, symptoms and signs of preterm labour and the potential need for corticosteroids for fetal lung maturation
- likely timing of birth (see the [section on timing of birth](#)) and possible modes of birth (see the [section on mode of birth](#))
- breastfeeding
- parenting. **[2011]**

## Intrapartum care

1.3.6 Intrapartum care for women with a twin or triplet pregnancy should be provided by a multidisciplinary team of obstetricians and midwives who have experience and knowledge of managing twin and triplet pregnancies in the intrapartum period. **[2019]**

For a short explanation of why the committee made the 2019 recommendation and how it might affect practice, see the [rationale and impact section on intrapartum care](#).

## Schedule of specialist antenatal appointments

The schedule of specialist appointments is also shown as part of a [multiple pregnancy](#)

antenatal care resource produced by Twins Trust and endorsed by NICE.

### Dichorionic diamniotic twin pregnancy

- 1.3.7 Offer women with an uncomplicated dichorionic diamniotic twin pregnancy at least 8 antenatal appointments with a healthcare professional from the core team. At least 2 of these appointments should be with the specialist obstetrician.
- Combine appointments with scans when crown–rump length measures from 45.0 mm to 84.0 mm (at approximately 11+2 weeks to 14+1 weeks) and then at estimated gestations of 20, 24, 28, 32 and 36 weeks.
  - Offer additional appointments without scans at 16 and 34 weeks. **[2011, amended 2019]**

### Monochorionic diamniotic twin pregnancy

- 1.3.8 Offer women with an uncomplicated monochorionic diamniotic twin pregnancy at least 11 antenatal appointments with a healthcare professional from the core team. At least 2 of these appointments should be with the specialist obstetrician.
- Combine appointments with scans when crown–rump length measures from 45.0 mm to 84.0 mm (at approximately 11+2 weeks to 14+1 weeks) and then at estimated gestations of 16, 18, 20, 22, 24, 26, 28, 30, 32 and 34 weeks. **[2011, amended 2019]**

### Triamniotic triplet pregnancy (trichorionic, dichorionic or monochorionic)

- 1.3.9 Offer women with an uncomplicated trichorionic triamniotic triplet pregnancy at least 9 antenatal appointments with a healthcare professional from the core team. At least 2 of these appointments should be with the specialist obstetrician.
- Combine appointments with scans when crown–rump length measures from 45.0 mm to 84.0 mm (at approximately 11+2 weeks to 14+1 weeks) and then at estimated gestations of 20, 24, 26, 28, 30, 32 and 34 weeks.
  - Offer an additional appointment without a scan at 16 weeks. **[2011, amended**

## 2019]

- 1.3.10 Offer women with a dichorionic triamniotic or monochorionic triamniotic triplet pregnancy at least 11 antenatal appointments with a healthcare professional from the core team. At least 5 of these appointments should be with the specialist obstetrician.
- Combine appointments with scans when crown–rump length measures from 45.0 mm to 84.0 mm (at approximately 11+2 weeks to 14+1 weeks) and then at estimated gestations of 16, 18, 20, 22, 24, 26, 28, 30, 32 and 34 weeks. **[2011, amended 2019]**

### Twin and triplet pregnancies with a shared amnion

- 1.3.11 Offer women with a twin or triplet pregnancy involving a shared amnion individualised care from a consultant in a tertiary level fetal medicine centre (see the recommendation on indications for referral to a tertiary level fetal medicine centre). **[2011]**

## 1.4 Fetal complications

### Information about screening

- 1.4.1 A healthcare professional with experience of caring for women with twin and triplet pregnancies should offer information and counselling to women before and after every screening test. **[2011]**
- 1.4.2 Inform women with a twin or triplet pregnancy about the complexity of decisions they may need to make depending on the outcomes of screening, including different options according to the chorionicity and amnionicity of the pregnancy. **[2011, amended 2019]**

## Screening for chromosomal conditions

### Twin pregnancy

- 1.4.3 Offer women with a twin pregnancy information on and screening for Down's syndrome, Edwards' syndrome and Patau's syndrome as outlined in the [NHS fetal anomaly screening programme](#) (FASP). **[2019]**

### Triplet pregnancy

- 1.4.4 Before offering screening for Down's syndrome, Edwards' syndrome and Patau's syndrome, give women with a triplet pregnancy information about:
- the greater likelihood of Down's syndrome, Edwards' syndrome and Patau's syndrome in triplet pregnancy
  - the different options for screening
  - the increased false positive rate of screening tests in triplet pregnancy
  - their greater likelihood of being offered invasive testing
  - their greater likelihood of complications of invasive testing
  - the physical risks and psychological implications in the short and long term relating to selective fetal reduction. **[2011, amended 2019]**
- 1.4.5 Healthcare professionals who screen for Down's syndrome, Edwards' syndrome and Patau's syndrome in trichorionic triplet pregnancy should:
- map the fetal positions
  - use nuchal translucency and maternal age to screen for Down's syndrome, Edwards' syndrome and Patau's syndrome when crown–rump length measures from 45.0 mm to 84.0 mm (at approximately 11+2 weeks to 14+1 weeks)
  - calculate the chance of Down's syndrome, Edwards' syndrome and Patau's syndrome for each fetus. **[2011, amended 2019]**

- 1.4.6 Refer women with a dichorionic and monochorionic triplet pregnancy who want to have screening for Down's syndrome, Edwards' syndrome and Patau's syndrome to a tertiary level fetal medicine centre. **[2019]**
- 1.4.7 Do not use second trimester serum screening for Down's syndrome in triplet pregnancies. **[2011, amended 2019]**

### Referral after screening

- 1.4.8 Refer women with any type of triplet pregnancy who have a higher chance of Down's syndrome, Edwards' syndrome or Patau's syndrome (use a threshold of 1 in 150 at term) to a fetal medicine specialist in a tertiary level fetal medicine centre. **[2011, amended 2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on screening for chromosomal conditions](#).

### Screening for structural abnormalities

- 1.4.9 Offer screening for structural abnormalities (such as cardiac abnormalities) in twin and triplet pregnancies as in routine antenatal care; see [NICE's guideline on antenatal care](#) and the [NHS fetal anomaly screening programme](#). **[2011]**
- 1.4.10 Consider scheduling ultrasound scans in twin and triplet pregnancies at a slightly later gestational age than in singleton pregnancies and be aware that the scans will take longer to perform. **[2011]**
- 1.4.11 Allow 45 minutes for the anomaly scan in twin and triplet pregnancies (as recommended by FASP). **[2011]**
- 1.4.12 Allow 30 minutes for growth scans in twin and triplet pregnancies. **[2011]**

## Screening for preterm birth

Also see the [section on preventing preterm birth](#).

- 1.4.13 Explain to women or pregnant people and their family members or carers (as appropriate) that:
- they have a higher risk of spontaneous preterm birth (see the [section on timing of birth](#)) than women or pregnant people with a singleton pregnancy **and**
  - this risk is further increased if they have other risk factors, such as a spontaneous preterm birth in a previous pregnancy or they are found to have a short cervix on cervical length screening. **[2019, amended 2024]**
- 1.4.14 Do not use fetal fibronectin testing alone to predict the risk of spontaneous preterm birth in twin and triplet pregnancy. **[2019]**
- 1.4.15 Do not use home uterine activity monitoring to predict the risk of spontaneous preterm birth in twin and triplet pregnancy. **[2019]**

For a short explanation of why the committee made the 2019 recommendations (and why they did not make a recommendation on cervical length screening) and how they might affect practice, see the [rationale and impact section on screening for preterm birth](#).

Full details of the evidence and the committee's discussion are in [evidence review D: screening for spontaneous preterm birth](#).

## Screening for fetal growth restriction and feto-fetal transfusion syndrome in the first trimester

- 1.4.16 Do not offer women with a twin or triplet pregnancy screening for fetal growth restriction or feto-fetal transfusion syndrome in the first trimester. **[2019]**



For a short explanation of why the committee made this 2019 recommendation and how it might affect practice, see the [rationale and impact section on screening for fetal growth restriction and feto-fetal transfusion syndrome in the first trimester](#).

Full details of the evidence and the committee's discussion are in [evidence review A: screening for feto-fetal transfusion syndrome](#) and [evidence review B: screening for fetal growth restriction](#).

## Diagnostic monitoring for fetal growth restriction in dichorionic twin and trichorionic triplet pregnancies

- 1.4.17 Do not use abdominal palpation or symphysis–fundal height measurements to monitor for fetal growth restriction in a dichorionic twin or trichorionic triplet pregnancy. **[2019]**
- 1.4.18 At each ultrasound scan from 24 weeks, offer women with a dichorionic twin or trichorionic triplet pregnancy diagnostic monitoring for fetal weight discordance using 2 or more biometric parameters and amniotic fluid levels. To assess amniotic fluid levels, measure the deepest vertical pocket (DVP) on either side of the amniotic membrane. **[2019]**
- 1.4.19 Continue monitoring for fetal weight discordance at intervals that do not exceed:
- 28 days for women with a dichorionic twin pregnancy
  - 14 days for women with a trichorionic triplet pregnancy. **[2019]**
- 1.4.20 Calculate and document estimated fetal weight (EFW) discordance for dichorionic twins using the formula below **[2019]**:  
$$([\text{EFW larger fetus} - \text{EFW smaller fetus}] \div \text{EFW larger fetus}) \times 100$$
- 1.4.21 Calculate and document EFW discordance for trichorionic triplets using the formula below **[2019]**:  
$$([\text{EFW largest fetus} - \text{EFW smallest fetus}] \div \text{EFW largest fetus}) \times 100$$
**and**  
$$([\text{EFW largest fetus} - \text{EFW middle fetus}] \div \text{EFW largest fetus}) \times 100$$

- 1.4.22 Increase diagnostic monitoring in the second and third trimesters to at least weekly, and include Doppler assessment of the umbilical artery flow for each baby, if:
- there is an EFW discordance of 20% or more **and/or**
  - the EFW of any of the babies is below the 10th centile for gestational age. **[2019]**
- 1.4.23 Refer women with a dichorionic twin or trichorionic triplet pregnancy to a tertiary level fetal medicine centre if there is an EFW discordance of 25% or more **and** the EFW of any of the babies is below the 10th centile for gestational age because this is a clinically important indicator of selective fetal growth restriction. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on diagnostic monitoring for fetal growth restriction in dichorionic twin and trichorionic triplet pregnancies](#).

