

CHAPTER 14

DELIVERY OF TWINS

Learning Objectives

By the end of this chapter, the participant will:

1. Identify an appropriate management plan for a twin pregnancy and delivery.
2. Discuss management of a twin labour with specific attention to the issues of delivery of the second twin.

Incidence

Spontaneous twin pregnancy occurs in approximately 1/90 pregnancies. With the increased use of ovulation induction, the rate of multiple gestations has increased significantly.

The delivery of women with a multiple gestation poses many management problems. The incidence of prematurity and low birth weight is higher than in singleton pregnancies. There is increased risk of placental abnormalities: placenta previa, vasa previa, and placenta abruptio. Women carrying twins are at higher risk for hypertension disorders of pregnancy. Labour and delivery may be complicated by prematurity. Labour may be ineffective. The purpose of this chapter is to provide guidelines about where to deliver, as well as how to manage labour and how the delivery should be conducted.

Without ultrasound, up to 40% of twin gestations will not be recognized until 26 weeks gestation on average, and up to 20% will remain unrecognized until term. Where ultrasound examination is not available, multiple pregnancy should be suspected in all women who have a family history of dizygotic births, are older, are multiparous, are anemic, gain weight rapidly in the latter part of pregnancy, whose fundal height measurement appears large for dates or have a low-grade preeclampsia. The presence of twins may be detected when palpating the abdomen for the position of the fetus. More than one head or buttocks may be felt, suggesting the presence of two or more babies. On auscultation, two fetal heart rates may be heard.

Antenatal Considerations

- Early diagnosis promotes better prenatal care and planning for labour, birth and the early postpartum
- Educate women about the higher risk of prematurity and low-birth weight babies
- Support a quality diet with adequate calories, supplemented with iron 100 mg/day and folic acid 1 mg/day
- Psychological preparation
- Preparation for post-natal support
- Location of birth depending on available local resources

Where ultrasound is available,

- Screen for chorionicity (determine whether there is one versus two chorionic membranes). Monochorionic twins have a higher risk (25%) of perinatal mortality due to inter-twin vascular communication. Diamniotic twins with no vascular communication have a risk of 12%.

Serial ultrasounds in the second and third trimester may detect growth discordance and intrauterine growth restriction. Fetal growth in twin gestation parallels that of singletons until approximately 32–35 weeks. Thereafter the rate of fetal growth is measurably slightly less, although the clinical significance of this is undetermined. The patterns of twin fetal growth vary by race and gender, with African-American mothers having lower median body weight values. Male twins have heavier median body weight values than female twins at every gestational age. The importance of accurate and timely identification of discordant growth lies primarily in its relationship to the complication of twin-to-twin transfusion and to intrauterine growth restriction of the smaller twin. True discordance is an indicator for an increased risk of IUGR, morbidity, and mortality for the smaller twin.

Choice of Location for Delivery of Twins

The location of delivery should be discussed and agreed upon by the woman, her family, and the caregiver, i.e. the attending midwife or physician, and obstetrician. The 2000 Society of Obstetrics and Gynaecology of Canada SOGC consensus statement on the management of twin pregnancies recommends that women carrying twins should plan to deliver in a facility where anaesthetic, obstetrical, neonatal, and nursing staff are trained in cesarean delivery. When a woman with twins presents in labour at a facility without these resources, transport to a suitable facility should be considered. Wherever possible, a health care provider should be involved from the onset of labour and should be in attendance at the births. Ideally, there should be an additional health care provider present to care for each of the babies immediately after their delivery. These health care providers must be skilled in neonatal resuscitation.

Method of Delivery

The planned method of delivery must consider the lie and presentation of each fetus. Vaginal delivery should be the goal unless there are specific contraindications. The assessment of lie and presentation of each fetus should be reassessed on admission in labour, preferably by ultrasound where it is available.

Lie and Presentation

With a twin pregnancy all possible combinations of lie and presentation may occur. Figure 1 illustrates these combinations while Table 1 reflects the distribution of these combinations. Twin pregnancies are susceptible to compound, face brow and footling presentations because the fetuses tend to be smaller.

