NHS
University Hospitals Sussex
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St Richards, Worthing & Southlands Hospitals

Multiple Pregnancy and Birth Guideline

Summary statement: How does the document support patient care?	By the provision of good practice evidence based guidelines for all staff involved in the antenatal and intrapartum care of pregnant women/people with a multiple pregnancy
Staff/stakeholders involved in development:	Obstetric Consultants, Senior Midwives, Joint Obstetric Guidelines Group Members
Division:	Women and Children's
Department:	Maternity
Responsible Person:	Chief of Service
Author:	Obstetric Consultant, maternity team
For use by:	Medical, Obstetric and Midwifery staff
Purpose:	To provide high quality, evidence based care for pregnant women/people a with multiple pregnancy
This document supports:	RCOG (2016) Green-top guideline 51 NICE (2019) Caesarean Section NICE (2019) NG137 Twin and Triplet Pregnancy
Key related documents:	Antenatal and labour risk assessments. **UH Sussex (SRH&WH) Maternity Guidelines:** Antenatal Care and Patient Information, Induction of Labour, Antenatal Screening Tests, Fetal Fibronectin, Antepartum Haemorrhage, Hypertensive Disorders of Pregnancy
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1.0	January 2011	Obstetric Consultants	Archived	New Trustwide guideline
2.0	February 2011	CNST Lead Midwife	Archived	Administrative update
3.0	May 2012	Antenatal Clinic manager and Fetal Medicine Consultant	Archived	Guideline updated to include NICE 2011 recommendations
3.1	January 2014	Obstetric Consultant	Archived	3 Year review-minor update to clarify care pathway
				Guideline given an extension until February 2017 whilst still under review.
4.0	Oct 2017	Obstetric Consultant	Archived	3 year review – minor amendment to pain relief
5	August 2018	Obstetric Consultant	Archived	MCDA antenatal schedule updated in line with RCOG guidance
6.0	March 2021	Clinical Effectiveness Support Midwife (J. Collard) with Twins Working Party cross-site	Archived	Guideline updated in line with NICE NG137 Twin and Triplet Pregnancy 2019 MBRRACE-UK 2021
6.1	May 2022	R. Mason, Obstetric Consultant J. Collard, Clinical Effectiveness Support Midwife	LIVE	• Further points added to Postnatal Care: Special Considerations section in response to MBRRACE-UK 2021 • RCOG GTG no. 7 guidance on counselling for corticosteroids added.

Contents

Multiple Pregnancy and Birth Guideline

1.0 Aim

This document provides guidance on the management of twin and higher order multiple pregnancies in University Hospitals Sussex (SRH&WH NHS Foundation Trust.

2.0 Scope

- Obstetricians
- Midwives
- Ultrasonographers
- Anaesthetists

3.0 Responsibilities

Midwives & obstetricians are expected:

- To access, read, understand and follow this guidance.
- To use their professional judgement in the application of this guideline.

Management teams are expected:

- To ensure the protocol is reviewed as required in line with Trust and National Recommendations.
- To ensure the protocol is accessible to all relevant staff.

4.0 Introduction

Multiple pregnancies are reported in 15.4 per 1000 births in the United Kingdom in 2018. This is the third annual decline in multiple births from 16.1 per 1000 births in 2015 (Office for National Statistics 2018).

Twin and higher order multiple pregnancies are associated with increased risk of maternal and fetal complications:

- Complications for pregnant women/people include hyperemesis, anaemia, hypertensive disorders (PIH, pre-eclampsia, eclampsia), APH, increased risk of operative deliveries including caesarean section and postpartum haemorrhage.
- Fetal complications include first and second trimester pregnancy loss, prematurity due to preterm birth, growth restriction, fetal death (one or both twins), neurological impairment, increased risk of congenital anomalies.

RCOG Study Group recommends that single embryo transfer should be considered in assisted conception and parents of high order multiple pregnancies (≥ 3) should be counselled and offered multi-fetal pregnancy reduction to twins in specialist centres.

In addition monochorionic twins (constituting a third of all twin pregnancies) are associated with a risk (10-15%) of twin-to-twin transfusion syndrome.

Furthermore monochorionic monoamniotic twins are associated with the risk of cord entanglement which is further associated with increased perinatal mortality.

5.0 Definitions

- A **monochorionic (MC) twin pregnancy** is one in which both babies are dependent on a single, shared placenta.
- A **dichorionic pregnancy** is where the babies are supported by separate placentae.
- **Monochorionic monoamniotic pregnancy** is where the babies are in a single amniotic sac and are dependent on a single placenta.
- **Dichorionic diamniotic pregnancy** is where the babies are in separate amniotic sacs and are supported by separate placentae.
- **Conjoined twins** are twins whose body parts are joined up with each other due varying degrees of incomplete separation.
- **Twin to twin transfusion syndrome (TTTS)** only occurs in monochorionic monozygotic twins (identical) and is the result of transfusion of blood from one fetal twin to another twin.

5.1 Abbreviations used within this guideline

PIH - Pregnancy Induced Hypertension	**APH -** Antepartum Haemorrhage
MC - monochorionic	**TTTS -** Twin to twin transfusion syndrome
EPAC - Early Pregnancy Assessment Clinic	**NT -** nuchal translucency
TRAP - Twin reverse arterial perfusion sequence	**TAPS -** Twin Anaemia-Polycythaemia Sequence
FFTS - Feto-fetal transfusion syndrome	**EFW -** Estimated fetal weight
DVP - Deepest vertical pocket	**MCA -** Middle cerebral arterial
PSV - Peak systolic velocity	**MVP -** Maximum vertical pocket (MVP
MCDA - Monochorionic diamniotic	**DCDA -** Dichorionic diamniotic
CTG - Cardiotocograph	**IVF -** In vitro fertilisation
IUI - Intrauterine insemination	**FGR -** Fetal Growth Restriction
PAPP-A - Low Pregnancy Associated Plasma Protein	

6.0 Diagnosis and determination of chorionicity & amnionicity

- The diagnosis of a multiple pregnancy is usually made at the time of the dating scan in the first trimester of pregnancy. Some pregnant women/people may have this identified at viability scans in Early Pregnancy Assessment Clinic (EPAC) or on routine scans after assisted conception.

- Estimate gestational age should be from the largest baby in a twin or triplet pregnancy to avoid the risk of estimating it from a baby with early growth pathology.
- 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 pregnant woman/person's notes to ensure consistency throughout pregnancy.

6.1 Ascertaining the chorionicity:

- Presence of a thick intertwin septum with detection of a "lambda sign" is indicative of dichorionic pregnancy, whereas a thin septum with single continuous placental mass is observed in monochorionic pregnancies.
- If there is doubt in the diagnosis of chorionicity, the pregnant woman/person should be referred to a specialist without delay, as chorionicity is best determined before 14 weeks.
- If it is difficult to determine chorionicity, even after referral (for example, because the pregnant woman/person has booked late in pregnancy), manage the pregnancy as a monochorionic pregnancy until proved otherwise.
- If a pregnant woman/person 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.
- A photographic record should be retained, in the case notes, of the ultrasound appearances of the membrane attachment to the placenta.
- Separate placentae and discordant genitalia are also signs of dichorionicity, particularly in the mid-trimester.