Full details of the evidence and the committee's discussion are in [evidence review B: screening for fetal growth restriction](#).

## Diagnostic monitoring for complications of monochorionicity in twin and triplet pregnancy

A monochorionic twin or triplet pregnancy is one in which any of the babies share a placenta and a chorionic (outer) membrane. This includes monochorionic twins and dichorionic and monochorionic triplets.

- 1.4.24 Offer women simultaneous monitoring for feto-fetal transfusion syndrome, fetal growth restriction and advanced-stage twin anaemia polycythaemia sequence (TAPS) at every ultrasound assessment to monitor effectively for all complications of monochorionicity. Explain that the relative likelihood of each complication changes with advancing gestation but that they can all occur at any gestational age. **[2019]**

## Feto-fetal transfusion syndrome

- 1.4.25 Offer diagnostic monitoring for feto-fetal transfusion syndrome to women with a monochorionic twin or triplet pregnancy. Monitor with ultrasound every 14 days from 16 weeks until birth. **[2019]**
- 1.4.26 Use ultrasound assessment, with a visible amniotic membrane within the measurement image, to monitor for feto-fetal transfusion syndrome. Measure the DVP depths of amniotic fluid on either side of the amniotic membrane. **[2019]**
- 1.4.27 Increase the frequency of diagnostic monitoring for feto-fetal transfusion syndrome in the woman's second and third trimester to at least weekly if there are concerns about differences between the babies' amniotic fluid level (a difference in DVP depth of 4 cm or more). Include Doppler assessment of the umbilical artery flow for each baby. **[2019]**
- 1.4.28 Refer the woman to a tertiary level fetal medicine centre if feto-fetal transfusion syndrome is diagnosed, based on the following:
- the amniotic sac of 1 baby has a DVP depth of less than 2 cm **and**
  - the amniotic sac of another baby has a DVP depth of:
    - over 8 cm before 20+0 weeks of pregnancy **or**
    - over 10 cm from 20+0 weeks. **[2019]**
- 1.4.29 Refer the woman to her named specialist obstetrician for multiple pregnancy in her second or third trimester for further assessment and monitoring if:
- the amniotic sac of 1 baby has a DVP depth in the normal range **and**
  - the amniotic sac of another baby has a DVP depth of:
    - less than 2 cm **or**
    - 8 cm or more. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on diagnostic monitoring for feto-fetal transfusion syndrome](#).

Full details of the evidence and the committee's discussion are in [evidence review A: screening for feto-fetal transfusion syndrome](#).

## Fetal growth restriction in monochorionic pregnancy

- 1.4.30 Do not use abdominal palpation or symphysis–fundal height measurements to monitor for fetal growth restriction in women with a monochorionic twin or triplet pregnancy. **[2019]**
- 1.4.31 At each ultrasound scan from 16 weeks, offer women with a monochorionic twin or triplet pregnancy diagnostic monitoring for fetal weight discordance using 2 or more biometric parameters (in addition to amniotic fluid level assessment). To assess amniotic fluid levels, measure the DVP on either side of the amniotic membrane. **[2019]**
- 1.4.32 Continue monitoring women with a monochorionic twin or triplet pregnancy for fetal weight discordance at intervals that should not exceed 14 days. **[2019]**
- 1.4.33 Calculate and document EFW discordance in monochorionic twins using the formula below **[2019]**:  
$$([\text{EFW larger fetus} - \text{EFW smaller fetus}] \div \text{EFW larger fetus}) \times 100$$
- 1.4.34 The named specialist obstetrician should review the estimated fetal weights of dichorionic and monochorionic triplets and calculate EFW discordance based on their understanding of the implications of chorionicity. **[2019]**
- 1.4.35 Increase diagnostic monitoring in the second and third trimesters to at least weekly, and include Doppler assessment of the umbilical artery flow for each baby, if:
- there is an EFW discordance of 20% or more **and/or**

- the EFW of any of the babies is below the 10th centile for gestational age. **[2019]**

1.4.36 Refer women with a monochorionic twin or triplet pregnancy to a tertiary level fetal medicine centre if there is an EFW discordance of 25% or more **and** the EFW of any of the babies is below the 10th centile for gestational age because this is a clinically important indicator of selective fetal growth restriction. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see [rationale and impact section on diagnostic monitoring for fetal growth restriction in monochorionic pregnancy](#).

Full details of the evidence and the committee's discussion are in [evidence review B: screening for fetal growth restriction](#).

## Twin anaemia polycythaemia sequence

1.4.37 Offer weekly ultrasound monitoring for TAPS from 16 weeks of pregnancy using middle cerebral artery peak systolic velocity (MCA-PSV) to women whose pregnancies are complicated by:

- feto-fetal transfusion syndrome that has been treated by fetoscopic laser therapy **or**
- selective fetal growth restriction (defined by an EFW discordance of 25% or more and an EFW of any of the babies below the 10th centile for gestational age). **[2019]**

1.4.38 For women with a monochorionic pregnancy showing any of the following:

- cardiovascular compromise (such as fetal hydrops or cardiomegaly) **or**
- unexplained isolated polyhydramnios **or**
- abnormal umbilical artery.

Perform ultrasound MCA-PSV measurements to help detect advanced-stage

TAPS, and seek management advice immediately from a tertiary level fetal medicine specialist. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on diagnostic monitoring for TAPS](#).

Full details of the evidence and the committee's discussion are in [evidence review C: screening for TAPS](#).

## 1.5 Preventing preterm birth

- 1.5.1 Discuss with women or pregnant people with a twin or triplet pregnancy that if a cervical length scan shows that they have a short cervix (25 mm or less), treatment with progesterone may reduce the risk of preterm birth. **[2024]**
- 1.5.2 Offer a single cervical length scan between 16 and 20 weeks to women or pregnant people with a twin or triplet pregnancy. **[2024]**
- 1.5.3 Offer progesterone 200 mg vaginal capsules once a day at bedtime to women or pregnant people with a twin or triplet pregnancy and a cervical length of 25 mm or less. Continue treatment until 34 weeks (or birth if sooner). **[2024]**
- 1.5.4 If a cervical length of 25 mm or less is found incidentally on a scan conducted between 20 and 24 weeks, offer progesterone 200 mg vaginal capsules once a day at bedtime. Continue treatment until 34 weeks (or birth if sooner). **[2024]**

In April 2024, this was an off-label use of progesterone 200 mg vaginal capsules. See [NICE's information on prescribing medicines](#).

- 1.5.5 Do not offer intramuscular progesterone to prevent spontaneous preterm birth in women or pregnant people with a twin or triplet pregnancy. **[2019]**
- 1.5.6 Do not offer the following interventions (alone or in combination) routinely to prevent spontaneous preterm birth in women or pregnant people with a twin or

triplet pregnancy:

- arabin pessary
- bed rest
- cervical cerclage
- oral tocolytics. **[2019]**

For a short explanation of why the committee made the 2019 and 2024 recommendations and how they might affect practice, see the [rationale and impact section on preventing preterm birth](#).

Full details of the evidence and the committee's discussion are in [evidence review E: interventions to prevent spontaneous preterm birth](#) for the 2019 recommendations and [evidence review K: progesterone for preventing spontaneous preterm birth in twin and triplet pregnancy](#) for the 2024 recommendations.

## Corticosteroids

- 1.5.7 Inform women with a twin or triplet pregnancy of their increased risk of preterm birth (see the [recommendation explaining screening for preterm birth to women and their family members in the section on screening for preterm birth](#)) and about the benefits of targeted corticosteroids. **[2011]**
- 1.5.8 Do not use single or multiple untargeted (routine) courses of corticosteroids in twin or triplet pregnancy. Inform women that there is no benefit in using untargeted administration of corticosteroids. **[2011]**

## 1.6 Maternal complications

### Hypertension

- 1.6.1 Measure blood pressure and test urine for proteinuria to screen for hypertensive

disorders at each antenatal appointment in a twin and triplet pregnancy in line with [NICE's guideline on antenatal care](#). **[2011]**

- 1.6.2 Advise women with a twin or triplet pregnancy to take low-dose aspirin daily from 12 weeks until the birth of the babies if they have 2 or more of the risk factors specified in the [section on antiplatelet agents in NICE's guideline on hypertension in pregnancy](#). **[2011, amended 2019]**

In September 2019, this was an off-label use of aspirin. See [NICE's information on prescribing medicines](#).

