TWIN PREGNANCY – ANTENATAL CARE GUIDELINE

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. OPTIMAL OUTCOMES
   - Appropriate diagnosis and management of a woman with a twin pregnancy
   - Woman appropriately informed about twin pregnancy
   - Identification of chorionicity and amnionicity

2. PATIENT
   - Woman with a twin pregnancy

3. STAFF
   - Medical staff
   - Registered midwives
   - Student midwives
   - Sonographers

4. EQUIPMENT
   - Cardiotocograph (CTG) machine
   - Ultrasound machine

5. CLINICAL PRACTICE
   Antenatal care
   - Offer public patients with a twin pregnancy antenatal care through the hospital’s multiple pregnancy clinic at the time of booking, with the first visit in the twins clinic prior to 20 weeks gestation (Monochorionic twins first visit should be arranged at around 16 weeks gestation)
   - Refer to Maternal Fetal Medicine (MFM) team for the following:
     ° Monoamniotic twins
     ° Chorionic villus sampling (CVS) or amniocentesis
     ° Structural or chromosome anomaly
     ° Single fetal death in monochorionic twins
     ° Suspected twin-twin transfusion syndrome (TTTS)
     ° Severe early onset fetal growth restriction
   - Offer genetic counselling by a genetic counsellor or medical officer prior to screening for aneuploidy with nuchal translucency (NT) measurement
   - Offer ultrasound after appropriate counselling at 10-13 weeks gestation to assess: viability, chorionicity, major congenital malformation, NT for designation of risk of aneuploidy and TTTS
   - Perform fetal anomaly scan at 18-20 weeks gestation
   - Discuss incidence of prematurity and management of babies born prior to 32 and prior to 37 weeks gestation. Discuss the grey zone around resuscitation between 24 and 26 weeks of gestation as per the NSW consensus document. Offer neonatal review as appropriate
   - Arrange serial growth and well-being scans according to chorionicity and clinical concern, in general:
     ° Monochorionic twins: screen for growth discordancy and TTTS by ultrasound every two to three weeks from 16 – 19 weeks gestation then two weekly to delivery: consider fetal echo at 22-24 weeks
     ° Uncomplicated dichorionic, diamniotic twins: screen for growth four weekly from 26 weeks (e.g. 26, 30, 34 and 37 weeks.)
TWIN PREGNANCY – ANTENATAL CARE GUIDELINE  cont’d

- Chart growth for each fetus (if possible on twin specific growth charts) at each scan to determine interval growth and overall growth velocity
- Recommend iron, folate and calcium supplements: elemental iron 30mg/d, folate 0.5mg/d and calcium 250mg/d minimum doses in woman without documented deficiencies or dietary restrictions
- Perform screening for gestational diabetes at 26-28 weeks
- Discuss needs of the woman and her family relating to twins and arrange social work consultation as appropriate
- Encourage all women to attend the antenatal breastfeeding group and offer individual consultation with lactation team if required
- Refer for multiple birth antenatal education classes at RHW
- Refer to NSW Multiple Birth Association and other support networks

Birth plan
- Inform woman of her individualised risks and benefits of vaginal and caesarean birth and document informed consent
- Provide written patient information regarding mode and timing of delivery (Appendix 2)
- Commence discussion of birth plan by the 32 week visit and include:
  - Recommendation for delivery at 37-38 weeks in uncomplicated dichorionic diamniotic (DCDA) twins or around 36-37+0 weeks in uncomplicated monochorionic diamniotic (MCDA) twins due to the increased risk of stillbirth
  - Antenatal consultation with Newborn Care team and Neonatal Intensive Care Unit if birth planned for < 36 weeks
  - Consideration of antenatal steroids for elective caesarean section prior to 38 weeks
- Offer woman with an uncomplicated twin pregnancy where the first twin is in a cephalic presentation a vaginal birth
- Discuss recommendations for intrapartum care including IV access, electronic fetal monitoring (EFM), epidural anaesthesia, third stage management, prophylactic postpartum haemorrhage prevention and document in patient’s notes
- Advise delivery by caesarean section with a non cephalic first twin presentation
- Discuss the number / type of staff likely to be present at birth

