Management of Multiple Pregnancy

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Contents

1. Introduction:

Around 1 in every 63 pregnancies (1-2%) are a multiple pregnancy, most commonly twins. Where pregnancy results following fertility treatment around 11% will be a multiple pregnancy. Multiple pregnancies are more complicated than singletons, with higher rates of miscarriage (2% in DCDA, 7% in MCDA and 21% in MCMA), a one and a half fold increase in stillbirth, and three fold increase in neonatal death.

Chorionicity and amnionicity

DCDA Twins Dichorionic Diamniotic	Both babies have a separate placenta and amniotic sac
MCDA Twins Monochorionic Diamniotic	Babies share a placenta but have separate amniotic sacs
MCMA Twins Monochorionic Monoamniotic	Both babies share a placenta and amniotic sac
TCTA Triplets Trichorionic Triamniotic	Each baby has a separate placenta and amniotic sac
DCTA Triplets Dichorionic Triamniotic	2 babies share a placenta, 1 has its own placenta. All have their own amniotic sac
DCDA Triplets Dichorionic Diamniotic	2 babies share a palcenta and amniotic sac. 1 baby has its own placenta and amniotic sac.
MCTA Triplets Monochorionic Triamniotic	All babies share a placenta, but each has its own amniotic sac
MCDA Triplets Monochorionic Diamniotic	All babies share a placenta. 2 Babies also share an amniotic sac, and 1 has its own amniotic sac
MCMA Triplets Monochorionic Monoamniotic	All babies share a placenta and amniotic sac

Abbreviations

MDT	Multiple Disciplinary Team
FFTS	Feto-fetal transfusion syndrome
TAPS	Twin anaemia polycythaemia sequence
TRAP	Twin Reverse Arterial Perfusion sequence
DVP	Deepest vertical pool
PI	Pulsatility index
CTG	Cardio Toco Graph

2. General Antenatal care

2.1 Multi Disciplinary Team (MDT)

Care of pregnant people with multiple pregnancies should include a core multidisciplinary team of specialists within a dedicated multiple pregnancy clinic, including specialist obstetrician, specialist midwife, and sonographer with expertise in multiple pregnancy scanning. The Health Board recognises the importance of the specialist clinic set up, but is currently unable to support such a service. Women with uncomplicated DCDA twins will be cared for in the general obstetric service, whilst women with MCDA twins or higher multiple pregnancy will be cared for via the local fetal medicine service.

2.2 Early pregnancy information giving

Consultant review and discussion of risks in multiple pregnancy should be at around 16 weeks gestation. Parents should also receive information on the following:

- Mental health and wellbeing in pregnancy and postnatally
- Nutrition
- Likely timing and possible modes of birth
- Breastfeeding and parenting advice

Advise pregnant people with multiple pregnancies on diet, lifestyle and nutritional supplements as per singleton pregnancy (daily folic acid 400micrograms and vitamin D 10micrograms). Multiple pregnancies are associated with greater risk of anaemia and hypertensive disease. Ferritin levels should be taken at booking. Advise low dose aspirin from 12 weeks until delivery if any additional risk factors for hypertension in pregnancy (nulliparity, age >40y, pregnancy interval >10y, BMI >35, family history of pre-eclampsia). Offer full blood count and ferritin levels at 20-24 weeks, in addition to routine 28 week bloods.

Inform parents of the risk of preterm birth and the symptoms and signs of premature labour.

2.3 Early pregnancy scans

Gestational age should be estimated from the largest baby (in case of early growth pathology). Chorionicity and amnionicity should be determined when multiple pregnancy is diagnosed, using the following to assist diagnosis:

- Number of placental masses
- Thickness of amniotic membrane
- Lambda or T sign

Assign nomenclature to babies early and document throughout notes to ensure consistency between reports (e.g. labelled Twin A, Twin B). Position may also be documented at time of scan (e.g. left lower twin) but is used more as a guide. Seek second opinion from senior sonographer or fetal medicine if unable to determine chorionicity and amnionicity. If remain uncertain manage as monochorionic. Consider transvaginal scan if poor image quality (e.g. high BMI). 3D scans are not recommended to determine chorionicity or amnionicity.

2.4 Screening for chromosomal abnormalities

Multiple pregnancies are associated with a higher chance of chromosomal abnormalities, plus higher chance of a false positive test, particularly those arising from single zygote. Parents are more likely to be offered invasive testing, which carries additional risk. Parents should be informed of short and long term physical and psychological impact regarding selective fetal reduction. The combined test for Downs, Edwards and Patau's syndromes should be offered when fetal CRL is between 45-84mm (11+2 to 14+1 weeks) in line with screening for singleton pregnancies as per the Fetal Anomaly Screening Programme. Each fetus should be assessed separately if multiple placentas. Second trimester (quad) screening should not be used. Cff DNA (or NIPT) testing has been validated for use in multiple pregnancies. If there is a high chance of chromosomal abnormality referral to fetal medicine should be considered. Triplet and higher order pregnancies have an increased false positive rate. Where screening is requested it should be using the nuchal translucency and maternal age.