## 1.7 Indications for referral to a tertiary level fetal medicine centre

- 1.7.1 Seek a consultant opinion from a [tertiary level fetal medicine centre](#) for:

- pregnancies with a shared amnion:
  - monochorionic monoamniotic twins
  - dichorionic diamniotic triplets
  - monochorionic diamniotic triplets
  - monochorionic monoamniotic triplets
- pregnancies complicated by any of the following:
  - fetal weight discordance (of 25% or more) and an EFW of any of the babies below the 10th centile for gestational age
  - fetal anomaly (structural or chromosomal)
  - discordant fetal death
  - feto-fetal transfusion syndrome
  - twin reverse arterial perfusion sequence (TRAP)



- conjoined twins or triplets
- suspected TAPS (see the [recommendations in the section on twin anaemia polycythaemia sequence](#)). **[2011, amended 2019]**

## 1.8 Planning birth: information and support

- 1.8.1 From 24 weeks in a twin or triplet pregnancy, discuss with the woman (and her family members or carers, as appropriate) her plans and wishes for the birth of her babies. Provide information that is tailored to each woman's pregnancy, taking into account her needs and preferences. Revisit these conversations whenever clinically indicated and whenever the woman wants to. **[2019]**
- 1.8.2 Ensure the following has been discussed by 28 weeks at the latest:
- place of birth and the possible need to transfer in case of preterm birth
  - timing and possible modes of birth
  - analgesia during labour (or for caesarean birth)
  - intrapartum fetal heart monitoring
  - management of the third stage of labour. **[2019]**
- 1.8.3 Follow [NICE's guideline on patient experience in adult NHS services](#) for how to provide information and communicate with women and their families and carers. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale section on planning birth](#).

## 1.9 Timing of birth

### Antenatal information for women

- 1.9.1 Explain to women with a twin pregnancy that about 60 in 100 twin pregnancies result in spontaneous birth before 37 weeks. **[2019]**
- 1.9.2 Explain to women with a triplet pregnancy that about 75 in 100 triplet pregnancies result in spontaneous birth before 35 weeks. **[2019]**
- 1.9.3 Explain to women with a twin or triplet pregnancy that spontaneous preterm birth and planned preterm birth are associated with an increased risk of admission to a neonatal unit. **[2019]**
- 1.9.4 Explain to women with an uncomplicated dichorionic diamniotic twin pregnancy that:
- planned birth from 37+0 weeks does not appear to be associated with an increased risk of serious neonatal adverse outcomes **and**
  - continuing the pregnancy beyond 37+6 weeks increases the risk of fetal death. **[2019]**
- 1.9.5 Explain to women with an uncomplicated monochorionic diamniotic twin pregnancy that:
- planned birth from 36+0 weeks does not appear to be associated with an increased risk of serious neonatal adverse outcomes **and**
  - continuing the pregnancy beyond 36+6 weeks increases the risk of fetal death. **[2019]**
- 1.9.6 Explain to women with an uncomplicated monochorionic monoamniotic twin pregnancy that planned birth between 32+0 and 33+6 weeks does not appear to be associated with an increased risk of serious neonatal adverse outcomes. Also explain that:
- these babies will usually need to be admitted to the neonatal unit and have

an increased risk of respiratory problems

- continuing the pregnancy beyond 33+6 weeks increases the risk of fetal death. **[2019]**

1.9.7 Explain to women with an uncomplicated trichorionic triamniotic or dichorionic triamniotic triplet pregnancy that continuing the pregnancy beyond 35+6 weeks increases the risk of fetal death. **[2019]**

1.9.8 Explain to women with a monochorionic triamniotic triplet pregnancy or a triplet pregnancy that involves a shared amnion that the timing of birth will be decided and discussed with each woman individually. **[2019]**

## When to offer planned birth

1.9.9 Offer planned birth at 37 weeks to women with an uncomplicated dichorionic diamniotic twin pregnancy. **[2019]**

1.9.10 Offer planned birth as follows, after a course of antenatal corticosteroids has been considered (see the [section on maternal corticosteroids in NICE's guideline on preterm labour and birth](#)):

- at 36 weeks for women with an uncomplicated monochorionic diamniotic twin pregnancy
- between 32+0 and 33+6 weeks for women with an uncomplicated monochorionic monoamniotic twin pregnancy
- at 35 weeks for women with an uncomplicated trichorionic triamniotic or dichorionic triamniotic triplet pregnancy. **[2019]**

1.9.11 Offer an individual assessment to determine the timing of planned birth in women with any of the following:

- a complicated twin or triplet pregnancy
- a monochorionic triamniotic triplet pregnancy

- a triplet pregnancy that involves a shared amnion. **[2019]**

1.9.12 For women who decline planned birth at the timing recommended in recommendations 1.9.9 and 1.9.10, offer weekly appointments with the specialist obstetrician. At each appointment, offer an ultrasound scan and perform assessments of amniotic fluid level and Doppler of the umbilical artery flow for each baby in addition to fortnightly fetal growth scans. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on timing of birth](#).

Full details of the evidence and the committee's discussion are in [evidence review J: timing of birth](#).

## 1.10 Mode of birth

### Twin pregnancy: dichorionic diamniotic or monochorionic diamniotic

1.10.1 Explain to women with an uncomplicated twin pregnancy planning their mode of birth that planned vaginal birth and planned caesarean section are both safe choices for them and their babies if all of the following apply:

- the pregnancy remains uncomplicated and has progressed beyond 32 weeks
- there are no obstetric contraindications to labour
- the first baby is in a cephalic (head-first) presentation
- there is no significant size discordance between the twins. **[2019]**

1.10.2 Explain to women with an uncomplicated twin pregnancy that for women giving birth after 32 weeks (see recommendation 1.10.1):

- more than a third of women who plan a vaginal birth go on to have a

caesarean section

- almost all women who plan a caesarean section do have one, but a few women have a vaginal birth before caesarean section can be carried out
- a small number of women who plan a vaginal birth will need an emergency caesarean section to deliver the second twin after vaginal birth of the first twin. **[2019]**

1.10.3 Offer caesarean section to women if the first twin is not cephalic at the time of planned birth. **[2019]**

1.10.4 Offer caesarean section to women in established preterm labour between 26 and 32 weeks if the first twin is not cephalic. **[2019]**

1.10.5 Offer an individualised assessment of mode of birth to women in suspected, diagnosed or established preterm labour before 26 weeks. Take into account the risks of caesarean section (see [NICE's guideline on preterm labour and birth](#)) and the chance of survival of the babies. **[2019]**

## **Twin pregnancy: monochorionic monoamniotic**

1.10.6 Offer a caesarean section to women with a monochorionic monoamniotic twin pregnancy:

- at the time of planned birth (between 32+0 and 33+6 weeks) **or**
- after any complication is diagnosed in her pregnancy requiring earlier delivery **or**
- if she is in established preterm labour, and gestational age suggests there is a reasonable chance of survival of the babies (unless the first twin is close to vaginal birth and a senior obstetrician advises continuing to vaginal birth). **[2019]**

## Triplet pregnancy

1.10.7 Offer a caesarean section to women with a triplet pregnancy:

- at the time of planned birth (35 weeks) **or**
- after any complication is diagnosed in her pregnancy requiring earlier delivery **or**
- if she is in established preterm labour, and gestational age suggests there is a reasonable chance of survival of the babies. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on mode of birth](#).

Full details of the evidence and the committee's discussion are in [evidence review F: mode of birth](#).

## 1.11 Fetal monitoring during labour in twin pregnancy

### Antenatal information for women

- 1.11.1 By 28 weeks of pregnancy, discuss continuous cardiotocography with women with a twin pregnancy and their family members or carers (as appropriate) and address any concerns. Explain that the recommendations on cardiotocography are based on evidence from women with a singleton pregnancy because there is a lack of evidence specific to twin pregnancy or preterm babies. **[2019]**
- 1.11.2 Explain to the woman that continuous cardiotocography is used to monitor the babies' heartbeats and her labour contractions, and that:
- it allows simultaneous monitoring of both babies
  - it might restrict her mobility
  - normal traces show the babies are coping well with labour; if traces are not

normal, there will be less certainty about the babies' condition

- it is normal to see changes to the fetal heart rate pattern during labour and this does not necessarily mean there is a problem
- findings from the cardiotocograph are used to help make decisions during labour and birth, but these will also be based on her wishes, her condition and that of her babies. **[2019]**

## Intrapartum monitoring

- 1.11.3 Offer continuous cardiotocography to women with a twin pregnancy who are in established labour and are more than 26 weeks pregnant. **[2019]**
- 1.11.4 Perform a portable ultrasound scan when established labour starts, to confirm which twin is which, the presentation of each twin, and to locate the fetal hearts. **[2019]**
- 1.11.5 Do not offer intermittent auscultation to women with a twin pregnancy who are in established labour and are more than 26 weeks pregnant. **[2019]**
- 1.11.6 For women between 23+0 and 25+6 weeks of pregnancy who are in established labour, involve a senior obstetrician in discussions with the woman and her family members or carers about how to monitor the fetal heart rates. **[2019]**
- 1.11.7 When carrying out cardiotocography:
- use dual channel cardiotocography monitors to allow simultaneous monitoring of both fetal hearts
  - document on the cardiotocograph and in the clinical records which cardiotocography trace belongs to which baby
  - monitor the maternal pulse electronically and display it simultaneously on the same cardiotocography trace. **[2019]**
- 1.11.8 Consider separating the fetal heart rates by 20 beats/minute if there is difficulty

differentiating between them. **[2019]**

1.11.9 Classify and interpret cardiotocography in line with the [section on the use of cardiotocography for monitoring during labour in the NICE guideline on fetal monitoring in labour](#), taking into account that:

- twin pregnancy should be considered a fetal clinical risk factor when classifying a cardiotocography trace as 'abnormal' versus 'non-reassuring'
- fetal scalp stimulation should not be performed in twin pregnancy to gain reassurance after a cardiotocography trace that is categorised as 'pathological'. **[2019]**

## Reviewing cardiotocography

1.11.10 Carry out systematic assessments of both cardiotocographs at least hourly, and more frequently if there are concerns. **[2019]**

1.11.11 At each systematic assessment, document which cardiotocography trace belongs to which baby. **[2019]**

1.11.12 Be aware of the possibility of monitoring the same baby twice. At each cardiotocography review, ensure that twin synchronicity is not occurring. **[2019]**

## Management based on cardiotocography

For definitions of 'suspicious' and 'pathological' cardiotocograph traces, see the [recommendations on categorisation of cardiotocography traces in NICE's guideline on fetal monitoring in labour](#).