Types of Presentations

Figure 1: Types of presentations of twin gestation

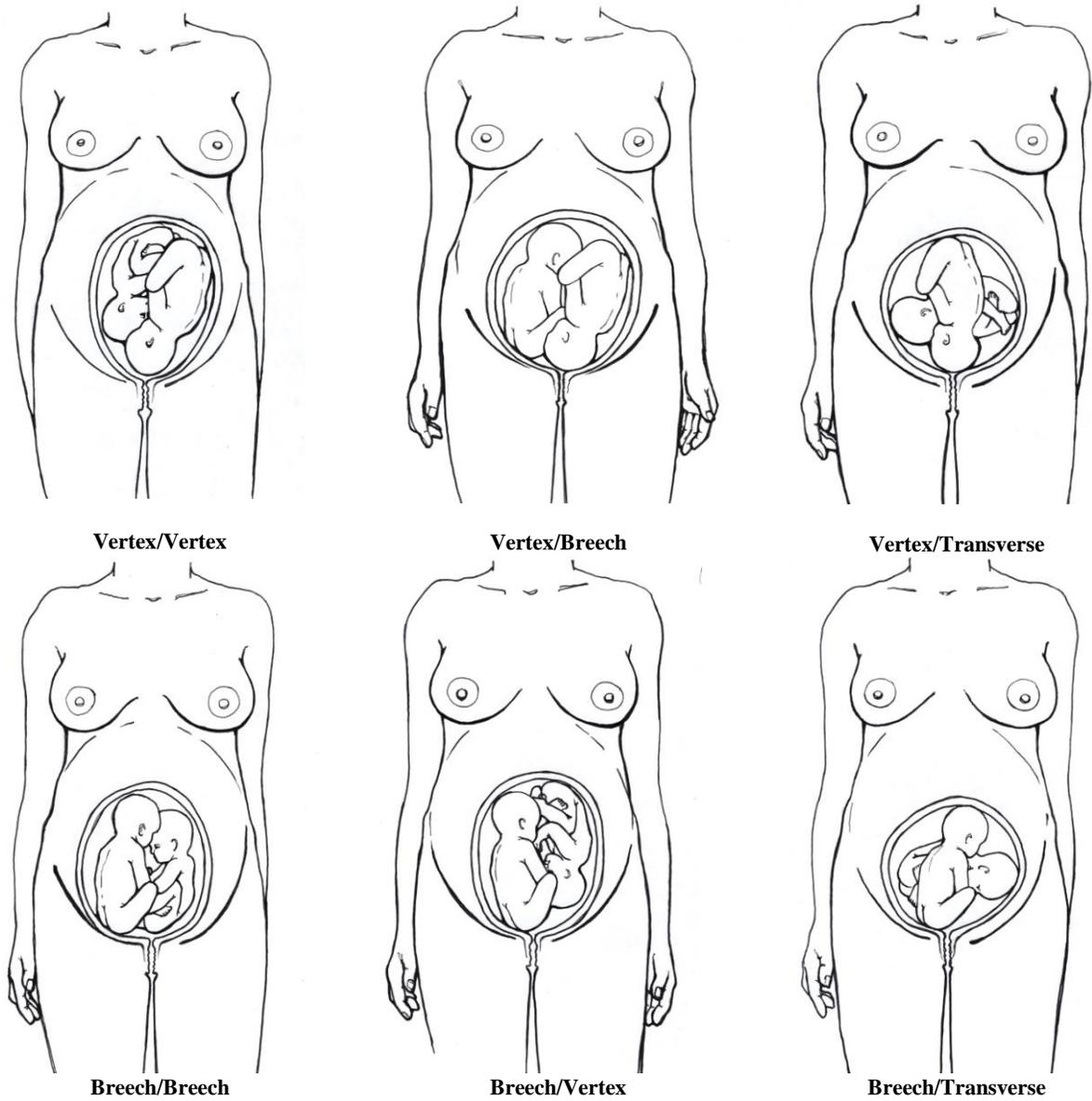


Table 1 – Distribution of fetal presentations in twin gestations

		First Twin		
		Cephalic	Breech	Non-longitudinal
Second Twin	Cephalic	38.6%	13.1%	0.6%
	Breech	25.5%	9.2%	0.6%
	Non-longitudinal	8.0%	3.9%	0.6%

First twin cephalic

When the first twin is in a cephalic presentation, vaginal delivery should be expected to progress as it would for a singleton pregnancy. Because of the possibility of communicating circulations, the placenta should not be drained. Cord blood should not be taken for gases and should not be taken until after delivery of the second twin.