6. DOCUMENTATION
- Antenatal yellow card
- Integrated clinical notes
- ObstetriX

7. EDUCATIONAL NOTES
- The Royal College of Obstetricians and Gynaecologists (RCOG) consensus view arising from the 50th Study group: Multiple pregnancy (2005) recommended that:
  - Hospitals should organise antenatal and postnatal care around specialist-led, multidisciplinary multiple pregnancy clinics
  - Mothers with a multiple pregnancy have a need for specific information, including discussion of delivery and postnatal wellbeing, including breastfeeding
  - The role of midwives and other healthcare specialists is integral to the management of multiple pregnancies within specialist clinics
- The vast majority of multiple gestations are twins. The incidence of multiple pregnancy is increasing and currently makes up 1.6% of all confinements in Australia.
There are two types of twins: one third of twins are monozygotic twins i.e. formed when a single fertilised ovum divides into two individuals. The majority (80%) of monozygous twins form a monochorionic diamniotic pregnancy. Approximately 20% become dichorionic diamniotic twins and about 1% become monochorionic monoamniotic twins. Dizygous twins occur when two separate ova are fertilized by two different sperm, these always form dichorionic diamniotic twins.

Perinatal mortality is 3-5 times higher in twins than singletons, with significantly higher losses in MC twins (11%) compared with DC twins (5%)\(^8\).

Determination of chorionicity is crucial for correct risk assessment, counselling and management for complications such as TTTS, fetal growth restriction and single fetal death. The best time to diagnosis chorionicity by ultrasound is at 10-13 weeks gestation.

Due to the increased number of fetuses, the risk of a chromosomal abnormality is increased in a multiple pregnancy. Nuchal translucency screening for aneuploidy has been shown to be accurate for twin gestations, but serum screening in twins is less sensitive and has higher false positive rate than in singletons. Discordant nuchal translucency measurements may be a marker for later development of TTTS in MCD twins.

Structural defects are 2-3 times more common in live born MC twins than in DC twins, advanced cardiac screening with fetal echo for all MC twins at 22-24 weeks is recommended\(^2\).

Preterm birth occurs in 44% of twins and is the major contributor to the increased perinatal mortality rate in multiple births.

Transvaginal ultrasound assessment of cervical length at 22-24 weeks is less accurate as a positive predictor of preterm birth in twins than in singletons. No intervention has been shown to prevent preterm birth in twin pregnancies with a short cervix.

Growth discordance is one of the most common complications of twin pregnancy. It may be a marker of placental insufficiency, genetic or structural anomalies, or twin-twin transfusion. Evidence of fetal growth restriction, rather than discordance per se, predicts adverse neonatal outcome. Serial scans throughout pregnancy are recommended given the inadequacy of clinical assessment of growth in multiple pregnancies.

Twin-twin transfusion syndrome (TTTS) occurs in 10% of monochorionic twins and has a very high perinatal mortality rate without treatment. Urgent referral to the Fetal Therapy Group at RHW for consideration of laser ablation of placental anastomoses should be made in any case of suspected TTTS.

There have been large population-based studies that show the stillbirth rate of twins after 38 – 40 weeks is similar to the stillbirth rate for a singleton pregnancy beyond 42 weeks. There is also retrospective data showing that monochorionic twins have a higher rate of unexplained stillbirth after 32 weeks (ranging from 0.9% to 4.6%) that may justify elective delivery before 37 weeks.

The large randomised study “the twin birth trial” (Barrett et al 2013) showed that in twin pregnancy between 32 weeks 0 days and 38 weeks 6 days of gestation, with the first twin in the cephalic presentation, planned caesarean delivery did not significantly decrease or increase the risk of fetal or neonatal death or serious neonatal morbidity, as compared with planned vaginal delivery. Some observational studies have found a small increased risk in perinatal mortality and morbidity in the second twin with vaginal birth compared to caesarean section (Smith 2005), however a meta-analysis has found no difference. (Rossi 2011) The twin birth study was underpowered to ascertain the risks to the term fetus with vaginal delivery. In general, a trial of labour for DCDA or MCDA twins with a vertex first twin should be offered, if the second twin is not significantly larger.

Previous Caesarean section is not an absolute contraindication to labour with twins.
8. RELATED POLICIES/ PROCEDURES/CLINICAL GUIDELINES

- Intrapartum care of the woman with twin pregnancy
- Monoamniotic twins, management
- Diabetes in pregnancy
- Third stage labour
- Anaemia in pregnancy
- Obesity in pregnancy, labour and postpartum
- Intrapartum fetal heart rate monitoring
- Placental examination
- Instrumental vaginal birth
- Higher order multiples
- Breastfeeding staff education and implementation
- Women Who Choose Care Outside of Royal Hospital for Women Guideline