1.11.13 If abdominal monitoring is unsuccessful or there are concerns about synchronicity of the fetal hearts:

- involve a senior obstetrician and senior midwife



- apply a fetal scalp electrode to the first baby (only after 34 weeks and if there are no contraindications) while continuing abdominal monitoring of the second baby
  - perform a bedside ultrasound scan to confirm both fetal heart rates
  - if monitoring remains unsatisfactory, consider a caesarean section. **[2019]**
- 1.11.14 If the cardiotocograph trace is categorised as 'suspicious' in the first baby during established labour:
- involve the senior obstetrician and senior midwife
  - correct any reversible causes
  - apply a fetal scalp electrode to the first baby (only after 34 weeks and if there are no contraindications) while continuing abdominal monitoring of the second baby. **[2019]**
- 1.11.15 If the cardiotocograph trace is categorised as 'pathological' in the first baby during established labour:
- involve the senior obstetrician and senior midwife
  - discuss with the woman and her family members or carers the possible use of fetal blood sampling of the first baby from 34 weeks if the benefits are likely to outweigh the potential risks. **[2019]**
- 1.11.16 When offering fetal blood sampling in twin pregnancy, discuss with the woman and her family members or carers that if a blood sample cannot be obtained then she is likely to need a caesarean section. **[2019]**
- 1.11.17 If the results of fetal blood sampling are not available within 20 minutes or fetal blood sampling is contraindicated, offer an immediate caesarean section to women with a twin pregnancy. **[2019]**
- 1.11.18 If the cardiotocograph trace is categorised as 'pathological' in the first baby during the second stage of labour:
- involve the senior obstetrician and senior midwife

- assess whether an assisted vaginal birth is an option
  - if vaginal birth is not an option or cannot be achieved within 20 minutes, offer an immediate caesarean section. **[2019]**
- 1.11.19 If the cardiotocograph trace of the second baby is categorised as 'suspicious' or 'pathological' during established labour before the first baby is born:
- involve the senior obstetrician and senior midwife
  - if vaginal birth of the second baby cannot be achieved within 20 minutes, discuss performing a caesarean section with the woman and her family members or carers. **[2019]**
- 1.11.20 After the birth of the first baby:
- continue to monitor the second baby using cardiotocography
  - if there is 'suspicious' or 'pathological' cardiotocography, and vaginal birth cannot be achieved within 20 minutes, discuss performing a caesarean section with the woman and her family members or carers. **[2019]**
- 1.11.21 After the birth of both babies, consider double clamping the cord to allow umbilical cord blood gases to be sampled. Ensure that the samples are correctly labelled for each baby. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on fetal monitoring during labour](#).

Full details of the evidence and the committee's discussion are in [evidence review G: fetal monitoring](#).

## 1.12 Analgesia

- 1.12.1 Discuss options for analgesia and anaesthesia with women (and their family members or carers, as appropriate), whether they are planning a vaginal birth or

caesarean section. Ensure this discussion takes place by 28 weeks at the latest. **[2019]**

- 1.12.2 Offer an epidural to women with a twin or triplet pregnancy who choose to have a vaginal birth. Explain that this is likely to:
- improve the chance of success and optimal timing of assisted vaginal birth of all the babies
  - enable a quicker birth by emergency caesarean section if needed. **[2019]**
- 1.12.3 Offer regional anaesthesia to women with a twin or triplet pregnancy who are having a caesarean section. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on analgesia](#).

Full details of the evidence and the committee's discussion are in [evidence review H: analgesia](#).

## 1.13 Managing the third stage of labour

### Assessing risk

- 1.13.1 Start assessing the risk of postpartum haemorrhage in women with a twin or triplet pregnancy in the antenatal period and continue throughout labour and the third stage (see the [section on risk factors for postpartum haemorrhage in NICE's guideline on intrapartum care](#)). **[2019]**
- 1.13.2 Offer each woman an individualised assessment of her risk of postpartum haemorrhage and explain that multiple pregnancy is a risk factor for increased blood loss at delivery. **[2019]**

## Management

- 1.13.3 By 28 weeks of pregnancy, discuss options for managing the third stage of labour with women with a twin or triplet pregnancy. **[2019]**
- 1.13.4 Do not offer physiological management of the third stage to women with a twin or triplet pregnancy. **[2019]**
- 1.13.5 Offer women with a twin or triplet pregnancy active management of the third stage. Explain that it is associated with a lower risk of postpartum haemorrhage and/or blood transfusion. **[2019]**
- 1.13.6 Consider active management of the third stage with additional uterotonics for women who have 1 or more risk factors (in addition to a twin or triplet pregnancy) for postpartum haemorrhage. **[2019]**

## Blood transfusion

- 1.13.7 By 28 weeks of pregnancy, discuss with women with a twin or triplet pregnancy the potential need for blood transfusion, including the need for intravenous access. Document this discussion in the woman's notes. **[2019]**
- 1.13.8 At the start of established labour in women with a twin or triplet pregnancy:
- ensure that intravenous access is available so that prompt blood transfusion and intravenous fluids can be given if needed
  - take a maternal blood sample for a full blood count and group and save. **[2019]**
- 1.13.9 Ensure that the appropriate blood transfusion is available for urgent administration. **[2019]**

For a short explanation of why the committee made the 2019 recommendations and how they might affect practice, see the [rationale and impact section on managing the third stage of labour](#).

Full details of the evidence and the committee's discussion are in [evidence review I: interventions to prevent postpartum haemorrhage in the third stage of labour](#).

## Terms used in this guideline

### Active management of the third stage

In a vaginal birth, active management consists of 10 IU of oxytocin by intramuscular injection immediately after the birth of the last baby and before the cord is clamped and cut. In a caesarean section, it consists of 5 IU of oxytocin by intravenous injection immediately after the birth of the last baby and before the cord is clamped and cut.

### Amnionicity

The number of amnions (inner membranes) that surround babies in a multiple pregnancy. Pregnancies with 1 amnion (so that all babies share an amniotic sac) are described as monoamniotic; pregnancies with 2 amnions are diamniotic; and pregnancies with 3 amnions are triamniotic. Also see the [box on chorionicity and amnionicity in twin and triplet pregnancy](#).

### Chorionicity

The number of chorionic (outer) membranes that surround babies in a multiple pregnancy. If there is only 1 membrane, the pregnancy is described as monochorionic; if there are 2, the pregnancy is dichorionic; and if there are 3, the pregnancy is trichorionic. Monochorionic twin pregnancies and monochorionic or dichorionic triplet pregnancies carry higher risks because babies share a placenta. Also see the [box on chorionicity and amnionicity in twin and triplet pregnancy](#).

## **Feto-fetal transfusion syndrome**

Feto-fetal transfusion syndrome (FFTS) occurs when blood moves from one baby to another. The baby that loses the blood is called the donor and the baby receiving the blood is called the recipient. Feto-fetal transfusion syndrome is a complication of monochorionic multiple pregnancies arising from shared placental circulation. It is also referred to as twin-to-twin transfusion syndrome in twin pregnancies.

## **Group and save**

This is a blood sampling process. It consists of a blood group and an antibody screen to determine the woman's blood group and whether she has atypical red cell antibodies in her blood. If atypical antibodies are present, the laboratory will do additional work to identify them. This will allow blood to be issued in an emergency very quickly.

## **Specialist obstetrician**

An obstetrician with a special interest, experience and knowledge of managing multiple pregnancy, and who works regularly with women with a multiple pregnancy.

## **Tertiary level fetal medicine centre**

A specialist regional (or supra-regional) fetal medicine centre that has a multidisciplinary team with the expertise and infrastructure to assess and manage complicated twin and triplet pregnancies. This includes providing complex fetal interventions or therapies, for example, fetoscopic laser ablation for feto-fetal transfusion syndrome; and selective termination of pregnancy using techniques such as fetoscopic cord occlusion or radiofrequency ablation.

## **Twin anaemia polycythaemia sequences**

Twin anaemia polycythaemia sequences (TAPS) is a complication affecting monochorionic twin or triplet pregnancies. It is a rare, chronic form of feto-fetal transfusion caused by the joining of fine blood vessels connecting the fetal circulations on the placenta. It presents when there are unequal blood counts between the twins in the womb. When TAPS occurs, the recipient twin is at risk for successively increasing blood count, called polycythaemia, and the donor twin for progressive blood loss, or anaemia. TAPS occurs without the differences in levels of amniotic fluids between the fetuses (polyhydramnios-

oligohydramnios) that is usually seen in FFTS.

# Recommendations for research

The guideline committee has made the following recommendations for research.

As part of the 2019 update, the guideline committee made an additional recommendation for research on the identification on twin anaemia polycythaemia sequence (TAPS). The committee removed 6 of the 2011 recommendations on screening for chromosomal conditions, screening for feto-fetal transfusion syndrome, defining fetal growth restriction, predicting and preventing spontaneous preterm birth, and perinatal and neonatal morbidity and mortality in babies born by elective birth.

## Key recommendations for research

### 1 Screening to detect twin anaemia polycythaemia sequence

What is the most accurate prenatal screening marker for TAPS, including middle cerebral artery peak systolic velocity (MCA-PSV)? **[2019]**

For a short explanation of why the committee made the recommendation for research, see the [rationale section on diagnostic monitoring for twin anaemia polycythaemia sequence](#).