7.0 Antenatal care

Pregnant women/people with a multiple pregnancy must be offered consultant led care, and given information specific to twin and triplet pregnancies at their first contact after diagnosis.

Antenatal clinical care for pregnant women/people 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.

However do not routinely refer all pregnant women/people with a twin or triplet pregnancy to the enhanced team but base the decision to refer on each pregnant woman/person's needs.

Information should be given on antenatal nutrition, anaemia, support groups, parent education, breastfeeding, antenatal and postnatal mental health, and signs and symptoms of preterm labour.

Although the majority their appointments will be at the Twins Clinic, the community midwife should also offer separate appointments. How frequently they attend the community midwife appointments can be discussed with the midwife and scheduled to suit their individual circumstances.

7.1 Planning for birth

All discussions should involve the pregnant woman/person with the multiple pregnancy and their family or carers if appropriate.

Pregnant women/people should be given information on the risks and benefits of different modes of birth to support them in planning their birth. This information is included on the Multiple Birth Care Pathway (Appendix 5) which is placed in the antenatal handheld record for the pregnant woman/person to access during their pregnancy.

Following discussion, the agreed planned place, timing and mode of birth should be documented in the health record, preferably on the Multiple Pregnancy Care Pathway.

- From 24 weeks in a twin or triplet pregnancy, discuss with the pregnant woman/person (and her family members or carers, as appropriate) their plans and wishes for the birth of their babies.
- Provide information that is tailored to each pregnant woman/person's pregnancy, taking into account their needs and preferences. Revisit these conversations whenever clinically indicated and whenever they want to.
- Ensure the following has been discussed (appendix 6) and documented 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: offer an epidural to pregnant women/people 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 and enables a quicker birth by emergency caesarean section if needed.
    - Analgesia during caesarean birth: Offer regional anaesthesia to pregnant women/people with a twin or triplet pregnancy that are having a caesarean section.
    - Management of the third stage of labour and postpartum haemorrhage. (see section 12.3)

- At 28 weeks intrapartum fetal heart monitoring should be discussed and documented. It should be explained that:
    - Recommendations on cardiotocography(CTG) are based on evidence from pregnant women/people with a singleton pregnancy because there is a lack of evidence specific to twin pregnancy or preterm babies.
    - It allows simultaneous monitoring of both babies.
    - It might restrict their 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 CTG are used to help make decisions during labour and birth, but these will also be based on her wishes, their condition and that of their babies.

Pregnant women/people with multiple pregnancies should have the following discussed:

- Spontaneous preterm birth and planned preterm birth are associated with an increased risk of admission to a neonatal unit.
- About 60 in 100 twin pregnancies result in spontaneous birth before 37 weeks.
- 75 in 100 triplet pregnancies result in spontaneous birth before 35 weeks.

For an uncomplicated multiple pregnancy, discuss and offer planned birth as follows, after a course of antenatal corticosteroids has been considered. The risks and benefits of corticosteroids should be discussed and this discussion documented in line with the RCOG infographic in the CG20013 Preterm birth risk pathway.

The timing of birth should be individualised in each pregnancy and include considerations of safety such as avoiding induction at weekends, aiming for birth of:

Dichorionic diamniotic twin pregnancies:

- Planned birth from 37+0 weeks does not appear to be associated with an increased risk of serious neonatal adverse outcomes.
- Continuing the pregnancy beyond 37+6 weeks increases the risk of fetal death.
- **Aim for birth of dichorionic diamniotic twins at 37 weeks.**

Monochorionic diamniotic twin pregnancies:

- Planned birth from 36 weeks does not appear to be associated with an increased risk of serious neonatal adverse outcomes.
- Continuing the pregnancy beyond 36+6 weeks increases the risk of fetal death.
- **Aim for birth of monochorionic diamniotic twins at 36 weeks.**

Monochorionic monoamniotic twin pregnancy:

- Planned birth between 32+0 and 33+6 weeks does not appear to be associated with an increased risk of serious neonatal adverse outcomes.
- Their 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.

- **Aim for birth of monochorionic monoamniotic twins between 32+0 and 33+6 weeks.**

Trichorionic triamniotic or **dichorionic triamniotic triplet** pregnancies:

- Continuing the pregnancy beyond 35+6 weeks increases the risk of fetal death.
- **Aim for birth of trichorionic triamniotic** or **dichorionic triamniotic triplet at 35 weeks.**

Monochorionic triamniotic triplet pregnancy or a **triplet pregnancy that involves a shared amnion:**

- Timing of birth will be decided and discussed with each pregnant woman/person individually.

In twin pregnancy induction of labour would be advised as for singleton pregnancy (refer to Induction of Labour Guideline provided that the first twin is cephalic and no other risk factors are present.

Inform paediatric consultant of planned birth date for triplet pregnancies in order that resources and equipment can be organised.

For Pregnant women/people who decline planned birth at the recommended timing, 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. They should be made aware that this enhanced surveillance cannot guarantee against a poor outcome.

7.2 Screening, scans and antenatal appointments

- **Booking bloods**: blood group and antibody, screening for infections e.g. Hepatitis B, rubella immunity, HIV, screening for asymptomatic bacteriuria etc. should be performed as for all other pregnant women/people.
- Be aware of higher incidence of anaemia; consider the need for iron supplementation.
- Pregnant women/people should be counselled before screening by appropriately trained personnel regarding the implications of high risk results and antenatal diagnosis in multiple pregnancies.
- **Scan at 10-13 weeks gestation** for viability, accurate dating, chorionicity, major congenital malformation and nuchal translucency.
- **Screening for Down's syndrome:** First trimester combined test (nuchal translucency (NT) scan with serum screening) can be offered to women/people with twin pregnancies that opt for screening. For triplets and higher order multiple pregnancies the screening is offered with NT and maternal age only (FASP 2019).
- Refer pregnant women/people 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.

- All triplet pregnancies should be referred to internal fetal medicine at point of diagnosis. If not available then they should be referred to tertiary service directly at the earliest opportunity.
- Pregnant women/people with a triplet pregnancy should be given 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 test and higher chance of complications of invasive testing.
    - The physical risks and psychological implications in the short and long term relating to selective fetal reduction.
- **Anomaly ultrasound** at 20/40 with extended views of the heart for monochorionic twins and triplets.
- Full blood count should be performed at 20 weeks and at 28 weeks.
- Anaesthetic and paediatric antenatal appointments should be organised as necessary on an individual basis.

7.3 Monochorionic diamniotic twins (appendix 1)

Monochorionic diamniotic twin pregnancies should have 11 antenatal appointments scheduled with a healthcare professional from the core team. At least 2 of these appointments should be with the specialist obstetrician.

7.4 Dichorionic diamniotic twins (appendix 2)

Dichorionic diamniotic twin pregnancies 8 antenatal appointments scheduled with a healthcare professional from the core team. At least 2 of these appointments should be with the specialist obstetrician.

7.5 Triamniotic triplet pregnancy – trichorionic, diachorionic or monochorionic (appendix 3)

These pregnancies should have 9 antenatal appointments scheduled with a healthcare professional from the core team. At least 2 of these appointments should be with the specialist obstetrician.

