

# Maine Medical

PARTNERS

## Women's Health

*A department of Maine Medical Center*

### Prelabor Rupture of Membranes

#### Risk Factors

- Intraamniotic infection (15-25%, higher for earlier gestational ages)
- History of preterm PROM
- Short cervical length
- Second- and third-trimester bleeding
- Placental abruption (2-5%)
- Low body mass index
- Cigarette use
- Illicit drug use

#### Diagnosis:

1. Based on history and physical exam.
2. Avoid digital cervical exam. Examination by sterile speculum is recommended unless the patient is in active labor or imminent delivery is planned. Inspect for umbilical cord prolapse, bulging membranes, cervical effacement/dilation; cervical cultures should be done.

#### Confirm diagnosis by:

1. Visualization of fluid passing from cervical canal.
2. Amniotic fluid pH is 7.1-7.3 (nitrazine positive).
  - False positive results occur in the presence of semen, blood, alkaline antiseptics, or bacterial vaginosis.
  - False negative may occur with prolonged leakage and minimal residual fluid.
3. Ferning (arborization) by microscopic visualization suggests membrane rupture.
  - A significant amount of RBCs in fluid can prevent ferning.
4. A normal amniotic fluid index makes PPROM less likely. Ultrasound to assess amniotic fluid index is not diagnostic, but may be a helpful adjunct.
5. Fetal fibronectin is sensitive but nonspecific for PPROM. Negative test strongly suggests intact membranes. Positive test not diagnostic (false positive 19-30%).

#### Management:

1. Deliver for obvious intrauterine infection, placental abruption, or evidence of fetal compromise.
2. Obtain testing for chlamydia and gonorrhea from the cervix.
3. Group B streptococcus (GBS) culture.
4. Obtain catheterized specimen of urine for UA and C&S when indicated.

5. Continuous fetal heart rate monitoring for 24 hours with tocometry.
6. Obtain ultrasound for fetal position, estimated fetal weight, biophysical profile, and amniotic fluid volume upon admission (official scan later). Gestational age is a primary factor when considering delivery vs. expectant management.
7. PPROM prior to 34 weeks should be managed expectantly, provided there are no fetal or maternal contraindications.
8. Either expectant management or immediate delivery in patients with PPROM between 34 0/7 weeks of gestation and 36 6/7 weeks of gestation is a reasonable option, although the balance between benefit and risk, from both maternal and neonatal perspectives, should be carefully considered, and patients should be counseled clearly. Care should be individualized through shared decision making, and expectant management should not extend beyond 37 0/7 weeks of gestation. Latency antibiotics are not appropriate in this setting.

#### Expectant Management:

1. Hospitalization
2. Periodic assessment for infection (high index of suspicion), placental abruption, umbilical cord compression, fetal well-being and signs of labor
3. Ultrasound
  - Complete obstetrical ultrasound, if not previously performed by MMC MFM
  - BPP 1-2x/week
4. Fetal heart rate monitoring
  - FHR and toco monitoring 1-2x/day
  - Vitals q4-8 hours

The outpatient management of PPROM with a viable fetus is **NOT** recommended. Inpatient maternal/fetal surveillance is recommended.

#### Steroids:

Refer to: <https://www.mainehealth.org/-/media/MaineHealth/PDFs/Clinical-Guidelines-and-Resources/Obstetrical-Perinatal-Guidelines/Corticosteroid-for-Fetal-Lung-Maturity.pdf>

#### Antibiotic Treatment:

Administration of broad spectrum antibiotics with PPROM (prior to 34 weeks):

1. Prolongs pregnancy
2. Reduces maternal and neonatal infections
3. Reduces gestational-age dependent morbidity

Treat with a 7-day course of antibiotics for PPROM:

IV ampicillin (2 grams q 6 hours) and erythromycin (250 mg q 6 hours) for 48 hours followed by oral amoxicillin (250 mg q 8 hours) and erythromycin base (333 mg q 8 hours) for 5 days (Ref 1).\* \*\*

\*If erythromycin unavailable or contraindicated, substitute erythromycin with:  
Azithromycin 500 mg IV q 24 hours x 2 doses, then azithromycin 500 mg PO daily x 5 doses (Ref 2)

\*\*For penicillin allergy (rash only), substitute ampicillin with:  
Cefazolin 1 gram IV q 8 hours x 48 hours followed by cephalexin 500 mg PO q 6 hours for 5 days.

\*\*For penicillin allergy (anaphylaxis), substitute ampicillin with:  
Vancomycin 20 mg/kg IV q 8 hours (2 gram maximum single dose) for 6 doses (minimum infusion time is 1 hour or 500mg/30 minutes for doses >1 gram).

If clindamycin sensitive GBS culture, may switch to clindamycin 300 mg PO q 6 hours for 5 days.

***Avoid amoxicillin/clavulanate (augmentin) due to increased risk of neonatal necrotizing enterocolitis.***

Pregnant patients with PPROM and a potentially viable fetus who are known GBS carriers and those who give birth before carrier status can be delineated should receive intrapartum prophylaxis to prevent vertical transmission regardless of earlier treatments.

#### Neuroprotection:

Refer to: <https://www.mainehealth.org/-/media/MaineHealth/PDFs/Clinical-Guidelines-and-Resources/Obstetrical-Perinatal-Guidelines/Neuroprotection.pdf>

#### Tocolysis:

Therapeutic tocolysis is not recommended.

#### Consider delivery if any of the following are present:

- Non reassuring FHT
- Non reassuring BPP
- Maternal temperature > 38.0° C (or 100.4° F)
- Uterine tenderness
- Maternal or fetal tachycardia
- Regular contractions
- >= 34 0/7 weeks' gestation

Less than 22 0/7 weeks' gestation:

- Refer to Perinatal Guideline “Outpatient Management of Second Trimester PROM” <https://mainehealth.org/healthcare-professionals/clinical-resources-guidelines-protocols/obstetrical-perinatal-guidelines>

References:

1. ACOG Practice Bulletin No. 217. Prelabor Rupture of Membranes. March 2020.
2. Navathe R, Schoen CN, Heidari P, et al. Azithromycin vs erythromycin for the management of preterm premature rupture of membranes. Am J Obstet Gynecol 2019; 221:144.e1.