Full details of the evidence and the committee's discussion are in [evidence review C: screening for TAPS](#).

### 2 Information and support

Does additional information and emotional support improve outcomes in twin and triplet pregnancies? **[2011]**

### 3 Specialist care

Does specialist antenatal care for women with twin and triplet pregnancies improve outcomes for women and their babies? **[2011]**



## 4 Indications for referral to a tertiary level fetal medicine centre

What is the incidence of monochorionic monoamniotic twin and triplet pregnancies, and what clinical management strategies are most effective in such pregnancies? [2011]

## 5 Progesterone in preventing spontaneous preterm birth in twin and triplet pregnancies

What is the clinical and cost effectiveness of progesterone in preventing spontaneous preterm birth in women or pregnant people with twin and triplet pregnancies and a history of previous preterm birth? [2024]

For a short explanation of why the committee made the recommendation for research, see the [rationale section on preventing preterm birth](#).

Full details of the evidence and the committee's discussion are in [evidence review K: progesterone for preventing spontaneous preterm birth in twin and triplet pregnancy](#).

## Other recommendations for research

### 6 Gestational age

How should gestational age be estimated in twin and triplet pregnancies? [2011]

### 7 Chorionicity

What is the most accurate method of determining chorionicity in twin and triplet pregnancies at different gestational ages, and how does operator experience affect the accuracy of different methods? [2011]

### 8 Nutritional supplements

Is dietary supplementation with vitamins or minerals, or dietary manipulation in terms of calorie intake, effective in twin and triplet pregnancies? [2011]

## **9 Diet and lifestyle advice**

Is dietary advice specific to twin and triplet pregnancies effective in improving maternal and fetal health and wellbeing? [2011]

## **10 Screening for structural abnormalities**

When and how should screening for structural abnormalities be conducted in twin and triplet pregnancies? [2011]

## **11 Hypertension**

Which clinical factors, laboratory screening tests, and ultrasound tests are predictive of hypertensive disorders in twin and triplet pregnancies? [2011]

## **12 Untargeted corticosteroids**

What is the clinical and cost effectiveness, and safety, of routine antenatal administration of a single course of corticosteroids for women with twin and triplet pregnancies who are not in labour and in whom labour and birth are not imminent? [2011]

## **13 Indications for referral to a tertiary level fetal medicine centre**

What is the clinical and cost effectiveness of referral to tertiary level fetal medicine centres for twin and triplet pregnancies complicated by discordant fetal growth, discordant fetal anomaly or discordant fetal death? [2011]

## Rationale and impact

These sections briefly explain why the committee made the recommendations and how they might affect practice. They link to details of the evidence and a full description of the committee's discussion.

## Intrapartum care

### [Recommendation 1.3.6](#)

### Why the committee made the recommendation

The committee recognised that the core multidisciplinary team recommended by the previous guideline (see recommendation 1.3.1) provides care during the antenatal period and would not be the same team providing intrapartum care. Because intrapartum care was added to the guideline update, they made a recommendation to clarify that healthcare professionals supporting women when they are giving birth should also have knowledge and experience in multiple pregnancy.

### How the recommendation might affect practice

The recommendation reinforces current practice.

### [Return to recommendation](#)

## Screening for chromosomal conditions

### [Recommendations 1.4.3 to 1.4.8](#)

### Why the committee made the recommendations

Since the 2011 guideline, the [National Screening Committee's recommendations on screening](#) for fetal chromosomal conditions have been published and have been implemented by the [NHS fetal anomaly screening programme](#) (FASP). These apply to women with both singleton and twin pregnancies, so the 2011 recommendations were

replaced by a cross reference to this screening programme. The committee recognised that no current guidance exists for triplets so they retained a recommendation on triplets from the 2011 guideline. However, based on their expertise they decided this existing recommendation would apply only to screening in trichorionic triplets so they made an additional recommendation about dichorionic and monochorionic triplet pregnancies. Because of the complexity of screening these types of triplet pregnancies, this screening should only be carried out after referral to a tertiary level fetal medicine centre.

## **How the recommendations might affect practice**

The recommendations reinforce current best practice.

[Return to recommendations](#)

## **Screening for preterm birth**

[Recommendations 1.4.13 to 1.4.15](#)

### **Why the committee made the recommendations**

The committee agreed, based on their experience and expertise, that women and pregnant people should be given information about the higher risk of preterm birth in twin and triplet pregnancy compared with singleton pregnancy, and about factors that may further increase this risk.

The committee retained the existing 2011 recommendations that fetal fibronectin testing and home uterine activity monitoring should not be used to predict the risk of spontaneous preterm birth because there was still no evidence suggesting they were accurate.

### **How the recommendations might affect practice**

The recommendations reinforce current best practice.

[Return to recommendations](#)

## **Screening for fetal growth restriction and feto-fetal**

## **transfusion syndrome in the first trimester**

### Recommendation 1.4.16

### **Why the committee made the recommendation**

#### **Fetal growth restriction**

There was evidence that discordance in either crown–rump length or nuchal translucency during the first trimester is not an accurate predictor of growth discordance in the second and third trimester. The committee discussed the evidence for other ultrasound screening measures in the first trimester and decided that because of its low quality they were not confident in recommending any screening tests in the first trimester.

#### **Feto-fetal transfusion syndrome**

The evidence showed that none of the first trimester screening tests were able to detect the risk of feto-fetal transfusion syndrome developing later in the pregnancy. Although there were uncertainties in this evidence, it was supported by the committee's clinical experience and current clinical practice.

### **How the recommendation might affect practice**

The recommendation reinforces current practice.

[Return to recommendations](#)

## **Diagnostic monitoring for fetal growth restriction in dichorionic twin and trichorionic triplet pregnancies**

### Recommendations 1.4.17 to 1.4.23

### **Why the committee made the recommendations**

Based on evidence which showed that abdominal palpation and symphysis–fundal height

were not accurate measurements to diagnose fetal growth restriction, the committee recommended that these should not be used.

Fetal growth restriction is associated with perinatal mortality, morbidity and preterm birth. The committee agreed that monitoring using ultrasound scanning is essential to identify women in this high-risk group.

### **Frequency of ultrasound scanning**

The evidence was limited on the frequency of ultrasound scanning for women with dichorionic twin pregnancies but, based on their expertise, the committee agreed that women with a dichorionic twin pregnancy should have scans no more than 28 days apart.

They also recommended ultrasound monitoring at least every 14 days for women with all types of triplet pregnancy (recommendations 1.4.19 and 1.4.32) because they are at higher risk of fetal growth restriction.

### **Fetal weight discordance and estimated fetal weight below 10th centile for gestational age: diagnostic monitoring and referral**

Based on both the evidence and their expertise, the committee recommended using at least 2 different biometric parameters as well as amniotic fluid level assessment to provide greater accuracy in calculating estimated fetal weight (EFW).

The [Royal College of Obstetricians and Gynaecologists' Green Top guideline on monochorionic twin pregnancy](#) recommends referring women 'for assessment and management in fetal medicine units with recognised relevant expertise' if there is an EFW discordance of more than 20%. In the committee's experience, this level of discordance should cause concern in all types of twin and triplet pregnancy and should prompt increased monitoring. However, they recommended instead increasing to weekly monitoring and adding the extra parameter of a Doppler assessment. This would be equivalent to the specialist assessment recommended by the Green Top guideline because it would need to be carried out by the specialist core team (in line with recommendation 1.3.1) who have experience and knowledge of managing twin and triplet pregnancies. The committee agreed that this would not be inconsistent with the Green Top guideline.

The committee also agreed that the EFWs themselves should be taken into account.

Based on the evidence and their expertise they recommended the 10th centile for gestational age as a threshold for concern that should prompt increased monitoring.

The evidence was inconclusive about an exact threshold for referral to a tertiary level fetal medicine centre, so based on their own experience the committee decided that an EFW discordance of 25% or more (along with an EFW below the 10th centile for gestational age) should warrant referral. At this level of discordance, there would be an increased risk of perinatal morbidity and mortality that should prompt intervention rather than increased assessment. The tertiary level fetal medicine centre would have the expertise to weigh up the benefits and risks of conservative management, birth or invasive fetal therapy to improve the chance of a positive pregnancy outcome.

## How the recommendations might affect practice

These recommendations are largely reinforcing current practice in twin pregnancy and should have a minimal impact on local ultrasound resourcing. They are consistent with other national and international guidance.

The recommendations to monitor all women with a triplet pregnancy at no more than 14-day intervals (irrespective of chorionicity) are a change in practice, particularly for women with a trichorionic triamniotic pregnancy. For these women, previous recommendations suggested 4-weekly scans. However, the change is justified because all types of triplet pregnancy are at high risk of fetal growth restriction. The recommendation should not have a significant impact on clinical resources because of the low number of women with a triplet pregnancy.

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## Diagnostic monitoring for feto-fetal transfusion syndrome

[Recommendations 1.4.24 to 1.4.29](#)

### Why the committee made the recommendations

The committee agreed that feto-fetal transfusion syndrome is difficult to detect using amniotic fluid discordance before 16 weeks of pregnancy. After this stage, amniotic fluid

levels have increased and differences between them can be used to diagnose feto-fetal transfusion syndrome. Monitoring fortnightly from 16 weeks should ensure that feto-fetal transfusion syndrome is diagnosed as early as possible. The committee decided based on their expertise, and on limited evidence from studies that conducted diagnostic scans after 24 weeks, that continuing fortnightly monitoring until birth would improve outcomes for women who develop feto-fetal transfusion syndrome later in pregnancy (although it is less common after 26 weeks). The committee also agreed that offering women with a monochorionic pregnancy scans at 14-day intervals means that the woman can be monitored efficiently for all the complications in recommendation 1.4.24 at each scan.

