

## HEALTH EVIDENCE REVIEW COMMISSION (HERC)

### COVERAGE GUIDANCE: INDUCTION OF LABOR

DATE: 06/14/2012

#### HERC COVERAGE GUIDANCE

Induction of labor should be covered for the following indications:

- Gestational age beyond 41 0/7 weeks
- Prelabor rupture of membranes at term
- Diabetes, pre-existing and gestational

Induction of labor should not be covered for:

- Macrosomia (in the absence of maternal diabetes)
- Elective purposes (without a medical or obstetrical indication)
- Breech

For those indications for which there is insufficient evidence of clear benefit over harm\*, coverage may be based on an individualized treatment plan taking into account maternal and infant health.

\*There was insufficient evidence for the following indications that were evaluated in the literature: preterm, prelabor rupture of membranes; cholestasis of pregnancy; mild and severe preeclampsia; eclampsia; suspected IUGR (preterm and term); gastroschisis; twin gestation; oligohydramnios; placental abruption; chorioamnionitis; maternal medical conditions (e.g., renal disease, chronic pulmonary disease, chronic hypertension, cardiac disease, antiphospholipid syndrome); gestational hypertension; fetal compromise (e.g., severe fetal growth restriction, isoimmunization, oligohydramnios); fetal demise

#### RATIONALE FOR GUIDANCE DEVELOPMENT

The HERC selects topics for guideline development or technology assessment based on the following principles:

- Represents a significant burden of disease
- Represents important uncertainty with regard to efficacy or harms
- Represents important variation or controversy in clinical care
- Represents high costs, significant economic impact
- Topic is of high public interest

Coverage guidance development follows to translate the evidence review to a policy decision. Coverage guidance may be based on an evidence-based guideline developed by the Evidence-based Guideline Subcommittee or a health technology assessment developed by the Health Technology Assessment Subcommittee. In addition, coverage guidance may utilize an existing evidence report produced by one of HERC's trusted sources, generally within the last three years.

## EVIDENCE SOURCE

King, V., Pilliod, R., & Little, A. (2010). *Rapid review: Elective induction of labor*. Portland: Center for Evidence-based Policy. Available at: <http://www.ohsu.edu/xd/research/centers-institutes/evidence-based-policy-center/med/index.cfm>

The summary of evidence in this document is derived directly from this evidence source, and portions are extracted verbatim.

## SUMMARY OF EVIDENCE

### **Clinical Background**

The use of induction of labor (IOL) in the U.S. doubled between 1990 and 2006. Rates of labor induction vary substantially from state to state, from a low of 13.2% (California) to a high of 35.2% (Utah). The rate of increase in medically indicated IOL has been slower than the overall increase, suggesting that the increase in elective inductions has been more rapid. The increase in the overall use of induction is likely multifactorial. There appear to have been shifts in the threshold for induction at earlier gestations with both medically indicated and elective IOL. The practices and preferences of individual physicians also have an effect on the use of IOL and the subsequent risk of cesarean delivery. Women's requests may also contribute to increased demand for elective induction of labor (EIOL).

### **Evidence Review**

Systematic reviews of randomized controlled trials find either a slight increase in cesarean delivery or no effect with EIOL, but there is some evidence of increased risk of operative vaginal delivery. Observational studies using spontaneous labor control groups find increased risk of cesarean delivery for nulliparous women with number needed to harm (NNH) of 4 to 10. Multiparous women may also have an increased risk of cesarean delivery with a NNH of 62 based on one study. Cesarean delivery is increased particularly among nulliparous women who have a low Bishop score (a measure of readiness for labor) at the time of EIOL and receive preinduction cervical ripening. Infants face an increased risk of admission to a neonatal intensive care unit

(NICU) if their mothers undergo EIOL prior to 39 weeks of gestation. The length of active labor may be shorter with EIOL, although the total time spent on a labor and delivery unit or in the hospital may be greater. Most commonly cited indications for IOL are not well supported by evidence.