First twin breech

When the first twin presents as a breech, the same issues exist as for the vaginal delivery of the singleton breech. Although the Term Breech Trial did not address the issue of breech presentation in multiple gestations, the woman should be informed of the results of the trial and must make an informed decision about the mode of delivery. She must also be informed of all other pertinent risks, including the possibility of “locked” twins, a form of malpresentation in which a breech twin and a vertex twin become locked at the chin during labor and attempted delivery. The incidence of “locked” twins is low, occurring about 1:87 breech/vertex combination.

First twin non-longitudinal

If the first twin is non-longitudinal, cesarean delivery is suggested.

Second twin cephalic – first twin delivered vaginally

Deliver vaginally.

Second twin breech – first twin delivered vaginally

Vaginal delivery is suggested as long as the estimated fetal weight is between 1,500g and 4,000g and the health care provider is comfortable with and skilled in vaginal breech delivery. With the second twin as breech, a vaginal breech extraction is an acceptable option. Consideration should be given to disparity in weight of the twins if the second twin is significantly larger. In the case of a second (non-cephalic) twin weighing between 500g and 1,500g, consensus statement members found no consistent evidence supporting either cesarean section or vaginal delivery.

Second twin non-longitudinal – first twin delivered vaginally

If the second twin is non-longitudinal and weighs over 1,500g, prompt external version or internal podalic version can be attempted. If these manoeuvres fail, cesarean section should be done.

Delivery of the second twin

- No absolute time limit
- Ascertain well-being of second twin
- Confirm presentation – position of second twin
- Active management of labour:
 - verify labour quality
 - consider augmentation
 - amniotomy (artificial rupture of membranes) only when second twin is engaged
 - avoid obtaining cord blood before birth of second twin

Management of Labour

Spontaneous labour

For the woman with a known multiple gestation, who has entered spontaneous labour at term, the plans regarding the place of delivery should have been previously discussed, tentatively arranged, and now be put into effect.

Preterm labour is a frequent complication of multiple gestations. Preterm delivery is the primary cause of the increase in perinatal morbidity and mortality in multiple gestations. Women with multiple gestations should be taught the early warning signs and symptoms of preterm labour, and be encouraged to report promptly for evaluation. When preterm labour is diagnosed, consideration must be given to tocolytic therapy, administration of glucocorticoids, and transport of the woman to a regional referral centre. Caution must be exercised not to induce pulmonary edema with the use of betamimetic tocolytics and betamethasone in combination.

Induction

To date there are no clinical trials showing evidence of a plan of induction versus expectant management for uncomplicated twin pregnancies. Indications and contraindications for induction with multiple gestation include all of the factors that would apply to a singleton gestation.

A significant disparity in estimated weight between twin fetuses is a sufficient indication for induction because it is a sign of twin-to-twin transfusion. The methods used for induction would be the same as those for a singleton pregnancy. The safety of induction in the presence of a previous cesarean section in multiple pregnancy is unknown.

Transport considerations

Careful assessment of suitability for transport and communication between the sending and the receiving centres should be done. To determine the best facility for delivery of preterm twins, it is important to consider the available local resources. It may be more appropriate to move to a facility with enhanced staffing and facilities. Care must be taken in the use of tocolytics during transport.

Assessment of fetal well-being in labour

All fetuses must have assessment of their well-being in labour. Twin pregnancy constitutes a potentially higher risk for perinatal morbidity and mortality. This is related to a number of factors including umbilical cord problems (such as cord prolapse), placental dysfunction, or twin-to-twin transfusion. After delivery of the first twin, there is an additional risk for the second twin because of cord compromise and intrapartum placental abruption.

