

## Twin Pregnancy, Practice Guidelines

### I. **Background:**<sup>1,2</sup>

Twins account for 3 percent of all live births, with recent increased incidence related to ART and increasing maternal age. The principle complication of multifetal gestation is preterm birth. Other complications include increased risk of stillbirth, neonatal death, as well as increased risk of congenital anomalies. Multifetal gestation also increases maternal morbidity and mortality, including increased risk of hyperemesis, gestational diabetes, hypertension, anemia, hemorrhage, cesarean delivery and postpartum depression.

### II. **Indications for MFM consultation:**

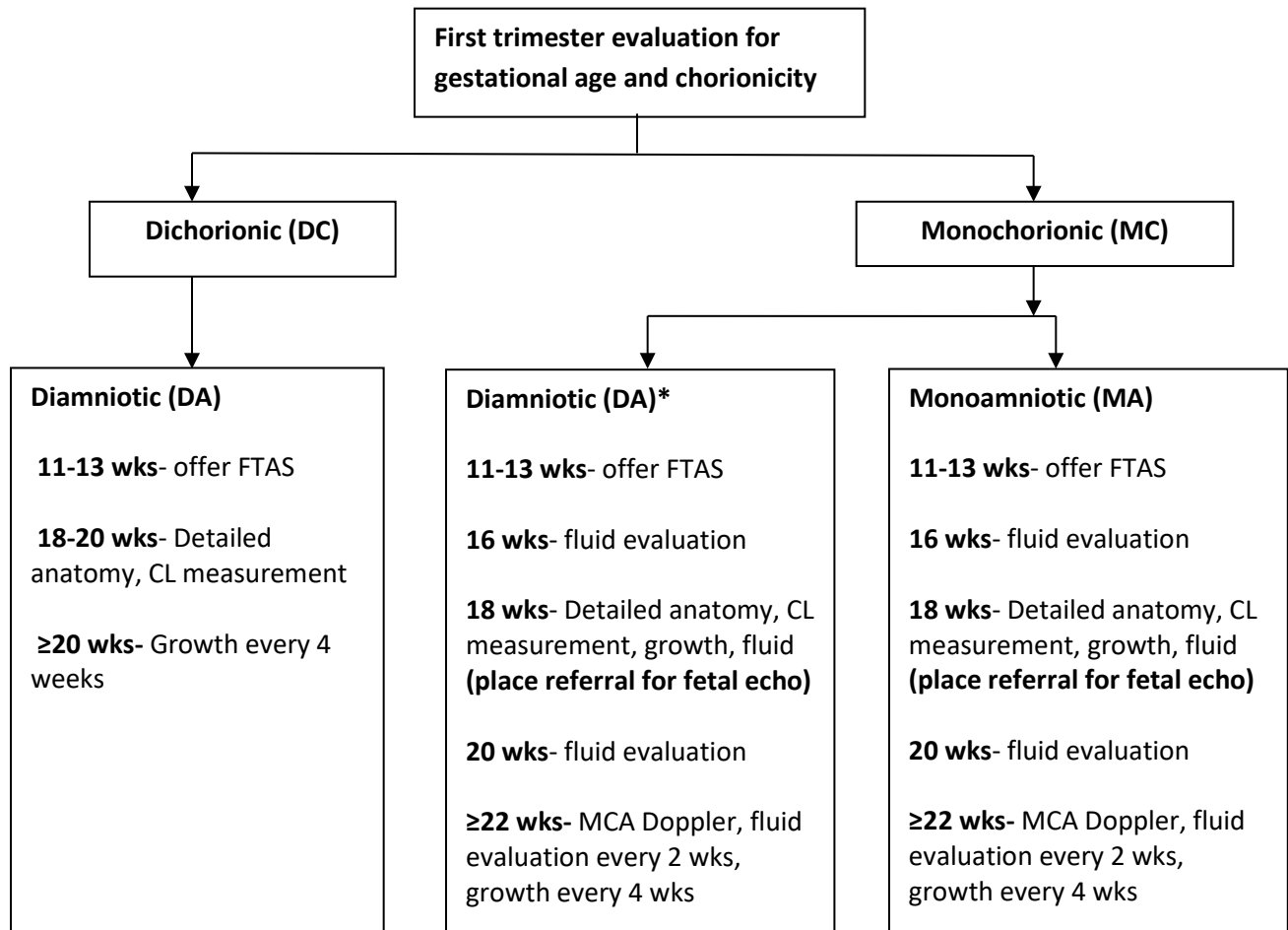
Higher order multiples, monochorionic pregnancies, co-twin demise in any trimester, maternal comorbidities, growth abnormalities, fetal anomalies, pregnancy complications.

### III. **Aneuploidy screening:**<sup>1-5</sup>

- A. Serum analyte testing is not as accurate in multiple gestations  
For routine screening, combined first trimester aneuploidy screening (FTAS) with NT, maternal age, and serum analytes is the preferred method of screening, with 75-85% detection rate for Down syndrome, 66.7% percent of T18; 5% false positive rate). However, in MC pregnancies, increased NT can indicate increased risk of TTS
- B. Low risk patients who present late for care should be counseled on the decreased accuracy of quad (51% detection rate for Down syndrome, 5% false positive rate)
- C. First trimester NT alone may be used in the case of demise of co-twin; analytes are not reliable.
- D. Because of limited evidence regarding its efficacy, cell-free DNA testing is not recommended for routine aneuploidy screening in women with multiple gestation, but may be considered in specific circumstances.
- E. CVS/Amnio offered for those when clinically indicated or those who desire definitive prenatal genetic diagnosis

