



Community Care  
OF NORTH CAROLINA

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# Pregnancy Medical Home Program Care Pathway

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## Induction of Labor in Nulliparous Women

March 2019

# Introduction

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Induction of labor occurs in approximately 22% of all deliveries in the United States. Induction of labor is valuable when the benefits of delivery outweigh the risks of continuing the pregnancy. Recent data has shown a possible benefit to elective induction after 39 weeks when performed in a standardized fashion. The benefits of induction should be weighed against the potential maternal and/or fetal risks. Increasing rates of labor induction are associated with increased risks for cesarean deliveries, preterm birth, and NICU admissions if proper guidelines are not used. Patients with labor induction utilize Labor & Delivery beds longer than spontaneously laboring patients. Therefore, prior to initiating an induction, the provider should review the indications, risks and benefits, and the necessity of the induction. When elective induction is considered a collaborative discussion between the patient and provider is imperative to review expectations and understand infrastructure limitations if any<sup>9</sup>. If induction of labor is necessary and the Bishop Score is < 7, cervical ripening is recommended.

## Table of Contents

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- 1 | Prior to Induction
- 2 | Indications for Induction of Labor (not all inclusive)
- 3 | Scheduling Induction of Labor
- 4 | Options for Cervical Ripening
- 5 | Induction Management
- 6 | Induction of Labor Algorithm
- 7 | References

# Note

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Pregnancy Medical Home Care Pathways are intended to assist providers of obstetrical care in the clinical management of problems that can occur during pregnancy. They are intended to support the safest maternal and fetal outcomes for patients receiving care at North Carolina Pregnancy Medical Home practices. This pathway was developed after reviewing the Society for Maternal-Fetal Medicine and the American College of Obstetricians and Gynecologists resources such as practice bulletins, committee opinions, and Guidelines for Perinatal Care as well as current obstetrical literature. PMH Care Pathways offer a framework for the provision of obstetrical care, rather than an inflexible set of mandates. Clinicians should use their professional knowledge and judgment when applying pathway recommendations to their management of individual patients.

## Acknowledgements

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# 1 | Prior to Induction

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## Confirm gestational age.

- Ultrasound at < 20 weeks that establishes/confirms gestational age
- 30 weeks since fetal heart tones were documented by Doppler
- 36 weeks since documented positive HCG (urine or serum)

## Determine that there are no absolute contraindications for vaginal delivery, such as:

- Vasa previa or complete placenta previa
- Transverse fetal lie
- Umbilical cord prolapse
- Previous classical cesarean delivery or myomectomy entering the endometrial cavity
- Active genital herpes infection

## Examine cervix and determine Bishop Score.

- If Bishop Score < 7, cervical ripening is recommended prior to induction
- Elective labor induction after 39 weeks in patients with an unfavorable cervix (Bishop Score < 7) should be informed of the need for cervical ripening and possible prolonged latent phase of labor

Labor should not be electively induced (i.e., without a medical indication) prior to 39 0/7 weeks.

Counsel patient regarding indication for induction, risks/benefits, and possible need for cesarean delivery.

# 2 | Indications for Induction of Labor (not all inclusive)

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## Prior to 39 weeks:

Medically-indicated induction of labor may be necessary in the presence of certain maternal or fetal indications, which include, but are not limited to:

- Abruptio placentae
- Chorioamnionitis

- Fetal demise
- Gestational hypertension, preeclampsia (however not if with severe features), eclampsia (> 37 weeks)
- Maternal medical conditions (e.g., diabetes mellitus, renal disease, chronic pulmonary disease, chronic hypertension, antiphospholipid syndrome)
- Fetal compromise (e.g., severe fetal growth restriction, alloimmunization)
- Twins:
  - Monochorionic/diamniotic (37 weeks)
  - Dichorionic/diamniotic (38 weeks)
- Oligohydramnios, deepest vertical pocket < 2cm (> 37 weeks)
- Premature rupture of membranes (> 34 weeks)