Although intermittent auscultation has been suggested as preferable to electronic monitoring, in the twin situation it is probably best to use intermittent electronic monitoring when it is available. The effort to auscultate each of two fetuses accurately every 15 minutes may be prohibitive. Ideally, one health care provider would need to be available to monitor each fetus. When electronic fetal monitoring is done, the fetal heart rates must be recorded simultaneously. Some electronic monitoring machines have the capacity to use two separate Doppler ultrasound transducers, and are therefore able to successfully monitor each twin externally.

Electronic monitoring may be more successful at producing interpretable tracings if the leading twin is monitored with a scalp electrode and the second twin with Doppler ultrasound. The scalp electrode should be applied as soon as labour is well established.

Following delivery of the first twin, monitoring of the well-being of the second twin should be continued. When the second twin is in a longitudinal lie and membranes can be safely ruptured, monitoring with a fetal electrode can begin.

The use of the ultrasound during labour and delivery with twins is helpful to determine presentations and to monitor fetal well-being.

Analgesia or anesthesia for multiple gestation

The usual options with their risks, benefits, and limitations should be discussed. Epidural analgesia is used widely during labour with twin gestation. This provides quality pain relief and also allows for the provision of urgent anesthesia, if required.

Augmentation of labour

If dysfunctional labour is encountered, augmentation of labour is an option. The same indications and methods are used as in a singleton pregnancy. Augmentation of labour after delivery of the first twin may be appropriate.

Third Stage and Postpartum Management

After the second twin has been delivered, there should be active management of the third stage of labour. An intravenous infusion of oxytocin should be continued for 2 to 3 hours following delivery of the placenta to ensure the uterus stays well contracted. Cord blood samples for each baby may be taken following the delivery of the second twin. Following delivery, the placenta should be sent to pathology.

Whenever possible the woman and her babies should be kept together during the early and ongoing postpartum. Assistance by trained staff with early initiation of breastfeeding will benefit both the mother and her babies.

The increased risk of postpartum depression following multiplex birth should be kept in mind. Women should be encouraged to contact multiple-pregnancy support groups or other previously identified supports.

Documentation

Documentation of all aspects of labour and delivery should be clear, contemporaneous, and consistent among all involved health care providers. The birth order of the newborns should be clearly identified on their respective charts.



Key Messages

1. Twin gestations present with varying management issues throughout the pregnancy and at the time of delivery.
2. The management of delivery involves consideration of the environment specifically the competencies of the health care provider, and the types of services available: basic emergency obstetrical care versus comprehensive emergency obstetrical care.

Suggestion for Applying the Sexual and Reproductive Rights Approach to this Chapter

Women often experience feelings of fear during pregnancy, labour, and birth. The increased possibility of problems associated with a twin delivery increases these feelings. Take the time to talk to women in a friendly way to make her feel as comfortable as possible. Explain the differences in care that may become necessary during a multiple pregnancy, especially the possibility of delivering in a hospital or by cesarean section. During this vulnerable and very intimate time of a woman's life, treat her with respect and kindness in the labour room. Assist her to plan her childbearing experience, including transport and other plans. Offer suggestions that might be helpful to overcome any anxiety. Allow her to express herself in her own way.

Resources:

- Barrett J, Bocking A. Management of twin pregnancies (part II) [SOGC consensus statement no 92]. Journal of Obstetrics and Gynaecology of Canada 2000;22(8):607-10. Available: <http://sogc.medical.org/guidelines/public/93E-CONS2-August2000.pdf>
- Houlihan C, Knuppel RA. Intrapartum management of multiple gestations. Clinics in Perinatology 1996;23(1):91-116.
- SOGC Consensus Statement, Management of Twin Pregnancies (Part 1), **No. 91, July 2000** <http://www.sogc.org/guidelines/public/91E-CONS1-July2000.pdf>
- Wilson AK, Martel MJ, Clinical Practice Obstetrics Committee. Maternal transport policy [SOGC policy statement no 165]. Journal of Obstetrics and Gynaecology of Canada 2005;27(10):956-8. Available: <http://sogc.org/guidelines/public/165E-PS-October2005.pdf>