ACOG COMMITTEE OPINION

Number 764

(Replaces Committee Opinion No. 560, April 2013)

Committee on Obstetric Practice
Society for Maternal-Fetal Medicine

This Committee Opinion was developed by the Committee on Obstetric Practice in collaboration with Society for Maternal-Fetal Medicine liaison member Cynthia Gyamfi-Bannerman, MD, MS, committee members Angela B. Gantt, MD, MPH and Russell S. Miller, MD, and the Society for Maternal-Fetal Medicine.

Medically Indicated Late-Preterm and Early-Term Deliveries

ABSTRACT: The neonatal risks of late-preterm and early-term births are well established, and the potential neonatal complications associated with elective delivery at less than 39 0/7 weeks of gestation are well described. However, there are a number of maternal, fetal, and placental complications in which either a late-preterm or early-term delivery is warranted. The timing of delivery in such cases must balance the maternal and newborn risks of late-preterm and early-term delivery with the risks associated with further continuation of pregnancy. Deferring delivery to the 39th week is not recommended if there is a medical or obstetric indication for earlier delivery. If there is a clear indication for a late-preterm or early-term delivery for either maternal or newborn benefit, then delivery should occur regardless of the results of lung maturity testing. Conversely, if delivery could be delayed safely in the context of an immature lung profile result, then no clear indication for a late-preterm or early-term delivery exists. Also, there remain several conditions for which data to guide delivery timing are not available. Some examples of these conditions include uterine dehiscence or chronic placental abruption. Delivery timing in these circumstances should be individualized and based on the current clinical situation. This Committee Opinion is being revised to include frequent obstetric conditions that would necessitate delivery before 39 weeks of gestation and to apply the most up-to-date evidence supporting delivery recommendations.

Recommendations

The American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine make the following recommendations:

- Deferring delivery to the 39th week is not recommended if there is a medical or obstetric indication for earlier delivery. Table 1 presents recommendations for the timing of delivery for a number of specific conditions.
- In the case of an anticipated late-preterm delivery, a single course of antenatal betamethasone is recommended within 7 days of delivery in select women who have not received a previous course of antenatal corticosteroids. However, a medically indicated late-preterm delivery should not be delayed for the administration of antenatal corticosteroids.

The American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine have long discouraged nonindicated delivery before 39 weeks of gestation. The reason for this longstanding principle is that the neonatal risks of late-preterm (34 0/7–36 6/7 weeks of gestation) and early-term (37 0/7–38 6/7 weeks of gestation) births are well established, and the potential neonatal complications associated with elective delivery at less than 39 0/7 weeks of gestation are well described (1, 2). Based on these and other data, timing of elective delivery at 39 weeks of gestation or later is recommended (3).