### After 39 weeks:

- Abruptio placentae
- Chorioamnionitis
- Fetal demise
- Gestational hypertension, preeclampsia, eclampsia
- Maternal medical conditions (e.g., diabetes mellitus, renal disease, chronic pulmonary disease, chronic hypertension, antiphospholipid syndrome)
- Fetal compromise (e.g., severe fetal growth restriction, alloimmunization)
- Oligohydramnios, deepest vertical pocket < 2cm
- Induction of labor after 39 weeks with good dating criteria (see I.1 above) and a Bishop Score  $\geq 8$  may be appropriate for logistical reasons to ensure delivery at an appropriate facility, such as patients who live a long distance from hospital or those who must travel a great distance to deliver at a tertiary center for fetal indications
- Post-term pregnancy (> 41 weeks)
- Elective induction after 39 weeks following collaborative decision-making process between provider and patient<sup>9</sup>

## 3 | Scheduling Induction of Labor

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Complete ACOG Patient Safety Checklist Number 5, December 2011, or incorporate its components into hospital policy for scheduling induction of labor.

## 4 | Options for Cervical Ripening

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For patients with a Bishop score less than or equal to 7, cervical ripening should be performed. Options for cervical ripening include mechanical (Foley catheter) or prostaglandin analogs (misoprostol, dinoprostone). If a prostaglandin analog is used, consideration should be given to misoprostol given its efficacy, safety and lower cost.

## 5 | Induction Management

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Document the following in patient's chart prior to initiating induction of labor:

- Counseling of risks/benefits of induction
- Indication for induction
- Gestational age
- Fetal lie
- Cervical exam to include Bishop score
- Clinical assessment of pelvic adequacy
- FHR status
- Estimated fetal weight (SGA, AGA, or LGA)
- Method for cervical ripening and/or induction

### Induction Methods

For patients with a Bishop Score  $\geq 8$ , cervical ripening is not indicated, and labor induction should be initiated with oxytocin. There is insufficient data to recommend membrane stripping or amniotomy alone for labor induction.

### Failed Induction

In the absence of fetal indications for cesarean delivery, an induction of labor should not be considered to have failed until the patient enters active labor. This may require at least 12-18 hours of oxytocin after rupture of membranes<sup>9</sup>. Based on data, active labor in nulliparous patients may not start until 6 cm dilation<sup>11</sup>.

# 6 | Induction of Labor Algorithm

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Appendix below. Chart on next page.

**Table 1**

Medically indicated inductions prior to 39 weeks may be necessary in the presence of certain maternal or fetal indications, which include, but are not limited to:

- Abruptio placentae
- Chorioamnionitis
- Fetal demise
- Gestational hypertension/preeclampsia (> 37 weeks), eclampsia
- Maternal medical conditions (e.g., diabetes mellitus, renal disease, chronic pulmonary disease, chronic hypertension, antiphospholipid syndrome)
- Fetal compromise
- Twins
  - Monochorionic/diamniotic (37 weeks)
  - Dichorionic/diamniotic (38 weeks)
- Oligohydramnios, deepest vertical pocket < 2cm (≥37 weeks)
- Premature rupture of membranes (> 34 weeks)

**Table 2**

Absolute contraindications for vaginal delivery:

- Vasa previa or complete placenta previa
- Transverse fetal lie
- Umbilical cord prolapse
- Previous classical cesarean delivery or myomectomy entering the endometrial cavity
- Active genital herpes infection