To support this frequency of monitoring, the committee also increased the number of reviews by the specialist obstetrician from at least 2 (in the 2011 guideline) to at least 5 for dichorionic and monochorionic triamniotic triplet pregnancies (recommendation 1.3.10). Dichorionic triamniotic triplets have an increased risk of adverse outcomes compared with monochorionic diamniotic twins if feto-fetal transfusion occurs. The risk of complications of monochorionicity, and of adverse outcomes if complications occur, is higher in triplets than in twins. More frequent review by the specialist obstetrician would ensure optimal critical assessment of ultrasound findings (including findings related to feto-fetal transfusion syndrome) and any need for more frequent monitoring.

The committee agreed that making sure the amniotic membrane is visible in the scan reduces the chance of measuring the same sac twice in error and improves accuracy in identifying a difference between the babies' amniotic fluid levels.

Based on their knowledge and experience, the committee agreed that women should be referred immediately to a tertiary level fetal medicine centre when differences in amniotic fluid levels meet the criteria for diagnosing feto-fetal transfusion syndrome. The clinical course of feto-fetal transfusion syndrome can be unpredictable so this would allow prompt assessment and early intervention. They also agreed that when differences in amniotic fluid levels are measured that do not yet meet the threshold for feto-fetal transfusion syndrome, women should be seen by their named specialist obstetrician for multiple pregnancy and offered more frequent monitoring, using Doppler assessment to help detect feto-fetal transfusion syndrome as early as possible.

## How the recommendations might affect practice

Monitoring for feto-fetal transfusion syndrome from 16 weeks of pregnancy until birth is a change to current practice, in which monitoring is only carried out until week 24. Early



detection would enable prompt management, and this would outweigh the cost of additional ultrasound.

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## **Diagnostic monitoring for fetal growth restriction in monochorionic twin and triplet pregnancy**

[Recommendations 1.4.30 to 1.4.36](#)

A monochorionic twin or triplet pregnancy is one in which any of the babies share a placenta and a chorionic (outer) membrane. This includes monochorionic twins and dichorionic and monochorionic triplets.

### **Why the committee made the recommendations**

Based on evidence which showed that abdominal palpation and symphysis–fundal height were not accurate measurements to diagnose fetal growth restriction, the committee recommended that these should not be used.

Fetal growth restriction is associated with perinatal mortality, morbidity and preterm birth. The committee agreed that monitoring using ultrasound scanning is essential to identify women in this high-risk group.

### **Frequency of ultrasound scanning**

The evidence was limited on the frequency of ultrasound scanning for women with monochorionic pregnancies, so the committee used their expertise to make recommendations. They agreed that women with a monochorionic twin pregnancy need more frequent scans than women with a dichorionic twin pregnancy because they have a higher risk of severe growth discordance.

Scanning at no more than 14-day intervals would allow the woman to be referred promptly either to her specialist obstetrician for multiple pregnancy or to a tertiary level fetal medicine centre depending on the EFWs (see below). The committee also agreed that because women with a monochorionic pregnancy should be having scans at 14-day intervals to monitor for feto-fetal transfusion syndrome, these timings mean they can be

monitored for both of these complications at the same time (in line with recommendation 1.4.24).

The committee also recommended ultrasound monitoring at least every 14 days for women with all types of triplet pregnancy (recommendations 1.4.19 and 1.4.32) because they are at higher risk of fetal growth restriction.

### **Fetal weight discordance and estimated fetal weight below 10th centile for gestational age: diagnostic monitoring and referral**

Based on both the evidence and their expertise, the committee recommended using at least 2 different biometric parameters as well as amniotic fluid level assessment to provide greater accuracy in calculating EFW.

The [Royal College of Obstetricians and Gynaecologists' Green Top guideline on monochorionic twin pregnancy](#) recommends referring women 'for assessment and management in fetal medicine units with recognised relevant expertise' if there is an EFW discordance of more than 20%. The committee agreed with the Green Top guideline that this level should cause concern and prompt increased monitoring, but they recommended instead increasing to weekly monitoring and adding the extra parameter of a Doppler assessment. This would be equivalent to the specialist assessment recommended by the Green Top guideline because it would need to be carried out by the specialist core team (in line with recommendation 1.3.1) who have experience and knowledge of managing twin and triplet pregnancies. The committee agreed that this would not be inconsistent with the Green Top guideline.

The committee also agreed that the estimated fetal weights themselves should be taken into account. Based on the evidence they recommended the 10th centile for gestational age as a threshold for concern that should prompt increased monitoring.

The evidence was inconclusive about an exact threshold for referral to a tertiary level fetal medicine centre, so based on their own experience the committee decided that an EFW discordance of 25% or more (along with an EFW below the 10th centile) should warrant referral. At this level of discordance, there would be an increased risk of perinatal morbidity and mortality that should prompt intervention rather than increased assessment. The tertiary level fetal medicine centre would have the expertise to weigh up the benefits and risks of conservative management, birth or invasive fetal therapy to try to improve the chance of a positive pregnancy outcome.

## How the recommendations might affect practice

These recommendations are largely reinforcing current practice in twin pregnancy and should have a minimal impact on local ultrasound resourcing. They are consistent with other national and international guidance.

The recommendation to monitor all women with a triplet pregnancy at no more than 14-day intervals (irrespective of chorionicity) is a change in practice, particularly for women with a trichorionic triamniotic pregnancy. For these women, previous recommendations suggested 4-weekly scans. However, the change is justified because all types of triplet pregnancy are at high risk of fetal growth restriction. The recommendation should not have a significant impact on clinical resources because of the low number of women with a triplet pregnancy.

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## Diagnostic monitoring for twin anaemia polycythaemia sequence

[Recommendations 1.4.37 and 1.4.38](#)

### Why the committee made the recommendations

There was limited evidence for screening and diagnostic monitoring for twin anaemia polycythaemia sequence (TAPS). The committee discussed, based on their expertise, that there is also limited evidence on the natural history of spontaneous TAPS and effective interventions for it in uncomplicated monochorionic pregnancies. They agreed that its incidence is likely to be low, so they could not recommend screening for it in women whose monochorionic pregnancy is uncomplicated.

The committee agreed that monitoring would be beneficial for women with the complications in recommendations 1.4.37 and 1.4.38. They recommended screening for TAPS in this population for 2 reasons:

- Complicated monochorionic pregnancies have an increased risk of fetal and neonatal death and morbidity. Diagnosing TAPS as a further complication is likely to influence how the woman's pregnancy is managed, including the timing of preterm birth.

- Advanced TAPS (stages 3 and 4) is associated with abnormal fetal umbilical artery and ductus venosus Doppler parameters, or signs of fetal cardiac failure in the anaemic baby. These can also occur in a number of other conditions, so the diagnosis of severe TAPS (either alone or as a comorbidity) may be missed if it is not specifically screened for.

The committee concluded that for women who have a pregnancy in which TAPS is a comorbid complication or is of advanced stage, the risk to the babies without diagnosis and intervention is likely to be greater than the potential harms of interventions. These include preterm birth or potential in-utero therapies, such as in-utero transfusion, in pre-viable or extremely premature pregnancies.

The committee agreed that when TAPS is suspected, women should be referred to a tertiary level fetal medicine centre. They felt that the benefits of managing complicated monochorionic pregnancies in this setting would outweigh the potential disadvantages of inconvenience of travel and transfer to units away from home. The committee decided not to specify diagnostic criteria because they wanted to emphasise the importance of referral to a tertiary level referral centre when TAPS is suspected, so that decisions about further assessment and management can be made with each individual woman.

Given the limited evidence on the diagnostic accuracy of middle cerebral artery peak systolic velocity (MCA-PSV) for all types of monochorionic twins, regardless of complications, and uncertainties about the natural history of TAPS and its management, the committee decided to make a [recommendation for research on screening to detect twin anaemia polycythaemia sequence](#) to inform future guidance.

## How the recommendations might affect practice

The recommendation may increase the number of assessments of women with complicated monochorionic pregnancies and referral for appropriate management. However, the committee agreed that any increase in referrals would be offset by the benefits of better detection and management of complicated monochorionic pregnancies.

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## Preventing preterm birth

[Recommendations 1.5.1 to 1.5.6](#)

## Why the committee made the recommendations

There was evidence of benefit for vaginal progesterone, with reduced preterm birth and reduced serious neonatal complications in women or pregnant people with a twin pregnancy and a short cervix (defined as 25 mm or less). There was no evidence of benefit for vaginal progesterone in women or pregnant people without a short cervix. There was also no evidence of benefit in those with or without a previous history of preterm birth, but this differed from the evidence for singleton pregnancies so the committee made a [recommendation for research on progesterone in preventing spontaneous preterm birth in twin and triplet pregnancies](#). There was no evidence available for vaginal progesterone in women or pregnant people with a triplet pregnancy, but the committee agreed that it was reasonable to extrapolate on a physiological basis that benefits in twin pregnancies would also be seen in triplet pregnancies.

The committee noted that all the included studies had administered progesterone up to 34 weeks of pregnancy, so they included this in their recommendation, and that the majority of the studies had used a dose of vaginal progesterone 200 mg daily and that this was the dose approved in singleton pregnancies, so they recommended this dose.