However, there are a number of maternal, fetal, and placental complications in which either a late-preterm or early-term delivery is warranted. The timing of delivery in such cases must balance the maternal and newborn risks...
<table>
<thead>
<tr>
<th>Condition</th>
<th>General Timing</th>
<th>Suggested Specific Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Placental/Uterine Conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Placenta previa†</td>
<td>Late preterm/early term</td>
<td>36 0/7–37 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Suspected accreta, increta, or percreta†</td>
<td>Late preterm</td>
<td>34 0/7–35 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Vasa previa</td>
<td>Late preterm/early term</td>
<td>34 0/7–37 0/7 weeks of gestation</td>
</tr>
<tr>
<td>Prior classical cesarean</td>
<td>Late preterm/early term</td>
<td>36 0/7–37 0/7 weeks of gestation</td>
</tr>
<tr>
<td>Prior myomectomy requiring cesarean delivery†</td>
<td>Early term (individualize)</td>
<td>37 0/7–38 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Previous uterine rupture</td>
<td>Late preterm/early term</td>
<td>36 0/7–37 0/7 weeks gestation</td>
</tr>
<tr>
<td><strong>Fetal Conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oligohydramnios (isolated or otherwise uncomplicated [deepest vertical pocket less than 2 cm])</td>
<td>Late preterm/early term</td>
<td>36 0/7–37 6/7 weeks of gestation or at diagnosis if diagnosed later</td>
</tr>
<tr>
<td>Polyhydramnios†</td>
<td>Full term</td>
<td>39 0/7–39 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Growth restriction (singleton)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Otherwise uncomplicated, no concurrent findings</td>
<td>Early term/full term</td>
<td>38 0/7–39 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Abnormal umbilical artery dopplers: elevated S/D ratio with diastolic flow</td>
<td>Early term</td>
<td>Consider at 37 0/7 weeks of gestation or at diagnosis if diagnosed later</td>
</tr>
<tr>
<td>Abnormal umbilical artery dopplers: absent end diastolic flow</td>
<td>Late preterm</td>
<td>Consider at 34 0/7 weeks of gestation or at diagnosis if diagnosed later</td>
</tr>
<tr>
<td>Abnormal umbilical artery dopplers: reversed end diastolic flow</td>
<td>Preterm</td>
<td>Consider at 32 0/7 weeks of gestation or at diagnosis if diagnosed later</td>
</tr>
<tr>
<td>Concurrent conditions (oligohydramnios, maternal co-morbidity [eg, preeclampsia, chronic hypertension])</td>
<td>Late preterm/early term</td>
<td>34 0/7–37 6/7 weeks of gestation</td>
</tr>
<tr>
<td><strong>Multiple gestations—uncomplicated</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichorionic-diamniotic twins</td>
<td>Early term</td>
<td>38 0/7–38 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Monochorionic-diamniotic twins</td>
<td>Late preterm/early term</td>
<td>34 0/7–37 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Monochorionic-monoamniotic twins</td>
<td>Preterm/late preterm</td>
<td>32 0/7–34 0/7 weeks of gestation</td>
</tr>
<tr>
<td>Triplet and higher order</td>
<td>Preterm/late preterm</td>
<td>Individualized</td>
</tr>
<tr>
<td><strong>Multiple gestations—complicated</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichorionic-diamniotic twins with isolated fetal growth restriction</td>
<td>Late preterm/early term</td>
<td>36 0/7–37 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Dichorionic-diamniotic twins with concurrent condition</td>
<td>Late preterm</td>
<td>Individualized</td>
</tr>
<tr>
<td>Monochorionic-diamniotic twins with isolated fetal growth restriction</td>
<td>Preterm/late preterm</td>
<td>32 0/7–34 6/7 weeks of gestation</td>
</tr>
<tr>
<td><strong>Alloinmunization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At-risk pregnancy not requiring intrauterine transfusion</td>
<td>Early term</td>
<td>37 0/7–38 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Requiring intrauterine transfusion</td>
<td>Late preterm or early term</td>
<td>Individualized</td>
</tr>
<tr>
<td><strong>Maternal Conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertensive disorders of pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic hypertension: isolated, uncomplicated, controlled, not requiring medications</td>
<td>Early term/full term</td>
<td>38 0/7–39 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Chronic hypertension: isolated, uncomplicated, controlled on medications</td>
<td>Early term/full term</td>
<td>37 0/7–39 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Chronic hypertension: difficult to control (requiring frequent medication adjustments)</td>
<td>Late preterm/early term</td>
<td>36 0/7–37 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Gestational hypertension, without severe-range blood pressure</td>
<td>Early term</td>
<td>37 0/7 weeks or at diagnosis if diagnosed later</td>
</tr>
</tbody>
</table>

(continued)
of late-preterm and early-term delivery with the risks associated with further continuation of pregnancy. Deferring delivery to the 39th week of gestation is not recommended if there is a medical or obstetric indication for earlier delivery. To address the issue of appropriate indications for delivery at less than 39 weeks of gestation, the Eunice Kennedy Shriver National Institute of Child Health and Human Development and the Society for Obstetric Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>General Timing</th>
<th>Suggested Specific Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latent hypotension with severe-range blood pressures</td>
<td>Late preterm</td>
<td>34 0/7 weeks of gestation or at diagnosis if diagnosed later</td>
</tr>
<tr>
<td>Preeclampsia without severe features</td>
<td>Early term</td>
<td>37 0/7 weeks of gestation or at diagnosis if diagnosed later</td>
</tr>
<tr>
<td>Preeclampsia with severe features, stable maternal and fetal conditions, after fetal viability (includes superimposed)</td>
<td>Late preterm</td>
<td>34 0/7 weeks of gestation or at diagnosis if diagnosed later</td>
</tr>
<tr>
<td>Preeclampsia with severe features, unstable or complicated, after fetal viability (includes superimposed and HELLP)</td>
<td>Soon after maternal stabilization</td>
<td>Soon after maternal stabilization</td>
</tr>
<tr>
<td>Preeclampsia with severe features, before viability</td>
<td>Soon after maternal stabilization</td>
<td>Soon after maternal stabilization</td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregestational diabetes well-controlled</td>
<td>Full term</td>
<td>39 0/7–39 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Pregestational diabetes with vascular complications, poor glucose control, or prior stillbirth</td>
<td>Late preterm/early term</td>
<td>36 0/7–36 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Gestational: well controlled on diet and exercise</td>
<td>Full term</td>
<td>39 0/7–40 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Gestational: well controlled on medications</td>
<td>Full term</td>
<td>39 0/7–39 6/7 weeks of gestation</td>
</tr>
<tr>
<td>Gestational: poorly controlled</td>
<td>Late preterm/early term</td>
<td>Individualized</td>
</tr>
<tr>
<td>HIV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intact membranes and viral load &gt;1,000 copies/mL</td>
<td>Early-term cesarean delivery</td>
<td>38 0/7 weeks of gestation</td>
</tr>
<tr>
<td>Viral load ≤1,000 copies/ml with antiretroviral therapy</td>
<td>Full term (early term birth not indicated)</td>
<td>39 0/7 weeks of gestation or later</td>
</tr>
<tr>
<td>Intrahepatic cholestasis of pregnancy</td>
<td>Late preterm/early term</td>
<td>36 0/7–37 0/7 weeks of gestation or at diagnosis if diagnosed later</td>
</tr>
</tbody>
</table>

Abbreviations: HELLP, hemolysis, elevated liver enzymes, and low platelet count; PROM, prelabor rupture of membranes (also referred to as premature rupture of membranes).

