Frimley Health NHS Foundation Trust

Management of Multiple Pregnancy

Key Points

- Multiple pregnancy is a high risk pregnancy warranting care under named consultant-led antenatal clinic
- It is crucial to determine chorionicity as it will inform further schedule of care. Therefore, early diagnosis and referral is imperative.
- Multiple pregnancy is a moderate risk factor for hypertensive disorders in pregnancy, anaemia and deep vein thrombosis - and need to be considered in risk assessment of these conditions.
- Multiple pregnancy is significant risk factor for fetal growth restriction and pre-term delivery (both spontaneous and iatrogenic) - due consideration in risk assessment is vital.
- Align USS and antenatal clinic appointments to reduce unnecessary visits
- Discussion regarding delivery (especially place, timing, mode and intrapartum care) should be had with woman/couple by 28 weeks and plan documented in her hand-held maternity notes.

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Abbreviations

DCDA	dichorionic diamniotic twin pregnancy
DVP	deepest vertical pool of amniotic fluid – measured either side of visible membrane
FASP	NHS Fetal Anomaly Screening Programme
FFTS	feto fetal transfusion syndrome
MCA-PSV	Doppler assessment of middle cerebral artery and peak systolic velocity
MCDA	Monochorionic diamniotic twin pregnancy
NIPT	Non-Invasive Prenatal Testing
TAPS	twin anaemia/polycythaemia sequence

Contents

1. INTRODUCTION

Though there has been nearly 50% fall in twin stillbirth rates from 11 to 6/1000 total births between 2013 and 2016, neonatal deaths have reduced by only a third during same period. This compares to 3.3/100 stillbirths for singleton pregnancy in 2016.

2. GESTATIONAL AGE, CHORIONICITY AND AMNIONICITY

- Determine and document chorionicity and amnionicity at the time of detecting a twin or triplet pregnancy by ultrasound.
- Assign nomenclature to babies (for example, upper and lower, or left and right) in a twin or triplet pregnancy, and document this clearly in the woman's notes to ensure consistency throughout pregnancy.
- Estimate gestational age from the largest baby in a twin or triplet pregnancy to avoid the risk of estimating it from a baby with early growth pathology.
- If it is not possible to determine chorionicity or amnionicity by ultrasound at the time of detecting the twin or triplet pregnancy, seek second opinion from either senior obstetrician or fetal medicine specialist.
- If it is difficult to determine chorionicity, even after referral (for example, because the woman has booked late in pregnancy), manage the pregnancy as a monochorionic pregnancy until proved otherwise.

3. GENERAL CARE

- Signpost women to the RCOG Multiple Pregnancy patient information leaflet https://www.rcog.org.uk/en/patients/patient-leaflets/multiple-pregnancy-having-more-than-one-baby/
- Give women with a twin or triplet pregnancy the same advice about diet, lifestyle and nutritional supplements as in routine antenatal care.
- Advise women with a twin or triplet pregnancy to take 150 mg PO aspirin[1] daily at night from 12 weeks until the birth of the babies if they have an additional moderate risk factor for pre-eclampsia as in Hypertensive disorders in Pregnancy Guideline.
- Perform an additional full blood count at 20 to 24 weeks to identify women with a twin or triplet pregnancy who need early supplementation with iron or folic acid.

4. PROVISION OF ANTENATAL CARE

- Antenatal care to women with multiple pregnancy should be delivered by consultant led team with experience and knowledge of managing twin and triplet pregnancies,
- Care pathway to refer women for additional dietary, physiotherapy, mental health and infant feeding support should be in place.
- Provide ongoing opportunities for further discussion and advice including: antenatal and postnatal mental health, the risks, symptoms and signs of preterm labour, likely timing and mode of delivery and breastfeeding (see Appendix 2).
- A bedside ultrasound scan should be performed by an obstetrician ST 3 or above when presenting to the maternity unit with reduced fetal movements or suspected preterm labour to confirm which twin is which, the presentation of each twin, and to locate the fetal heart beats. A CTG should be performed for both twins after 26 weeks gestation.