9. RISK RATING

- Low Risk

10. REFERENCES

2. RCOG Multiple Pregnancy 50th study group statement 2005

REVISION & APPROVAL HISTORY

Amendment made to No 5, 10th dot point under Antenatal Care to bring in line with SESLHD GDM policy, November 2016
Patient leaflet reviewed August 2015
Reviewed Maternity Services LOPs group 12/8/14
Approved Quality & Patient Safety Committee 15/3/12
Reviewed Obstetrics LOP Committee December 2011 – no change
Approved Quality & Patient Safety Committee 18/6/09
Reviewed April/May 2009
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.../Appendices
APPENDIX 1

MULTIPLE PREGNANCY CLINIC

The Royal Hospital for Women has recognised how special it is to be having twins by creating a dedicated Multiple Pregnancy Clinic (MPC). All public patients expecting twins can be offered antenatal care through this clinic.

Where are we?

We are located in the Department of Maternal Fetal Medicine, just next to the Department of Medical Imaging on Level 0. Antenatal visits and ultrasound scans take place in these two departments.

The clinic aims to:

- Cater for the special needs of the woman and her family when preparing for the birth of twins
- Provide consistency and continuity of care throughout the pregnancy
- Practice obstetric care according to the best available evidence and international guidelines
- Allow women to make informed decisions regarding their care and birth
- Improve clinical care and reduce the number of hospital visits and waiting times for women with twins by combining ultrasound scans with antenatal visits
- Provide links to community supports
- Provide follow-up and assistance with psychosocial support in the postnatal period where needed

Who are we?

The team is a multidisciplinary one, consisting of a full range of medical, midwifery and allied health staff. Those who are present at every weekly clinic are:

- Medical officers: an obstetrician with expertise in ultrasound, an advanced trainee in obstetrics (Clinical Fellow) and a obstetrics registrar
- Registered Midwives: Antenatal Clinic midwife +/- Midwifery Group Practice midwives
- Sonographers

You may also have access to consultations with a social worker, dietician, obstetric physician, mental health worker, physiotherapist, lactation consultant, paediatrician or anaesthetist as required.

Antenatal care protocol for dichorionic twins (two separate placentas)

- The first visit at the Multi Pregnancy Clinic (MPC) usually occurs before 20 weeks of pregnancy. At this visit you will meet the doctors, and midwives are the regular part of the team.
- At 18-20 weeks, an ultrasound (fetal morphology scan) is performed in the Department of Medical Imaging
- Regular ultrasound scans to monitor the babies’ growth and well-being are performed 4 weekly (usually 26, 30 and 34 weeks gestation). These scans are performed during the clinic session times and are combined with your antenatal visit so the results can be discussed with you.
- More frequent scans may be required if any medical concerns arise during the pregnancy.
- Antenatal visits at 20, 24, 26 weeks and then at fortnightly visits to 34 weeks, then weekly thereafter
- Blood tests to screen for gestational diabetes are recommended at 26-28 weeks.
- A full blood count is performed at 26 weeks and 34 weeks.
- A vaginal swab for Group B Streptococcus testing is done at 34 weeks.
- Formulating a birth plan will occur around the 30-32 week visits
- In a healthy, uncomplicated DC twin pregnancy, birth at around 37-38 weeks is usually recommended. This can involve either induction of labour and a vaginal birth or a Caesarean section.
Antenatal care protocol of monochorionic twins (one shared placenta)

When twins share one placenta they do require closer attention during pregnancy as problems may arise if the placenta is not enabling the twins to grow and develop adequately. In addition to the usual protocol for dichorionic twins, there are more ultrasounds and on average, earlier delivery.

- Ultrasound scans from 16 weeks every 2-3 weeks to monitor for twin-twin transfusion syndrome or growth problems
- Delivery is usually recommended at 36-37 weeks in healthy uncomplicated monochorionic twin pregnancy.

Postnatal

- The postnatal check-up is usually with your GP (family doctor). It is very important that you find a GP if you don’t already have one. Please let us know your GP’s details, so we can keep your GP informed of your progress.

How can I learn more?