*In situations in which there is a wide gestational age range for acceptable delivery thresholds, the lower range is not automatically preferable, and medical decision making for the upper or lower part of a range should depend on individual patient factors and risks and benefits.

1Uncomplicated, thus no fetal growth restriction, superimposed preeclampsia, or other complication. If these conditions are present, then the complicating conditions take precedence and earlier delivery may be indicated.

2Prior myomectomy may require earlier delivery similar to prior classical cesarean (36 0/7–37 0/7 weeks of gestation) in situations with more extensive or complicated myomectomy. Data are conflicting regarding specific timing of delivery. Furthermore, timing of delivery may be influenced by the degree and location of the prior uterine surgery, with the possibility of delivering as late as 38 6/7 weeks of gestation for a patient with a less extensive prior surgery. Timing of delivery should be individualized based on prior surgical details (if available) and the clinical situation.

3Expectant management beyond 39 0/7 weeks of gestation should only be done after careful consideration of the risks and benefits and with appropriate surveillance.

4Management individualized to particulars of maternal–fetal condition and gestational age.

5Delivery before 36 weeks of gestation occasionally may be indicated depending on laboratory and clinical circumstances.
Maternal-Fetal Medicine convened a workshop that summarized the available evidence and made recommendations (4). The evidence regarding timing of indicated delivery for most conditions is limited, with recommendations based largely on expert consensus and relevant observational studies. This Committee Opinion is being revised to include frequent obstetric conditions that would necessitate delivery before 39 weeks of gestation and to apply the most up-to-date evidence supporting delivery recommendations.

There are several important principles to consider in the timing of delivery. First, the decisions regarding delivery timing are complex and must take into account relative maternal and newborn risks, practice environment, and patient preferences. Second, late-preterm or early-term deliveries may be warranted for maternal benefit or newborn benefit, or both. In some cases, healthcare providers will need to weigh competing risks and benefits for the woman and her fetus. For these reasons, and because the recommendations for timing of delivery are based on limited data, decisions regarding timing of delivery always should be individualized to the needs of the patient. Additionally, recommendations for timing of delivery before 39 weeks of gestation are dependent on an accurate determination of gestational age.

Amniocentesis for the determination of fetal lung maturity should not be used to guide the timing of delivery, even in suboptimally dated pregnancies (5). The reasons for this are multiple and interrelated. First, if there is a clear indication for a late-preterm or early-term delivery for either maternal or newborn benefit, then delivery should occur regardless of the results of lung maturity testing. Conversely, if delivery could be delayed safely in the context of an immature lung profile result, then no clear indication for a late-preterm or early-term delivery exists. Second, mature amniotic fluid indices are imperfect in the prediction of neonatal respiratory outcomes and are not necessarily reflective of maturity in other organ systems (6).

In the case of an anticipated late-preterm delivery, a single course of antenatal betamethasone is recommended within 7 days of the delivery in select women who have not received a previous course of antenatal corticosteroids (7). However, a medically indicated late-preterm delivery should not be delayed for the administration of antenatal corticosteroids.

Table 1 presents recommendations for the timing of delivery for many specific conditions. This list is not meant to be all-inclusive, but rather is a compilation of indications commonly encountered in clinical practice. “General timing” describes the concept of whether a condition is appropriately managed with either a late-preterm or early-term delivery. “Suggested specific timing” refers to more defined timing of delivery within the broader categories of late-preterm or early-term delivery. These are recommendations only and will need to be individualized and reevaluated as new evidence becomes available. Also there remain several conditions for which data to guide delivery timing are not available. Some examples of these conditions include uterine dehiscence or chronic placental abruption. Delivery timing in these circumstances should be individualized and based on the current clinical situation. In situations in which there is a wide gestational age range for acceptable delivery thresholds, the lower range is not automatically preferable and medical decision making for the upper or lower part of a range should depend on individual patient factors and risks and benefits. Not uncommonly, a patient may have multiple indications for possible late-preterm or early-term delivery. The American College of Obstetricians and Gynecologists has developed an applet (www.acog.org/acogapp) to address and adjudicate competing delivery indications.

References


