

TWIN PREGNANCY – ANTENATAL CARE

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. AIM

- 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 and midwifery staff

4. EQUIPMENT

- Ultrasound machine

5. CLINICAL PRACTICE

Antenatal care

- Ensure good quality, accurate ultrasound has been performed to establish dates, chorionicity and amnionicity. This may require a repeat ultrasound and ideally be performed prior to ten weeks gestation
- Offer woman with a twin pregnancy antenatal care through the Twin Pregnancy Clinic at the time of booking, with the first visit prior to 20 weeks gestation. Monochorionic twins first visit should be around 16 weeks gestation. Provide woman with Twin Pregnancy Clinic leaflet (Appendix 1)
- Recommend folic acid, iron, calcium and iodine supplements:
 - calcium 1.2 g/day in woman with low calcium intake
 - folic acid 500mcg/day
 - elemental iron 80-100mg/day
 - iodine 150mcg/day
- Refer to Maternal Fetal Medicine (MFM) team for the following:
 - Monochorionic monoamniotic (MCMA) twins
 - Chorionic villus sampling (CVS) or amniocentesis
 - Structural or chromosome anomaly in twin(s)
 - Single fetal death in monochorionic (MC) 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. Combined first trimester screen (cFTS) is the recommended modality involving nuchal translucency (NT) measurement, serum screening (PAPP-A and β hCG), +/- nasal bone measurement
- Recommend early structural ultrasound after appropriate counselling at 11-13⁺⁶ weeks gestation to assess the following (if not already performed as part of the cFTS):
 - viability
 - chorionicity
 - major congenital malformation
 - NT measurement
 - TTTS
- Perform fetal morphology ultrasound at 18-20 weeks gestation

CLINICAL POLICIES, PROCEDURES & GUIDELINES

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16/11/17

TWIN PREGNANCY – ANTENATAL CARE cont'd

- Discuss risk of preterm birth if cervical length is ≤ 25 mm at 18-24 weeks gestation
- Discuss incidence of prematurity and management of neonates born prior to 32 weeks and prior to 37 weeks gestation. Discuss the grey zone around resuscitation between 23-26 weeks gestation as per the NSW consensus document. Offer discussion with neonatology team as appropriate
- Arrange serial growth and well-being ultrasounds 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
 - Perform middle cerebral artery (MCA) Dopplers from 22 weeks gestation.
 - Consider fetal echocardiogram at 22-24 weeks gestation
 - Dichorionic twins: screen for growth discordancy four weekly from 24 weeks gestation (i.e. 24, 28, 32 and 36 weeks.)
- Plot growth for each fetus using twin specific growth charts at each ultrasound, to determine interval growth and overall growth velocity
- Calculate inter-twin size difference (as %) at each ultrasound using estimated fetal weight (EFW):

$$\frac{\text{larger twin EFW} - \text{smaller twin EFW}}{\text{larger twin EFW}} \times 100$$

- Recommend increased ultrasound surveillance if:
 - inter-twin difference is $\geq 20\%$
 - one or both twins EFW is $\leq 10^{\text{th}}$ percentile
 - the umbilical artery/MCA Dopplers are abnormal
- Perform screening for gestational diabetes at 26-28 weeks gestation
- Discuss needs of the woman and her family relating to twins and arrange social work consultation as appropriate
- Encourage woman to attend the antenatal breastfeeding education session and offer individual consultation with lactation services if required
- Advise woman of multiple birth antenatal education classes at RHW
- Provide information about NSW Multiple Birth Association and other support networks

Birth plan

- Inform woman of her individualised risks and benefits regarding vaginal versus caesarean birth, and document informed consent
- Provide written information leaflet regarding mode and timing of delivery (Appendix 2)
- Commence discussion of birth plan by the 30 week visit and include:
 - Recommendation for delivery at 37-38 weeks gestation in uncomplicated dichorionic diamniotic (DCDA) twins or around 36-37 weeks in uncomplicated monochorionic diamniotic (MCDA) twins, due to the increased risk of stillbirth
 - Antenatal consultation with neonatology team if birth planned for < 36 weeks. This may include a tour of the Newborn Care Centre
 - Consideration of antenatal steroids for elective caesarean section prior to 38 weeks
- Offer woman with an uncomplicated twin pregnancy a vaginal birth when the first twin is cephalic
- Discuss and document in integrated clinical notes recommendations for intrapartum care including:
 - intravenous (IV) access
 - electronic fetal monitoring (EFM)

