The treatment guidelines summarized in this document were created by the Obstetrical Development Team of the Women and Newborns Clinical Program at Intermountain Healthcare. The guidelines are derived from Intermountain practice outcomes, expert consensus, and recommendations of the American College of Obstetricians and Gynecologists (ACOG).¹

Why focus on elective labor induction?
Labor induction involves the stimulation of uterine contractions to produce delivery before the onset of spontaneous labor. Induction of labor is indicated when the potential risks of continuing a pregnancy outweigh the benefits. At times this is clear (e.g., when one of the indications listed on the following page threatens the health of the mother or baby). However, often the situation is not well defined and is influenced by the beliefs of individual caregivers.²

Based on 1999 National Vital Statistics Reports, induction was used in 18 percent of births in 1997, twice the 1989 level of 9 percent.³ Elective labor inductions without a clear medical or obstetric indication are also increasingly common.⁴ Elective inductions that do not meet criteria recommended by ACOG (e.g., at least 39 weeks gestation and Bishop Score 8 or greater) can result in increased risk for infection, premature delivery, longer labor, and need for C-section.

Intermountain Healthcare data
Labor induction <39 weeks gestation:
Intermountain data shows that deliveries at <39 weeks gestation result in an increased number of neonates with NICU admits, respiratory distress syndrome, and ventilator usage—therefore increasing neonatal morbidity in such infants.

The good news: Since the original adoption of the guidelines described in this document, Intermountain has been able to reduce the percent of elective labor inductions at <39 weeks gestational age from 28% (1999) to approximately 3.4% (2007).

Unfavorable Bishop Score (<8 in multigravida; <10 in nulligravida):
Intermountain data shows that patients who have an elective induction with an unfavorable Bishop Score spend more time in labor and delivery and are more likely to need an unplanned C-section.
Management of Elective Labor Induction

**Indications for labor induction**

- Abruptio placenta
- Chorioamnionitis
- Premature rupture of membranes (PROM)
- Post-term pregnancy (≥ 41 weeks)
- Maternal medical conditions:
  - Preeclampsia: blood pressure > 140/90 with 1 + proteinuria
  - Gestational hypertension: an elevated blood pressure of 140/90
  - Eclampsia
  - Chronic hypertension
  - Diabetes with insulin
  - Chronic renal disease
  - Antiphospholipid syndrome
  - Systemic lupus erythematosus
  - Thromboembolization
  - Severe dermatosis/Perinatal urticarial pustules and papules of pregnancy (PUPPP)

- Fetal problems:
  - Intrauterine Growth Restriction (IUGR)
  - Oligohydramnios
  - Severe congenital anomalies
  - Abnormal antenatal testing
  - Previous stillbirth
  - Fetal demise

- Logistics/Risk of rapid labor (sure of maturity)
- Psychosocial (sure of maturity)

*This list of indications for labor induction is not absolute.*

**Treatment Guidelines**

### 39 WEEKS GESTATION

Delivery, whether by induction or C-section, should be electively undertaken **ONLY after 39 weeks gestation**, regardless of fetal lung maturity testing, and after both the mother and fetus have been examined thoroughly (see Steps 3 and 4) and the patient has given consent. The graphs at right from Intermountain data show the increase in NICU admissions and ventilator usage in relation to gestational weeks.

### PATIENT COUNSELING

The patient should be counseled regarding:

- The indications for induction
- The agents and methods of labor stimulation
- The possible need for repeat induction or C-section

### ASSESSMENT OF FETAL MATURITY

An assessment of fetal maturity is important. If one of the following criteria of confirmation of term gestation are met, fetal maturity may be assumed:

- Fetal heart tones have been documented for 20 weeks by non-electronic fetoscope, or for 30 weeks by Doppler.

- It has been 36 weeks since a positive serum or urine human chorionic gonadatropin pregnancy test was performed by a reliable method.

- An ultrasound measurement of the crown-rump length, obtained at 6-12 weeks, supports a gestational age of 39 weeks or more.

- An ultrasound scan, obtained at 13-20 weeks, confirms the gestational age of 39 weeks or more determined by clinical history and physical examination.

**Use of amniocentesis to assess fetal maturity for purely elective labor inductions is inappropriate.**
Management of Elective Labor Induction

Assessment of Cervical Ripeness

The cervix should be assessed for its state of ripeness. It is recommended that the physician or certified midwife use the Bishop Score as part of the assessment process. **Bishop Score should be ≥8 in multigravida; ≥10 in nulligravida.** According to ACOG data, if Bishop Score is ≥8, the probability of vaginal delivery after induction is similar to that of spontaneous labor.¹

The following graphs from Intermountain data show the increase in hours spent in labor and delivery and unplanned C-sections in relation to gestational weeks in nulligravida elective inductions:

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**Cesarean Section Rates By Bishop Score**

*Elective Inductions in First-Time Moms 2001-2006*

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**Average Hours in Labor & Delivery By Bishop Score**

*Elective Inductions in First-Time Moms 2001-2006*
**5 CONTRAINDICATIONS TO AND PRECAUTIONS FOR INDUCING LABOR**

Contraindications to and precautions for inducing labor should be sought and understood.

<table>
<thead>
<tr>
<th>Contraindications</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The individual patient and clinical situation should be considered in determining when induction of labor is contraindicated. Contraindications include, but are not limited to, the following situations1:</td>
<td>Several obstetric situations are not contraindications to the induction of labor, but do necessitate special precautions. These include, but are not limited to the following1:</td>
</tr>
<tr>
<td>■ Vasa previa or complete placenta previa</td>
<td>■ One or more previous low-transverse C-sections</td>
</tr>
<tr>
<td>■ Transverse fetal lie</td>
<td>■ Breech presentation</td>
</tr>
<tr>
<td>■ Umbilical cord prolapse</td>
<td>■ Maternal heart disease</td>
</tr>
<tr>
<td>■ Previous transfundal uterine surgery</td>
<td>■ Multifetal pregnancy</td>
</tr>
<tr>
<td></td>
<td>■ Polyhydramnios</td>
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<tr>
<td></td>
<td>■ Presenting part above the pelvic inlet</td>
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<td></td>
<td>■ Severe hypertension</td>
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<tr>
<td></td>
<td>■ Abnormal fetal heart rate patterns not necessitating emergent delivery</td>
</tr>
</tbody>
</table>

**6 RECORDS/PERSONNEL**

Finally, the following records/personnel should be present and available:

- The patient’s prenatal record should be on the patient’s chart.
- Personnel familiar with the maternal and fetal effects of uterine-stimulating agents should be in attendance during labor induction.
- A physician who has privileges to perform C-sections should be readily available.

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**References**


**Resources**

- **Patient Education Handout:** “Elective Labor Induction—When is it okay?”

  Available through Corporate Express, Item No. IHCEDWN002.