

## TWIN DELIVERY GUIDELINES

The practice of twin deliveries varies widely in different hospitals. It is common in community hospitals to perform Cesarean sections in all but vertex/vertex presentations. However, in tertiary perinatal centers with experienced obstetricians, around the clock availability of anesthesia and neonatology, and other supporting services such as CT-pelvimetry, and obstetrical ultrasound, selection criteria for route of delivery may be different. The following guidelines are given to obtain departmental uniformity in counseling patients with twin pregnancies during the prenatal course and during early labor and delivery.

### SELECTION CRITERIA:

1. From the 37th week of gestation, vaginal delivery is planned, irrespective of the presentation of the second twin, if the first twin is in vertex presentation.
2. If the first twin is breech presentation after the 36th week, CT-pelvimetry is performed. Critical measurements are 115mm for the obstetrical conjugate diameter in a normally shaped gynecoid pelvis, a Mengert's index of 100% for the pelvic inlet and 100% or greater for the mid pelvis. In addition, obstetrical ultrasound is performed to measure the biparietal diameter. The smallest pelvic diameter has to be at least 1 cm or greater than the biparietal diameter. If the first twin is in breech presentation extension of the fetal head (i.e. star-gazing fetus) has to be excluded either by ultrasound evaluation or a flat plate of the abdomen. Extension of the head is defined if the angle between fetal maxillary bone and the cervical spine is greater than 90°. If extension of the head is present in twin A, then Cesarean section is recommended. Extension of the head of twin B is not a contraindication to vaginal birth. Attention to the presentation of the second twin is so far insignificant. The criteria, when the first twin is in a breech presentation, are identical with our criteria for singleton breech delivery.
3. In the 34 to 36 gestational weeks, Cesarean section is advised in cases of breech-breech and breech-vertex. In cases of vertex-vertex, vertex-breech, and vertex-transverse presentations, vaginal delivery is primarily planned, unless other complications do not indicate Cesarean section.
4. Before the 34th week, Cesarean section is advised.
5. Cesarean section indicated by other complications, mainly growth restriction is considered on the grounds of common obstetric indications and not because of the twin pregnancy per se.

### INTRAPARTUM MANAGEMENT:

The team for twin deliveries consists of FM residents and staff, OB residents and staff, neonatal intensive care staff, anesthesiologist and two nurses on site in the delivery room. Bedside ultrasound needs to be available.

1. Upon arrival to Labor and Delivery patient needs IV access established (16 or 18 gauge).
2. Type and Cross 2-4 units of packed RBC's.
3. Patient may remain in delivery suite through the first stage of labor if labor is progressing as expected.
4. When patient beginning or nearing second stage of labor should be transferred to OR suite.
5. A double setup in an OR suite is the optimal delivery method that should be used when managing a twin delivery. It provides the delivery team with the proper space and equipment needed to ensure safety for the patient and fetuses should complications occur.
6. A high-resolution ultrasound should be available at all times throughout the delivery. It will be used continuously during the second stage of labor to watch positioning of twins.
7. The attending obstetrician leads delivery from a position beside the abdomen of the patient. This position is the most important, and the obstetrical resident is gloved to make the vaginal examinations and manipulations primarily.
8. Oxytocin, two liters of Lactated Ringers and a rapid acting tocolytic drug are prepared for immediate intravenous administration if needed. We use erbutaline for tocolysis, given in a single dose of .25 to .50 mg IV push.
9. The fetal heart rate of both twins is continuously and simultaneously recorded. The first twin's heart rate is recorded by a scalp electrode and that of the second twin is by an external ultrasound transducer. Uterine contractions are recorded by an external tocodynamometer or IUPC.
10. Fetal positions and presentations should frequently be determined during the first stage of labor.
11. During descent of the first twin, the second twin is brought into a longitudinal position by external manipulations under ultrasound guidance. Since this guiding is started before the birth of the first twin, the risk of transverse lie of the second twin is minimized. A vertex presentation of the second twin is optimal, but it is justified to deliver the twin in a breech presentation if necessary.
12. After the birth of the first twin, the oxytocin infusion is immediately stopped if in use, and the second twin is firmly kept in a longitudinal position. The presentation is controlled by ultrasonic examination.

13. The leading part is then presented down to the pelvic inlet and cervix by moderate pressure on the fundus. This means that we do not await spontaneous descent.
14. The resident physician checks that the presenting part is well applied to the cervix. In the case of uterine inertia, the oxytocin infusion is then started slowly, beginning at 1.0 mU/min and increased q 15 minutes.
15. The membranes are ruptured during a uterine contraction preferable at 0 station. These maneuvers minimize the risk of umbilical cord prolapse and cervical spasm.
16. A scalp electrode is applied. As long as the quality of the fetal heart rate record is good and no signs of impending intrauterine asphyxia appear, there is no absolute time limit for the interval elapsing between the births of the two babies.
17. If the external manipulations fail and the second twin is in a transverse position, .25 to .50 mg of terbutaline is immediately given intravenously and the fetus is brought into a longitudinal position by external version under ultrasound control.
18. In the case of an ominous fetal heart rate pattern, manipulations are of course quickened. If the external version is not successful, internal version and extraction are performed, with simultaneous suprapubic pressure of the fetal head under rapidly induced general anesthesia.
19. Remember that for each fetus, two people, one of whom is skilled in resuscitation and care of newborns, need to be informed of the case and immediately available to assist.
20. Internal version under general anesthesia (done by HCMC OB/GYN:

#### **INCIDENCE OF PRESENTATION**

Vertex-vertex	40%
Vertex-breech	26%
Breech-vertex	10%
Breech-breech	10%
Vertex-transverse	8%
Miscellaneous	6%

#### **REFERENCES:**

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