2.5 Appointment schedule

This depends on chorionicity and amnionicity – see table below.

Type of pregnancy	Appointments
Uncomplicated DCDA twins	**At least 8 total** 11-13^{+6}, 16w, then 3 weekly with scans between 20-36w
Uncomplicated MCDA twins	**At least 11 total** 11-13^{+6}, then 2-weekly with scans from 16-34w
Uncomplicated TCTA triplets	**At least 9 total** 11-13^{+6}, 16w, then with scans at 20 and 24w, followed by 2-weekly until 34w
Uncomplicated DCTA / MCTA triplets	**At least 11 total** 11-13^{+6}, then 2-weekly with scans from 16-34w

Table 1: Minimum appointment schedule.

3. Pregnancy Complications

Multiple pregnancies are at risk of preterm labour, pre-eclampsia, and fetal growth restriction. Any pregnancy where the placenta is shared is also at risk of feto-fetal transfusion syndrome (FFTS) and twin anaemia polycythaemia sequence (TAPS).

3.1 Preterm labour

Explain that 60% of twin pregnancies result in spontaneous labour/birth before 37 weeks, and 75% of triplet pregnancies result in spontaneous labour/birth before 35 weeks. The risk of preterm labour is further increased if there is a history of previous preterm birth.

Offer a single cervical length scan between 16 and 20 weeks to women with a multiple pregnancy. If the cervix is 25mm or less then treatment with progesterone 200mg vaginally at night may reduce the risk of preterm birth. Treatment should continue until 34 weeks gestation. There is no evidence to support other preventative strategies including routine partus testing, cervical cerclage or oral tocolysis.

If preterm labour is suspected then optomisation with corticosteroids with or without magnesium as per PERIprem Cymru programme. Routine corticosteroids are not recommended.

Where birth of one baby occurs prior to 24 weeks gestation consider delaying the birth of the surviving second twin, if there are no contraindications such as infection, fetal compromise, bleeding or coagulopathy.

3.2 Pre-eclampsia

Advice women with multiple pregnancy to take low dose aspirin if any additional risk factors are present. Blood pressure and urinalysis should be performed at every antenatal appointment.

3.3 Growth restriction

Multiple pregnancies should be monitored via serial growth scans and NOT by fundal height measurements. Scan frequency in the absence of complications should be as per table 1. Each baby should be plotted on the grow chart, and Grow 2.0 will calculate any growth discordance between the babies. Increase surveillance to at least weekly if:

- 20% discordance or more
- Any baby EFW <10th centile

Selective growth restriction is where

- The EFW of one baby is <3rd centile **OR**
- 2 of growth discordance >25%, an EFW <10th centile or abnormal umbilical artery doppler (including raised PI)

Referal to fetal medicine is recommended where selective growth restriction is identified. In more advanced gestations (>32/40) consideration of optomisation and birth may be appropriate.

When assessing liquor volume this should be done by the deepest vertical pool either side of the amniotic membrane.

3.4 FFTS (previously known as twin to twin transfusion syndrome)

In FFTS there is an imbalance in the blood distribution between the babies. This results in oligohydramnios for one baby and polyhydramnios for the other. FFTS complicates upto 20% of monochorionic pregnancies.

The ultrasound diagnosis of FFTS is a DVP of <2cm in one sac, and DVP >8cm in the other sac, usually before 20 weeks gestation. Once identified referal to fetal medicine is required for management. Following treatment for FFTS weekly ultrasound surveillance is recommended.

Clinically women may report an increase in breathlessness or abdominal distension, and where this is reported assessment for FFTS should occur.

Monitor for FFTS at every scan in babies who share a placenta every 14 days from 16w. Measure DVP either side of amniotic membrane - if difference of 4cm or more increase monitoring to at least weekly and include umbilical artery Doppler for each baby. Increase monitoring and review by specialist obstetrician if one baby has <2cm or >8cm and other baby's DVP is normal.

3.5 TAPS

TAPS is a significant discordance in haemoglobin levels between babies without significant amniotic fluid discordance. It occurs spontaneously in 2% of monochorionic twins, and 13% if there has been treatment for FFTS by laser ablation. Screening for TAPS should be by weekly ultrasound of the middle cerebral artery peak systolic velocity in women with

- FFTS treated by laser therapy
- Growth discordance of 25% or more and either baby having an EFW <10th centile.
- Evidence of cardiovascular compromise such as cardiomegaly or hydrops
- Unexplained isolated polyhydramnios
- Abnormal umbilcal artery doppler

If identified urgent referral to tertiary fetal medicine is adviced.

