



# Effective Health Care

## Induction of Labor Nomination Summary Document

### Results of Topic Selection Process & Next Steps

- While the topic, *Induction of Labor*, is an important topic and has potential for a systematic review it will not go forward for refinement as a systematic review due to limited program resources at this time.

### Topic Description

**Nominator(s):** Health care professional association

**Nomination  
Summary:**

The nominator has requested an AHRQ systematic review on the benefits and harms of various labor induction methods. This will inform recommendations for clinical care and will be used by clinicians to optimize the success of induction of labor.

**Staff-Generated PICOs**

**Key Question 1**

**Population(s):** Pregnant women (with or without ruptured membranes or intrauterine fetal demise in the late second or third trimester) with indication for induction of labor

**Intervention(s):** Methods of induction of labor

**Comparator(s):** Other methods of induction of labor

**Outcome(s):** Caesarean delivery rate (failed induction), duration of labor, maternal and child risks and complications

**Key Question 2**

**Population(s):** Pregnant women with an indication for cervical ripening

**Intervention(s):** Methods of cervical ripening, including prostaglandins, mechanical and other methods

**Comparator(s):** Other methods of cervical ripening; cervical ripening methods

**Outcome(s):** Bishop score, caesarean delivery rate (failed induction), duration of labor, maternal and child risks and complications

**Setting:** Includes any methods used in an outpatient setting

**Key Question 3**

**Population(s):** Pregnant women receiving prostaglandins

**Intervention(s):** One method for fetal surveillance after prostaglandin administration

**Comparator(s):** Another method for fetal surveillance

**Outcome(s):** Duration of labor, maternal and child risks and complications

**Key Question 4**

**Population(s):** Pregnant women induced using oxytocin

**Intervention(s):** One dose of oxytocin

**Comparator(s):** Another dose of oxytocin

**Outcome(s):** Caesarean delivery rate (failed induction), duration of labor, maternal and child risks and complications

**Key Questions  
from Nominator:**

1. In pregnant women, what is the relative effectiveness of available methods for cervical ripening in reducing the duration of labor and rate of failed induction?
2. In pregnant women, what are the potential complications with each method of cervical ripening?
3. In pregnant women, what is the most effective method and dosage for administering prostaglandins?
4. In pregnant women, what are the most effective methods for fetal surveillance after prostaglandin use?
5. In pregnant women seeking induction of labor in an outpatient setting, are cervical ripening methods effective and safe?
6. In pregnant women with induced labor, what are the potential complications with each method?
7. In pregnant women given oxytocin for induced labor, what is the most effective dosage and what precautions should be taken?
8. In pregnant women with ruptured membranes, what are the harms for inducing labor?
9. In pregnant women with intrauterine fetal demise in the late second or third trimester, what methods for induction of labor are most effective at limiting maternal complications?

After reviewing the nominator's Key Questions, we reorganized and combined some of the questions to better clarify the questions. In consultation with our clinical reviewer the revised Key Questions, listed below, were used to generate the PICO statements in order to guide the search for each question.

1. What is the effectiveness of available methods for labor induction
  - a. For women with no other co-occurring complicating conditions?
  - b. For women with ruptured membranes?
  - c. For women with intrauterine fetal demise in the late second or third trimester?
2. What is the effectiveness of available methods for cervical ripening, including in an outpatient setting?
  - a. What are the most effective methods and dosage for administering prostaglandins?
  - b. What is the effectiveness of mechanical or other methods of cervical ripening?
3. In pregnant women, what are the most effective methods for fetal surveillance

after prostaglandin use?

4. In pregnant women given oxytocin for induced labor, what is the most effective dosage and what precautions should be taken?

## Considerations

- The topic meets all EHC Program selection criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/>.)
- Induction of labor is an important obstetric procedure to begin labor, when continuing pregnancy can compromise maternal and neonatal health. A variety of induction methods may be used. These methods include pharmacological, non-pharmacological, surgical, and mechanical approaches. However, there remains uncertainty about which methods yield optimal outcomes with minimal risks of maternal and neonatal complications in various clinical situations.
- While we identified existing guidelines and systematic reviews, a new comprehensive systematic review focused on areas of uncertainty could inform new guidelines and clinical practice. We identified sufficient evidence to support a new systematic review on this topic.
- However due to resource constraints, the EHC Program is unable to develop a systematic review on this topic at this time.
- AHRQ may consider excluding the induction of labor in pregnant women with an intrauterine fetal demise (IUFD) in the late second or third trimester (part of Key Question 1) because it is addressed in a National Institute for Health and Care Excellence (NICE) guideline (confirmed in May 2014). Our search for evidence related to this Key Question published since the systematic review for this NICE guideline did not identify additional studies.
- National Collaborating Centre for Women's and Children's Health. Induction of labour. London (UK): National Institute for Health and Clinical Excellence (NICE); 2008 Jul. 32 p. (Clinical guideline; no. 70).