GIG CYMRU NHS WALES

Bwrdd Iechyd Prifysgol Bae Abertawe
Swansea Bay University Health Board

Management of Multiple Pregnancy

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General Antenatal care

MDT
Care of pregnant people with multiple pregnancies should ideally 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. There should be a dietitian available if required and facilities for onward referral to a perinatal mental health team, physiotherapist, and infant feeding specialist if required. In our current practice we are working towards these recommendations from national guidance and uncomplicated DCDA twins are currently seen in general antenatal clinics.

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. 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 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. 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. Explain the potential need for steroids for fetal lung maturation if babies are born early, though routine "untargeted" steroid use is not recommended.

The risk of preterm labour is further increased if there is a history of previous preterm birth, however there is no evidence of benefit for any interventions to prevent spontaneous labour in multiple pregnancies, and insufficient evidence to recommend use of fibronectin or home uterine activity monitoring to predict preterm birth.

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
- Discordant fetal sex if >14 weeks gestation

Assign nomenclature to babies early and document throughout notes to ensure consistency between reports (e.g. left and right, upper and lower). 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 not recommended to determine chorionicity or amnionicity.

Screening for chromosomal abnormalities

Multiple pregnancies are associated with a higher chance of chromosomal abnormalities, plus higher chance of a false positive test. 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 between 11 and 13^{+6} 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. If >1:150 chance of chromosomal abnormality, or if triplets are not monochorionic or dichorionic, referral to fetal medicine should be considered.

Appointment schedule
(depends on chorionicity and amnionicity – see table below.)

Type of pregnancy	Appointments	Recommended timing of birth (weeks)
Uncomplicated DCDA twins	**8 total** 11-13^{+6}, 16w, then 4 weekly with scans between 20-36w plus appointment at 34w	37-37^{+6}
Uncomplicated MCDA twins	**11 total** 11-13^{+6}, then 2-weekly with scans from 16-34w	36-36^{+6}
Uncomplicated TCTA triplets	**9 total** 11-13^{+6}, 16w, then with scans at 20 and 24w, followed by 2-weekly until 34w	35-35^{+6}
Uncomplicated DCTA / MCTA triplets	**11 total** (5 with specialist) 11-13^{+6}, then 2-weekly with scans from 16-34w	35-35^{+6}

Table 1. Note: if parents decline delivery at recommended gestation, offer weekly specialist appointment with ultrasound for liquor volume and umbilical artery Doppler, and fortnightly growth measurements as increased risk of fetal demise

Summary:

- Early consultant review and MDT involvement
- Folic acid, vitamin D, ± aspirin, dietary advice
- Document discussion of risks before 24w gestation
- Additional FBC at 20-24w due to risk of anaemia

Fetal complications

Multiple pregnancies are at risk of growth restriction, feto-fetal transfusion syndrome (FFTS) and twin anaemia polycythaemia sequence (TAPS). There is also higher perinatal morbidity and mortality compared to singleton pregnancies.

Growth restriction

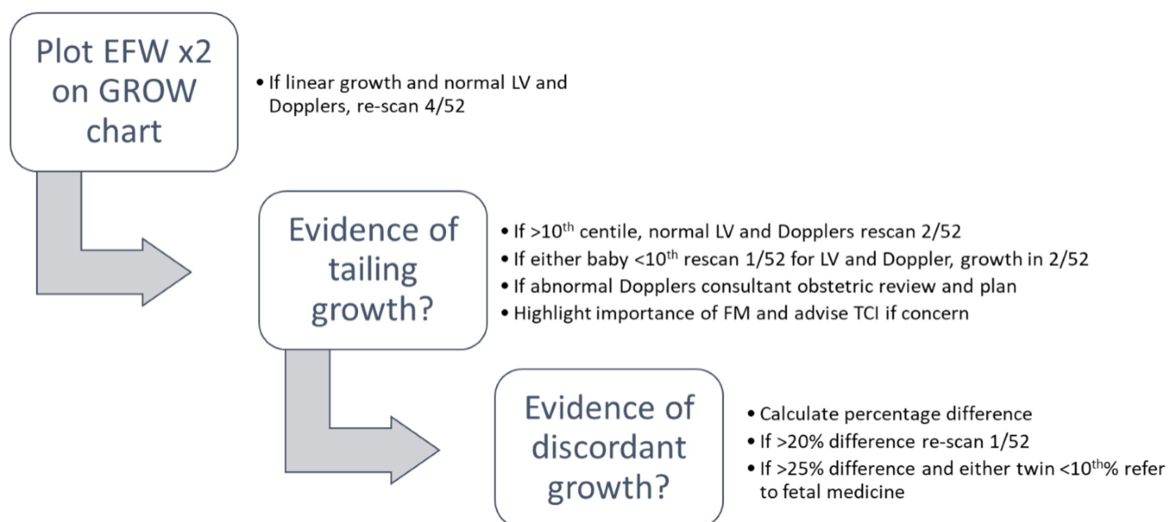
After 24w use deepest vertical pool of liquor (DVP) plus 2 or more biometric parameters to assess growth discordance in DC twins and TC triplets. Discordance calculation is as follows: (EFW larger fetus - EFW smaller fetus) / EFW larger fetus.

Use dedicated growth chart and ensure documentation of growth discordance calculation in notes.

Increase surveillance to at least weekly if:

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

If >25% discordance **and** the EFW of any baby is <10th%, **refer to fetal medicine.**



FFTS

Monitor for FFTS at every scan in babies who share a placenta every 2 weeks from 16w. Measure DVP either side of amniotic membrane - if difference of 4cm or more increase monitoring to at least weekly and include Doppler umbilical artery for each baby. Increase monitoring and review by specialist obstetrician if one baby has <2cm or >8cm and other baby's DVP is normal. Diagnose FFTS and refer to fetal med if one baby has DVP <2cm and the DVP of another is >8cm up to 20w (>10cm if over 20w).

TAPS

If FFTS has been treated with laser, or selective FGR >25% and an EFW <10th for any baby commence weekly monitoring from 16w using MCA peak systolic velocity.

Consider advanced stage TAPS (check MCA-PSV) and seek immediate fetal medicine input if MC pregnancy with any of the following:

- Hydrops/cardiomegaly
- Unexplained isolated polyhydramnios
- Abnormal umbilical artery

Fetal medicine/tertiary centre referral recommendations:

- Shared amnion
- Fetal weight discordance >25% with a baby <10th%EFW
- Fetal anomaly
- Discordant fetal death
- FFTS
- Twin reversed arterial perfusion sequence (TRAP)
- Conjoined twins/triplets
- Suspected TAPS

Labour and birth

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 – see table 1
- 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

- Management of third stage

If >32wk DC or MCDA twins with presenting twin 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.

A CS should be offered if a pregnant person is in established preterm labour and the presenting fetus is not cephalic at gestations of 26 weeks or more. Additionally CS should be offered for all triplets and MCMA twins at time of planned birth where there is a reasonable chance of survival.

Threatened / suspected preterm labour

- Early senior review and neonatal team input
- Scan for presentation and alert for red flags for FFTS
- Consider steroids and magnesium sulphate
- Involve parents and document discussion re: expectations for survival, signs of life and resuscitation
- Daily review by senior obstetrician, involve senior neonatologist if necessary

Intrapartum care
General considerations

- 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 emergency Caesarean.
- 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.

- 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.

Preparing for assisted birth – second twin

- Recommend experienced midwife attends birth and obstetric team available to assist if required. An experienced assistant should be available to stabilise the lie of the second twin after birth of twin 1, using one hand either side of the maternal abdomen (see Figure 1).
- As a significant number of second twins will change presentation after birth of twin 1, it is good practice to prepare an ultrasound machine at time of birth to allow quick identification of presentation and FH for re-applying CTG.
- Perform a VE to assess if presenting part in pelvis
- Consider use of syntocinon to augment contractions aiming for birth within 30 minutes if CTG normal.
- If second twin not cephalic after the birth of twin 1, consider external cephalic version or internal podalic version depending on operator experience. If fetal concerns or unable to achieve birth within 30 minutes, prepare for emergency CS.

Suspicious or pathological CTG

- If the CTG of the **non-presenting twin** is suspicious or pathological – CS is recommended unless can achieve birth within 20mins.
- If the **presenting twin's** CTG is suspicious – correct reversible causes and consider FSE. If pathological, fetal scalp stimulation should not be used to gain reassurance – could consider FBS if >34w. If second stage, consider assisted vaginal delivery or emergency CS if birth not possible within 20mins.

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 if need to obtain cord blood gases.

Cases of extreme prematurity (<24 weeks)

- Involve neonatal team and consultant obstetrician early.
- If spontaneous birth of twin 1 occurs, consider delaying the birth of the surviving second twin, if there are no contraindications such as infection, fetal compromise, bleeding or coagulopathy.

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.

References:

1. NICE guideline 137, Twin and Triplet pregnancy, 4th Sep 2019, accessed 09/09/2020 at URL: https://www.nice.org.uk/guidance/ng137/chapter/Recommendations

2. 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

3. 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

4. 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

Appendix 1 – support and resources for parents

- NHS website – www.nhs.uk/conditions/pregnancy-and-baby/giving-birth-to-twins/
- Multiple births foundation – www.multiplebirths.org.uk
- Twins trust – www.twinstrust.org
- 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:	Ashleigh Haken
Chair of Group or Committee approving submission:	Antenatal Forum
Brief outline giving reasons for document being submitted for ratification	New policy
Details of persons included in consultation process:	Antenatal Forum
Name of Pharmacist (mandatory if drugs involved):	n/a
Issue / Version No:	3
Please list any policies/guidelines this document will supercede:	n/a
Date approved by Group:	
Next Review / Guideline Expiry:	
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	