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- epidural
- third stage management
- prophylactic postpartum haemorrhage (PPH) prevention
- Advise delivery by caesarean section when the first twin is not cephalic
- Discuss which staff, and how many, are likely to be present at birth

6. DOCUMENTATION

- Antenatal card
- Integrated clinical notes
- Obstetric data base

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 in terms of zygosity:
 - Monozygous twins i.e. formed when a single fertilised ovum divides into two individuals. One third of twins are monozygotic. Of these (80%) form a MCDA pregnancy, 20% DCDA, and approximately 1% become MCMA.
 - Dizygous twins occur when two separate ova are fertilized by two different sperm. These always form DCDA pregnancy
- Perinatal mortality is 3-5 times higher in twins than singletons, with significantly higher losses in monochorionic (MC) twins (11%) compared with dichorionic (DC) twins (5%)
- 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 MCDA twins. Non-invasive prenatal screen (NIPS) can usually be performed in twin pregnancies, although has not been clinically validated in high order multiple pregnancies
- Structural defects are 2-3 times more common in liveborn MC twins than in DC twins. Advanced cardiac screening with fetal echocardiogram for all MC twins at 22-24 weeks gestation is recommended.
- Preterm birth occurs in 60% 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 gestation 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, however progesterone has shown some improvement in neonatal outcomes

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- 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 TTTS. Evidence of fetal growth restriction, rather than discordance *per se*, predicts adverse neonatal outcome. Serial ultrasounds throughout pregnancy are recommended given the inadequacy of clinical assessment of growth in multiple pregnancies
- TTTS occurs in 10% of monochorionic twins and has a very high perinatal mortality rate without treatment. Urgent referral to the NSW Fetal Therapy Centre 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 MC 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 Study” (Barrett et al 2013) showed that in twin pregnancy between 32 weeks 0 days and 38 weeks 6 days 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 (Rossi 2011) has found no difference. “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 cephalic 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

- Twin Pregnancy - Intrapartum Vaginal Birth Guidelines
- Monoamniotic Twins, Management
- Diabetes Mellitus (GDM) Management – Gestational
- Third Stage Management Following Vaginal Birth.
- Anaemia and Haemoglobinopathies in Pregnancy
- Intrapartum Fetal Heart Rate Monitoring
- High Order Multiple Pregnancy – Antenatal Care
- Breastfeeding staff education and implementation
- Women who choose to refuse recommended monitoring and treatment in Maternity Services in SESLHD (SESLHD PR/482)
- Syntocinon Induction or Augmentation of Labour Guideline
- Progesterone Prevention of Preterm Labour
- Postpartum Haemorrhage – Prevention and Management
- Corticosteroids for Woman at Risk of Preterm Birth or With a Fetus at Risk of Respiratory Distress - Antenatal

9. RISK RATING

- Low Risk

10. NATIONAL STANDARD

- CC – Comprehensive Care

CLINICAL POLICIES, PROCEDURES & GUIDELINES

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REVISION & APPROVAL HISTORY

Amendment made to No 5, 10th dot point under Antenatal Care to bring in line with SESLHD GDM policy, November 2016
Approved Quality & Patient Safety Committee 21/8/14
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
Approved Quality Council 18/4/05

FOR REVIEW : NOVEMBER 2022

.../Appendices

APPENDIX 1 TWIN PREGNANCY CLINIC

The Royal Hospital for Women has recognised how special it is to be having twins by creating a dedicated Twin Pregnancy Clinic. 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 ultrasounds 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 woman to make informed decisions regarding her care and birth
- Improve clinical care and reduce the number of hospital visits and waiting times for woman with twins, by combining ultrasounds 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?

We are a multidisciplinary team, consisting of medical, midwifery and allied health staff including:

- Medical officers: an obstetrician with expertise in ultrasound, an advanced trainee in obstetrics (Clinical Fellow) and an obstetric registrar
- Registered Midwives: Antenatal Clinic midwives +/- 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 twins with separate placentas (dichorionic)