7.6 Dichorionic triamniotic or monochorionic triamniotic triplet pregnancies (appendix 4)

These pregnancies should have 11 antenatal appointments scheduled with a healthcare professional from the core team. At least 5 of these appointments should be with the specialist obstetrician.

7.7 Monoamniotic twin or triplet pregnancies

These pregnancies should have individualised care from a tertiary centre.

8.0 Indications for referral to tertiary centre or fetal medicine specialist

- Monochorionic monoamniotic twins.
- All triplet pregnancies.
- If there is doubt in the diagnosis of chorionicity.
- 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).
  - Feto-fetal transfusion syndrome (FFTS) or suspected Twin Anaemia-Polycythaemia Sequence (TAPS).
  - Twin reverse arterial perfusion sequence (TRAP).
  - Conjoined twins or triplets.
- Referral to a tertiary centre is also advised in the event of intra uterine fetal demise of one of the monochorionic twins.

9.0 Monitoring for fetal growth restriction

- Do not use abdominal palpation or symphysis–fundal height measurements to monitor for fetal growth.
- Monitoring for fetal weight discordance using 2 or more biometric parameters and amniotic fluid levels at each ultrasound scan.
- Measure the deepest vertical pocket (DVP) on either side of the amniotic membrane.

	Commence monitoring fetal weight	**Interval of scanning**	**Formula for calculating estimated fetal weight (EFW) discordance**
Dichorionic twins	From 24 weeks	At least every 28 days	(EFW larger fetus − EFW smaller fetus) ÷ EFW larger fetus x 100 for percentage
Trichorionic triplets	From 24 weeks	At least every 14 days	(EFW largest fetus − EFW smallest fetus) ÷ EFW largest fetus and (EFW largest fetus − EFW middle fetus) ÷ EFW largest fetus x 100 for percentage
Monochorionic twins	From 16 weeks	At least every 14 days	(EFW larger fetus − EFW smaller fetus) ÷ EFW larger fetus x 100 for percentage
Monochorionic triplets	From 16 weeks	At least every 14 days	The named specialist obstetrician should review the EFW of dichorionic and monochorionic triplets and calculate EFW discordance based on their understanding of the implications of chorionicity.

- 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.
- Refer the pregnant woman/person 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.

10.0 Twin to Twin Transfusion Syndrome (TTTS) also known as Feto-Fetal Transfusion Syndrome

- All pregnant women/people with monochorionic pregnancies should be made aware of the following 'red flag' warning signs of TTTS and asked to call Triage if they becomes aware of any of them:
    - Sudden abdominal distension.
    - Abdominal pain.
    - Sudden breathlessness.
    - Inability to lie on her back.
    - Reduced fetal movements (MBRRACE-UK, 2021)
- Staff should also be aware of the following clinical signs of TTTS:
    - Rapidly increased abdominal girth.
    - Inability to feel fetal parts on abdominal palpation.
    - Ultrasound changes based on Quintero criteria (MBRRACE-UK, 2021)
- TTTS occurs in about 10-15% of monochorionic twin and triplet pregnancies and is characterised by oligohydramnios in one sac and polyhydramnios in the other with discordant appearance of bladders and abnormal umbilical artery Doppler in severe cases. Monitoring with ultrasound must be targeted to assess all these parameters. Umbilical artery Dopplers from 24 weeks.
- Screening for fetal growth restriction or Twin-To-Twin Transfusion Syndrome (TTTS) should not be offered in the first trimester.
- Offer diagnostic monitoring for TTTS to women with a monochorionic twin or triplet pregnancy. Monitor with ultrasound every 14 days from 16 weeks until birth.
- Explain that the relative likelihood of each complication changes with advancing gestation but that they can all occur at any gestational age.
- Offer pregnant women/people simultaneous monitoring for TTTS, fetal growth restriction and advanced-stage twin anaemia polycythaemia sequence (TAPS) at every ultrasound.
- Offer weekly ultrasound monitoring for TAPS from 16 weeks of pregnancy using middle cerebral artery peak systolic velocity (MCA PSV) to Pregnant women/people 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).

- Measure the DVP depths of amniotic fluid on either side of the amniotic membrane.
- Increase the frequency of diagnostic monitoring in the 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.
- For pregnant women/people 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.

Where TTTS is diagnosed early referral to the regional tertiary centre or the fetal medicine specialist is indicated.

- Refer the pregnant women/people to a tertiary level fetal medicine centre if TTTS 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:
        - Oover 8 cm before 20+0 weeks of pregnancy or
        - Over 10 cm from 20+0 weeks.
- Further assessment and monitoring by the woman's named Consultant is indicated 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.

10.1 Quintero Classification of TTTS

Stage I There is a discrepancy in amniotic fluid volume with oligohydramnios of a maximum vertical pocket (MVP) ≤ 2 cm in one sac and polyhydramnios in other sac (MVP ≥ 8 cm). The bladder of the donor twin is visible and Doppler studies are normal.

Stage II The bladder of the donor twin is not visible (during length of examination, usually around 1 hour) but Doppler studies are not critically abnormal.

Stage III Doppler studies are critically abnormal in either twin and are characterised as abnormal or reversed end-diastolic velocities in the umbilical artery, reverse flow in the Ductus venosus or pulsatile umbilical venous flow.

Stage IV Ascites, pericardial or pleural effusion, scalp oedema or overt hydrops present.

Stage V One or both babies are dead.

10.2 Management of confirmed TTTS

- Where TTTS is diagnosed at gestations below 26 weeks, fetoscopic laser ablation is the intervention of choice.
- Anastomoses may be missed at laser ablation and TTTS can recur later in up to 14% of pregnancies treated by laser ablation. Thus surveillance should continue.
- Laser ablation can be performed in mono- and dichorionic triplet pregnancies.
- Some pregnant women/people request termination of pregnancy when severe TTTS is diagnosed and this should be discussed as an option.
- Another option is to offer selective termination of pregnancy using bipolar diathermy of one of the umbilical cords, with inevitable sacrifice of that baby. This may be appropriate if there is severe hydrops fetalis in the recipient or evidence of cerebral damage in either twin.

11.0 Single fetal demise in multiple pregnancy

When counselling those pregnant women/people who have suffered from a twin demise, it is important to use the same statistics on each site. The timing of fetal demise does not affect the incidence of neurodevelopmental delay, co-twin death or preterm birth in the surviving twin but is different between MCDA and DCDA sets. Fetal brain imaging using MRI is offered to the surviving twin in MCDA sets.

Outcome for survivor twin following co-twin demise in 2nd & 3rd trimesters:

	MCDA	DCDA
Death of survivor twin	15%	3%
Preterm birth	68%	54%
Neurodevelopmental delay	26%	2%

Hillman et al Obstet Gynecol 2011;118:928-40

- When a twin is lost during the first trimester there is no influence on the outcome of the pregnancy.
- Where the fetal demise occurs after 12 weeks, the continuing pregnancy should continue to be treated as a multiple pregnancy (i.e. scan and appointment schedules).
- Even though there is risk to the surviving twin rapid birth is usually unwise unless later in pregnancy (>37 weeks)/CTG abnormality/abnormal MCA Doppler.

