Continue

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. 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] 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] Twin pregnancy 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 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] 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] 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] Do not use second trimester serum screening for Down's syndrome in triplet pregnancies. [2011, amended 2019] 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] Screening for structural abnormalities 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] 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] Allow 45 minutes for the anomaly scan in twin and triplet pregnancies (as recommended by FASP). [2011] Allow 30 minutes for growth scans in twin and triplet pregnancies. [2011] Also see the section on preventing preterm birth. 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] Do not use fetal fibronectin testing alone to predict the risk of spontaneous preterm birth in twin and triplet pregnancy. [2019] Do not use home uterine activity monitoring to predict the risk of spontaneous preterm birth in twin and triplet pregnancy. [2019] 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] 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] 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] Calculate and document estimated fetal weight (EFW) discordance for dichorionic twins using the formula below [2019]: ([EFW larger fetus − EFW smaller fetus] ÷ EFW larger fetus) × 100 Calculate and document EFW discordance for trichorionic triplets using the formula below [2019]:([EFW largest fetus − EFW smallest fetus] ÷ EFW largest fetus) × 100and([EFW largest fetus − EFW middle fetus] ÷ EFW largest fetus) × 100 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] 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]

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. 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] 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] 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] 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] 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] 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] 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] 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] Continue monitoring women with a monochorionic twin or triplet pregnancy for fetal weight discordance at intervals that should not exceed 14 days. [2019] Calculate and document EFW discordance in monochorionic twins using the formula below [2019]: ([EFW larger fetus − EFW smaller fetus] ÷ EFW larger fetus) × 100 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] 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] 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] 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] 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] Twin pregnancy: dichorionic diamniotic or monochorionic diamniotic 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] 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] Offer caesarean section to women if the first twin is not cephalic at the time of planned birth. [2019] Offer caesarean section to women in established preterm labour between 26 and 32 weeks if the first twin is not cephalic. [2019] 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 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] 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] 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. 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. 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 (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. 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. An obstetrician with a special interest, experience and knowledge of managing multiple pregnancy, and who works regularly with women with a multiple pregnancy. 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 (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. Twin pregnancies are followed more closely than singleton pregnancies due to higher risk for complications such as twin-twin transfusion syndrome, selective fetal growth restriction, and preterm labor. Ultrasound is a non-invasive and highly useful tool for screening, diagnosis, and guiding management of these potential complications. Ultrasound monitoring protocols vary between different types of twin pregnancies. Zygosity: Describes genetic origin of twinsDizygotic twins: Both twins originate from a separate oocyte and each oocyte is fertilized by its own spermatocyteWill always be dichorionic and diamniotic Monozygotic twins: Both twins develop from a single zygote which then cleaves to form two embryos The timing of cleavage will determine chorionicity and