The committee agreed that, to determine which women and pregnant people would benefit from treatment, it would be necessary to determine cervical length. Consequently, they made a recommendation to carry out a single cervical length scan in women and pregnant people with a twin or triplet pregnancy. The committee noted that in the evidence, cervical length scanning had been carried out before 20 weeks of pregnancy, but the committee were aware that cervical length scans were usually carried out between 16 and 20 weeks, so they included this range in their recommendation. This may also give units the flexibility to arrange the cervical length scan to coincide with other antenatal appointments and scans. However, the committee noted that sometimes cervical length measurement would be carried out later in pregnancy, for example if a woman or pregnant person presented with threatened preterm labour, or if they were late booking. In this case, the committee agreed to recommend that progesterone could be started up to 24 weeks (as there was evidence of benefit when started at this time).

The evidence for intramuscular progesterone in the prevention of spontaneous preterm birth showed it had no clinical benefit and, in some instances, had negative or unpleasant side effects, so it was not recommended.

The committee retained the existing 2011 recommendation that arabin pessary, bed rest,

cervical cerclage and oral tocolytics should not be used routinely to prevent spontaneous preterm birth because there was still no evidence to support their use.

## How the recommendations might affect practice

The committee noted that there would be a resource impact of carrying out cervical length screening for all women or pregnant people with a twin or triplet pregnancy and treating those with a short cervix with vaginal progesterone. However, the health economic modelling conducted for this review showed that carrying out cervical length screening of women or pregnant people with a twin or triplet pregnancy and offering vaginal progesterone to those with a short cervix would reduce preterm births and the associated neonatal morbidity and was a cost-effective use of NHS resources.

The recommendations for intramuscular progesterone, arabin pessary, bed rest, cervical cerclage and oral tocolytics reinforce current practice.

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## Planning birth: information and support

[Recommendations 1.8.1 to 1.8.3](#)

### Why the committee made the recommendations

The committee discussed the importance of providing care that is woman-centred, in which shared decision-making between the woman and her healthcare professional is essential. The committee agreed on the topics that need to be discussed with women to explain the available options and find out their wishes. Information needs to be tailored to each woman's pregnancy because some twin and triplet pregnancies carry more risks than others.

The committee acknowledged equality considerations for women who may have additional needs (such as needing an interpreter) in the context of providing information and communication. They cross-referred to [NICE's guideline on patient experience in adult NHS services](#), which describes general good practice on how to do this.

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## Timing of birth

Recommendations 1.9.1 to 1.9.12

### Why the committee made the recommendations

#### Antenatal information for women

The committee agreed that it was critical to give women the information they need to participate in shared decisions about when their babies are born. This includes explaining the known risk of spontaneous preterm birth in twin and triplet pregnancy and its possible consequences, such as admission to a neonatal unit. The committee retained this advice from the 2011 guideline because it was consistent with their experience and knowledge. They agreed that this information is important for planning the timing of birth.

Women also need to know why it is recommended for them to have a planned birth by a particular week of pregnancy (also see when to offer planned birth). There is a trade-off between clinical benefits and harms when women have not given birth spontaneously by a given gestational age. These include the risks of neonatal mortality and morbidity associated with planned birth compared with the risks of stillbirth from continued pregnancy. The committee agreed that both timing and mode of birth should be discussed with women in the context of these potential risks. Women can use this advice to make an informed choice.

#### When to offer planned birth

There was not enough good evidence to conclusively identify the optimal timing of birth according to chorionicity and amnionicity, so the committee also used their expertise and experience to make recommendations.

#### Twin pregnancy

Evidence suggests a consistently higher fetal death rate (at all gestational ages) in monochorionic twin pregnancies than in dichorionic twin pregnancies. The committee therefore recommended earlier planned birth, at 36 weeks, for women with a monochorionic diamniotic pregnancy to reflect the higher risk and complexity of this type of pregnancy. This was consistent with the 2011 guideline and therefore corresponds to

current clinical practice.

The committee also clarified the timing of birth for monochorionic monoamniotic twins, which was not explicitly covered by the 2011 guideline – the previous guideline did not divide monochorionic twins into diamniotic or monoamniotic groups. Based on some evidence and their own knowledge and experience, the committee recommended offering planned birth between 32+0 and 33+6 weeks because this timing did not appear to be associated with an increased risk of serious neonatal adverse outcomes.

### **Uncomplicated trichorionic triamniotic or dichorionic triamniotic triplet pregnancy**

The committee clarified the recommendations from the 2011 guideline by considering triplet pregnancies by type rather than as a single group. No evidence was found on timing of birth in triplet pregnancy but the committee agreed based on their own clinical experience that continuing an uncomplicated trichorionic triamniotic or a dichorionic triamniotic triplet pregnancy beyond 35+6 weeks of pregnancy would lead to an increased risk of fetal death (recommendation 1.9.7). Planned birth should therefore be offered at 35 weeks (recommendation 1.9.10).

### **Individual assessment to determine timing of birth**

Because of significant risks for the babies in complicated twin and triplet pregnancies, and the rareness of monochorionic triamniotic triplet pregnancies and triplet pregnancies with a shared amnion, timing of birth should be assessed and discussed individually (recommendations 1.9.8 and 1.9.11).

### **When planned birth is declined**

The committee highlighted that women's choice needs to be respected and that if a woman declines planned birth at the recommended time, she should be offered weekly appointments to minimise risk, monitor progress and help to identify any complications as soon as possible.

### **How the recommendations might affect practice**

The recommendations clarify the timing of when women with a monochorionic monoamniotic pregnancy should be offered planned birth. Although this is a change from



the 2011 guideline, it reinforces current practice.

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## Mode of birth

[Recommendations 1.10.1 to 1.10.7](#)

### Why the committee made the recommendations

#### **Twin pregnancy: dichorionic diamniotic and monochorionic diamniotic**

For women who are more than 32 weeks pregnant and have an uncomplicated pregnancy, the evidence showed there is no significant difference in risk between vaginal birth and caesarean section, both for the woman and her babies. The committee's experience supported this, so they agreed that healthcare professionals should explain this to the woman and support her choice as long as the conditions in recommendation 1.10.1 are met and the first baby is in a head-first position.

There was only limited evidence about mode of birth when the first baby is not head first. The committee agreed that in their clinical experience, this carries a higher risk of problems such as cord accidents during birth. Because of this, a caesarean section is the safest option to offer women after 32 weeks and for women in established preterm labour between 26 and 32 weeks.

According to the evidence, not all women give birth according to their birth plan. The committee decided it was important to explain this to women so that they are prepared for the possibility of not giving birth in the way they prefer.

#### **Monochorionic monoamniotic twin pregnancy and triplet pregnancy**

Monochorionic monoamniotic twin pregnancies and triplet pregnancies are the least common and highest-risk types of pregnancy and evidence about mode of birth was limited for these women. However, the committee agreed from their experience that caesarean section should be the preferred option and should be offered at the time the birth is planned to happen or after the diagnosis of established labour. If the first twin is close to being born vaginally there can be risks for the babies, so the committee decided

that senior obstetric assessment would be needed.

## How the recommendations might affect practice

The recommendations largely reflect current practice. Supporting the woman's preferred mode of birth might increase the number of planned vaginal births, which may reduce costs. This is likely to be partly offset by the fact that a proportion of these women would go on to give birth by caesarean section for one or both twins.

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## Fetal monitoring during labour in twin pregnancy

[Recommendations 1.11.1 to 1.11.21](#)

### Why the committee made the recommendations

#### Twin pregnancy

There was no evidence on the most effective method of fetal monitoring in labour for improving outcomes in women with a twin pregnancy and their babies, so the committee used their expertise and experience along with NICE guidance on fetal monitoring in singleton pregnancy ([NICE's guideline on intrapartum care](#)) to make recommendations. They agreed that clinically it is well recognised that twins are at increased risk of complications during labour, especially the second twin, so they recommended continuous fetal monitoring. Continuous cardiotocography monitoring is the only modality that can assess both twin fetal heart rates simultaneously during established labour.

#### Antenatal information for women

The committee agreed on the importance of explaining to women the lack of evidence about monitoring with cardiotocography specifically in twins, and that recommendations are based on NICE guidance for singleton pregnancy (intrapartum care). Healthcare professionals should provide a detailed explanation of what cardiotocography involves and why it is used and give women a chance to discuss their wishes and concerns.

Recommending this before 28 weeks gives women time to make an informed decision and takes into account the fact that many twins are born prematurely.

## Intrapartum monitoring

The committee recommended offering continuous cardiotocography to women in established labour with a twin pregnancy over 26 weeks because at this gestational age, neonatal survival rates improve and the risks of neonatal morbidity from preterm birth are falling. The advantages of using cardiotocography over intermittent auscultation monitoring include the ability to assess baseline variability and monitor continuously.

Performing a portable ultrasound (bedside) scan at the start of established labour not only helps to confirm which is the first and which the second twin and locate the fetal hearts but also confirms presentation – malpresentation is more common in twin pregnancy than singleton pregnancy and an emergency caesarean section may be indicated if the first twin presents in the breech position.

The committee recommended involving a senior obstetrician to decide how twins are monitored in established extreme premature labour (23+0 to 25+6 weeks of pregnancy) in line with [NICE's guideline on premature labour and birth](#) in singleton pregnancies.

The committee recommended dual channel monitors to make sure both fetal heart rates could be monitored and displayed accurately at the same time on the same record during labour. Maternal pulse monitoring should be displayed on the same continuous cardiotocography trace to ensure 2 fetal heart rates were being recorded (without mistaking the maternal heart rate for a fetal heart rate).

The committee recommended classifying and interpreting cardiotocography in a way that is broadly consistent with the [NICE guideline on intrapartum care](#), but with additional considerations specific to twins. These include regarding twin pregnancy as a fetal clinical risk factor when classifying a cardiotocograph finding as 'abnormal' or 'non-reassuring'. This would result in a lower threshold for classifying a cardiotocograph as pathological.