12.0 Further complications of multiple pregnancy

12.1 Hypertension and pre-eclampsia

Advise pregnant women/people that they should take Aspirin 150mg with food at night from 12 weeks until 36 weeks or birth if before 36 weeks they have any of the following additional

moderate risk factors for hypertension as multiple pregnancy compounds the risk of hypertension.

- First Pregnancy.
- Age 40 or over.
- Pregnancy interval of more than 10 years.
- BMI of 35 or over at first visit.
- Family history of pre-eclampsia.

Additional **moderate risk** factors for recommending aspirin from Saving Babies Lives Care Bundle:

- Assisted conception (IVF/ IUI).
- Current smoker.

High risk factors for hypertension are:

- Chronic hypertension.
- Previous hypertensive disease during pregnancy – gestational hypertension and pre-eclampsia.
- Chronic kidney disease.
- Autoimmune disease ie lupus or antiphospholipid syndrome.
- Type 1 or Type 2 Diabetes.

Additional **high risk** factors for recommending aspirin from Saving Babies Lives Care Bundle:

- Low Pregnancy Associated Plasma Protein (PAPP-A) screening blood test.
- Previous *Fetal Growth Restriction (*FGR) - either birth weight <2.5kg over 37 week's gestation or <10th centile).
- Previous stillbirth.

For GP letter to prescribe aspirin prophylaxis see Appendix 3 of CG1198 Management of hypertensive disorders of pregnancy.

Measure blood pressure and test urine for proteinuria to screen for hypertensive disorders at each antenatal appointment in a twin and triplet pregnancy.

12.2 Screening for preterm labour

- Explain to pregnant women/people and their family members or carers (as appropriate) that:
  - They have a higher risk of spontaneous preterm birth than women with a singleton pregnancy.
  - This risk is further increased if they have other risk factors, such as a spontaneous preterm birth in a previous pregnancy.
  - They should be made aware of the signs and symptoms of preterm labour and to call Triage if they experience any of these symptoms.
- They should be informed of the benefit of targeted corticosteroids. However do not use single or multiple untargeted (routine) courses of corticosteroids in twin or triplet pregnancy as there is no benefit.

- Do not use fetal fibronectin testing alone to predict the risk of spontaneous preterm birth in twin and triplet pregnancy.
- Do not use home uterine activity monitoring to predict the risk of spontaneous preterm birth in twin and triplet pregnancy.
- Do not offer intramuscular progesterone to prevent spontaneous preterm birth in women with a twin or triplet pregnancy.
- Do not offer the following interventions (alone or in combination) routinely to prevent spontaneous preterm birth in women with a twin or triplet pregnancy:
    - Arabin pessary.
    - Bed rest.
    - Cervical cerclage.
    - Oral tocolytics.

12.3 Postpartum haemorrhage

- Start assessing the risk of postpartum haemorrhage in pregnant women/people with a twin or triplet pregnancy in the antenatal period and continue throughout labour and the third stage.
- Offer each pregnant woman/person an individualised assessment of their risk of postpartum haemorrhage and explain that multiple pregnancy is a risk factor for increased blood loss at birth.
- By 28 weeks of pregnancy, discuss options for managing the third stage of labour with pregnant women/people with a twin or triplet pregnancy.
- Do not offer physiological management of the third stage to pregnant women/people with a twin or triplet pregnancy.
- Offer pregnant women/people 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.
- Consider active management of the third stage with additional uterotonics for pregnant women/people who have 1 or more risk factors (in addition to a twin or triplet pregnancy) for postpartum haemorrhage.
- By 28 weeks of pregnancy, discuss with women/people who have a twin or triplet pregnancy the potential need for blood transfusion, including the need for intravenous access. Document this discussion in their notes.

13.0 Mode of birth

Explain to pregnant women/people with an **uncomplicated twin pregnancy** planning their mode of birth, that giving birth after 32 weeks:

- 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.

- More than a third of pregnant women/people who plan a vaginal birth go on to have a caesarean section.
- Almost all pregnant women/people who plan a caesarean section do have one, but a few will have a vaginal birth before caesarean section can be carried out.
- A small number of pregnant women/people who plan a vaginal birth will need an emergency caesarean section to deliver the second twin after vaginal birth of the first twin.

Offer a caesarean section to pregnant women/people 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 birth or
- If they are 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).

Offer a caesarean section to pregnant women/people with a **triplet pregnancy**:

- At the time of planned birth (35 weeks) or
- After any complication is diagnosed in their pregnancy requiring earlier birth or
- If they are in established preterm labour, and gestational age suggests there is a reasonable chance of survival of the babies.

14.0 Unscheduled attendances to the maternity unit including threatened preterm labour

- All pregnant women/people with multiple pregnancies who attended the unit outside of scheduled appointments should be assessed promptly by a senior obstetrician.
- A clear plan should be documented for monitoring in labour, mode of birth and when referral is required, particularly in extremely preterm labour.
- There should be senior review at least daily.
- Where necessary ensure prompt review by senior neonatologist.
- All clinical staff working within a maternity triage or emergency assessment area should be aware of the pathophysiology and warning signs of extreme preterm birth and of twin-to-twin transfusion syndrome (see section 10.0 Twin to Twin Transfusion).
- Consider reduced fetal movements in a twin pregnancy as a ‘red-flag warning sign’ of TTTS, in addition to rapid maternal abdominal distension, abdominal pain, and acute dyspnoea (MBRRACE-UK 2021)
- Consideration of corticosteroids and magnesium sulphate should be made in line with CG20013 Preterm birth risk pathway.

15.0 Labour and birth

- All pregnant women/people with a multiple pregnancy should be advised to give birth on the Labour Ward.

- They should be assessed promptly by a senior obstetrician on admission.
- Ensure accurate estimation of gestational age when a pregnant woman/person presents with threatened or established extreme preterm labour. This enables the correct risk assessment for potential neonatal survival, and therefore directs the optimal multidisciplinary care bundle.
- Intrapartum care should be provided by a multidisciplinary team of obstetricians and midwives who have experience and knowledge of multiple pregnancies.
- A partogram should be started and completed for all pregnant women/people with multiple births who are in labour.
- Offer caesarean section to pregnant women/people if the first twin is not cephalic at the time of planned birth.
- Offer caesarean section to pregnant women/people in established preterm labour between 26 and 32 weeks if the first twin is not cephalic.
- Offer an individualised assessment of mode of birth to pregnant women/people in suspected, diagnosed or established preterm labour before 26 weeks. Take into account the risks of caesarean section and the chance of survival of the babies.
- Where birth is anticipated between 22+0 and 26+6 weeks ensure prompt discussions between the parents, obstetric and neonatal teams to guide whether active resuscitation or palliative care should be undertaken. Care of the pregnant woman/person and their baby/babies should reflect their wishes and values and those of their partner, informed and supported by joint discussion with obstetric and neonatal professionals.
- Conversations with parents must be clearly documented and agreed management plans carefully and clearly communicated between professionals and staff shifts.
- The decisions on management should be regularly reviewed before and after birth in conjunction with the parents and the plans reconsidered if the risk for the baby/babies changes or if parental wishes change. Redirection of care, in the best interests of the baby, should be discussed with the parents if deterioration occurs despite maximum intensive care.
- Following spontaneous birth of Twin 1 at less than 24 weeks consider delaying the birth of the surviving second twin, if there are no contraindications such as infection, fetal compromise, bleeding or coagulopathy.
- Counsel parents prior to the birth of Twin 1, regarding the possible option of delayed birth of Twin 2 including the maternal risks as well as the risk of Twin 2 being born at the extremes of prematurity.
- In cases where delayed birth of Twin 2 is an option, manage the pregnancy as high risk in a tertiary centre, with close monitoring for signs of infection, clotting abnormalities and fetal growth (MBRRACE-UK, 2021)
- The on-call obstetric consultant and on-call anaesthetic and paediatric teams should be informed of admission in labour.
- IV access, FBC and Group and Save should be obtained early in labour so that prompt blood transfusion and intravenous fluids can be given if needed.