#### Evidence-supported indications and contraindications

##### ***Indications with net benefit***

The only indications for induction of labor supported by strong evidence of net benefit are gestational age beyond 41 weeks and prelabor rupture of membranes at term.

##### ***Indications with net harm***

The only indication for which there is evidence of harm is suspected macrosomia, for which there is no evidence of improved fetal outcomes, but an increase in the risk of cesarean section.

##### ***Indications with insufficient evidence***

The other indications for induction of labor that were considered in the evidence report but have insufficient evidence to make strong recommendations include the following:

- Preterm, prelabor rupture of membranes
- Cholestasis of pregnancy
- Mild and severe preeclampsia
- Eclampsia
- Suspected IUGR (preterm and term)
- Gastroschisis
- Twin gestation
- Oligohydramnios
- Gestational diabetes treated with insulin
- Maternal cardiac disease

Quality improvement programs targeted at eliminating inappropriate EIOL can be effective at reducing cesarean delivery outcomes, particularly for nulliparous women with a low Bishop score.

##### **Recommendations from Others**

The *American College of Obstetrics and Gynecology (ACOG)* identifies the specific indications for induction of labor, including but not limited to the conditions listed below:

- Premature rupture of membranes
- Eclampsia, preeclampsia, gestational hypertension
- Fetal compromise (severe IUGR, isoimmunization, oligohydramnios)
- Placental abruption

- Chorioamnionitis
- Maternal medical conditions (eg. diabetes, renal disease, chronic pulmonary disease, chronic hypertension, cardiac disease, antiphospholipid syndrome)
- Fetal compromise (eg, severe fetal growth restriction, isoimmunization, oligohydramnios)
- Post-term pregnancy
- Logistical reasons (risk for rapid labor, distance from hospital)

In addition, for patients with gestational diabetes, they state the following:

No good evidence to support routine delivery before 40 weeks of gestation. There are no data to support a policy of cesarean delivery purely on the basis of GDM. It would appear reasonable to recommend that patients with GDM be counseled regarding possible cesarean delivery without labor when the estimated fetal weight is 4,500 g or greater.

For patients with pregestational diabetes, they state:

Early delivery may be indicated in some patients with vasculopathy, nephropathy, poor glucose control, or a prior stillbirth. In contrast, patients with well-controlled diabetes may be allowed to progress to their expected date of delivery as long as antenatal testing remains reassuring. Expectant management beyond the estimated due date generally is not recommended. Cesarean delivery may be considered if the estimated fetal weight is greater than 4,500 g in women with diabetes. Induction of labor in pregnancies with a fetus with suspected macrosomia has not been found to reduce birth trauma and may increase the cesarean delivery rate.

For suspected fetal macrosomia, they state:

Recent large cohort and case–control studies demonstrate the safety of allowing a trial of labor for estimated birth weights of more than 4,000 g. Despite the poor predictive value of an estimated fetal weight beyond 5,000 g and a lack of evidence supporting cesarean delivery at any estimated fetal weight, most, but not all, authors agree that consideration should be given to cesarean delivery in this situation.

For breech presentation, they state:

Mode of delivery should depend on the experience of the healthcare provider. Cesarean will be the preferred mode for most physicians. Planned vaginal delivery may be reasonable. (No comment regarding induction)

The *National Institute for Clinical Excellence (NICE)* has the following recommendations regarding induction of labor:

Induction of labor should be offered in the following circumstances:

- Post-term pregnancy
- Preterm, prelabor rupture of membranes after 34 weeks
- Prelabor rupture of membranes at term after 24 hours
- Maternal diabetes, any type (after 38 completed weeks gestation)

Induction of labor should not be routinely offered in the following circumstances:

- Maternal request
- Breech presentation
- Severe IUGR
- History of precipitous labor
- Suspected macrosomia

Induction of labor may be offered depending on the desires of the patient in the following circumstances:

- Fetal demise

Indications for which there are contradictory recommendations between ACOG and NICE are the following:

- Severe IUGR
- History of precipitous labor
- Maternal diabetes (after 38 completed weeks gestation)