3.6 TRAP

Approximately 1% of monochorionic twins, where one baby is acardiac and is perfused by the other ‘normal’ baby through large anastomosis in the placenta.

3.7 Single twin demise

Following the spontaneous death of one twin, the risk of the other twin dying is 4% in dichorionic pregnancies, and 15% in monochorionic pregnancies. There is also a risk of

neurological damage of the surviving twin (1% in dichorionic and 26% in monochorionic). This is thought to occur because of significant blood loss from the surviving baby to the low-pressure circulation of the demised baby causing hypotension. Where selective fetocide by vascular occulusion in the cord (such as laser ablation) has been utilised there is less risk of neurological consequences for the remaining twin. Outcomes are not improved by immediate birth of the surviving baby, and so conservative management is still the recommended approach except in advanced gestations (>36+0). MRI of the surviving baby may be appropriate 3-4 weeks following demise to assess for evidence of cavitating lesions and brain atrophy. Referral to fetal medicine for individualised care plans is recommended. Rates of premature birth are also increased upto 68%.

4. Labour and birth

4.1 Planning

Discuss plans and wishes from 24w and by 28w at the latest ensure documented discussion regarding the following:

- Place of birth and possible need to transfer or admit to neonatal unit in case of preterm birth
- Timing and mode of birth : to reduce the risk of fetal death for
  - Uncomplicated DCDA twins recommend birth 37+0 – 37+6
  - Uncomplicated MCDA twins recommend birth 36+0 – 36+6
  - Uncomplicated MCMA twins recommend birth 32+0 – 33+6
  - Uncomplicated TCTA or DCTA triplets recommend birth before 35+6

  Consideration for perinatal optomisation as per PERIPrem Cymru.
  Where elective birth is declined ultrasound surveillance should be increased to weekly until birth.
- Analgesia in labour – pregnant people should be informed around the advantages and disadvantages of epidural analgesia. The physiology of birth should always be considered and supported. Epidural may improve success and optimal timing of assisted vaginal birth, enable quicker delivery by emergency Caesarean if needed, however may reduce mobility and increase chance of assisted vaginal birth.
- Fetal heart rate monitoring in labour. There is a small risk of feto-fetal transfusional events during labour and so continuous CTG during labour is recommended.
- Management of third stage

If >32wk DC or MCDA twins with presenting baby cephalic and no significant size discordance or additional obstetric indications - both vaginal birth and Caesarean are safe choices.

Parents should be informed that >1:3 of those who plan a vaginal twin birth go on to have a Caesarean. Additionally if a CS is planned, a few will labour spontaneously and have a vaginal birth before the CS can be performed. A small number of those who plan a vaginal birth will have an emergency CS for the second baby.

Planned ceasarean birth may have less maternal morbidity than induction of labour (mostly because of lower rates of post partum haemorrhage), with no difference in neonatal outcomes. However the impact of caesarean birth on future pregnancies should be considered.

Offer a CS if in established preterm labour 26-32wk and the presenting twin is not cephalic. Other indications for recommending CS include:

- First twin not cephalic at the time of planned birth

- Triplets / MCMA twins at time of planned birth (35w and 32-34w respectively, or if planned sooner due to complications), or if in established preterm labour with reasonable chance of survival depending on gestation

Prior to 26 weeks mode of birth should be individualised depending on chance of survival, obstetric risk factors and parents preferences.

4.2 Intrapartum care

- Use partogram and recommend early IV access.
- Send a full blood count and blood group on admission in labour due to increased risk of haemorrhage.
- Continuous electronic fetal monitoring is recommended for twins >26 weeks – note that guidelines are based on singleton term babies and there is a higher chance of a pathological CTG resulting in unplanned Caesarean birth. Dual channel monitors should be used to allow simultaneous monitoring of baby heart rates. It should be clearly documented which heart rate tracing belongs to which baby.
- Maternal pulse should be monitored electronically and displayed on the CTG at all times. At earlier gestations senior obstetrician should be involved in discussion with family and neonatal team regarding benefits of monitoring and plans for intervention.
- A bedside ultrasound should be performed to confirm the presentation of the leading baby and to verify two separate heart beats are being monitored.