15.1 Fetal monitoring in labour

- 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.
- For pregnant women/people between 23+0 and 25+6 weeks of pregnancy who are in established labour, involve a senior obstetrician in discussions with the pregnant woman/person and their family members or carers about how to monitor the fetal heart rates.
- Offer continuous CTG to pregnant women/people with a twin pregnancy who are in established labour and are more than 26 weeks pregnant. Intermittent auscultation should not be offered. Ensure:
    - A dual channel CTG monitor is used to allow simultaneous monitoring of both fetal hearts.
    - Document on the CTG and in the clinical records which CTG trace belongs to which baby.
    - Monitor the maternal pulse electronically and display it simultaneously on the same CTG trace.
    - Consider separating the fetal heart rates by 20 beats/minute if there is difficulty differentiating between them.
    - Consider fetal scalp electrode on first twin once membranes have been ruptured.

15.1.1 Review of CTGs

Classify and interpret cardiotocography in line with Fetal Monitoring Guideline taking into account that:

- Twin pregnancy should be considered a fetal clinical risk factor when classifying a CTG trace as ‘abnormal’ versus ‘non-reassuring’.
- Fetal scalp stimulation should not be performed in twin pregnancy to gain reassurance after a CTG trace that is categorised as ‘pathological’.
- Carry out systematic assessments of both CTGs at least hourly, and more frequently if there are concerns.
    - Document which CTG trace belongs to which baby.
    - Be aware of the possibility of monitoring the same baby twice. At each CTG review, ensure that twin synchronicity is not occurring.

15.1.2 Management based on CTGs in twin pregnancies

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.

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.

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 pregnant women/people and their 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. They should be made aware that if a blood sample cannot be obtained then they are likely to need a caesarean section.
- If the results of fetal blood sampling are not available within 20 minutes or fetal blood sampling is contraindicated, offer an immediate caesarean.

If the CTG 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.

If the CTG 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 pregnant woman/person and their family members or carers.

Acute TTTS can occur in labour in MCDA twins; therefore a low threshold for CS is advisable if any CTG abnormalities occur.

15.2 Analgesia

Choice of analgesia should be discussed with the pregnant woman/person and taking note of their preference and should have been discussed antenatally at 28weeks.

15.3 Second stage

- The anaesthetist, theatre team and labour ward coordinator should be informed when the pregnant woman/person reaches second stage.
- Second stage events must be clearly documented by the clinician leading the birth.
- The first twin may be delivered by a midwife, as for singleton birth, with the obstetric registrar / consultant present in the room.

- Syntocinon infusion (refer to Induction of Labour Guideline) should be ready for possible uterine inertia following birth of the first twin.

15.4 Birth of second twin

- Active management of the birth of twin 2 has been reported as the major factor in reducing morbidity and the need for caesarean section. There is no definite evidence about safe interval between the birth of first and second twins when there is no suspected fetal compromise; but there are reports of an increase in poor outcome for the second twin if delayed beyond 45 minutes.
- Continuous electronic fetal monitoring should be continued and if there is 'suspicious' or 'pathological' CTG trace, and vaginal birth cannot be achieved within 20 minutes, discuss performing a caesarean section with the pregnant woman/person and their family members or carers.
- After birth of the first twin, a longitudinal lie should be maintained in the second twin by holding the abdomen until the presenting part is fixed in the pelvis.
- The lie of the second twin should be assessed, by a senior experienced practitioner, using abdominal palpation, vaginal examination if necessary and/or a portable scan.
- If not longitudinal, the lie should be corrected either by **external cephalic version** or by **internal podalic version**. Both of these manoeuvres are more successful with epidural analgesia.
- Should birth not be imminent after 30 minutes, consider transferring the pregnant woman/person to theatre to avoid unnecessary delay of twin 2.
- **A Syntocinon infusion** can be used to augment uterine activity once the lie is longitudinal if contractions are inadequate. This infusion should be made up and ready to administer required in the room.
- Syntocinon should only be used if clinically indicated and not as a routine procedure (MBRRACE-UK, 2021).
- When longitudinal lie and regular contractions have been established, pushing should be recommenced when the presenting part is visible or there is an urge to push**.**
- Artificial rupture of membranes should be performed only when the presenting part is fixed in the pelvis.
- If breech presentation – birth should be by a practitioner competent in breech births/obstetric registrar. The obstetric consultant should be informed or present.

15.5 Third stage

- Active management of third stage should be strongly advised.
- Syntocinon infusion 40 units in 500ml 0.9%NaCl is recommended following birth of the second twin, to be infused over 4 hours at 125mls/hr, to prevent uterine atony.
- Delayed/ deferred cord clamping is recommended by 1-3 minutes after birth to allow placental transfusion, unless the need for neonatal resuscitation is recognised. The timing of cord clamping does not appear to have a major impact on blood loss at the time of birth. Ensure that the cords are clearly differentiated,

for example one clamp at the cut end of the cord for twin 1 and two clamps for twin 2.

- Consider double clamping the cord to allow umbilical cord blood gases to be sampled. Ensure that blood gas samples are correctly labelled for each baby.

15.6 Anticipation and prevention of infant hypoglycaemia

Neonatal Hypoglycaemia should be considered to establish risk factors for the babies in line with Guideline for Neonatal Hypoglycaemia Including Reluctant Feeder.

16.0 Postnatal care: special considerations where one, both or all babies have died.

- If there has been a fetal loss of either or both twins or all triplets the Bereavement Care Pathway should be followed as well as routine postnatal care (as appropriate) and referral made to Birth Afterthoughts if wanted - CG1120 Intrauterine death guideline
- For placental histology, ensure the pathologist is provided with a complete clinical history when requesting post-mortem or placental examination. In cases of twin pregnancy, this should be clearly indicated on the request, including chorionicity and details of the other twin should the examination be requested separately or if there is a surviving sibling.
- Discussion regarding placental examination should be fully documented.
- If one twin survives, ensure community midwives visiting in the community are aware of the stillbirth or NND of the other twin.
- If indicated a six week follow-up an Obstetric Consultant appointment should be made to discuss events and future pregnancies. This should be made a joint Obstetric and Neonatal appointment if needed. (MBRRACE-UK, 2021).