5. SCREENING FOR CHROMOSOMAL CONDITIONS (Downs, Patau and Edwards Syndrome)

- The test of choice for twin pregnancies is first trimester combined screening.
- Offer combined test between 11^{+2} weeks to 14^{+1} weeks when the CRL (Crown Rump Length) measures from 45.0mm to 84.0mm. The scan serves to establish gestational age, confirm amnionicity/chorionicity, measure NT (Nuchal Translucency) and look for major congenital malformations, e.g., anencephaly.
- Where a dichorionic twin pregnancy is identified, the chances will be reported for each fetus. In a monochorionic twin pregnancy, both fetuses are either affected or unaffected so the chance will be the same and a single 'pregnancy' chance will be reported.
- Quadruple screening in twin pregnancies can be offered to women who present for the first time in the second trimester or where the NT could not be measured in the first trimester.
- The term chance cut-off of 1 in 150 is applied. Women with high risk are offered Non-Invasive Prenatal Testing (NIPT)

6. SCREENING FOR STRUCTURAL ABNORMALITIES (18+0 TO 20+6 WEEKS)

- Offer screening for structural abnormalities (such as cardiac abnormalities) in twin and triplet pregnancies as in routine antenatal care.

7. ANTENATAL APPOINTMENTS

Please follow Minimum Schedule of Care for Multiple Pregnancy (Appendix 1).

8. SCHEDULE OF ULTRASOUND SCANS

Follow attached minimum schedule of care for multiple pregnancy (Appendix 1).
Do not perform fundal heigh measurement for those women.
DCDA Twins: Offer 4 weekly scans: **You should plot the EFW of individual baby on GROW chart.**
MCDA Twins: Offer 2 weekly scans. **You should plot the EFW of individual baby on GROW chart.**

GROW 2.0 Training Meeting Recording 1.mp4

9. PRETERM BIRTH

Explain higher risk of preterm birth in multiple 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: a) Arabin pessary b) bed rest c) cervical cerclage or d) oral tocolytics.

- Do not use single or multiple untargeted (routine) courses of **corticosteroids** in twin or triplet pregnancy. Inform women that there is no benefit in using untargeted administration of corticosteroids.

10. INDICATIONS FOR REFERRAL TO FETAL MEDICINE CONSULTANT AND FURTHER REFERRAL TO TERTIARY CENTRE

Please see attached minimum schedule of Care for multiple pregnancy **under subsection of actions (in Appendix 1)**.

11. PLANNING BIRTH

Discuss latest by 28 weeks:

a) place of birth including transfer in case of preterm birth
b) possible timing and mode of birth
c) intrapartum fetal monitoring plus analgesia
d) offer active management of third stage of labour

11.1 Timing and Mode of Delivery

DCDA: Uncomplicated DCDA Twins: Offer delivery 37-37+6 weeks**:** Offer vaginal birth if meets criteria.

MCDA: Uncomplicated MCDA Twins: Offer delivery 36-36+6 weeks**: vaginal birth carries additional risks in MCDA twins**. Though RCOG guidelines allow vaginal birth in uncomplicated MCDA twins **and** criteria for vaginal birth met, inform the woman of a small risk of acute feto-fetal transfusional event in labour. If unsuitable for vaginal birth or declines vaginal birth, deliver by elective C/S + steroid course.

Triplets: Uncomplicated Triplets: Offer elective C/S 35-35+6 weeks + Steroid course.

MCMA: Uncomplicated MCMA: Offer elective C/S from 32-34 weeks + Steroid course.

Complicated Twin or Triplet: Individualised assessment by Fetal Medicine Consultant to decide on timing of elective C/S + Steroid course

For Any Multiple pregnancy, if the woman declines planned delivery, explore reasons, explain stillbirth risk and offer weekly appointment with an 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.