- The first visit usually occurs before 20 weeks of pregnancy. At this visit you will meet the doctors and midwives involved in your care
- At 18-20 weeks of pregnancy, an ultrasound (fetal morphology) is performed in the Department of Medical Imaging
- Regular ultrasounds to monitor your babies' growth and well-being are performed every 4 weeks from 24 weeks. These ultrasounds are performed during the clinic session times and are combined with your antenatal visit so the results can be discussed with you
- More frequent ultrasounds may be required if any medical concerns arise during your pregnancy
- Antenatal visits occur at 20, 24 and 28 weeks of pregnancy, then fortnightly visits to 34 weeks of pregnancy, and then weekly thereafter until your birth
- Blood tests to screen for diabetes are performed at 26-28 weeks of pregnancy
- A full blood count and iron studies are performed at 26-28 weeks and 34 weeks of pregnancy
- Formulating a birth plan will occur around the 30-32 weeks of pregnancy
- A vaginal swab for Group B Streptococcus testing is taken at 34 weeks of pregnancy
- In a healthy, uncomplicated dichorionic twin pregnancy, birth at around 37-38 weeks of pregnancy is usually recommended. This can involve either induction of labour and a vaginal birth, or a caesarean section

Antenatal care for twins who share a placenta (monochorionic)

When twins share one placenta they 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 care for twins with two placentas (as outlined above) you will need more ultrasounds and an earlier delivery as outlined below:

- The first visit usually occurs at 16 weeks of pregnancy. At this visit you will meet the doctors and midwives involved in your care

- Regular ultrasounds from 16 weeks of pregnancy every 2-3 weeks to monitor for twin-twin transfusion syndrome or growth problems
- Delivery is usually recommended at 36-37 weeks of pregnancy if there are no other problems

Postnatal

You will require a postnatal check-up with your GP six weeks after your birth. It is very important that you find a GP if you don't already have one.

How can I learn more?

- We encourage all women to attend RHW special antenatal education classes for twins/multiples – “Having a Baby More Than One.” These weekly sessions provide an enjoyable forum to learn about becoming 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 10:30 am in the Physiotherapy department, or on the first Tuesday of each month 7-8:30 pm in the Lecture theatre. Booking is required.
- The RHW Department of Anaesthetics have a free monthly information session called “Pain Relief Options in Labour” at 7pm on the second Tuesday of each month in the RHW Lecture Theatre. Booking is required.
- Visit the website of the Australian Multiple Birth Association (AMBA) at www.amba.org.au for more useful information.

Contacting us

- To make appointments directly with the Twin Pregnancy Clinic, call the Department of Maternal Fetal Medicine on 9382 6098.
- For enquiries and bookings about RHW antenatal education classes, visit the website and book online http://www.seslhd.health.nsw.gov.au/rhw/Health_Education/classes2017.pdf
- 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. This information aims to answer some of the frequently asked questions, however, each pregnancy is unique. Decisions regarding the birth of your twins will take place with your team so that an individual plan is made.

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/DCDA twins) have the lowest rate of serious health problems when they are born 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 38 weeks for DCDA twins, regardless of mode of birth.
- Twins that share a placenta but have their own sac (monochorionic diamniotic/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. 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 (monochorionic Monoamniotic/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 involves balancing the risks and benefits to you and your 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 offered if both twins are 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 in this scenario
- If the first twin is not presenting head-first, 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?

- Generally, recovery is easier after vaginal birth with less chance of fever, and less restrictions on your mobility in the early postnatal period
- Avoidance of a uterine scar, as this may have consequences for future pregnancies and births
- Babies having less breathing difficulties in the first few days of life compared to babies born by elective caesarean section

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

- 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 complications can be:
 - Changes to the second twins' heart rate pattern that can be abnormal
 - Bleeding or premature separation of the placenta, before the second twin is born
 - Malpresentation (e.g. baby turning sideways or breech) leading to a need for special manoeuvres for delivery
- The chance of the second twin needing birth by caesarean section after the first twin has been born vaginally, is about 5%.

- There is a risk of requiring an emergency caesarean section in labour if complications develop.

Where can I get more information about caesarean section?

The RHW patient information leaflet "Information for Women Having a Caesarean Section" gives information about caesarean birth.

What can I expect in regard to my care in labour?

- The position of your babies are checked with an ultrasound on your admission to hospital
- Both the babies have their heart rate continuously monitored throughout labour
- We recommend that you have an intravenous cannula (drip) inserted in your arm to enable fluids and medications to be administered as needed
- An epidural 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 drip if needed
- There are often many staff present and the birth including obstetric doctors, midwives and paediatric team members
- Routine measures to facilitate prompt delivery of the placenta(s) and to reduce blood loss after the birth will be recommended. Postpartum haemorrhage (excessive blood loss) is more common when you have a twin birth

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.