17.0 Audit

Reasons for not adhering to this guideline must be documented in the patient's notes

- Pregnant women/people with a multiple pregnancy have the chorionicity and amnionicity of their pregnancy determined using ultrasound and recorded between 11+2 weeks and 14+1 weeks.
- Pregnant women/people with a multiple pregnancy have their fetuses labelled using ultrasound and recorded between 11+2 weeks and 14+1 weeks.
- Pregnant women/people with a multiple pregnancy are cared for by a multidisciplinary core team.
- Pregnant women/people with a multiple pregnancy have a care plan that specifies the timing of appointments with the multidisciplinary core team appropriate for the chorionicity and amnionicity of their pregnancy.
- Pregnant women/people with a multiple pregnancy are monitored for fetal complications according to the chorionicity and amnionicity of their pregnancy.
- Pregnant women/people with a higher-risk or complicated multiple pregnancy have a consultant from a tertiary level fetal medicine centre involved in their care.
- Pregnant women/people with a multiple pregnancy have a discussion by 24 weeks with one or more members of the multidisciplinary core team about the risks, signs and symptoms of preterm labour and possible outcomes of preterm birth.
- Pregnant women/people with a multiple pregnancy have a discussion by 28 weeks with one or more members of the multidisciplinary core team about the timing of birth and possible modes of birth so that a birth plan can be agreed.

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TOG – Controversy in multiple pregnancy.

Appendix 1: Schedule of appointments for monochorionic diamniotic twins

- **11 antenatal appointments** scheduled with a healthcare professional from the **core team.**
- **At least** 2 **of these appointments should be with the** specialist obstetrician**.**

11^{+2} – 14^{+1} weeks	• Scan • Determine chorionicity. • Appointment with professional from Core Team. • Screening information given. • Consider iron supplementation. • Commence on aspirin if high risk of hypertension.
16 weeks	• Scan • Appointment with Fetal Medicine Consultant. • General and specific risks for this pregnancy discussed including 'red flag' TTTS signs. MBRRACE-UK 2021
18 weeks	• Scan • Appointment with consultant.
20 weeks	• Anomaly scan • Appointment with a member of Core Team. • FBC
22 weeks	• Scan • Appointment with a member of Core Team
24 weeks	• Scan • Appointment with a member of Core Team. • Discuss plan for birth, risks & signs of preterm labour.
26 weeks	• Scan • Appointment with a member of Core Team.
28 weeks	• 28 week scan • FBC • Appointment with a member of Core Team. • Discuss: - Risks & signs of preterm labour - Place and timing of birth - Possible risk of transfer if very preterm - Risk of admission to neonatal unit - Analgesia - Monitoring of fetal hearts
30 weeks	• Scan • Appointment with a member of Core Team.
32 weeks	• Scan • Appointment with a member of Core Team.
34 weeks	• Scan • Appointment with a member of Core Team.
Offer birth at 36 weeks.	

Appendix 2: Schedule of appointments for dichorionic diamniotic twins

- **8 antenatal appointments** scheduled with a healthcare professional from the **core team.**
- At least **2** of these appointments should be with the **specialist obstetrician.**

11^{+2} – 14^{+1} weeks	• Scan • Determine chorionicity. • Appointment with professional from Core Team. • Screening information given. • Consider iron supplementation. • Commence on aspirin if high risk of hypertension.
16 weeks	• Appointment with Consultant. • General and specific risks for this pregnancy discussed. MBRRACE-UK 2021
20 weeks	• Anomaly scan • Appointment with a member of Core Team. • FBC
24 weeks	• Scan • Appointment with a member of Core Team. • Discuss plan for birth, risks & signs of preterm labour.
28 weeks	• Scan • FBC • Appointment with a member of Core Team. • Discuss: - Risks & signs of preterm labour - Place and timing of birth - Possible risk of transfer if very preterm - Risk of admission to neonatal unit - Analgesia in labour and with caesarean section - Intrapartum monitoring of fetal hearts.
32 weeks	• Scan • Appointment with a member of Core Team.
34 weeks	• Appointment with a member of Core Team.
36 weeks	• Scan • Appointment with a member of Core Team.
Offer birth at 37 weeks.	

Appendix 3: Schedule of appointments for triamniotic triplet pregnancy – trichorionic, dichorionic, monochorionic

- **Antenatal appointments** scheduled with a healthcare professional from the **core team.**
- At least **2** of these appointments should be with the **specialist obstetrician.**

11^{+2} – 14^{+1} weeks	• Scan • Determine chorionicity. • Appointment with professional from Core Team. • Screening information given. • Consider iron supplementation. • Commence on aspirin if high risk of hypertension.
16 weeks	• Consultant appointment. • General and specific risks for this pregnancy discussed. MBRRACE-UK 2021
20 weeks	• Anomaly scan • Appointment with a member of Core Team. • FBC
24 weeks	• Scan • Appointment with a member of Core Team. • Discuss plan for birth, risks & signs of preterm labour.
26 weeks	• Scan • Appointment with a member of Core Team.
28 weeks	• Scan • Appointment with a member of Core Team. • FBC • Discuss: - Risks & signs of preterm labour - Place and timing of birth - Possible risk of transfer if very preterm - Risk of admission to neonatal unit - Analgesia with caesarean section - Monitoring of fetal hearts.
30 weeks	• Scan • Appointment with a member of Core Team.
32 weeks	• Scan • Appointment with a member of Core Team.
34 weeks	• Scan • Appointment with a member of Core Team.
• **Offer birth at 35 weeks.**	

Appendix 4: Schedule of appointments for dichorionic triamniotic or monochorionic triamniotic triplet pregnancy

- **11 antenatal appointments** scheduled with a healthcare professional from the **core team.**
- At least **5** of these appointments should be with the **specialist obstetrician.**

11^{+2} – 14^{+1} weeks	• Scan • Determine chorionicity. • Appointment with professional from Core Team. • Screening information given. • Consider iron supplementation. • Commence on aspirin if high risk of hypertension.
16 weeks	• Scan • Consultant appointment. • General and specific risks for this pregnancy discussed. MBRRACE-UK 2021
18 weeks	• Scan • Appointment with a member of Core Team.
20 weeks	• Anomaly scan • Appointment with a member of Core Team. • FBC
22 weeks	• Scan • Appointment with a member of Core Team.
24 weeks	• Scan • Appointment with a member of Core Team. • Discuss plan for birth, risks & signs of preterm labour.
26 weeks	• Scan • Appointment with a member of Core Team.
28 weeks	• Scan • Appointment with a member of Core Team. • FBC • Discuss: - Risks & signs of preterm labour - Place and timing of birth - Possible risk of transfer if very preterm - Risk of admission to neonatal unit - Analgesia with caesarean section - Monitoring of fetal hearts.
30 weeks	• Scan • Appointment with a member of Core Team.
32 weeks	• Scan • Appointment with a member of Core Team.
34 weeks	• Scan • Appointment with a member of Core Team.
• **Offer birth at 35 weeks.**	

Appendix 5: Multiple Pregnancy Care Pathway

Please complete or Affix Patient Label Unit No: …… NHS No: …….. Surname …….. Forenames ……..	Western Sussex Hospitals NHS NHS Foundation Trust **Multiple Pregnancy Care Pathway**