Before elective CS for any multiple pregnancy, scan for presentation and fetal heart rate for each baby and document both in maternity hand-held notes.

11.2 Requisites for Vaginal Birth

- The pregnancy remains uncomplicated and has progressed beyond 32 weeks. Vaginal birth could be considered before 32 weeks at discretion of consultant obstetrician and in partnership with woman/couple motivated for vaginal birth.
- there are no obstetric contraindications to labour.
- the first baby is in a cephalic (head-first) presentation.
- there is less than 20% size discordance between the twins.

11.3 Management of Labour

The Labour Ward co-ordinator, on call obstetric registrar and tier 3 obstetrician, neonatal registrar and anaesthetist should be informed of the woman's admission.

On admission, the woman should be reviewed by an obstetrician and cephalic presentation of the leading twin confirmed.

- Site 16G IV access
- Bloods for FBC and group and save
- Cross match two units of blood if Hb <100d/L
- Recommend continuous electronic fetal monitoring of both twins in labour. If abdominal monitoring is unsuccessful, there are concerns about synchronicity of the fetal hearts or if CTG is suspicious, 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.
- Offer an epidural to women with a twin or triplet pregnancy who choose to have a vaginal birth
- Omeprazole 40mg 12 hourly should be given as prophylaxis against gastric acid aspiration.

Equipment

The delivery room should be prepared for twin delivery:

- Delivery bed with facility for lithotomy stirrups
- Instrumental delivery trolley with additional cord clamps (x6) and Amnihook
- Twin CTG monitor
- Ultrasound scanner available in second stage
- 2 resuscitaires
- 2 newborn cots
- Syringe pump
- Amnihook to be ready
- Braun pump
- Oxytocin as per induction of labour guideline for possible augmentation in second stage. If used, this can be started at 4-6 mls/hr
- Syntometrine 1ml IM (or oxytocin 10 units IM if Syntometrine contra-indicated)
- Oxytocin 40 units in 500 ml normal saline for post-partum use. This should be kept outside the room until delivery of the 2nd twin.

Second stage of labour

- Inform Labour Ward Co-ordinator, obstetric registrar and anaesthetist. A second midwife is required to assist at the birth.
- Management of the second stage of labour for the first twin is the same as for a singleton birth. If both ***dichorionic*** twins are cephalic, they can be delivered by the midwife giving care; however, an obstetrician should be present in the room.
- Monochorionic twins should be delivered by an obstetrician.
- Syntometrine should not be given until the delivery of the second twin.
- For dichorionic twins, 1-2 minutes deferred cord clamping for both twins should be offered. For monochorionic twins, immediate cord clamping should be performed after delivery of first twin.

Delivery of Twin 2

- The midwife or obstetrician should immediately palpate the lie of twin 2 and ensure it is longitudinal, stabilising as necessary. This might require temporary cessation of any oxytocin infusion.
- Ultrasound should be available, if required, to assess the presentation of twin 2, who should be monitored by continuous electronic fetal monitoring.

- It is common for the second twin to remain high until contractions re-establish. Provided the FHR is normal, and the baby is in a longitudinal lie with intact membranes, no action is required. In the event of an abnormal CTG or placental abruption, delivery of the second twin should be affected swiftly by ventouse, forceps or Category 1 LSCS. A malpresentation should be managed according to the experience of the most senior obstetrician available and might include internal podalic version, external cephalic version or rarely Cat 1 LSCS in the event of uncorrectable transverse lie or prolapsed arm.
- Acidosis in the second twin is more likely where the inter-twin interval is greater than 60 minutes and delays beyond this appears to be an independent risk factor for adverse short-term outcome of the second twin. The inter-twin interval for MCDA twins should be restricted to 30 minutes.
- If contractions do not resume within 5 minutes of delivery of twin 1, an oxytocin infusion as per induction of labour guideline should be commenced (or re-started) at 4-6 mls/hour, increasing at 5-10 minute intervals, if necessary, until contractions are 3-4:10. An ARM should be avoided until the presenting part has descended to at least the ischial spines, in order to reduce the risk of cord prolapse.
- If the presenting part does not descend despite good contractions, a Consultant Obstetrician should be called to attend. If there is evidence of fetal compromise, delivery will need to be expedited:

  i) If it is cephalic an ARM can be performed at the peak of a contraction. The ventouse cup should be applied to the flexion point in order to stabilise the head and gentle traction applied to facilitate descent.
  ii) If it is breech, grasp the foot/feet (not a hand!) through the membranes and pull gently to bring the breech to the introitus, before rupturing the membranes and proceed with an assisted breech vaginal delivery.
  iii) In the event of a transverse lie, attempt an internal podalic or external cephalic version to achieve a longitudinal lie, and proceed as above. If unsuccessful, do not rupture the membranes but deliver urgently by category 1 LSCS.

- After delivery of twin 2, apply a double clamp to both the fetal and placental ends of the cord and identify as twin 2. Delayed cord clamping should be facilitated in DCDA twins only and for the second twin in MCDA twins.

- Paired cord blood samples should be obtained from both twins for pH analysis. If monochorionic twins, alert the paediatric team if there is discordance in the fetal haemoglobin results as identified from the Hb on cord blood samples.

<u>Third stage of labour</u>

- Offer active management of third stage of labour. Consider additional uterotonics and Tranexamic acid for women who have 1 or more risk factors (in addition to a twin or triplet pregnancy) for postpartum haemorrhage.
- Give Syntometrine 1 ml IM (or Oxytocin 10 units IM if Syntometrine contra-indicated) after birth of last baby and before the cord is clamped and cut.
- Immediately after the delivery of the placenta(e) and membranes, commence IV infusion of 40 units oxytocin in 500 ml normal saline at 125ml/hour, via a Braun pump, for four hours to reduce the risk of PPH.
- Promptly complete perineal repair if required.
- Inspect the placenta and membranes for completeness and to confirm chorionicity and amnionicity.
- Assess VTE risk and manage accordingly.

APPENDIX 1: MINIMUM SCHEDULE OF CARE FOR MULTIPLE PREGNANCY

Chorionicity (please circle): DCDA MCDA MCMA/Triplets – refer to Fetal Medicine consultant/tertiary Fetal Medicine unit	Addressograph
EDD	

Gestation	**Dichorionic twins**	**Monochorionic twins**
By 10 weeks	Booking appt with midwife	Booking appt with midwife
11+2 – 14+1	Measure CRL Offer NT/Aneuploidy screening Determine chorionicity and map fetal position (e.g., maternal left/right; upper or lower)	
16	**Obstetric ANC**	Scan to exclude FFTS/**Obstetric ANC**
18		Scan to exclude FFTS/TAPS
20- 21	FASP anomaly scan FBC to assess need for iron/folate	FASP anomaly scan/ exclude FFTS FBC to assess need for iron/folate
22-23		Scan to exclude FFTS
24	Growth scan MW - BP and urine check	Growth scan/exclude FFTS and **obstetric ANC** MW – BP and urine check
26		Growth scan exclude FFTS - refer obs team if discordant LV or growth
28	Growth scan/**Obstetric ANC** FBC CMW to discuss birth plan in line with the national schedule for antenatal care	Growth scan/ exclude FFTS CMW to discuss birth plan in line with the national schedule for antenatal care **Obstetric ANC** FBC
30		Growth scan/ exclude FFTS – refer obs team if discordant LV or growth
32	Growth scan/**Obstetric ANC**	Growth scan exclude FFTS /**Obstetric ANC**

34	MW apt – no scan	Growth scan/ exclude FFTS /**Obstetric ANC**
35	Growth scan/**Obstetric ANC**	
36		**Planned delivery**
37	**Planned delivery**	

Actions:
Discuss with Fetal Medicine if:

- Difference between DVP (Deepest Vertical Pool of Amniotic Fluid) of twins > 4cm or more
- Refer to tertiary centre if DVP < 2cm in one sac MCDA twins
- Refer to tertiary centre if DVP > 8cm before 20 weeks MCDA twins
- Refer to tertiary centre if DVP > 10 cm after 20 weeks MCDA twins
- Unexplained isolated polyhydramnios
- Hydrops, cardiomegaly
- Abnormal umbilical artery
- Any MCDA pregnancy affected by FFTS (Feto Fetal Transfusion Syndrome) should be managed by fetal medicine specialist who will consider and arrange assessment for **TAPS (**Twin Anaemia/Polycythaemia sequence)
- Scan frequency from 16 weeks for MCA-PSV (Doppler assessment of middle cerebral artery and peak systolic velocity) if pregnancy affected by FFTS requiring fetoscopic laser therapy or selective fetal growth restriction (EFW discordance 25% or more) to be determined by Fetal Medicine.
- **Tertiary Centres**: St Georges (FPH) and Oxford/King's College (WPH)

Discordant growth calculation:
(EFW larger fetus – EFW smaller fetus) divided by EFW larger fetus x 100 to give percentage

Refer to FETAL MEDICNE Clinic if:

- EFW difference of **25%** or more **or** EFW either baby less than **10th** centile in **DCDA** twins
- EFW difference **20%** or more **or** EFW in either baby less than **10th** centile in **MCDA** twins
- Increase diagnostic monitoring to at least weekly and include Doppler assessment of umbilical artery flow for each baby if discordant growth
- MCMA or higher order multiple pregnancy

APPENDIX 2: ANTENATAL COUNSELLING REGARDING RISKS ASSOCIATED WITH MULTIPLE PREGNANCIES

Counselling regarding risks associated with twin pregnancy

Antenatal	Intrapartum	Postpartum

• Mother:
  ○ Thromboembolism
  ○ Hypertensive disorders (PIH/PET)
  ○ Anaemia
• Baby:
  ○ Fetal growth restriction
  ○ Risk of prematurity (60% deliver before 37 weeks)
  ○ Admission to the NNU
	• Need for FSE
	• Recommendation for epidural analgesia
	• Possible need for second stage of labour in Theatre
	• Need for OVD or CS
		• PPH

PET risk factors: if 2 or more minor OR 1 major - for Aspirin 150mg starting 12/40[5]

VTE risk factors: if 3 - Dalteparin from 28 weeks
if 4 or more - Dalteparin in the 1st trimester[4]

DCDA TWINS SPECIFIC ANTENATAL COUNSELLING

Time of birth (to be discussed by 28 weeks):

Offer planned birth 37-37+6 weeks to women with an uncomplicated dichorionic diamniotic twin pregnancy. Continuing pregnancy after 37+6 wks increases the risk of stillbirth

Mode of birth (to be discussed by 28 weeks)

Vaginal delivery - requisite criteria
- the pregnancy remains uncomplicated and has progressed beyond 32 weeks. Vaginal birth could be considered before 32 weeks at discretion of consultant obstetrician and in partnership with woman/couple motivated for vaginal birth
- there are no obstetric contraindications to labour
- the first baby is in a cephalic (head-first) presentation
- there is less than 20% size discordance between the twins.

ELCS:
ELCS 37-37+6/40 should be offered if criteria for vaginal delivery are not met or of patient does not wish to have vaginal delivery.

If the patient declined planned delivery:

Counselling	Plan
• Explore reasons • Discuss risk of still birth	Weekly appointments with Obstetrician: • USS liquor volume/ umbilical artery Doppler weekly • USS fetal growth every 2 weeks

REFERENCES

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Version Control Sheet

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2.2	July 2022	Haren Thakrar	Interim	Addition of Appendix and amendment, approved at OGCGG July 2022
3.0	August 2023	Miss Petya Doncheva Consultant Obstetrician and Gynaecologist	Final	Full review and update, Ratified at OCG, 27/7/2023

Related Documents

Document Type	Document Name
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