### IV. **Ultrasound assessment and fetal surveillance (see flow diagram):**<sup>6-12, 24.</sup>

- A. All twins – ultrasound in first trimester/early second for assessment of chorionicity
- B. Monochorionic/Diamniotic (MC/DA) twins
  - 1. Ultrasound every 2 weeks starting at 16 weeks as screening for TTTS until delivery
  - 2. Serial growth assessment every 4 weeks starting at 18 weeks to delivery
  - 3. MCA Doppler every 2 weeks at and after 22 weeks as screening for TAPS
- C. Monochorionic/Monoamniotic (MC/MA) twins
  - 1. Same ultrasound screening as MC/DA twins
- D. Dichorionic/Diamniotic (DC/DA) twins
  - 1. Ultrasound every 4 weeks starting at 18-20 weeks for serial growth assessment
  - 2. Discordance is defined as greater than 20% (EFW large fetus-EFW small fetus/EFW large fetus)
  - 3. Recommend initiation of ANFS if discordance  $\geq$  20%
- E. Manage per ANFS protocol



\* Umbilical artery and Ductus venosus Doppler are not part of routine screening in twins. These studies are indicated only in cases diagnosed with FGR and/ or TTTS.

**V. Cervical assessment:**

A. Refer to cervical length screening protocol

**VI. Tocolytics:**

A. Refer to preterm labor protocol

**VII. Timing of Delivery:**<sup>1-2, 25-34</sup>

A. DC/DA

1. Scheduled delivery accomplished at 38 weeks
2. If dating does not meet ACOG guidelines, consultation with MFM

B. MC/DA

1. Overall higher stillbirth rate (3% vs 1.1% dichorionic)
2. Scheduled delivery at 37 weeks

3. Low threshold for delivery between 34-37 weeks for concurrent fetal and maternal morbidities. Plan MFM consultation between 34-37 weeks if any concerns.

C. MC/MA

1. Scheduled cesarean section between 32-34 weeks

**XI. Mode of Delivery** <sup>1,7-21</sup>

- A. Delivery strategy based upon presentation, maternal obstetrical history, operator obstetrical experience and informed patient consent. MC/MA twins should be by cesarean.

- B. Labor induction method: Use of prostaglandins and oxytocin is acceptable

- C. Anesthesia: Regional anesthesia is encouraged

- D. Ultrasound on the labor unit prior to induction/delivery to assess presentation. Review ultrasound for EFW; recommend within two weeks of vaginal delivery/induction

- E. Delivery accomplished in the operating room with anesthesia present

**F. Vertex-vertex**

1. Planned vaginal birth for uncomplicated twins is appropriate at any gestational age

**G. Nonvertex presenting twin**

1. Recommend planned cesarean

**H. Vertex-nonvertex twins**

1. Several studies have reported successful vaginal delivery of both twins; breech extraction of the second twin is preferable in an experienced obstetrician and appropriate clinical setting. Breech extraction preferred over external cephalic version.

2. Ultrasound performed after delivery of Twin A. No absolute indication to deliver within specified time limit, but active intervention is encouraged to expedite to less than 10 minutes between twin delivery

3. Breech extraction may be considered if:

- a. 32+ weeks gestation
- b. EFW of second twin is < 20% greater than the presenting twin
- c. Adequacy of the maternal pelvis has been assessed and **documented** with discussion regarding the potential of cesarean of the second twin
- d. EFW of the second twin is > 1500mg and < 3500gm
- e. Patient consent clearly documented

**I. Trial of Labor after Cesarean (TOLAC)** <sup>1, 2, 21</sup>

1. Attempt at TOLAC reasonable based upon discussion/documentation and medical co-morbidities and past obstetrical history
2. Success rate similar to singletons and no more likely to experience adverse VBAC related events
3. Labor induction generally should be avoided, the success rate is higher in those women who present in spontaneous labor

- J. MC/MA Twins: planned cesarean recommended

- K. Higher order multiples: planned cesarean recommended

**VIII. Maternal considerations:**

- A. Maternal weight gain in twins (2009 Institute of Medicine recommendations)<sup>22</sup>:
  - 1. Normal pre-pregnancy BMI 18.5-24.9 kg/m<sup>2</sup> is 37-54 pounds
  - 2. Overweight BMI 25.0-29.9 kg/m<sup>2</sup> is 31-50 pounds
  - 3. Obese BMI  $\geq$  30 kg/m<sup>2</sup> is 25-42 pounds
  - 4. No specific recommendations for women who are underweight
  - 5. Nutritional consult in first trimester, repeat in second and third trimester with concerns.
- B. Gestational diabetes assessment:<sup>1,2</sup>
  - 1. First trimester GCT and then again 24-28 weeks and if indicated clinically may repeat

**IX. Special circumstances:**

- A. Monochorionic monoamniotic twin gestation
  - a. Admission to the hospital between viability and 28 week gestation after MFM consultation
  - b. If patient desires outpatient management at a viable gestational age, patient may be offered outpatient fetal surveillance with 1 hour non-stress test twice weekly
  - c. During admission, initial monitoring strategy will be 1 hour NST three times per day, with more frequent monitoring as indicated
- B. TTTS (Twin-twin transfusion syndrome) referral to Fetal Care Clinic
- C. TRAP (Twin reversed arterial sequence) referral to Fetal Care Clinic
- D. TAPS (Twin anemia polycythemia sequence) referral to Fetal Care Clinic
- E. Co-twin demise<sup>23</sup>–
  - a. No immediate intervention
  - b. MFM consultation
  - c. Rhogam as indicated

## References

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