Type of multiple pregnancy	**Gravida:** **Parity:**
Dichorionic diamniotic (DCDA) ☐ Monochorionic diamniotic (MCDA) ☐ Monochorionic monoamniotic (MCMA) ☐ **Multiple Pregnancy leaflet given** ☐ **Higher order multiples (specify):**	**EDD:** **Previous LSCS:** Yes No **Named Consultant:**

Any medical / obstetric risk factors / complications in this pregnancy? Yes / No
If yes, give details:

PROPOSED ANTENATAL MANAGEMENT PLAN	
Booked for Consultant-led care ☐	
DCDA: from 24 weeks at least every 28 days.	**Scans booked** ☐
MCDA: from 16 weeks at least every 14 days.	**Scans booked** ☐
MCMA: from 16 weeks at least every 14 days / Fetal Medicine Consultant plan	**Scans booked** ☐
TCTA: from 24 weeks at least every 14 days / Fetal medicine Consultant plan	**Scans booked** ☐
MCTA: from 16 weeks at least every 14 days / Fetal medicine Consultant plan	**Scans booked** ☐
Antenatal clinic appointments schedule	
Anaesthetic referral required	☐ **Date of appt:**
Tertiary Unit referral required	☐ **Date of appt:**
Offered twin antenatal class ☐	
PROPOSED LABOUR MANAGEMENT	
Agreed mode of birth: Vaginal ☐ Caesarean ☐	
IOL Date:	**Elective CS Date:**
(DCDA: aim for 37/40, MCDA: aim for 36/40, MCMA: deliver between 32+0 - 33+6/40. Triplets aim for 35/40)	
Agreed place of birth:	
Fetal monitoring:	
Preferred pain relief:	
Date plan made:	**Name, GMC no. and signature of Consultant:**

Information for pregnant women/people on the risks and benefits of different modes of birth

Please read this information in conjunction with information on Family Assist on 'Multiple Pregnancy', and discuss any questions you may have with your hospital doctor. From 24-28 weeks your doctor or midwife will begin to discuss your plans and wishes for the birth of your babies.

Discussion Points	Benefits / Risks
Risk of Preterm Birth	• Spontaneous preterm birth (birth before 37 weeks) is associated with an increased risk of admission to a neonatal unit. • About 60 in 100 twin pregnancies result in spontaneous birth before 37 weeks. • 75 in 100 triplet pregnancies result in spontaneous birth before 35 weeks. • Discuss signs and symptoms of preterm labour and to call Triage if any concerns.
Mode of Birth	• Planned vaginal birth for twins and planned caesarean section are both safe choices if your pregnancy is uncomplicated & is more than 32 weeks, the first twin is head down, both babies are growing well and there are no obstetric contraindications to labour. • More than a third of pregnant women/people who plan a vaginal birth go on to have a caesarean section. • Almost all pregnant women/people who plan a caesarean section do have one, but a few will have a vaginal birth before caesarean section can be carried out. • A small number of pregnant women/people who plan a vaginal birth will need an emergency caesarean section to deliver the second twin after vaginal birth of the first twin.
Vaginal Birth	• Lower risk of postpartum haemorrhage (PPH), infection and blood clots (VTE) if successful. • Less post-birth pain, improved recovery. • Lower risk of breathing problems (RDS) for the baby. • Risk of emergency caesarean section.
Elective Caesarean Section	• Avoid the risks of emergency caesarean section. • Higher risk of PPH, infection, VTE than vaginal birth. • Risk of injury to adjacent organs (bladder etc). • Increased risk of RDS for the baby. • Delayed recovery.
Labour Information	• Need for intravenous access, bloods (FBC and G+S) in early labour. • Need for continuous monitoring (CTG) of both twins -including FSE and benefits and risks of CTG. • Consider epidural for pain relief and enables quicker birth if ventouse / forceps or emergency caesarean section is needed.
2nd stage	• Possibility of needing syntocinon infusion for uterine inertia following birth of twin 1. • Possibility of caesarean for twin 2 birth (rare). • Scan for twin 2. • Stabilising lie following birth of twin 1. • Personnel required for the birth- Obstetrician, Midwives, Paediatricians.
3rd Stage	• Active management followed by syntocinon infusion after birth of babies is associated with a lower risk of postpartum haemorrhage and/or blood transfusion. • The potential need for blood transfusion, including the need for intravenous access to manage postpartum hemorrhage.
Please record changes to proposed labour management plan or any further information here: **Date:** **Name, signature and GMC no.**	

Appendix 6: Points of discussion at 28 week appointment

The following can be copy and pasted with non-relevant parts deleted by the obstetrician as appropriate into consultation on the woman's Medway:

Twins

Preterm birth affects 60 in 100 of twin pregnancy (SCBU > 32 weeks and >1.5kg, aim for transfer in utero if presents in preterm labour, usually to Brighton).

Signs and symptoms of preterm labour and when to call Triage.

Increased risk of pre-eclampsia (BP & urine each apt) therefore advice to take Aspirin 150mg at night, after food, until 36 weeks.

Increased risk of postpartum haemorrhage – advise active 3rd stage and Syntocinon infusion.

Increased risk of anaemia - PREGADAY commenced today (aware risk of constipation and stool colour change).

Birth discussed, vaginal birth not recommended if twin 1 is anything other than cephalic. Epidural available if wishes, may make manipulation of twin 2 less uncomfortable, enables quicker birth if, instrumental birth or emergency LSCS needed.

Potential for vaginal birth / LSCS if concerns with twin 2 (affects 10% twin sets).

Delayed cord clamping routine if twins in good condition, as is skin to skin for both.

Colostrum harvesting recommended from 36 weeks onwards.

DCDA only

USS 4 weekly from 20 weeks.

DCDA aim for birth at 37 weeks.

MCDA only

USS – 2 weekly from diagnosis.
Twin to twin transfusion syndrome discussed - 10% of MCDA pairs, most commonly occurs at 17 - 24 weeks, referred up to St Georges, option for laser ablation at stage 3 and above (33% 2 twin survival / 33% 1 twin survival / 33% no survival).

Symptoms:
Sudden abdominal distension, abdominal pain, breathlessness, inability to lie on back, reduced fetal movements.

Aim to deliver at 36 weeks.

Mode of birth

Vaginal birth

Benefits: Less bleeding, less infection, reduced risk of breathing difficulty in baby (TTN/RDS), protects uterus for future pregnancy, less pain after birth, can have epidural if wishes.

Risks: Unpredictable, induction can be a lengthy process and may not work, does not remove risk of emergency Caesarean for either twin (10% will have SVD/LSCS).

Method: Continuous monitoring of both fetal hearts (may need scalp electrode), after birth of twin 1, twin 2 will be manually held in longitudinal lie, may need ECV, will have USS to confirm presentation, will have Synto infusion for uterine inertia if needed, heart monitoring of twin 2.

Caesarean section

Benefits: Planned procedure, no pain during procedure, removes risk of twin 1 SVD / twin 2 LSCS.

Risks: Bleeding, infection, include injury to bladder / vessels / bowel / ureters/ fetal injury. TTN and admission to SCBU (will be given corticosteroids to reduce risk), more pain following birth, may labour prior to date, permanent scar to uterus. Higher risk of VTE.

Induction

Benefits: Reduces risk of stillbirth, encourages vaginal birth.