**Table 3**

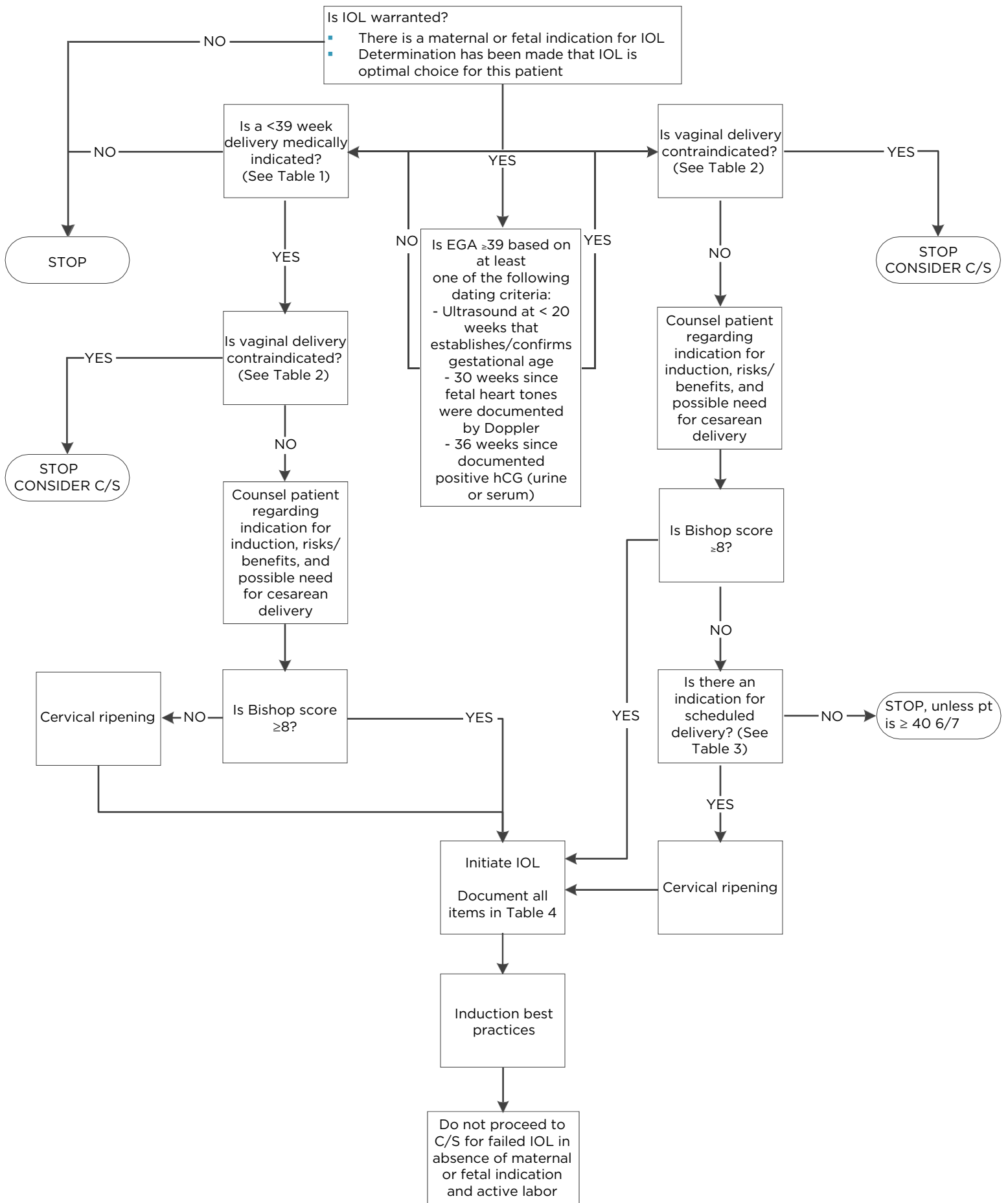
Induction of labor may be appropriate in the presence of certain indications, which include, but are not limited to:

- Abruptio placentae
- Chorioamnionitis
- Fetal demise
- Gestational hypertension, preeclampsia, eclampsia
- Maternal medical conditions (e.g., diabetes mellitus, renal disease, chronic pulmonary disease, chronic hypertension, antiphospholipid syndrome)
- Fetal compromise
- Oligohydramnios, deepest vertical pocket < 2cm
- Premature rupture of membranes
- Logistical reasons
- Post-term pregnancy (> 41 weeks)

**Table 4**

Document the following in patient's chart:

- Counseling of risks/benefits of induction
- Indication for induction
- Gestational age
- Cervical exam to include Bishop score
- Clinical assessment of pelvic adequacy
- FHR status
- Estimated fetal weight (SGA, AGA, or LGA)
- Method for cervical ripening and/or induction





## 7 | References

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