### **Overall Summary**

EIOL likely increases the risk of Cesarean section in nulliparous women, and possibly in multiparous women. It also increases the risk of operative delivery. EIOL at less than 39 weeks increases the risk of NICU admission for infants. EIOL has strong evidence of net benefit for gestational age over 41 weeks and prelabor rupture of membranes, while EIOL for macrosomia is the only indication for which there is evidence of net harm. There are a number of indications for EIOL for which there is insufficient evidence of net benefit or harm. Indications for which there is conflicting recommendations include the severe IUGR, maternal diabetes and history of precipitous labor, although the latter likely reflects differences in the health care delivery system.

[\[Evidence Source\]](#)

## **PROCEDURE**

Elective Induction of Labor

## DIAGNOSES

Pregnancy

## APPLICABLE CODES

<b>CODES</b>	<b>DESCRIPTION</b>
<b>ICD-9 Diagnosis Codes</b>	
650	Normal delivery
659.0	Failed mechanical induction
659.1	Failed medical or unspecified induction
V22.0	Supervision of normal first pregnancy
V22.1	Supervision of other normal pregnancy
V22.2	Pregnant state, incidental
V30	Single liveborn
V39	Liveborn unspecified whether single twin or multiple
<b>ICD-10 Diagnosis Codes</b>	
O80	Single spontaneous delivery
Z34.0	Supervision of normal first pregnancy
Z34.8	Supervision of other normal pregnancy
Z34.9	Supervision of normal pregnancy, unspecified
<b>ICD-9 Volume 3 (procedure codes)</b>	
<b>Other procedures inducing or assisting delivery</b>	
73.0	Artificial rupture of membranes
73.1	Other surgical induction of labor: Induction by cervical dilation
73.4	Medical induction of labor
<b>Forceps, vacuum, and breech delivery</b>	
72.0 – 72.9	Forceps, vacuum, and breach delivery
<b>Cesarean section and removal of fetus</b>	
74.0 – 74.4, 74.9	Cesarean section and removal of fetus
<b>CPT Codes</b>	
<b>Dilation</b>	
57800	Dilation of cervical canal, instrumental (separate procedure)
59200	Insertion of cervical dilator (e.g., laminaria, prostaglandin) (separate procedure)
<b>Infusions</b>	
96365	Intravenous infusion for therapy, prophylaxis, or diagnosis; initial, up to 1 hour
96366	Intravenous infusion for therapy, prophylaxis, or diagnosis; each additional hour
96367	Each additional sequential infusion up to 1 hour
96368	Concurrent infusion
<b>Care associated with vaginal delivery</b>	
59400	Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care
59409	Vaginal delivery only, with or without postpartum care
59610	Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care, after previous cesarean delivery
59612,	Vaginal delivery only, after previous cesarean delivery

59614	
<b>Care associated with Cesarean</b>	
59510	Routine Obstetric care including antepartum care, Cesarean delivery, and postpartum care
59514	Cesarean Delivery only
59515	Cesarean Delivery only, including postpartum care 59618: Routine Obstetric care including antepartum care, Cesarean delivery, and postpartum care, following attempted vaginal delivery after previous cesarean delivery
59620	Cesarean Delivery only, following attempted vaginal delivery after previous Cesarean delivery.
59622	Cesarean Delivery only, following attempted vaginal delivery after previous Cesarean delivery. Including postpartum care
<b>HCPCS Level II Codes</b>	
J2590	Pitocin 10 units. [NOTE: Appears in a listing of "Drugs Administered Other Than Oral Method J0000-J9999."]
S0191	Misoprostol, oral, 200 mcg [NOTE: Appears in a listing of Temporary National Codes (Non-Medicare), S0012-S9999)

Note: Inclusion on this list does not guarantee coverage

Coverage guidance is prepared by the Health Evidence Review Commission (HERC), HERC staff, and subcommittee members. The evidence summary is prepared by the Center for Evidence-based Policy at Oregon Health & Science University (the Center). This document is intended to guide public and private purchasers in Oregon in making informed decisions about health care services.

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