## Management based on cardiotocography

Failing to successfully monitor one or both babies could lead to adverse perinatal outcomes so the committee recommended involving a senior healthcare professional. They also recommended applying a fetal scalp electrode to the first baby while continuing abdominal monitoring of the second baby if abdominal monitoring is unsuccessful or there are concerns about synchronicity of the fetal hearts. This should only be carried out after 34 weeks of pregnancy and if there are no contraindications such as HIV, hepatitis or maternal thrombocytopenia.

If there is 'suspicious' cardiotocography in the first baby during established labour, the committee recommended involving a senior healthcare professional to help manage reversible causes such as dehydration, infection or positional loss of contact, before applying a fetal scalp electrode to the first baby (in the absence of contraindications) while continuing abdominal monitoring of the second baby.

In case of 'pathological' cardiotocography in the first baby, a senior healthcare professional should discuss with the woman using fetal blood sampling in the first baby if the benefits are likely to outweigh the potential risks – these include avoiding a second-stage caesarean section, which increases maternal morbidity and mortality.

After the first baby is born, cardiotocographic monitoring of the second baby should continue to detect any 'suspicious' or 'pathological' cardiotocography that could lead to the need for a caesarean section.

## Triplet pregnancy

The committee did not make recommendations for women with a triplet pregnancy because most of these women give birth by caesarean section. Monitoring in labour would therefore be rare and decisions would be made on an individual basis.

## How the recommendations might affect practice

The recommendations are consistent with the [NICE guideline on intrapartum care](#) taking into account the twin-specific measures. It is not anticipated that the recommendations will lead to major changes in current clinical practice.

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## Analgesia

[Recommendations 1.12.1 to 1.12.3](#)

## Why the committee made the recommendations

There is limited evidence on analgesia in labour for women with a twin pregnancy, and no evidence for women with a triplet pregnancy, so the committee used their expertise and

experience along with the very limited evidence to make recommendations. They agreed that there is variation in practice in relation to when healthcare professionals discuss analgesia and anaesthesia with women and what they should discuss, so they specified when this should happen during pregnancy and what to cover.

Women with a twin or triplet pregnancy have an increased risk of intervention in labour, including assisted birth or caesarean section for 1 or more of the babies, and additional internal manoeuvres. Having an epidural in place allows analgesia or anaesthesia to be given quickly when it is needed, reducing the potential need for emergency general anaesthesia.

The limited evidence suggested that having an epidural in place also reduces the need for emergency caesarean section for the second twin after vaginal birth of the first twin, possibly by allowing more effective internal manoeuvres to allow the second twin to be born vaginally.

## How the recommendations might affect practice

The recommendations reinforce current best practice.

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## Managing the third stage of labour

[Recommendations 1.13.1 to 1.13.9](#)

### Why the committee made the recommendations

The evidence was very limited, so the committee used their clinical expertise and experience to make recommendations. Multiple pregnancy is a risk factor for postpartum haemorrhage (see [NICE's guideline on intrapartum care](#)) because of over-distension of the uterus and enlarged placenta(s). The committee agreed that healthcare professionals should explain this to women in the antenatal period and assess and re-evaluate each woman's individual risk as her pregnancy progresses.

Because of the risk of postpartum haemorrhage, the committee agreed that active management of the third stage of labour using uterotonics should be offered to all women,

and physiological management should not be offered.

It is already well-established as current practice and is supported by the committee's experience that when women have more than 1 risk factor for postpartum haemorrhage, additional uterotonics can reduce this risk. There is no clear evidence on the comparative effectiveness of different uterotonics in twin or triplet pregnancy. Each uterotonic has risk factors and contraindications, so the committee did not recommend a specific one.

The committee agreed on the importance of having existing intravenous access and blood products readily available in case a postpartum haemorrhage does occur.

## **How the recommendations might affect practice**

The recommendations reinforce current best practice.

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## Context

Twins or triplets occur in approximately 1 in 60 pregnancies (16 in every 1,000 women giving birth in 2015 had a multiple birth), and 3% of live-born babies are from multiple gestations. The incidence of multiple births has risen in the past 30 years. This is due mainly to increasing use of assisted reproduction techniques, including in vitro fertilisation (IVF), and also to changing demographics as women defer pregnancy and twins are more common at later ages (102 in every 1,000 women giving birth in 2015 were aged 45 or over).

Women with a twin or triplet pregnancy are at higher risk compared with women with a singleton pregnancy. Adverse outcomes are more likely, both for the woman and her babies, during the prenatal and intrapartum periods. Because of this, women need increased monitoring and more contact with healthcare professionals during their pregnancy.

Assessment and planning start as soon as the twin or triplet pregnancy is detected and continue throughout pregnancy at each antenatal contact. Determining the chorionicity and amnionicity of the pregnancy allows the risk to be stratified and the number of antenatal visits and ultrasound examinations to be planned. It is important that ultrasound surveillance is carefully scheduled to monitor for complications including selective fetal growth restriction, feto-fetal transfusion syndrome and twin anaemia polycythaemia sequence (TAPS).

Identifying complications earlier means that decisions can be made promptly about referring the woman to a tertiary level fetal medicine centre. It also informs discussions with women in their second and third trimesters about their hopes and wishes in relation to timing and mode of birth, and the management of the intrapartum period (including fetal monitoring, analgesia and the third stage of labour).

This guideline replaces the previous NICE guideline on multiple pregnancy (CG129). The surveillance process found new evidence and identified a need to include intrapartum care, an area that was not included in the original guideline. In current practice, a significant proportion of multiple pregnancy losses occur intrapartum and the risk of adverse perinatal outcomes is greater in multiple than in singleton pregnancies.

The guideline updates recommendations on screening and monitoring for selective fetal

growth restriction and feto-fetal transfusion syndrome, and makes new recommendations on screening and monitoring for TAPS; screening for and preventing preterm birth; and timing of birth. New recommendations on intrapartum care cover mode of birth, fetal monitoring, analgesia and managing the third stage of labour.



## Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the [NICE topic page on pregnancy](#).

For full details of the evidence and the guideline committee's discussions, see the [full guideline and 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 NICE guidelines into practice, see [resources to help you put guidance into practice](#).

## Update information

**April 2024:** We have reviewed the evidence and made new and updated recommendations, and a recommendation for research, on interventions to prevent spontaneous preterm birth and progesterone for preventing spontaneous preterm birth in twin and triplet pregnancy. These recommendations are marked **[2019, amended 2024]** or **[2024]**.

**September 2019:** We have reviewed the evidence and made new recommendations on fetal complications, preterm birth, timing of birth and intrapartum care. These recommendations are marked **[2019]**.

We have also made some changes without an evidence review:

- Amnionicity was added to relevant recommendations in section 1.1 (and recommendation 1.4.2) in addition to chorionicity because monoamnionicity is an additional complication that would need to be determined to inform management.
- 'Down's syndrome' has been removed from recommendation 1.1.1 because screening for chromosomal conditions is covered in a separate section.
- The approximate timing of the first trimester ultrasound scan has been updated in line with [NHS fetal anomaly screening programme \(FASP\)](#) recommendations in recommendations 1.3.7, 1.3.8, 1.3.9, 1.3.10 and 1.4.5.
- 'The presence of amniotic membrane(s)' was added to recommendations 1.1.3 and 1.1.5 because the number as well as thickness of membranes needs to be determined.
- 'Antenatal' was added to recommendation 1.3.1 to distinguish this recommendation from the new intrapartum care section that was added in this update. The whole team providing antenatal care would not be needed or relevant for intrapartum care.
- Two additional scans and appointments were added to recommendations 1.3.8 and 1.3.9 (at 26 and 30 weeks) because of new recommendations on increased screening and monitoring.
- The types of pregnancy covered by recommendation 1.3.10 are usually complicated so 'uncomplicated' was removed. The number of appointments with the specialist obstetrician was also changed from 2 to 5 because more frequent review is needed:

monochorionic triamniotic triplet pregnancies are very rare and have a higher potential for adverse outcomes from complications of monochorionicity than monochorionic twins.

- In the section on 'screening for chromosomal conditions':
  - Edwards' syndrome and Patau's syndrome were added to Down's syndrome because since 2011 there is now a combined test for all of them.
  - Twin pregnancies have been removed from recommendations in this section because they are covered by the [NHS fetal anomaly screening programme \(FASP\)](#).
- Recommendation 1.6.2 now simply cross-refers to the hypertension in pregnancy guideline.
- Recommendation 1.7.1 was updated to reflect changes in the fetal growth restriction section as well as the addition of suspected twin anaemia polycythaemia sequence (TAPS) to the guideline. Twin reverse arterial perfusion sequence (TRAP) and conjoined twins or triplets were added because they would always need consultant opinion from a tertiary level fetal medicine centre.

These recommendations are marked **[2011, amended 2019]**.

Recommendations marked **[2011]** last had an evidence review in 2011. In some cases minor changes have been made to the wording to bring the language and style up to date, without changing the meaning.

### Minor changes since publication

**October 2023:** We updated links to the NICE guideline on intrapartum care, which has been updated.

**December 2022:** We updated the links in recommendation 1.11.9 to refer to the [NICE guideline on fetal monitoring in labour](#).

**November 2022:** We added '× 100' to the formula for calculating estimated fetal weight discordance in twins and triplets to give the result as a percentage. See recommendations 1.4.20, 1.4.21 and 1.4.33.

**December 2019:** We updated the name of the Twins and Multiple Births Association to

Twins Trust.

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