- We encourage all women to attend our special antenatal education classes for twins/ multiples. These five weekly sessions provide an enjoyable forum to learn about becoming the parents of twins and are a good way to meet other women and their partners. It includes tours of delivery suite and the newborn care nursery. There is a fee for this course.
- Our lactation team runs a free breastfeeding information session every Thursday morning at 10.30am in the Tutorial room on level 4.
- The Department of Anaesthetics have a free monthly information session called Drug Choices in Labour at 7pm on the second Tuesday of each month in the RHW Lecture Theatre.
- Visit the website of the Australian Multiple Birth Association (AMBA) at www.amba.org.au for more useful information

Contacting us

- For making appointments directly with the Multiple Pregnancy Clinic, call the Department of Maternal Fetal Medicine on 9382 6098.
- For enquiries about antenatal education classes ring 9382 6541
- For other departments, ring the main switchboard on 9382 6111 and ask for assistance.
APPENDIX 2

Giving Birth to Twins

Giving birth to twins is a very special occasion for many reasons. There are various medical considerations to take into account when determining the best timing and mode of birth of twins. This pamphlet aims to answer some of the frequently asked questions, however, each pregnancy is unique and decisions regarding the birthing of your twins will take place with your team so that an individual plan is made for your pregnancy.

When is the best time to give birth to twins if there have been no problems during the pregnancy?

- Twins that each have their own placenta (dichorionic diamniotic or DCDA twins) have the lowest rate of serious health problems when they are born at around 38 weeks, compared with those born earlier or later than this. There have been large population-based studies that show the stillbirth rate of twins increases after 38-40 weeks. Current obstetric practice is to plan birth at around 37-38 weeks for DCDA twins, regardless of mode of birth.

- Twins that share a placenta but have their own sac (monochorionic diamniotic or MCDA twins) have a higher rate of unexpected stillbirth after 32 weeks (estimates range from 1 to 4%) than twins that each have their own placenta (dichorionic twins). Earlier delivery at 36-37 weeks is often recommended even when everything appears to be going well.

- Twins that share both a placenta and sac of amniotic fluid (monochorionic monoamniotic or MCMA twins) are much less common but have a much higher complication rate. Even if all is going well in these pregnancies, delivery is usually by caesarean section by 34 weeks gestation.

What is the best way to give birth to twins – vaginal birth or Caesarean section?

This is a balance of the risks and benefits to the mother and the babies. Your preferences for the type of birth will always be important in the decision-making process, however the medical factors that are important include:

- the position of the babies, especially the first twin
- the growth and well-being of the twins
- the gestational age and weight of the twins
- your obstetric history and how you gave birth to any previous babies

- In general, a vaginal birth is usually offered if the first twin is head-first and well-grown
- There is no conclusive medical evidence to assess the best mode of delivery for twins when the first twin is presenting head-first and the second twin is not head-first. In general, opting to labour and give birth vaginally is supported
- If the first twin is not presenting head-down, then an elective caesarean section is recommended
- Some women may choose to have a caesarean section when they are having twins.

What are the advantages of giving birth vaginally compared with elective caesarean section?

- A faster recovery after the birth with less chance of fever, and less restrictions on your mobility in the early postnatal period
- Avoiding a Caesarean section scar on the uterus that could impact on future pregnancies
- Less chance of the babies having breathing difficulties in the first few days of life compared to babies born by caesarean section without labour

What are the disadvantages of giving birth vaginally?

In general, birth of the first twin proceeds like any other birth, but it is well-recognised that the second twin is at higher risk of complications in labour compared with the first twin.

These problems for the second twin can be:

- changes to the second twin’s heart rate pattern that can be abnormal
- bleeding or premature separation of the placenta
- malpresentation (i.e. baby turning sideways or breech) leading to a need for special manoeuvres for delivery
There is a risk of requiring an emergency caesarean section in labour if complications in labour develop. The chance of the second twin needing a Caesarean after the first twin has been born vaginally is about 5%.

Where can I get more information about caesarean section?
The RHW patient information leaflet “Information for women having a caesarean section” gives more detailed information about caesarean section.

What you can expect in regard to monitoring the wellbeing of your babies in labour?
- We check the position of the babies with an ultrasound on your arrival to delivery suite
- Both the babies have their heart rate continuously monitored throughout labour
- We recommend that you have an intravenous cannula or “drip” inserted in your arm to enable fluids and medications to be administered as needed
- An epidural block is recommended for pain relief in labour and to allow assisted birth of one or both of the babies should an urgent situation occur
- Medication (oxytocin) to keep the uterus contracting regularly may be given through the IV cannula if needed
- A senior medical officer, midwives and paediatric staff will be present for the birth
- Routine measures to facilitate prompt delivery of the placenta(s) and to reduce blood loss after the birth of the twins will be recommended to reduce the risk of postpartum haemorrhage (excessive blood loss). This is a more common problem when you have a twin pregnancy

The Delivery Suite staff will discuss some of these issues again with you when you come in to give birth. Our staff are committed to ensuring the best outcomes for mothers and babies and will do all they can to help you make informed decisions. Please feel free to discuss any further questions with your medical and midwifery team.