amniosity of monozygotic twinsApproximately 2/3 monochorionic/diamniotic | 1/3 dichorionic/diamniotic | 1to 2% monochorionic/monoamniotic Chorionicity determines follow-up based on risks for adverse events Image by Kevin Dufendach, MD (2008). Used by permission. CC BY 3.0Ideal timing: Between 11w0d and 13w6d (45 and 84 mm)Use CRL of the larger twin in spontaneously conceived twins Use oocyte retrieval date or embryonic age from fertilization for twins conceived via IVF Note: If a woman presents beyond 14 weeks gestational age then use head circumference of the larger twin (ISUOG) Optimal timing to determine chorionicity by ultrasound is in the first or 2nd trimesterACOG/SMFM recommend that chorionicity should be identified as early as possible Ultrasound 20 weeks: q4 weeks until delivery: Fetal growth | AFV 36w0d: consider weekly antenatal fetal surveillance Most twin pregnancies will have good outcomes. However, diligence is required, especially in the case of monochorionic twins due to risk for twin-twin transfusion syndrome (TTTS) and twin anemia polycythemia sequence (TAPS). Monochorionic twins may have potentially significant vascular anastomoses such that the twins share a common vasculature. Significant risks for dichorionic twins include preterm labor, medical complications due to increased placental mass (e.g., preeclampsia and GDM) and selective growth restriction. Different centers will have different protocols for labeling twin A vs twin B. The important point is to be consistent with labeling. 10 to 15% of monochorionic twins | 90% fetal demise if untreated Diagnosis; AFV fluid imbalance noted on ultrasound‘Donor’ has oligohydramnios (DVP of < 2 cm) | ‘Recipient’ has polyhydramnios (DVP > 8 cm)Can occur spontaneously in approximately 5% of monochorionic diamniotic twins Result of small AV anastomoses that leads to transfusion of blood from donor to recipient twinAt birth, anemia in donor and polycythemia in the recipient Prenatal diagnosis based on MCA DopplerDonor MCA-PSV > 1.5 MoM | Recipient MCA-PSV < 1.0 MoM Multiple gestation – uncomplicatedDi-di twins: 38w0d – 38w6d Mono-di twins: 34w0d – 37w6d Mono-mono twins: 32w0d – 34w0d Note: Triplets and higher: Individualize Multiple gestation – complicated by isolated FGRDi-di twins: 36w0d-37w6d Mono-di twins: 32w0d-34w6d Note: If concurrent condition: IndividualizeMonochorionic/ Monoamniotic twins Growth discordance: Defined as EFW discordance is ≥ 20% (ACOG)Calculation: Difference in the estimated fetal weight between the two fetuses/ divided by the weight of the larger fetus ISUOG uses a 25% cut-off Any findings on ultrasound that are of concern ACOG/ SMFM Practice Bulletin 231: Multifetal Gestations: Twin, Triplet, and Higher-Order Multifetal PregnanciesSMFM Special Statement: Updated checklists for management of monochorionic twin pregnancyISUOG Practice Guidelines: role of ultrasound in twin pregnancyACOG SMFM Committee Opinion 831: Medically Indicated Late-Preterm and Early-Term DeliveriesSMFM Consult Series #72: Twin-twin transfusion syndrome and twin anemia-polycythemia sequence Maternal Fetal Medicine Specialist Locator-SMFMTake a post-test and get CME creditsTAKE THE POST TEST English Español Francais Português Deutsch Русский Italiano Ελληνικά Polski Български Magyar 日本語 Shqip Tiếng Việt Română Slovenský Jazyk Multiple births account for 2-3% of all live births and the incidence is increasing due to assisted conception and increasing maternal age. Perinatal mortality and morbidity is higher with multiple pregnancies than singletons and therefore these pregnancies require additional support. The risk of pregnancy complications is much higher in monochorionic (MC) than dichorionic (DC) pregnancies. Two-thirds of twins are dizygotic (non-identical) and one-third monozygotic (identical). One-third of monozygotic twins are dichorionic (DC) and two-thirds are monochorionic (MC). Therefore, all MC twins are monozygotic and 6 of 7 DC twins are dizygotic. In DC pregnancies the inter-fetal membrane is composed of a central layer of chorionic tissue sandwiched between two layers of amnion, whereas in MC pregnancies there is no chorionic layer. The best way to determine chorionicity by ultrasound at 11-13 weeks’ gestation is to examine the junction between the inter-fetal membrane and the placenta. In DC pregnancies there is a triangular placental tissue projection (λ sign) into the base of the In MC pregnancies there is no placental tissue projection into the base of the membrane (T sign). With advancing gestation, there is regression of the chorion laeve and the ‘lambda’ sign becomes progressively more difficult to identify. Thus by 20 weeks only 85% of DC pregnancies demonstrate the λ sign. Spontaneous conception: use the crown-rump length of the longest fetus at 11-13 weeks. IVF conception: use the embryonic age from fertilization. In each scan assess fetal growth (head circumference, abdominal circumference, femur length), amniotic fluid (deepest vertical pool), pulsatility index by Doppler (umbilical artery, middle cerebral artery and ductus venosus) and in monochorionic twins middle cerebral artery peak systolic velocity to detect possible twin anemia–polycythemia sequence (TAPS). At 20 weeks measure cervical length. If 15%, discordance in amniotic fluid or any abnormal Dopplers then review every 1 week. If there is no complication, consider delivery at 36 weeks. Scans at 12 and 16 weeks and then every 2 weeks until delivery. If there is discordance in fetal size of >15% or any abnormal Dopplers then review every 1 week. If there is no complication, delivery by cesarean section at 32 weeks. 