4.3 CTG Interpretation

- Each heart rate trace should be reviewed as an individual, at least hourly and more frequently where there are concerns.
- Where the heart rate traces are very similar confirm that both babies are being monitored (using bedside ultrasound if required to guide). In addition the heart rate trace of one baby can be separated by 20 bpm. If this is utilised it is important that this is recognised in each assessment to avoid misinterpretation of the baseline rate.
- Management of either CTG should be as for a singleton pregnancy with the following exceptions
  - If the CTG of the **non-presenting twin** is suspicious or pathological – caesarean section is recommended unless can achieve birth within 20mins.
- Following birth of the first baby it is important to continue with quality CTG for the second baby.

4.4 Third stage

- Recommend active management of the third stage and consider additional uterotonics depending on individual risk assessment in labour (Obs Cymru paperwork).
- Double clamp umbilical cords at delivery and ensure correctly labelled to obtain cord blood gases.

5. Postnatal and bereavement care

- National Bereavement Care Pathway for parents experiencing one or more baby loss.
- Specialist bereavement midwife involvement, use of bereavement checklist and appropriate community follow up
- Ensure clear documentation of discussion regarding post-mortem and consent
- Ensure good communication between tertiary, secondary and primary care
- Review of perinatal death using the National Perinatal Mortality Review Tool, and early engagement with parents and offer follow-up once review completed.

6. References:

1. *NICE guideline 137, Twin and Triplet pregnancy, 2024 https://www.nice.org.uk/guidance/NG137*
2. *Kilby, M., Bricker, L. Management of Monochroionic Twin Pregnancy Greentop Guideline No 51. 2025. RCOG. https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/1471-0528.18055*
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4. *Antenatal screening Wales – Screening for Down's syndrome, Edwards' syndrome and Patau's syndrome in pregnancy, 2020, accessed 09/09/2020 at URL: http://www.antenatalscreening.wales.nhs.uk/sitesplus/documents/968/Down%27s%20syndrome%20Edwards%20syndrome%20and%20Patau%27s%20syndrome%20screening%20April%202020.pdf*
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6. *NICE guideline 133, Hytpertension in pregnancy: diagnosis and management, 25th Jun 2019, accessed 09/09/2020 at URL: https://www.nice.org.uk/guidance/ng133/chapter/Recommendations#antiplatelet-agents*

   MBRRACE-UK Perinatal confidential enquiry, stillbirths and neonatal deaths in twin pregnancies, Jan 2021, accessed June 2022 at URL: https://www.npeu.ox.ac.uk/mbrrace-uk/reports
8. *Dougan, C., et al. Cesarean delivery or induction of labour in pre-labor twin gestations: a secondary analysis of the twin birth study. BMC Pregnancy and Childbirth.2020. https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-020-03369-x*
9. *Devaseelan, P., Ong, S. Twin pregnancy: controversies in management. The Obstetrician and Gynaecologist. 2011. 12:179-185.*

Appendix 1 – support and resources for parents

1. NHS website – www.nhs.uk/conditions/pregnancy-and-baby/giving-birth-to-twins/Giving birth to twins or more - NHS

2. Twins trust – Twins Trust | Twins Trust - We support twins, triplets and more...

3. National Childbirth Trust – www.nct.org.uk

Appendix 2 – Example appointment schedule for DCDA twins

Gestation / appointment	To include:
Early pregnancy / midwife	Folic acid, Vitamin D, Aspirin, VTE risk score
16 weeks, consultant review	- Discuss pregnancy risks, mental health, nutrition, likely timing and mode of birth. - Explain scans and antenatal plan - Provide aspirin/iron if required
20 weeks, obstetrics	- Review anomaly scan - Repeat FBC ± iron replace
24 weeks, obstetrics	- USS and antenatal check - Discuss and document risks, mode/timing of birth, analgesia options.
28 weeks, obstetrics	- USS and antenatal check - Check 28w bloods - Review VTE risk ± prescribe heparin
32 weeks, obstetrics	USS and antenatal check
34 weeks obstetrics	- Antenatal check - Book Caesarean if required
36 weeks, obstetrics	USS and antenatal check
37-37^{+6} weeks	Aim for birth within this week

Maternity Services
Checklist for Clinical Guidelines being Submitted for Approval

Title of Guideline:	Management of Multiple Pregnancy
Name(s) of Author:	Louise-Emma Shaw
Chair of Group or Committee approving submission:	Antenatal Forum
Brief outline giving reasons for document being submitted for ratification	Update existing policy
Details of persons included in consultation process:	Antenatal Forum
Name of Pharmacist (mandatory if drugs involved):	n/a
Issue / Version No:	4
Please list any policies/guidelines this document will supercede:	Management of multiple pregnancy 2022
Date approved by Group:	29 April 2026
Next Review / Guideline Expiry:	29 April 2029
Please indicate key words you wish to be linked to document	Multiple, twins
File Name: Used to locate where file is stores on hard drive	