Preterm Labor

**Definition:**
Labor occurring at less than 37 weeks by most accurate method, is considered preterm. Tocolytic treatment is used to allow transport to level III facility. Prior to transfer, consider administering corticosteroids (≤ 34 weeks) for fetal prematurity, and group B strep prophylaxis. Tocolytic therapy is continued after arrival at level III facility if best estimate of gestational age is < 34 weeks. If best estimate of gestational age is ≥ 34 weeks, one may discontinue tocolytics.

**Diagnosis:**
Contractions 6 per hour on a fetal monitor or to palpation, for at least 2 hours
AND
Cervical dilation ≥ 3 cms
OR
Cervical effacement of 80% or more
OR
Cervical change during observation period
OR
Positive ffN or transvaginal ultrasound cervical length < 20 mm

**Management:**
Sterile speculum exam to rule out PROM, obtain ffN swab if 24-34 weeks.

If the fetal fibronectin enzyme immunoassay kit is to be used the following criteria should be met:
1. Amniotic membranes are intact.
2. Cervical dilation is minimal (< 3 cm).
3. Sampling is performed no earlier than 24 weeks, 0 days and no later than 34 weeks, 6 days of gestation.
   a. The test is not recommended for routine screening of the general obstetric population.
   b. Although a negative test appears to be useful in ruling out preterm delivery that is imminent (ie, within 2 weeks), the clinical implications of a positive result have not been evaluated fully.
4. No bleeding, intercourse, vaginal examinations for at least 24 hours prior to sampling.

**Methods:**
1. Perform sterile speculum exam and rotate the provided Dacron swab across posterior fornix for 10 seconds to absorb cervicovaginal secretions (use only Adeza Collection Devices).
2. Remove swab and immerse Dacron tip into buffer solution. Break shaft at score mark.
3. Align shaft with cap and push down tightly.
4. Label specimen.
4. If not immediately sent to lab, specimen must be refrigerated after collection.

Evaluate for obvious labor by pelvic exam, and institute continuous fetal monitoring for 2 hours with consideration for IV hydration.

If contractions continue:
- Cervical cultures (beta-strep, chlamydia)
- Ultrasound for fetal position, biophysical profile, EFW, anomalies
- Evaluate for chorioamnionitis or abruption with maternal vitals, physical exam and fetal heart rate pattern
- Straight cath for UA and C&S, consider urine toxicity screen, CBC, blood clot
- Identify any patients with heart disease, diabetes, or hyperthyroidism (relative contraindications to beta-mimetics)
- Consider Betamethasone for age of gestation between 24 to 34 weeks
- Antibiotics until GBS culture returns (see GBS guideline)

Possible tocolytic agents:

1. Terbutaline – 0.25 mg SQ every 15-20 minutes x 3 doses
   - Discontinue for maternal chest pain and obtain EKG
   - Hold for maternal pulse if 130 and fetal pulse of 180

2. Nifedipine
   - 20-30 mg loading P.O. dose, then 10-20 mg PO every 6-8 hours
   - Check BP every 15 minutes x 4 after first dose, maintaining patient in left lateral
   - Hold for BP < 90/60

3. Magnesium Sulfate
   - Consider for patients with cardiac disease or diabetes
   - 4 gm loading dose over 15-20 minutes followed by IV infusion at 2 gm/hr may increase up to 4 gm/hour with MgSO4 levels every 6 hours
   - Monitor with I&O’s (consider foley catheter)
   - Check patellar reflexes and lungs frequently
   - Maintain on L&D for 12-24 hours after cessation of contractions then discontinue
   - Consider maintenance with Nifedipine if indicated
   - Start Nifedipine 4 hours after discontinuing MgSO4
   - May consider magnesium sulfate for neuroprotection if < 32 0/7 weeks

4. NSAID’S
   - Indomethacin 50 mg every 2 hours x 3 doses, followed by 25-50 mg every 6-8 hours x 48 hours, then discontinue.
• Sulindac 200 mg PO every 12 hours x 48 hours
• Particularly useful in fetuses with polyhydramnios, recent cerclage placement.
• May be used up to 32 weeks, follow with ultrasound for fluid checks and Doppler of ductus arteriosis, as needed.

5. Retreatment
• Patients whose pre-term labor recurs and are still < 34 weeks may be treated with different tocolytic agent often with success; i.e. the patient who breaks through on P.O. Nifedipine may respond to Magnesium.

6. Followon/chronic tocolysis – not indicated