12 weeks: counsel concerning options of expectant management or embryo reduction. Scans at 12, 20, 24, 28 and 32 weeks. If there is discordance in fetal size of >15%, discordance in amniotic fluid or any abnormal Dopplers then review every 1 week. If there is no complication, consider delivery by cesarean section at 34 weeks. 12 weeks: counsel concerning options of expectant management or embryo reduction. Scans at 12 and 16 weeks and then every 2 weeks until delivery. If there is discordance in fetal size of >15%, discordance in amniotic fluid or any abnormal Dopplers then review every 1 week. If there is no complication, delivery by cesarean section at 32-34 weeks. Please report any inaccuracies or issues with this guideline using our online form Gestational Age, Chorionicity and Amnionicity Women should be offered a first trimester USS (< 14+0 weeks) to estimate gestational age and determine chorionicity and amnionicity. Chorionicity and amnionicity should be determined by the number of placental masses, the presence of amniotic membranes and membrane thickness, the lambda or T-sign. Clear nomenclature should be assigned e.g inferior and superior, or left and right, in a twin or triplet pregnancy to ensure consistency throughout pregnancy. If a multiple pregnancy presents after 14+0 weeks then determination of chorionicity and amnionicity could also take into account discordant fetal sex if required. If TAUSS views are poor because of a retroverted uterus or a high BMI, use a transvaginal ultrasound scan to determine chorionicity and amnionicity. The largest baby should be used to calculate the estimated date of delivery for the pregnancy. A photographic record should be placed in the patient’s hospital held records documenting the ultrasound appearance of the membrane attachment to the placenta and an electronic / hard drive record stored. Chorionicity must be checked by senior sonographer If there is still doubt about the chorionicity, the woman should be referred to medical staff for chorionicity assessment without delay. Following this if there is still doubt, the pregnancy should be managed as monochorionic until proved otherwise. Referral should be made for counselling for antenatal screening for combined trisomy (21,18,13) following the diagnosis of a twin pregnancy (fetal medicine at QEUH, Day Care counselling midwife PRM, Screening midwife Clyde). This should ideally be prior to the 11+2 to 14+1 week scan. The test of choice for twin pregnancies is first trimester combined screening. Every opportunity must be made to maximise the offer of first trimester combined screening. Chance results to be reported are: a term chance of T21 and a term chance of T18/T13 a term chance of T21 only a term chance of T18/T13 only First trimester combined screening will be reported in a dichorionic twin pregnancy as a chance for each fetus whereas in a monochorionic twin pregnancy it will be reported as a chance per pregnancy. Women who ‘miss’ or have unsuccessful first trimester screening for aneuploidy should be offered second trimester screening for T21. Chance results are reported as a pregnancy related chance that is not fetal specific. Fetal ultrasound assessment should be performed every two weeks in uncomplicated monochorionic twins from 16+0 weeks onwards until delivery. Scans at 16 and 20 weeks (detailed anomaly scan) should be performed by a medical sonographer. The detailed fetal anomaly scan should include extended cardiac views (5 standard views). At every ultrasound, the following should be assessed and recorded: liquor volume (LV) should be assessed in each sac and deepest vertical pool (DVP) Umbilical artery pulsatility index (UAPI)* Fetal bladders should be assessed. Middle Cerebral Artery Peak Systolic Velocity (MCA PSV) *See Umbilical Artery Pulsatility Index Chart Increase the frequency of diagnostic monitoring for TTTS in the woman’s 2nd and 3rd trimester to at least weekly if there are concerns about differences between the babies’ amniotic fluid level (a difference in DVP depth of 4cm or more). Include Doppler assessment of the umbilical artery flow for each baby. Refer for medical scan if LV DVP>8 cm or 10cm or