Risks: Prolonged procedure, increased risk of emergency Caesarean compared with spontaneous onset of labour.

Method: Ripen cervix, then ARM & Syntocinon drip.

Appendix 7: Placental Histology

Stop! Does this placenta need to be sent for histology?

- ☐ **Admission to NICU (>37/40) for >4hours**
- ☐ **Apgar <7 at 5 minutes**
- ☐ **Cord pH <7.0**
- ☐ **Prematurity <34/40**
- ☐ **IUGR <3rd centile (on GROW)**
- ☐ **Suspected chorioamnionitis (pyrexia ≥38◦C) – send swab to microbiology as well.**
- ☐ **Placental abruption**
- ☐ **Morbidly adherent placenta (not other MROP)**
- ☐ **Abnormal appearance of placenta eg tumour**

If yes to any of the above:

1. In a well ventilated area, select a large specimen container (bucket) and ensure the lid fits tightly.
2. Put the placenta in the bucket.
3. Pour formalin (10% formal saline) over it, covering it to **about five times** the volume of the placenta.
4. Put the lid on.
5. Label the bucket **only** (not lid) with:
    a. The patient's name and date of birth and hospital number.
    b. The nature of **specimen** – placenta.
    c. The ward – labour ward.
    d. Date of specimen.
    e. Securely attach the specimen form - PLACENTAL HISTOLOLOGY REQUEST FORM – to be completed by doctor or midwife.

- ☐ **Stillbirth or early neonatal death**
- ☐ **MTOP (if requested by screening)**

In cases of Stillbirth or early neonatal death or MTOP:

7. Keep the placenta in a pot but do not add formalin until you have confirmed that the placenta is to be sent for histology.
8. Remember that a live born baby at any gestation, who then dies, may require a Coroner's PM, so do not add formalin to the placenta, even if the parents do not request a PM, until this has been discussed with the Coroner.
9. **The placenta must be refrigerated in these cases.**

Appendix 8: Pathology Request Form – Multiple Pregnancies

UHSUSSEX (SRH &WH) PLACENTAL HISTOLOGY REQUEST FORM – Multiple Pregnancy

THIS FORM *MUST* BE SENT WITH THE PLACENTA FROM A BABY/BABIES

Named Consultant Obstetrician:

Referring Hospital: **Ward:**

(Use Mother's full addressograph label if available)
Mother's case number: **Mother's DOB:**
Mother's name: **Mother's ethnicity:**
Mother's address:

Post code

Doctor completing this form (+ bleep number):

Father's name (if known) **Consanguinity:** yes/no
Father's ethnicity (if known) **Congenital anomalies in the family:**
Father's Age (if known)

MOTHER'S MEDICAL DETAILS

Past Obstetric History: Gravida……..Parity (prior to this birth)……

Previous deliveries:

Year:	Gestation:	Weight:	Mode of Birth:	Sex:	Outcome:
……					
……					
……					
……					

Medical, drug and family history:

ANTENATAL DETAILS

LMP …… EDD BY DATES…… EDD BY USS ……

MCDA Twins ☐ DCDA Twins ☐ MCMA Twins ☐ TA or MA Triplets ☐ MA Twins or Triplets ☐

Gestation AT BIRTH:

Details of other twin/triplets:

CHECKLIST OF SPECIFIC PREGNANCY COMPLICATIONS:

Threatened miscarriage	Yes / No	Retroplacental Clot	Yes / No
Down Syndrome screen	Yes / No	Maternal drugs	Yes / No
Abnormal liquor volume	Yes / No	Maternal diabetes	Yes / No
IUGR	Yes / No	Maternal hypertension	Yes / No
Antepartum Haemorrhage	Yes / No	Maternal smoking	Yes / No
Pyrexia/increased WCC/raised CRP	Yes / No	Maternal alcohol	Yes / No
HIV Infection	Yes / No	Maternal Proteinuria/Oedema	Yes / No
Torch Infections	Yes / No	Syphilis Infection	Yes / No
If "yes" specify:		**If "yes" specify:**	

ANTENATAL COURSE (including relevant findings from 1st trimester screening, ultrasound scans with growth discrepancy detailed, specialist treatment eg laser ablation antenatal assessment or indication for interruption of pregnancy/induction of labour)

Karyotyping done? No / CVS / Amnio / FBS. Indication and result –

LABOUR

Onset: spontaneous / induced

Augmented? If so how?

Membrane rupture: Spontaneous / artificial. Date and Time ……..……

Presentation: Cephalic / Breech / Transverse / Complex

Duration: 1st stage - …….. 2nd stage - …….. 3rd stage - ……..

Birth of baby 1: Spontaneous / Instrumental / Caesarean section
Indicate relevant complications (e.g. fetal distress, haemorrhage, meconium, sepsis etc.)

Birth of baby 2: Spontaneous / Instrumental / Caesarean section
Indicate relevant complications (e.g. fetal distress, haemorrhage, meconium, sepsis etc.)

Birth of baby 3: Spontaneous / Instrumental / Caesarean section
Indicate relevant complications (e.g. fetal distress, haemorrhage, meconium, sepsis etc.)

Delivery of placenta: Spontaneous / Manual after retention / At caesarean section

BABY 1 DETAILS

Name: **Twin 1 / Twin 2 / Triplet 1 / Triplet 2 / Triplet 3** (circle relevant one)
Hospital Number (if applicable):

Date of Birth:

Birth weight: **Sex:**

Was resuscitation required? Yes / No
Details:

Summary of clinical course after initial resuscitation:

Ventilation	Yes / No	Type
Suspected infection?	Yes / No	Details
Antibiotic therapy?	Yes / No	Details
Brain USS	Yes / No	Details
Fits?		Details
Episodes of collapse?		Details

Pneumothoraces?		Details
Feeding:	Enteral/TPN	
Other information:		

Clinical diagnosis:

Specific questions to be answered:

BABY 2 DETAILS

Name: **Twin 1 / Twin 2 / Triplet 1 / Triplet 2 / Triplet 3** (circle relevant one)
Hospital Number (if applicable):

Date of Birth:

Birth weight: **Sex:**

Was resuscitation required? Yes / No
Details:

Summary of clinical course after initial resuscitation:

Ventilation	Yes / No	Type
Suspected infection?	Yes / No	Details
Antibiotic therapy?	Yes / No	Details
Brain USS	Yes / No	Details
Fits?		Details
Episodes of collapse?		Details
Pneumothoraces?		Details
Feeding:	Enteral/TPN	
Other information:		

Clinical diagnosis:

Specific questions to be answered:

BABY 3 DETAILS

Name: **Twin 1 / Twin 2 / Triplet 1 / Triplet 2 / Triplet 3** (circle relevant one)
Hospital Number (if applicable):

Date of Birth:

Birth weight: **Sex:**

Was resuscitation required? Yes / No
Details:

Summary of clinical course after initial resuscitation:

Ventilation	Yes / No	Type
Suspected infection?	Yes / No	Details
Antibiotic therapy?	Yes / No	Details
Brain USS	Yes / No	Details

Fits?		Details
Episodes of collapse?		Details
Pneumothoraces?		Details
Feeding:	Enteral/TPN	
Other information:		

Clinical diagnosis:

Specific questions to be answered: