

Clinical Guidelines for the Obstetrical Services of the CRICO-insured Institutions

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Acronyms and Definitions

Below is a list of words, phrases, and acronyms used throughout the *Guidelines* that may be ambiguous or unfamiliar to some providers of obstetrical service.

ACOG

American College of Obstetricians and Gynecologists

ACNM

American College of Nurse Midwives

Active labor

The second part of first stage labor, when the cervical dilation rate is maximal: usually starting at 3–4 cm dilation.

Category I fetal heart rate (FHR)

A pattern defined as:

- baseline FHR: 110–160 beats per minute,
- baseline FHR variability: moderate,
- late or variable decelerations: absent,
- early decelerations: present or absent, and
- accelerations: present or absent.

Category II FHR

Includes all FHR tracings not categorized as Category I or Category III such as:

- baseline FHR
 - bradycardia not accompanied by absent baseline variability
 - tachycardia
- baseline FHR variability
 - minimal
 - absent with no recurrent decelerations
 - marked
- accelerations: absence of induced accelerations after fetal stimulation

- periodic or episodic decelerations
 - recurrent variable decelerations accompanied by minimal or moderate baseline variability
 - prolonged decelerations more than 2 minutes but less than 10 minutes
 - recurrent late decelerations with moderate baseline variability
 - variable decelerations with other characteristics such as slow return to baseline, overshoots, or "shoulders"

Category III FHR

Includes either:

- absent baseline FHR variability and any of the following:
 - recurrent late decelerations
 - recurrent variable decelerations
- bradycardia
- sinusoidal pattern

CRICO

Controlled Risk Insurance Company, the provider of professional liability insurance for Harvard-affiliated physicians, hospitals, and their employees.

EDD

Estimated date of delivery.

Fetal demise

In utero deaths occurring at 20 or more weeks gestation, or when the fetal weight is 350 grams or greater.

Fetal lung maturity

Fetal lungs have developed to the point that respiratory distress syndrome (RDS) is not expected.

Formal consultation

When a clinician's opinion is requested and provided about a specific circumstance.

Informal consultation

When a clinician's opinion is requested and provided about general details, not specific to any one patient.

Informed consent

A process for informing patients of the risks, benefits, and alternatives involved in the provision of specific medical care.

Macrosomia

Fetal growth beyond 4,500 grams.

Midwife

For these Guidelines, the term refers to a certified nurse midwife working in a collaborative relationship with an attending obstetrician.

Operative delivery

Non-spontaneous and cesarean deliveries.

Postpartum depression

A mood disorder that begins after childbirth and usually lasts beyond six weeks.

Post-term pregnancy

A pregnancy that has extended 14 days beyond the EDD.

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Introduction

The *Clinical Guidelines for the Obstetrical Services of the CRICO-insured Institutions* are intended to provide guidance for clinicians and to support the safest maternal and fetal outcomes for patients receiving care in CRICO-insured medical institutions.¹ The recommendations for practice included in this document were arrived at through careful consideration of the available evidence and should be considered as thoughtful, expert advice. These *Guidelines* offer a framework for provision of obstetrical care, rather than an inflexible set of mandates. Clinicians involved in obstetrical care must use their professional knowledge and judgment when applying the recommendations to the management of individual patients. These *Guidelines* are subject to revision at regular intervals as changes in clinical practice evolve.

Principles

Safe care requires a collaborative process among obstetrical clinicians who respect the right of the patient to make informed decisions for herself and her fetus.

Resources

The Guidelines are a codification of

- existing best practices,
- recommendations of the American College of Obstetricians and Gynecologists (ACOG),
- *Guidelines for Perinatal Care* (American Academy of Pediatrics and ACOG),
- and *Practice Guidelines for Obstetrical Anesthesia*.

The 2009 revisions to the *Clinical Guidelines for the Obstetrical Services of the CRICO-insured Institutions* were guided by a multi-disciplinary group of clinicians, including obstetricians, nurse leaders, nurse midwives, and anesthesiologists from several CRICO-insured institutions. The clinical chiefs of the obstetrical departments of the CRICO-insured institutions have approved the current version of these guidelines. Questions regarding this document should be directed to the Director of Loss Prevention at CRICO/RMF, Cambridge, Massachusetts.

¹ As of November 2009, the following institutions insured through CRICO provide obstetrical service: Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, Harvard Vanguard Medical Associates, Massachusetts General Hospital, Mount Auburn Hospital, Newton-Wellesley Hospital, North Shore Medical Center, and Nantucket Cottage Hospital.

Guideline 1 Documenting for Patient Safety

General Principles of Documentation

The medical record is a sequential record of patient care, a storage place for diagnostic test results, a communication tool for clinicians, and a legal document.

- Include date and time, if relevant, of each encounter (telephone, electronic, and face-to-face).
- 2. Include the diagnostic rationale in the assessment portion of the note.
- 3. Clearly state the plan of care.
- 4. Consent discussions are appropriate to include in the body of a note as well as in a signed form.
- 5. Proofread and correct dictated notes prior to signing.
- 6. Only medical information is appropriate in the medical record; references to legal action or incident reports are not intended for the medical record.
- 7. Do not obliterate errors, remove pages, or otherwise alter a medical record.
- 8. Patient requests for changes in the medical record should be managed by institutionally approved procedures.

Antepartum, Intrapartum, and Postpartum Medical Records

Each encounter should be documented in the medical record. The note should include, as appropriate: history, physical, vital signs, test results, assessment, plan, and instructions. Documentation of electronic fetal monitoring (EFM) pattern terminology, pattern recognition and interpretation should be consistent with current recommendations supported by the National Institute of Child Health and Human Development (NICHD) and American College of Obstetricians and Gynecologists.^{1,2}

An antenatal record shall be completed on every obstetrical patient and a copy maintained in the medical record. Department of Public Health-licensed facilities are required by the Commonwealth of Massachusetts to have a copy of this antenatal record made available in the hospital after 24 weeks of pregnancy.³ If any significant changes occur after 24 weeks, the obstetrical provider must send an update to Labor and Delivery. Periodic updates after 36 weeks are advised.

For normal vaginal delivery, completion of the institution's standard form is required. A short written note shall be entered in the medical record. In the case of all operative deliveries (i.e., non-spontaneous vaginal and cesarean), and those complicated by shoulder dystocia, a dictated operative note or its electronic equivalent should be completed. This note shall include the indications and rationale for any procedure or maneuvers selected.

A copy of any EFM strips and recorded ultrasound images is to be maintained as part of the patient's permanent medical record.

Preservation of EFM Records

Department of Public Health-licensed facilities are required by Massachusetts law⁴ to keep a record of EFM tracings for at least five years (CRICO/RMF recommends 30 years). The tracings should include the patient's name and hospital number; date and time at the beginning of the tracing; and—if delivery concludes the monitoring—date and time of delivery. EFM tracings need not be stored with the medical record, but should be readily retrievable.

Institutional Responsibility

The institution has a responsibility (shared with the medical staff) mandated by the Joint Commission to provide adequate resources for record processing, to support quality improvement activities, and to adhere to record keeping standards including compliance with federal regulations (e.g., HIPAA) and its mandate for a designated institutional compliance officer.

¹ Macones GA, Hankins GDV, Spong CY, Hauth J, and Moore T. The 2008 National Institute of Child Health and Human Development Workshop report on electronic fetal monitoring update on definitions, interpretation, and research guidelines. Obstet Gynecol. 2008;112:661–66.

² Intrapartum fetal heart rate monitoring: nomenclature, interpretation and general management principles. ACOG Practice Bulletin No. 106. American College of Obstetricians and Gynecologists. Obstet Gynecol. 2009;114:192-202.

³ Commonwealth of Massachusetts: Hospital Licensure Regulations. 105 CMR §130.370 (B) MGL c111 §70. Page 46. Available at: http://www.mass.gov/Eeohhs2/docs/dph/ regs/105cmr130.pdf

⁴ Commonwealth of Massachusetts: Hospital Licensure Regulations. 105 CMR §130.370 (B) MGL c111 §70. Page 24. Available at: http://www.mass.gov/Eeohhs2/docs/dph/ regs/105cmr130.pdf

Guideline 2 Informed Consent

Informed consent is a process employing oral and written communication to convey to the patient the risks, benefits, and alternatives of medical treatments. The consent form should be considered the documentation of the discussion(s), and both the discussion with the patient and the completed consent forms are necessary to ensure and verify that the patient is informed about her and her baby's care. Consent forms should be presented to patients in a language they can understand. If this is not feasible, a competent translator should be available to translate the consent form orally into the patient's primary language.

Prenatally, the clinician will initiate the informed consent process for labor and delivery care, guided by the general written obstetrical consent form. Consistent use of an institutionally approved informed consent form is expected.

Discussions involving specific obstetrical interventions, such as external version or vaginal delivery for second twin (non-vertex), use of tocolytic or uterotonic drugs, or forceps delivery, should be initiated with the patient as early as feasible.

Informed consent during the course of antenatal care and labor management (when appropriate) should be documented in the medical record.

The person who is actually performing a procedure is responsible for reviewing and confirming the informed consent with the patient and for documenting that conversation in the medical record. Specific and separate written consent is required for:

- circumcision
- elective cesarean section¹
- external version¹
- trial of labor after cesarean section¹
- delivery of twins¹

If an obstetrical patient refuses to sign the consent form, then more dialogue between the clinician and the patient about the patient's preferences vis-a-vis medical judgment during labor and delivery is indicated. Issues of trust should be addressed. The obstetrical team and hospital administrators should develop a coordinated plan to address those issues and manage the patient's labor and delivery. This discussion should be documented in the patient's medical record. Documentation should include the dialogue about the pregnancy and plans for labor and delivery that have occurred and note the proposed obstetrical procedures, activities, risks, and benefits, including unexpected risks and complications. The patient's oral consent for continuing obstetrical care and refusal to sign a consent form should also be documented. The institution's printed obstetrical consent form can serve as a reference for the detailed note.²

¹ Sample consent forms can be found in the Appendix to these Guidelines.

² CRICO/RMF Patient Safety Strategies. Informed Consent. Available at: http://www.rmf.harvard.edu/patient-safety-strategies/informed-consent/index.aspx

Availability of Clinician and Case Load in Labor and Delivery

Admission to Labor and Delivery

The responsible clinician or designee shall evaluate the patient, enter a note, and provide orders within two hours of his or her patient arriving at the Labor and Delivery unit.

If the patient is not in active labor, and is low risk, i.e.:

- 37–41 weeks gestation,
- appropriate weight for gestational age,
- has a Category I electronic fetal monitoring strip on admission, or a reassuring auscultation and a note written by the clinician if she (patient) refuses electronic fetal monitoring,
- absence of moderate or thick meconium,
- vertex presentation, and
- absence of any medical or obstetrical complications,

then, initial assessment can be delayed until:

- a risk factor is identified,
- the patient enters active labor, or
- the patient requests pain medication.

In Labor

Once active labor has begun, the responsible clinician should be immediately available to return to Labor and Delivery if needed. A physician credentialed to perform emergency operative delivery must be readily available.

Readily available assistance by a qualified clinician from the obstetrical service is mandatory when a clinician's case load exceeds three low-risk patients in active labor. The nurse(s) caring for the patient should be notified about any change in status of the responsible clinician.

If a clinician becomes unavailable for reasons that would not permit timely return (such as surgery or involvement in a complex medical case), that clinician must provide the nursing staff with the name of an alternate clinician who has agreed to assume responsibility and is immediately available. A physician credentialed to perform an operative delivery must be readily available.

Alternative Coverage

When the clinician cannot be contacted or, if after being appropriately notified, the attending clinician does not see the patient in a timely fashion, and/or if the clinician has made no arrangements for alternative coverage, the nursing staff shall report this occurrence through appropriate institutional procedures. Each institution shall devise a system by which clinician coverage is provided in such situations; and the system of clinician coverage is clearly communicated and readily available to all members of the labor and delivery staff.

Clinician Coverage When Away

For clinicians working as a group, coverage should be formally agreed to with adequate communication within the group to ensure good follow-up. Inform each patient early in her pregnancy about group coverage arrangements.

For non-group practice, coverage arrangements for a clinician who is away must be carefully made with a qualified clinician who has adequate time and has agreed to provide coverage. A formal handoff should occur at the time the coverage is initiated.

When a patient is in the hospital and the clinician arranges for coverage, the handoff should ensure the following:

- the patient is notified and knows who will be covering;
- other members of the health care team are notified of the coverage arrangements;
- the clinician assuming the coverage is qualified and has the necessary clinical privileges;
- the covering clinician is notified in a timely manner and agrees to cover; and
- the clinician's office staff is informed of coverage arrangements and know how and where to reach the clinician who has agreed to assume coverage.

Guideline 5

All clinicians are encouraged to seek additional medical advice whenever they have concern about a diagnosis or course of treatment. Consultation is essential when the experience, expertise, or comfort level of the attending clinician is exceeded. Once the limits of a clinician's privileges are exceeded, care must be transferred.

Consultations may be formal or informal:

A formal consultation occurs when an opinion about a specific circumstance is requested. The consulting clinician is responsible for documenting the request.

- If the consultation is in person, the consultant shall personally evaluate the patient including a physical examination, where appropriate, and a written note will be placed in the hospital record.
- If a telephone consultation is obtained, both parties should be clear that this is a formal consultation and that a summary of the discussion and the consultant's name will be entered into the medical record.
- If the final management plan differs from the consultant's recommendation, then the responsible clinician should document his or her rationale for choosing a different course of action.

An informal consultation occurs when the discussion between clinicians lacks details specific to one patient. An informal consultant is not named in the record. When these consultations occur, both parties should be clear as to the nature of the discussion.

¹ CRICO/RMF has defined a consultation as follows: Consultation occurs between two professionals who are both licensed or credentialed to provide patient care. One (the "consultee") requests an opinion from the other (the "consultant"). The consultee considers the recommendations of the consultant and decides whether or not to follow them, based on his or her more extensive knowledge of the patient.

Guideline 6 Resolution of Clinical Discord

Each institution shall have a formal process to resolve disagreements between professional staff about medical management, conduct of labor, or interpretation of tests of fetal status. The process should consider these points:

- I. Priority should be given to maintaining safe, quality patient care.
- 2. In cases of discord, the involved parties shall first discuss the discord and attempt to resolve it. The "two challenge rule,"¹ and other methods of conflict resolution may be considered to facilitate structured communication and avert medical errors.²⁻³
- 3. If the involved parties cannot resolve the discord, they should seek assistance, initiating the chain of command⁴ through medical, resident/fellow supervisory physician, midwifery, and/or nursing hierarchy, as indicated.⁵⁻⁷ A list of medical staff, supervisory physician, midwifery, and nursing hierarchy should be available in the clinical areas.

- 4. All discussions pertaining to differences in clinical opinion should occur among professional staff only, and out of earshot of the patient and family.
- 5. Differences in clinical observations and opinions should be documented in an objective, non-argumentative fashion in the medical record.
- 6. Unexpected medical incidents relating to the discord should be reported to the institutional risk manager.
- 7. The occurrence of the discord should be reported to the Chief of Obstetrics, the Director of Nurse Midwifery, and/or the Obstetrical Nursing Director, as indicated.

6 American Nurses Association, (2001). Code of Ethics for Nurses with Interpretive Statements, Washington, D.C. American Nurses Publishing.

¹ Assertively voicing your concern(s) at least twice to ensure your concerns have been heard by your colleague.

² MacReady N. Two-challenge rule averts errors improves patient safety. OR Manager. 1999;15(1):12.

³ Marshall P, Robson R. Preventing and managing conflict: vital pieces in the patient safety puzzle. Healthcare Quarterly. 2005;8:39-44.

⁴ The chain of command is a series of steps ascending the administrative and clinical lines of authority established to ensure effective conflict resolution in patient care

⁵ ACOG Committee on Obstetric Practice. Patient Safety in Obstetrics. ACOG Committee Opinion No. 286.. American College of Obstetricians and Gynecologists 2003;102(4):883-85.

⁷ American College of Nurse Midwives. Code of Ethics. 2005. Available at: http://www.midwife.org/siteFiles/education/CodeOfEthicswithExplanatoryStatements2005.pdf

Institutional Responsibilities

When obstetrical services are provided in a CRICO-insured institution, the following support services, staff training and arrangements are the responsibility of the institution:

For Emergency Support

- I. Blood products should be available at all times.
- 2. Personnel capable of performing an emergent surgical airway must always be immediately available.
- 3. Obstetrical (maternal) resuscitation guidelines should be readily available by each institution and include:
 - a designated response team for maternal emergencies in Labor and Delivery that includes members familiar with the physiologic changes of pregnancy and the procedures for notification of the response team; and
 - a designated response team for obstetrical patients who experience emergencies anywhere in the hospital, other than Labor and Delivery.
- 4. Consultants from other services should be readily available as needed.

For Infant Identification and Protection

- I. Each institution should affirm the identity of the newborn prior to any procedure, testing, and prior to being released to the mother and/or her designee(s) while in the hospital.
- 2. Each institution should establish clear protocols to prevent infant abduction.

For General Support

These responsibilities are imbedded in specific guidelines, and repeated here for clarity. CRICO-insured institutions are responsible for:

- Adequate resources for record processing, adherence to record keeping standards, and support of quality improvement activities. (*Guideline 1*)
- 2. Temporary clinician coverage in the event an obstetrical provider cannot see his or her obstetrical patient(s) in a timely fashion. *(Guideline 3)*

- 3. A conflict resolution process to resolve disagreement in a timely fashion between professional staff about medical management, conduct of labor or interpretation of tests of fetal status. *(Guideline 6)*
- 4. Sufficient nursing staff to maintain appropriate nurse-topatient staffing ratios. *(Guideline 8)*
- 5. Sufficient qualified professional staff in its obstetric triage unit to ensure that all patients can be assessed within 30 minutes of arrival; and all patients can be personally evaluated by a non-trainee prior to discharge. *(Guidelines 8, 16)*
- 6. Routine screening for adverse outcomes for the purpose of capturing untoward outcomes, determining trends, developing corrective action, and providing timely information. *(Guideline 10)*
- 7. Developing policies and procedures for disclosure and apology to patients of adverse events and outcomes involving their care. *(Guideline 10)*
- 8. Appropriate fetal monitoring apparatus to meet the needs of its patients. *(Guideline 16)*
- Accommodations for preserving all electronic fetal monitoring tracings. (Guideline 16)
- IO. Ongoing interdisciplinary continuing education in fetal heart rate monitoring (consistent with NICHD terminology), which may include use of on-line educational modules, periodic and systematic review of FHR tracings, and obstetrics case reviews. (*Guideline 16*)
- II. Ongoing interdisciplinary continuing education of routine and low frequency/high acuity events for all obstetric personnel. Subjects to be reviewed may include the treatment of shoulder dystocia, postpartum hemorrhage and eclampsia, forceps or vacuum application, and basic adult and neonatal resuscitation. (*Guideline 16*)
- 12. A system to evaluate and document staff competence. *(Guideline 16)*

- I3. A policy or protocol for oxytocin administration that specifies a standard mixture that precludes individual provider preference and a defined process for advancing or reducing the dose of oxytocin administration commensurate to the patient's progress in labor, the occurrence of uterine tachysystole or, Category III EFM FHR patterns. (Guidelines 16, 19, 20)
- 14. A process or system to instruct each patient about normal postpartum events, such as care of the breasts, perineum, bladder and signs of complications. *(Guideline 17)*
- 15. Patient instructions about infant care, infant feeding, including the benefits of breastfeeding, and postpartum maternal and newborn examinations. (*Guideline 17*)
- 16. A physician with appropriate privileges to administer obstetric anesthesia from the initiation of an anesthetic until the patient's post-anesthesia condition is satisfactory and stable. (*Guideline 18*)
- 17. Standard policies and procedures for scheduling elective induction of labor, ensuring documentation of maternal Bishop's score, gestational age, and the indication and method for induction of labor, including use of cervical ripening agents. *(Guideline 19)*
- 18. Ensuring adequate infusion devices are available to meet the needs of the patient population. *(Guideline 20)*

For Staff Communication, Education and Training

- Every hospital should have a minimum of twice daily multidisciplinary meetings on the Labor and Delivery unit to review patients' relevant clinical issues, and to discuss other clinical and administrative issues that may affect patient care.
- 2. Every hospital should conduct routine obstetrical safety drills that address low frequency, high acuity events, thereby helping staff prepare for obstetrical emergencies, (e.g. shoulder dystocia, postpartum hemorrhage, prolapsed cord, emergency cesarean section). *(Guidelines 16, 30)*

Guideline 8

Professional Nurse-to-patient Staffing Ratios'

Professional nurse-to-patient staffing ratios should provide clinically appropriate, safe patient care. Clinically appropriate care within safe parameters is dependent upon continuing nurse assessment of patients' changing needs and adjustment of the amount and degree of nursing.

Recommended Intrapartum Ratios

One nurse for every:

- 2 patients in labor
- I patient in second stage of labor
- I patient with medical or obstetric complications
- 2 oxytocin inductions or augmentations of labor
- 1 coverage for initiating epidural anesthesia
- I circulation for cesarean section

Recommended Antepartum/Postpartum Ratios

One nurse for every:

- 6 antepartum/postpartum patients without complications
- 2 patients in postoperative recovery
- 3 antepartum/postpartum patients with complications, but in stable condition
- 4 recently born infants and those requiring close observation

Recommended Newborn Ratios

One nurse for every:

- 6−8 newborns requiring only routine care²
- 3-4 normal mother-newborns couplet care
- 3-4 newborns requiring continuing care
- 2-3 newborns requiring intermediate care
- 1-2 newborns requiring intensive care
- I newborn during transition phase immediately after birth
- I newborn requiring multisystem support
- I unstable newborn requiring complex critical care³

3 Some newborns may require the concurrent care of more than one nurse.

¹ ACOG/ACP Guidelines for Perinatal Care, Sixth Edition. Washington DC, November 2007.

² This ratio reflects traditional nursery care. If couplet care or rooming-in is used, a professional nurse who is responsible for the mother should coordinate and administer neonatal care. Direct assignment of a nurse to the nursery to cover the newborn's care may constitute double assigning (one nurse for the couplet and another for just the neonate if returned to the nursery). A nurse should be available at all times, but only one may be necessary, as most neonates will not be physically present in the nursery. Direct care of neonates in the nursery may be provided by ancillary personnel under the nurse's direct supervision. Adequate staff is needed to respond to acute and emergency situations.

Credentialing for Procedures

Each hospital or facility is responsible for reviewing the application for privileges of each obstetrical provider. Each facility should determine which procedures are not necessarily within the core curriculum for the providers—and which require significant experience or training to perform—and credential those procedures separately.

Obstetrical procedures that may be considered for separate, individual credentialing may include, but are not limited to:

- amniocentesis
- cerclage
- circumcision
- directing of amniocentesis with ultrasound
- fetal survey ultrasounds
- forceps
- second trimester terminations,
- vaginal breech delivery
- vacuum delivery

Guideline 10 Reporting of Adverse Outcomes

Routine screening for adverse outcomes shall be conducted at each institution for the purpose of capturing untoward outcomes, determining trends, developing corrective action, and providing timely information. The following patient outcomes should be reported to the institution's risk management and quality assurance personnel as soon as possible:

Infant Condition or Complication

- Apgar score of 3 or less at five minutes
- brachial plexus palsy
- congenital deformity or birth injury leading to incapacity or disability¹
- cord pH less than 7.0
- fracture of any long bone (excluding clavicle)
- fractured skull
- infant abduction
- intracranial bleed unrelated to prematurity
- meconium aspiration
- neonatal seizures within the first 48 hours
- respiratory distress syndrome after elective induction or elective repeat cesarean section
- stillbirth or neonatal death in fetuses >24 weeks or >500 grams
- surgical injury, including laceration of infant
- term infant (>36 weeks) >2, 500 grams admitted for >24 hours to Level II or Level III nursery
- unconsented circumcision

Maternal Complications

- death
- eclampsia
- failure to perform planned procedure
- hysterectomy
- maternal readmission within two weeks of discharge
- need for return to delivery room or operating room for unplanned procedure
- retained sponge, instrument, or needle
- surgery done on the wrong person or the wrong organ
- surgical or delivery injuries, including burns and nerve injuries
- symptomatic uterine rupture
- unconsented procedure
- unplanned transfer to intensive care

Institutional Responsibility

Events identified as being "Serious Reportable Events" (SRES) must be reported by the institution to the Commonwealth of Massachusetts Executive Office of Health and Human Services Department of Public Health.¹

Each obstetrical institution is responsible for developing policies and procedures for disclosure to patients of adverse events and outcomes involving their care.²

Guideline 11

Communication Prior to Obstetric Surgery³

Each institution will develop guidelines for communication prior to obstetric surgery.⁴ Guidelines should include specific items to be communicated by the surgical team, which may include the obstetrician, surgical assistant, scrub nurse or tech, circulating nurse, and the anesthesiologist. Communication should be ongoing and may include a preoperative briefing of the surgical team in addition to the formal time-out (surgical pause).

A formal time-out should be performed before each obstetric surgery and the time-out should be documented in the nursing record. Content and timing of the time-out should be addressed in the institutional guidelines.

Items that should be considered for inclusion for communication either during the formal time-out or in a separate briefing:

- confirmation of patient identity;
- confirmation of patient allergies;
- confirmation of completed consent;
- antibiotic request: prophylactic, otherwise, or none;
- factors that may significantly affect the surgical time or procedure (e.g., placenta previa, multiple previous surgeries, known previous adhesions, fibroid uterus);
- anticipated need for pediatric providers for the birth;
- anticipated need for blood components;
- other planned procedures, such as tubal ligation; and
- other existing pathology that should be evaluated at the time of the procedure (e.g., previously noted ovarian cyst).

In an emergency, when any delay is inadvisable, the staff should cover these items as possible while preparing or in the initial phases of the case.

up_facts.htm

¹ Massachusetts Department of Public Health website for reportable incidents. Available at: http://www.mass.gov/dph

² If an adverse event occurs. CRICO/RMF. Available at: http://www.rmf.harvard.edu/insurance/claim-management/legal-process/if-adverse-event-occurs.aspx

³ Obstetric surgery includes, but may not be limited to, cesarean section, cerclage placement, postpartum tubal ligation, and dilation and evacuation.

⁴ Joint Commission Universal Protocol. 2004, updated July 2008, effective January 1, 2009. Available at: http://www.jointcommission.org/PatientSafety/UniversalProtocol/

Prevention of Retained Sponges and Needles Following Vaginal Delivery

Retained foreign objects after surgeries or procedures are considered serious reportable events, one of the 28 events identified in the Commonwealth of Massachusetts' uniform non-payment policy.¹ Retained foreign objects following vaginal delivery and obstetric surgery procedures are events that can be prevented by implementing the following steps:

Two qualified personnel, including the primary care nurse, will perform sponge and needle counts before and after each delivery. The counts should be documented in the medical record. If a pre-delivery sponge count is not possible, as with a precipitous delivery, then sponges shall not be utilized until after the delivery, when a count can be systematically performed prior to their use.

All sponges used in deliveries should be tailed and radio-opaque.

If there is a discrepancy in the sponge count at the completion of the delivery, then manual search of the vagina should be performed and findings documented by the delivering obstetrical provider. If the discrepancy persists, then the further search of the delivery area should be performed and findings documented in the medical record. A diagnostic X-ray of the patient may be considered to ensure missing sponges are not retained in the vagina.

If there is a discrepancy in the needle count and careful inspection of the vagina and search of the delivery area do not locate the needle, then diagnostic X-ray is expected to ensure that the missing needle is not retained in the patient.

The nurse should record the final status of the sponge and needle counts on the Labor and Delivery patient flow record and the obstetrical provider should similarly document in the delivery note.

¹ Office of Health and Human Services (EOHHS). HealthyMass Serious Reportable Events Task Force Policy Guidelines. http://www.mass.gov/Eeohhs2/docs/eohhs/healthymass/ sre_guidelines.pdf

Guideline 13 Placental Pathology Evaluation

The decision to submit the placenta to the hospital's Department of Pathology for gross and microscopic examination should be based upon a reasonable likelihood that such an examination will:

- facilitate the diagnosis of maternal-fetal conditions associated with adverse outcomes;
- provide information salient to or allow prognosis for future pregnancies and their outcomes; and
- be of assistance in anticipated medico-legal, investigative or research efforts.

The American College of Obstetricians and Gynecologists¹ offers no formal guidelines recommending placental examination based on specific clinical conditions. Some have advised that all placentas be submitted to pathology for examination;² however, most of pathology departments do not advise such.

Conditions for Placental Examination

CRICO/RMF supports placental examination under the following maternal or fetal clinical conditions; however individual judgment concerning the appropriateness of submitting such material for evaluation is strongly recommended.

1. Maternal Conditions

- diabetes
- hypertension
- prior reproductive failure (two or more spontaneous abortions, stillbirths, neonatal deaths, premature births)
- maternal substance abuse
- prematurity (less than completion of 37th gestational week)
- post-maturity (greater than the completion of the 42nd gestational week)

2. Peripartum Conditions

- temperature greater than 100.4° F (intrapartum)
- suspected or proven infection
- bleeding
- suspected abruption placenta

3. Fetal/Neonatal Conditions

- still birth
- multiple births
- congenital anomalies
- fetal growth restriction
- hydrops
- meconium, either on admission or in labor

4. Neonatal ICU Admission

- Apgar scores of 3 or less at 5 minutes
- suspected infection
- oligohydramnios

5. Gross Placental Anomalies

6. Other (abnormal delivery, infant, medicolegal concerns)

When the decision is made to submit the placenta for pathologic examination, the pathology request form should be completed in its entirety, including enough maternal, fetal, or neonatal clinical information to facilitate the pathologist's search for key histopathologic features, and to interpret findings in light of the clinical scenario.³

1 ACOG Committee on Obstetric Practice. Placental Pathology. ACOG Committee Opinion No. 286. American College of Obstetricians and Gynecologists; 1993.

2 Salafia CM, Vintzileos AM. Why all placentas should be examined by a pathologist in 1990. Am J Obstet Gynecol. 1990;163:1282–93

3 Curtin WM, et al. Pathologic examination of the placenta and observed practice. Obstet Gynecol. 2007;109(1):35-41

Guideline 14 Preconception Care

When feasible, the clinician should discuss pregnancy and preconception issues with a woman who is anticipating pregnancy. The patient should be encouraged to consider a preconception visit. Such a visit may include:

- lifestyle issues including tobacco, alcohol, drugs, diet, weight;
- assessment for domestic violence and psychosocial issues;
- recommendations for folic acid supplementation;
- review of major medical problems or risk factors, such as hypertension, diabetes, advanced maternal age, obesity;
- family history with specific attention to conditions that may place the woman at risk (e.g., parental thromboembolic disease) or increase the risk of genetic disease of the fetus;
- risk of genetic diseases with offer for genetic testing if appropriate (e.g., Tay Sachs, Canavan's, Cystic Fibrosis, Hemoglobin electrophoresis);
- offer of HIV, STD testing; and
- evaluation of vaccine status and offer vaccines if indicated (e.g. TdaP, rubella).

Guideline 15 Antenatal Care

Initial Visit

The initial visit to the obstetric provider should be scheduled in the first trimester (whenever possible). The visit should include a detailed evaluation of the patient and her history to assess and plan for the pregnancy. At a minimum, the initial assessment should include:

- I. A detailed history, including:
 - past and current illnesses;
 - surgeries;
 - allergies;
 - family history including family genetic history, and ethnicity;
 - environmental and occupational exposure history;
 - prior pregnancies;
 - a menstrual history, with specific attention for accurate dating of the pregnancy;
 - medications and supplements currently being taken;
 - domestic violence; and
 - substance use or abuse screening (with interventions offered, as appropriate).
- 2. Counseling about:
 - normal course of pregnancy;
 - frequency of visits, office hours;
 - when and how to contact the clinician;
 - balanced nutrition, anticipated weight gain, vitamin supplementation, and foods to avoid;
 - exercise;
 - sexuality;
 - environmental hazards;
 - health maintenance (e.g., dental health, appropriate use of seat belts);
 - risk behaviors (with interventions offered, as appropriate);
 - HIV and recommendations for testing; and
 - substance abuse or abuse screening (with interventions offered, as appropriate).

- 3. Genetic counseling should include:
 - offering testing for cystic fibrosis with specific information about carrier frequency and sensitivity of the test; and
 - offering testing as appropriate for ethnicity including:
 - Tay Sachs testing for patients of Ashkenazi Jewish, French-Canadian, or Cajun descent;
 - Canavan's disease and familial dysautonomia screening for patients of Ashkenazi Jewish descent;
 - hemoglobin electrophoresis for those at risk for hemoglobin disorders, i.e., Asian, African, Caribbean, or Mediterranean ancestry;
 - others as appropriate to history; and
 - counseling on methods available to screen or test for fetal aneuploidy.
- 4. A detailed physical examination.
- 5. Recommended laboratory testing, including:
 - complete blood count (свс) with indices,
 - blood group and Rh type determination,
 - antibody screen,
 - rubella immunity status (if not known),
 - hepatitis B surface antigen,
 - hepatitis c antibody (if appropriate),
 - HIV testing (consent required)
 - syphilis screen,
 - varicella immunity status (if not known),
 - urine culture,
 - genetic screening (if indicated),
 - cervical cytology (if appropriate),
 - gonorrhea and chlamydia screening if indicated, and
 - **TB** testing (if indicated).
- 6. Identified medical problems and risk factors should be addressed and a problem list created.
- 7. Folic acid or prenatal vitamin containing folic acid should be prescribed.

Subsequent Visits

At every routine prenatal visit, an interval history should be obtained. Assessment should be made of the patient's weight, blood pressure, urine, and uterine size. Fetal assessment should include heart sounds and movement as appropriate for gestational age.

Testing in the second and third trimesters:

- fetal survey ultrasound may be performed at 17-20 weeks;
- CBC and glucose screening, if appropriate, at 24–28 weeks (a one-hour post-50g glucola serum glucose value of 140 mg/dl or higher is considered abnormal);
- antibody testing should be obtained at 24–28 weeks in Rh negative patients as indicated;
- STD testing should be repeated at 32-36 weeks for patients at risk; and
- Group B Streptococcus screening should be done, if appropriate, at 35–38 weeks (see Guideline 25).

Counseling in the second and third trimester may include

- offering a fetal survey ultrasound;
- reviewing instructions on when/how to call the clinician;
- reviewing and discussing informed consent for labor and delivery;
- preparation for childbirth including availability of childbirth classes, analgesic options, and expectations during labor and birth;
- discussing and encouraging breastfeeding;
- selecting a pediatrician;
- newborn issues, including circumcision, infant care classes, car seats; and
- postpartum recovery including postpartum appointments, maternity leave, depression, and contraception.

Additional interventions:

- during flu season, influenza vaccine should be recommended to pregnant patients;
- other vaccinations may be considering in pregnancy as indicated (e.g., hepatitis B vaccination for women at risk); and
- Rh immunoglobulin should be provided for Rh negative woman in the second trimester, or as indicated for bleeding, trauma, or amniocentesis.

Assessment and Monitoring in Labor and Delivery

Patient Education

During prenatal care, the clinician and patient will discuss common events and procedures in labor, including methods of assessing fetal well-being.

Initial Evaluation by Clinician in Labor and Delivery

The clinician's initial evaluation and documentation in Labor and Delivery shall include, at a minimum:

- updating and summarizing the antenatal record;
- physical exam (including an estimated fetal weight);
- evaluation of status of labor, including a description of uterine activity, cervical dilation and effacement, and fetal station and presentation, unless vaginal exam deferred;
- evaluation of fetal status, including interpretation of auscultation or electronic fetal monitoring strips, if generated; and
- the plan for delivery.

Fetal status must be assessed on every patient admitted or evaluated in a triage unit. This should be performed without delay for any fetus of 24 or more weeks. A recording of fetal heart rate (FHR) and uterine contractions is advised until categorization of the FHR tracing is determined. If a Category I pattern cannot be obtained in a reasonable time frame, continued evaluation should proceed.

First Stage of Labor After Initial Evaluation

For a patient without complications, continuous FHR monitoring is not required if the initial FHR tracing exhibits a pattern which is reassuring, i.e., a Category I tracing, defined as:

- baseline FHR: 110–160 beats per minute
- baseline FHR variability: moderate
- late or variable decelerations: absent
- early decelerations: present or absent
- accelerations: present or absent

"Categorization of the FHR tracing evaluates the fetus at *that* point in time; tracing patterns can and will change. An FHR tracing may move back and forth between categories depending on the clinical situation and management strategies employed."¹

Fetal heart rate (and variability—if electronically monitored) should be evaluated and recorded at least every 15–30 minutes (depending on the risk status of the patient) during the active phase of labor. The FHR should be evaluated as soon as is feasible

after spontaneous rupture or immediately after artificial rupture of the membranes.

Continuous fetal heart rate monitoring should be done in patients with any of these indicators:

- gestational age less than 36 weeks or greater than 42 weeks,
- history of an abnormal antepartum FHR or rhythm,
- breech presentation,
- history of prior cesarean section,
- multiple gestation,
- fetal growth restriction,
- significant maternal illness including gestational hypertensive or diabetic disorders,
- use of oxytocin,
- abnormality of active or second stage labor,
- thick meconium, or
- heavy vaginal bleeding.

Electronic fetal monitoring is also preferred when auscultation is not feasible. Once continuous electronic fetal monitoring is chosen and initiated, a technically satisfactory and continuous tracing should be achieved. If this cannot be accomplished, the reasons must be documented and an alternative plan for fetal assessment must be developed.

In the event of a Category III FHR tracing, the attending clinician or his or her designee shall promptly evaluate the fetal status and initiate efforts to resolve the abnormal FHR pattern. An amnioinfusion may be considered when persistent variable decelerations are seen on the FHR tracing.²

The patient shall be evaluated during labor at appropriate intervals. Each evaluation should include:

- assessment of maternal status, including level of pain during labor;
- description of uterine activity;
- assessment and interpretation of electronic fetal monitoring or auscultation of fetal heart;
- description of findings on vaginal exam, if performed, including cervical dilation and effacement, fetal station, change in status of membranes, and progress since last exam;
- summary of maternal and fetal status; and
- plan, including plans for or performance of clinical interventions and pain management.

Each evaluation should be recorded in the medical record.

Second Stage Labor

The monitoring clinician (MD or CNM) should document in the medical record at the time of identification of second stage, after two hours of second stage, and hourly thereafter. This documentation, which should be dated and timed, should include, at a minimum:

- maternal status;
- fetal status;
- fetal station and, if known, position;
- presence of caput and molding; and
- the plan for delivery.

Fetal heart rate should be evaluated and recorded at least every 5–15 minutes (depending on risk status of the patient) or after every contraction during the second stage of labor.

In the event of a Category III FHR tracing, the attending clinician or his or her designee shall promptly evaluate the fetal status and promptly initiate efforts to resolve the abnormal FHR pattern. He or she may consider obtaining another opinion about the fetal status.

No later than the end of the second hour of the second stage of labor, and every hour thereafter, the attending physician or midwife should personally evaluate the patient and document in the medical record the minimum as noted above. Additionally, the providers involved (which may include the attending physician, resident, nurse midwife, RN, and/or charge nurse) shall discuss the patient's progress and plan of care at each hourly interval.

By the end of the third hour of the second stage of labor, the attending obstetrician should personally evaluate and examine the patient, immediately document details of this evaluation, and be involved in continued planning.

Delivery

If a patient is moved to another room for delivery, fetal monitoring should be established in that room unless delivery is reasonably expected to occur imminently. For patients about to undergo cesarean section, monitoring should continue until abdominal preparation for surgery is begun. When the clinician is concerned about the fetal status at delivery, a double-clamped segment of the umbilical cord should be set aside for possible arterial blood gas assessment. If the neonatal 5-minute Apgar score is 4 or less, umbilical artery blood should be sent for analysis. Blood can be drawn from the clamped segment of cord at any time within an hour of delivery.

After Delivery

Following delivery, the clinician must record all the events in the medical record, using forms, notation, and/or dictation as appropriate to the case. The clinician should be readily available to return to the unit until the immediate (30 minute) postpartum period is complete and the patient is stable.

Institutional Responsibility

Each institution shall provide and maintain appropriate fetal monitoring apparatus to meet the needs of its patients. Accommodations for preserving all electronic fetal monitoring tracings *(see Guideline 1)* is also the responsibility of the institution, with special consideration and allocation of resources to assure permanent and secure preservation of fetal monitor tracings (antenatal and intrapartum) for all babies born with five minute Apgar scores of 4 or less. If copies of electronic fetal monitor strips are kept, then preservation and storage of paper fetal monitor strips is not necessary.

Each hospital shall have at least twice daily multidisciplinary meetings held on the Labor and Delivery unit, at which time all patients' relevant clinical issues shall be discussed and appropriate clinical and administrative plans agreed upon by the team caring for the patients.

Clinician Education

Ongoing continuing education should be provided by each institution for all obstetric personnel. Subjects to be reviewed may include FHR monitoring, emergency measures for the treatment of shoulder dystocia and eclampsia, and forceps or vacuum application. Each institution shall develop a program to evaluate and document staff competence.

¹ Macones GA, Hankins GDV, Spong CY, Hauth J, and Moore T. The 2008 National Institute of Child Health and Human Development Workshop Report on Electronic Fetal Monitoring Update on Definitions, Interpretation, and Research Guidelines. *Obstet Gynecol.* 2008;112:661–66.

² ACOG Committee on Practice Bulletins: Obstetrics. Intrapartum Fetal Heart Rate Monitoring: Nomenclature, Interpretation and General Management Principles. ACOG Practice Bulletin No. 106. American College of Obstetricians and Gynecologists. 2009;114:192-202.

Guideline 17 Postpartum Care

In-hospital Care

Patients should be seen each day of their hospitalization by an obstetrical provider. This person assesses for medical complications, addresses any questions or concerns, and arranges for discharge.

Each institution will have a process or program to instruct each patient regarding normal postpartum events. These instructions should include care of the breasts, perineum, and urinary bladder, and signs of complications. There should also be instruction about infant care, infant feeding (including the benefits of breastfeeding), and subsequent maternal and newborn medical examinations. Oral instructions should be supplemented with written instructions and reinforced by providers.

After Discharge

Consideration should be given to an early (1–3 week postpartum) visit for women with medical complications or those women at risk for postpartum depression, i.e.:

- past episodes of depression,
- family history of mood disorder, and
- concurrent stressful life events¹

All women, including those with an earlier visit (as above), should be advised to have a visit four to eight weeks postpartum. That visit should include a complete review of the pregnancy and birth, and an update of history and current symptoms. All postpartum women should be assessed for and counseled about postpartum depression, including support services offered through the institution or community.

An appropriate physical exam should be performed including, at a minimum, vital signs and examination of the breasts, abdomen, pelvis, perineum, and extremities. Pap smear should be done if appropriate.

Plans for management or referral of ongoing problems should be instituted when appropriate, including evaluation of problems identified during the pregnancy.

Guideline 18 Anesthesia in Obstetrics

This guideline has been adapted from the Practice Guidelines for Obstetrical Anesthesia and the Guidelines for Regional Anesthesia in Obstetrics as approved by the American Society of Anesthesiologists.²⁻⁴ It applies to obstetric patients receiving major neuraxial anesthesia (spinal, epidural, combined spinalepidural, caudal), general anesthesia, or monitored anesthesia care (MAC) for labor analgesia or operative procedures.

- Regional anesthesia should be initiated and maintained only in locations in which appropriate resuscitation equipment and drugs are immediately available to manage procedurerelated problems. Resuscitation equipment should include, but is not limited to:
 - sources of oxygen and suction,
 - equipment to maintain an airway and perform endotracheal intubation,
 - a means to provide positive pressure ventilation,
 - drugs and equipment for cardiopulmonary resuscitation,
 - a protocol for the management of failed endotracheal intubation, and
 - adjunctive devices for the management of failed intubation such as LMA, Combi-tube, or fiberoptic intubation devices.
- 2. Surgical airway management must be available.
- 3. Anesthesia should be initiated and maintained by, or under the medical supervision of, a physician with appropriate privileges. Other anesthesia care providers should be credentialed to manage obstetric anesthesia under the medical direction of a physician as appropriate.
- 4. Prior to the initiation of anesthesia for labor or operative obstetric procedures:
 - The patient must be examined by an appropriate obstetric care provider.
 - An anesthesia care provider must perform a focused pre-anesthesia evaluation which should include, but is not limited to, maternal health history, anesthesiarelated history, an airway exam, and baseline vital signs. Examination of other organ systems should be performed as indicated. Laboratory testing should be performed when appropriate indications exist.

¹ Wisner KL, et al. Postpartum depression. N Eng J Med. 2002;347(3):194-99.

² Obstetrical Anesthesia Committee. Guidelines for Regional Anesthesia in Obstetrics. American Society of Anesthesiologists. (Approved by House of Delegates on October 12, 1988 and last amended on October 17, 2007).

- A physician credentialed to perform an operative vaginal or cesarean delivery must be available.
- An intravenous infusion should be established and maintained throughout the duration of the regional anesthetic. Whenever possible, this should be a large bore cannula (≥18 gauge).
- A pre-procedure verification/time-out should be performed.
- 5. During routine regional anesthesia for labor, maternal vital signs and the fetal heart rate should be monitored and documented. Additional monitoring of the parturient or fetus should be employed when indicated.
- 6. Patients who receive extensive regional block, MAC, or general anesthesia must be monitored according to the standards for basic anesthesia, including:
 - qualified anesthesia personnel shall be present in the room, and
 - the patient's oxygenation, ventilation, circulation, and temperature.
- 7. The primary responsibility of the primary anesthesiologist is to provide care to the mother. Qualified personnel, other than the anesthesiologist attending the mother, should be immediately available to assume responsibility for resuscitation of the newborn.
- 8. A physician with appropriate privileges to administer obstetric anesthesia shall be available in the medical facility from the initiation of an anesthetic until the patient's postanesthesia condition is satisfactory and stable. Should this physician become unavailable for reasons that would not permit timely return to the patient (such as surgery), he or she must provide the nursing staff with the name of an alternate clinician who:
 - agrees to assume responsibility for the care of the patient(s),
 - is readily available, and
 - is capable of intervening in emergency circumstances.

- 9. All patients recovering from routine regional anesthesia for labor should receive appropriate post-anesthesia care. Following extensive regional blockade, MAC, or general anesthesia, the standards for post-anesthesia care should be applied:⁵
 - A post-anesthesia care unit (PACU) should be available to receive patients. The design, equipment, and staffing should meet requirements of the facility's accrediting and licensing agencies.
 - Obstetric units must develop a policy for the management of patients in the PACU. This policy should describe who is responsible for the care of patients in the PACU, how they will be monitored, and the process for discharge. Specifically, it must address whether patients will be discharged by a nurse according to protocols, or signed out by an independent licensed practitioner. The protocol for discharge by nurses must be delineated.
 - When a site other than the PACU is used, equivalent postanesthesia care should be provided.
- 10. Whenever possible, pregnant patients with co-morbid conditions that may pose an increased anesthesia risk should be evaluated by an anesthesia care provider prior to labor so that a multi-disciplinary care plan can be created. Such patient conditions include, but are not limited to:
 - morbid obesity,
 - significant cardiac lesions,
 - a personal or family history of major adverse reaction to anesthesia (such as malignant hyperthermia),
 - coagulopathy,
 - history of difficult intubation, or
 - significant back surgery that might preclude the use of regional anesthesia.

³ Obstetrical Anesthesia Committee. Practice Guidelines for Obstetric Anesthesia. Anesthesiology. 2007; 106:843–63

⁴ Obstetrical Anesthesia Committee. Standards for Basic Anesthetic Monitoring. American Society of Anesthesiologists. (Approved by House of Delegates on October 21, 1986 and last amended on October 25, 2005).

⁵ Obstetrical Anesthesia Committee. Standards for Post Anesthesia Care. American Society of Anesthesiologists. (Approved by House of Delegates on October 12, 1988 and last amended on October 27, 2004).

Guideline 19 Induction of Labor¹⁻²

Indications for the induction of labor should take into account maternal and fetal conditions, gestational age, cervical status, and other factors. Criteria for confirmation of fetal lung maturity should be met in these circumstances *(see Guideline 24, Scheduled Elective Delivery)*. Labor may be induced for non-medical reasons after 39 weeks gestation but may not be arranged before 39 weeks gestation without establishing or confirming fetal lung maturity before scheduling the induction of labor.

Induction has certain risks including uterine tachysystole (hyperstimulation); or may not be successful and increase the risk of cesarean section. The risks and benefits of induction should be discussed and documented in the patient's medical record. In general, the contraindications to induction are the same as those for spontaneous labor and vaginal delivery. For women with a previous cesarean section, see *Guideline 22*.

Prior to the Induction of Labor

- Assess the pelvis and Bishop score; and fetal size, position, and presentation. The clinical rationale for the induction should always be documented in the patient's medical record.³⁻⁴
- 2. Confirm gestational age. (See Guideline 24, Scheduled Elective Delivery)
- 3. Counsel the patient regarding potential risks to the mother or fetus, agents and methods of labor stimulation, and the possible need for a repeat induction or cesarean section.
- 4. Evaluate fetal status with a non-stress test.
- 5. Select the method of induction based on the indications and assessment.

- Documentation in the patient's medical record should include the following:
 - the risks and benefits of induction that have been discussed with the patient and the patient's stated understanding;
 - the reason for indicated or elective induction, and the clinical rational;
 - the patient's Bishop score, gestational age, and fetal status;
 - the method of induction planned; and
 - the method of cervical ripening when the cervix is unfavorable (i.e., Bishop score is ≤6).

Methods of Induction

- I. Amniotomy
- Oxytocin (e.g., Pitocin[®]): Each obstetric unit shall develop guidelines for the administration of oxytocin which, at a minimum, should include:
 - preparation and administration via a controlled infusion device,
 - monitoring of the mother and fetus,
 - management of uterine tachysystole,
 - description of training and competency of personnel administering oxytocin, and
 - readily available physician who has privileges to perform cesarean sections.

Adequate documentation of clinical reasoning is required and intrauterine pressure catheter (IUPC) may be considered when oxytocin infusion rates rise above 20 mu/min.

¹ ACOG Committee on Practice Bulletins: Obstetrics. Induction of Labor. ACOG Practice Bulletin No. 107. American College of Obstetricians and Gynecologists. Obstet Gynecol. 2009;114:386-97.

² ACOG/ACP Guidelines for Perinatal Care, Sixth Edition. Washington DC, November 2007.

³ Reducing Inappropriate Induction of Labor: Case Study of Intermountain Health Care. The Commonwealth Fund. November 19, 2004. Available at: http://www. commonwealthfund.org/Content/Innovations/Case-Studies/2004/Nov/Reducing-Inappropriate-Induction-of-Labor--Case-Study-of-Intermountain-Health-Care.aspx

Synthetic Prostaglandin EI or E2 (e.g., Misoprostol/ Cytotec[®]; or Dinoprostone/Cervidil[®], Prepidil[®] or Prostin E2[®]): Each obstetrical unit shall develop guidelines for the administration of prostaglandin, which, at a minimum, should include:

- indications and contraindications;
- procedure, including dosage, frequency of administration, maximum number of doses, and the duration of fetal monitoring; and
- options for treatment of uterine tachysystole.
- 4. Mechanical methods of cervical ripening: If the status of the cervix is unfavorable, mechanical cervical dilators may be used. Each obstetrical unit shall develop guidelines for the use of mechanical or osmotic dilators, such as: hygroscopic dilators, osmotic dilators (e.g., laminaria), and Foley catheter bulb.

Institutional Responsibility

Each obstetrical institution is responsible for establishing standard policies and procedures for scheduling elective induction of labor, ensuring documentation of maternal Bishop's score, gestational age, and the indication and method for induction of labor, including the preparation and use of oxytocin and use of cervical ripening agents.

Guideline 20 Augmentation of Labor^⁵

Labor may be augmented with the use of oxytocin, amniotomy, or both.

Prior to the Augmentation of Labor

The following criteria should apply:

- patient was evaluated and the pelvic exam documented;
- an indication for augmentation of labor, e.g., arrest or protraction of labor, prolonged latent phase of labor, hypotonic uterine contraction pattern; and
- no contraindications to augmentation of labor, and
 - the fetal presentation is cephalic, and
 - no evidence of fetal acidemia or hypoxemia, such as the presence of a Category III FHR tracing.

Explain to the patient the planned procedures and/or medications, including risks, benefits, and alternatives, and document the patient's agreement in the medical record.

After the Initiation of Oxytocin (see Guideline 19)

The patient should be monitored for effect; this includes monitoring of:

- contractions either electronically or by palpation, with a goal of avoiding uterine tachysystole (hyperstimulation);
- fetal status (continuous electronic fetal monitoring is mandated, brief interruptions are acceptable);
- the progress of the patient's labor
- monitoring the dose of oxytocin (adequate documentation of clinical reasoning is required and IUPC may be considered when oxytocin infusion rates rise above 20 mu/min); and
- when external monitoring is problematic, consider applying the IUPC for monitoring uterine contractions.

All of these monitoring activities should be recorded in the medical record.

Institutional Responsibility

Each Obstetrical unit shall develop guidelines for the use of oxytocin *(see Guideline 19)*. The institution is responsible for ensuring that enough controlled infusion devices for administration of oxytocin are maintained and available to meet the needs of the patient population.

4 Management of Elective Labor Induction, 2007 update, Intermountain Health Care. Available at: https://kr.ihc.com/ext/Dcmnt?ncid=51061830

5 ACOG Committee on Practice Bulletins: Obstetrics. Dystocia and the Augmentation of Labor. ACOG Practice Bulletin Number 49. American College of Obstetricians and Gynecologists. Obstet Gynecol. 2003;102:1445–54.

Operative Vaginal Delivery¹⁻³

The vacuum extractor or forceps should only be used if all of the following are met.

- I. The delivering clinician has clinical privileges to use vacuum extractor or forceps.
- 2. Capability to perform an emergency cesarean section is available if unexpected difficulties are encountered.
- 3. Informed consent has been obtained and the patient agrees to the procedure.
- 4. The fetal head (exclusive of any caput) has reached at least
 +2 cm (scale: -5 to +5) and clinical pelvimetry indicates that delivery without fetal or maternal trauma can reasonably be expected.
- 5. The cervix is completely dilated and the membranes ruptured.
- 6. The delivering clinician has assessed the station, position, and attitude of the fetal head as appropriate to permit an accurate cephalic application of the forceps blades, or vacuum cup.
- 7. Adequate analgesia is provided.
- 8. Urinary bladder is empty.

For use of the vacuum extractor

- I. Gestational age must be 34 weeks or greater.
- 2. Careful pelvic examination to rule out any maternal tissue trapped between the vacuum cup and fetal head.
- 3. Vacuum extraction and commitment to vaginal delivery should be reevaluated in the event of:
 - failure of descent of the vertex with the first traction effort,
 - delivery that is not imminent after four traction efforts, or
 - vacuum cup detachment that occurs three times.

If the vacuum extractor or forceps fails to accomplish delivery despite proper application and technique, then a subsequent trial with the alternate instrument is appropriate only in carefully selected cases. If possible, a second opinion from another physician is recommended if a trial with the alternate instrument is planned. The consultant shall document his or her obstetrical evaluation and recommendation in the patient's medical record (*see Guideline 5*).

The incidence of intracranial hemorrhage is highest among infants delivered by cesarean following a trial of vacuum or forceps, or a combination of vacuum and forceps. Therefore, a trial of operative vaginal delivery should be attempted only when the likelihood of success is high.

The clinician shall dictate a detailed operative note which should include:

- the station and position of the fetal head,
- the fetal status at the time of application of vacuum extractor or forceps,
- indications, and
- clinical rationale and substantive risks discussed with the patient.

For vacuum extractions, the note must also include:

- the instrument used and pressure settings,
- number of attempts, and
- duration of the procedure.

In addition to a dictated detailed operative note, the delivering clinician should document the operative procedure in the patient's medical record immediately following the delivery.

¹ ACOG/ACP Guidelines for Perinatal Care, Sixth Edition. Washington DC, November 2007.

² ACOG Committee on Practice Bulletins: Obstetrics. Operative Vaginal Delivery. ACOG Practice Bulletin Number 17. American College of Obstetricians and Gynecologists. June 2000.

³ Towner D, et al. Effect of mode of delivery in nulliparous women on neonatal intracranial injury. N Engl J Med. 1999; 341:1709-14.

Patients with Previous Cesarean Section¹⁻²

Evaluation

Make an effort during the pregnancy to document the type of prior incision made in the uterus, and the indication(s) for the prior cesarean section. The maternal pelvis should be clinically evaluated.

Contraindications to a trial of labor after cesarean:

- prior cesarean section involving the upper contractile portion of the uterus (classical uterine incision),
- prior T incisions on the uterus,
- prior uterine surgery involving the upper contractile portion of the uterus with significant disruption of the uterine wall or entering of the uterine cavity,
- prior uterine rupture or dehiscence,
- more than two consecutive cesarean sections and no prior or interval vaginal deliveries,
- a too small or "contracted" pelvis, and
- other contraindication to vaginal delivery.

If the previous operative note cannot be located, an unknown scar is not a contraindication to trial of labor.

Counseling

Discuss with eligible patients the risks and benefits of a trial of labor after cesarean versus an elective repeat cesarean section. This discussion should occur after all past obstetrical history is obtained and should ideally occur early in the pregnancy. Issues that may be important in this decision include:

- success rates of a trial of labor;
- perinatal morbidity and mortality;
- maternal infection, operative injury, hysterectomy, transfusion;
- uterine rupture; and
- recovery and hospital stay.

A consent form should be used as documentation of this discussion in the medical record *(see Appendix c)*.

Elective Repeat Cesarean Section

Fetal pulmonary maturity must be presumed or assessed prior to undertaking elective scheduled cesarean section *(see Guideline 24).* Patients for whom labor is contraindicated, such as those with previous classical uterine incision or myomectomy in the upper contractile portion of the uterus, should be delivered by elective repeat cesarean section. Patients with lower segment incisions, who decline a trial of labor, can be delivered at term.

If elective cesarean section is scheduled earlier than seven days prior to the EDD, then assessment of fetal lung maturity is necessary *(see Guideline 24)*. An elective repeat cesarean section can be performed by or after seven days prior to the EDD without formal assessment of fetal lung maturity. Alternately, the patient and the clinician may choose to await the onset of labor.

Trial of Labor After Cesarean Section

- A physician who has credentials to perform an emergent cesarean section should be immediately available throughout active labor.
- 2. Anesthesia and nursing/operating room personnel should be available for emergent performance of a cesarean section.
- Continuous electronic fetal monitoring should be instituted no later than the institution of the use of epidural or oxytocin. According to ACOG, most authorities recommend continuous electronic monitoring during labor.
- 4. Intravenous access should be obtained in all patients with a prior cesarean section.
- 5. Oxytocin may be used for augmentation of labor in the absence of disproportion.
- 6. Oxytocin may be used for cervical ripening or induction after a discussion with the patient of the increased risk of uterine rupture associated with its use.
- 7. Prostaglandins (including Misoprostol) should not be used for cervical ripening or the induction of labor after a prior cesarean section.³

After a successful vaginal delivery, exploration of the prior uterine scar is not necessary in the absence of symptoms of uterine rupture, such as bleeding.

¹ ACOG Committee on Practice Bulletins: Obstetrics. Vaginal Birth after Previous Cesarean Delivery. ACOG Practice Bulletin Number 115. American College of Obstetricians and Gynecologists. August 2010.

² ACOG Committee on Practice Bulletins: Obstetrics. Fetal Lung Maturity. ACOG Practice Bulletin Number 97. American College of Obstetricians and Gynecologists. 2008;112:717-26.

³ ACOG Committee on Obstetric Practice. Induction of Labor with Misoprostol. ACOG Committee Opinion No. 228. American College of Obstetricians and Gynecologists. November 1999, reaffirmed 2008.

Guideline 23 Elective Cesarean Section

Elective cesarean section is defined as a primary cesarean performed at patient request without medical indication. Each physician may decide to support the patient request or not on a case-by-case basis. Primary cesarean section on maternal request without medical indication should not be scheduled earlier than seven days prior to the EDD. If a physician agrees to perform a primary cesarean section upon patient request, then detailed written informed consent should be obtained. A sample consent form for this procedure is available *(see Appendix E)*.

Guideline 24 Scheduled Elective Delivery

Elective delivery refers to a normal pregnancy without a recognized medical condition that would warrant delivery seven days prior to the EDD, prior to 39 weeks gestation. Delivery occurring before seven days prior to the EDD is associated with an increased risk of adverse neonatal outcomes and, in the case of elective induction, may be associated with an increased risk of cesarean section in nulliparous women.

Elective delivery of singleton gestations should not be planned to occur before seven days prior to the EDD, prior to 39 weeks gestation.

Fetal pulmonary maturity must be presumed or assessed prior to undertaking an elective scheduled cesarean section.

- I. Lung maturity is presumed if at least one of the following confirms that the patient is no more than seven days before her EDD:
 - known date of assisted reproductive technologic intervention;
 - an ultrasound measurement of the fetus obtained at less than 20 weeks gestation supports gestational age of 39 weeks or greater
 - fetal heart tones have been documented as present for 30 weeks by Doppler ultrasonography
 - it has been 36 weeks since a positive serum or urine human chorionic gonadotropin pregnancy test result
- 2. Lung maturity may be assessed by testing the amniotic fluid.¹

¹ ACOG Committee on Practice Bulletins: Obstetrics. Fetal Lung Maturity. ACOG Practice Bulletin Number 97. American College of Obstetricians and Gynecologists. 2008;112:717–26.

Prevention of Neonatal Sepsis Due to Group B Streptococci (GBS)

The CDC has recommended that all obstetrical clinicians adhere to a screening culture based obstetrical protocol for prevention of neonatal sepsis due to Group B Strep.¹ This protocol requires that GBS-specific cultures be universally performed during the antepartum period and that intrapartum antibiotics be administered to women based on culture data. If culture results are not available, intrapartum antibiotics should be administered according to defined risk factors.

Adherence to this culture-based protocol requires the following:

- I. Antepartum GBS-specific cultures according to the methodology specified by the CDC are performed between 35 and 37 weeks gestation. Women with positive screening cultures during a previous pregnancy should be recultured during subsequent pregnancies and managed on the basis of the current culture. Women who have had GBS cultures performed prior to 35 weeks (whether positive or negative) should have a repeat screening culture performed between 35 and 37 weeks gestation if it is anticipated that delivery may occur more than five weeks after the prior culture.
- 2. Intrapartum antibiotics are administered according to results of these cultures.
- 3. If results of cultures are not available, intrapartum antibiotics should be administered to all women with any of the following risk factors:
 - preterm labor (<37 weeks gestation)
 - rupture of membranes >18 hours, or
 - intrapartum temperature ≥100.4° F orally (100° F axillary).

- 4. Intrapartum antibiotics should be administered to women with either of the following (regardless of culture results):
 - previous GBS infected neonate, or
 - GBS bacteriuria (of any magnitude of colony count) at any time during the index pregnancy.
- 5. If a woman at term with a positive GBS culture ruptures her membranes without signs of labor, no more than 12 hours should pass prior to consideration of steps to effect delivery and antibiotic administration.
- 6. Women with negative cultures within five weeks of delivery do not require intrapartum antibiotic prophylaxis for GBS even if obstetric risk factors develop. Intrapartum temperature ≥100.4° F orally (100° F axillary) should prompt consideration for use of intrapartum antibiotics regardless of concerns regarding GBS prophylaxis.
- 7. Women undergoing a planned cesarean section prior to the onset of labor and membrane rupture do not require intrapartum antibiotic prophylaxis for GBS.
- 8. Penicillin is the first line antibiotic recommended for this purpose; ampicillin is also acceptable. For penicillin-allergic individuals, acceptable antibiotics include:
 - Cefazolin: (preferred alternative except for patients at high risk for anaphylaxis);²
 - Clindamycin and Erythromycin: (for patients at high risk for anaphylaxis, and whose susceptibility is known);³ and
 - Vancomycin: (for patients at high risk for anaphylaxis, and whose susceptibility is unknown).

¹ Schrag S, et al. Prevention of perinatal group B streptococcal disease. Revised guidelines from CDC. MMWR. 2002;51 (RR11):1-22.

² Women who are at high risk for anaphylaxis include those with a history of immediate hypersensitivity reaction to penicillin and those with concomitant conditions that may make anaphylaxis more difficult to treat, including active asthma and current treatment with beta-adrenergic blocking agents.

³ Susceptibility testing to clindamycin and erythromycin should be performed on all positive GBS cultures obtained from women at high risk for anaphylaxis.

Antenatal Test of Fetal Well-being

Tests of fetal well-being are indicated for patients who are at increased risk of adverse fetal outcome beyond that of the normal population. Testing includes maternal perception of fetal kicks (fetal kick counts), non-stress test, contraction stimulation test, biophysical profile, or other established tests of fetal wellbeing. Testing, when selected, should be initiated at a gestational age at which intervention for an abnormal test result would be anticipated.

Guideline 28

Use of Antenatal Corticosteroids for Fetal Maturation

All women between 24 and 34 weeks gestation who are at risk for delivery within seven days, should receive corticosteroids. This includes women with rupture of membranes, unless individual circumstances affect this decision.

Treatment options include:

- two doses of betamethasone 12 mg IM 24 hours apart, or
- four doses of dexamethasone 6 mg IM 12 hours apart.

Repeat courses of antenatal corticosteroids are not currently recommended, although individual patient circumstances should be considered.¹

Guideline 27 Ordering of Tocolytic Drugs

The clinician shall examine the patient before prescribing initial therapy with tocolytic agents in the second or third trimester. The patient should be informed of the risks and benefits of these medications, and provide oral or written informed consent. Documentation should include presumptive diagnosis, possible causes, and that informed consent has been obtained.

1 Antenatal corticosteroids revisited: repeat courses. National Institute of Health Consensus Statement. 2000;17(2):1-18.

Guideline 29 Prolonged Pregnancy

Clinicians should be familiar with acceptable alternative methods of management of pregnancies exceeding 41 weeks gestation, seven days beyond the EDD. Whichever method is chosen, the prenatal record must indicate that a discussion regarding management of pregnancy exceeding 41 weeks gestation occurred between the obstetrical provider and the patient.

A "post term pregnancy" is internationally recognized as a pregnancy that extends to or beyond 42 completed weeks gestation or 294 days from the first day of the last normal period, or is greater than or equal to 14 days beyond the EDD.¹⁻³

Studies available have shown an increase in perinatal morbidity and mortality during the post term pregnancy, with a two-fold increased risk of stillbirth and early neonatal death beyond 42 weeks gestation; and six-fold or higher at or beyond 43 weeks gestation. Uteroplacental insufficiency, meconium aspiration, and intrauterine infection contribute to increased rate of perinatal deaths. Post term pregnancy is an independent risk factor for low umbilical artery pH at delivery and low 5-minute Apgar scores.^{3,4}

Pregnancy dating should be assessed by the historical, clinical, and laboratory criteria as described in *Guideline 24:*

- known date of assisted reproductive technologic intervention,
- an ultrasound measurement of the fetus obtained at less than 20 weeks gestation supports gestational age of 39 weeks or greater
- fetal heart tones have been documented as present for 30 weeks by Doppler ultrasonography
- it has been 36 weeks since a positive serum or urine human chorionic gonadotropin pregnancy test result

Documentation of this discussion should be entered into the patient's medical record, including but not limited to:

- I. The risks of induction:
 - a failed induction, possibly leading to a cesarean section;
 - complications of oxytocin/prostaglandin administration, specifically hyperstimulation and fetal stress; and
 - lack of evidence to show, unequivocally, that induction improves perinatal outcome.
- 2. The risks of continued expectant management:
 - intrauterine fetal demise,
 - meconium aspiration syndrome,
 - dysmaturity syndrome, and
 - aspiration of meconium particulate matter.

Management 7-13 Days After the EDD

If the cervix is:

- favorable for oxytocin induction (patient is nullipara or multipara), then induction is preferred; fetal surveillance is an acceptable alternative;
- not favorable for oxytocin induction and the patient is a multipara, then induction or fetal surveillance are acceptable alternatives; or
- not favorable for oxytocin induction and the patient is a nullipara, then induction or fetal surveillance are acceptable alternatives.

If fetal surveillance is chosen, then twice-weekly fetal testing should begin by 7–9 days after the EDD.

Management 14 Days After the EDD

Steps should be initiated to deliver the patient by induction or cesarean section. Such delivery should be accomplished as soon as is feasible.

¹ World Health Organization (WHO). Recommended definition terminology and format for statistical tables related to the perinatal period and rise of a new certification for cause of perinatal deaths. Modifications recommended by FIGO as amended, October 14, 1976. Acta Obstet Gynecol Scand 1977;56:347.

² International Federation of Gynecology and Obstetrics (FIGO). Report of the FIGO Subcommittee on Perinatal Epidemiology and Health Statistics following a workshop in Cairo, November 11–18, 1984. London: International Federation of Gynecology and Obstetrics, 1986. (p. 54).

³ ACOG Committee on Practice Bulletins: Obstetrics. Management of post term pregnancy. ACOG Practice Bulletin No. 55. American College of Obstetricians and Gynecologists. 2004;104:639–46.

⁴ Gülmezoglu AM, Crowther CA, Middleton P. Induction of labour for improving birth outcomes for women at or beyond term. Cochrane Database Syst Rev. 2006;(4):CD004945. Review.

Guideline 30 Macrosomia¹

For the purposes of these *Guidelines*, fetal macrosomia implies growth beyond 4,500 grams (approximately 1-2 percent of live born infants achieve this birth weight). Risks for morbidity for mother and baby increase sharply beyond this weight compared to the general population. Clinical palpation and sonography are similar in their ability to estimate the presence of macrosomia.

Prenatal Counseling

When macrosomia is clinically suspected, patients should be informed of the potential risks and such discussion should be documented in the prenatal record.

Maternal risks include:

- an increased likelihood of cesarean section,
- vaginal lacerations, and
- postpartum hemorrhage.

Fetal risks include:

- shoulder dystocia,
- fractured clavicle, and
- damage to the nerves of the brachial plexus producing symptoms ranging from temporary upper extremity weakness to permanent paralysis, which is extremely rare (most infants delivered vaginally with birth weight >4,000 grams and a brachial nerve injury do not have a permanent paralysis).

Intrapartum Counseling

The responsible intrapartum clinician should confirm that the patient understands the risks and document this in the intrapartum record.

Delivery Options

If the estimated fetal weight is 5,000 grams or greater (4,500 grams or greater for infants of diabetic mothers), then prophylactic cesarean section may be considered.

Induction of labor for macrosomia is not recommended because it does not improve maternal or fetal outcomes and failed induction may result in unnecessary cesarean section.

Postpartum Documentation

If a shoulder dystocia occurs, this event and the details of the methods used to resolve it must be dictated as an operative report immediately after the delivery, and documented in the patient's medical record. This information must include:

- the maneuvers used,
- the time of delivery of the head and the time of complete expulsion of the fetal body, and
- the names of those in attendance at the delivery.

The clinician's hospital risk management unit should be notified of all cases of infant upper extremity weakness or paralysis.

Institutional Responsibility

Each obstetrical institution is responsible for developing a plan for routine safety drills to prepare staff in the event of shoulder dystocia and other obstetrical emergencies.²

¹ ACOG Committee on Practice Bulletins: Obstetrics. *Fetal Macrosomia*. ACOG Practice Bulletin 22. American College of Obstetricians and Gynecologists. November 2000. 2 Joint Commission: http://www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_30.htm

Management of Breech Presentations¹⁻²

External Cephalic Version

I. Patient Selection

External cephalic version should be discussed with all women who are carrying a breech presenting singleton fetus as early as the clinician feels is suitable. The discussion and its conclusion should be documented in the prenatal record.

Factors that may preclude version:

- fetal compromise
- non-reactive non-stress test
- intrauterine growth restriction
- oligohydramnios
- placenta previa
- abruption
- premature rupture of the membranes
- multiple gestation
- significant uterine anomaly
- hyperextended fetal head
- contraindications to a vaginal delivery
- observed nuchal cord
- fetal anomalies
- 2. Education/Consent

A discussion with the patient should precede the performance of the procedure and include:

- pregnancy management after a successful or unsuccessful version,
- success rate of attempted version,
- risks and benefits of the procedure, and
- when to call following the procedure.

See *Appendix B* for a sample consent form for this procedure. This, or a reasonable facsimile, should be reviewed with and signed by the patient prior to the procedure.

- 3. Prior to the Procedure
 - arrange a location in close proximity to the delivery unit;
 - confirm that an immediate pre-procedure non-stress test is reactive;
 - perform an immediate pre-procedure sonogram to confirm presentation and that there is normal amniotic fluid volume;

- perform a formal fetal anatomy survey (if one has not been performed previously, to evaluate the possibility of significant congenital anomalies);
- consider a tocolytic agent (tocolytics are relatively contraindicated in patients with heart disease, diabetes, or disorders of the thyroid); and
- consider regional anesthesia if the procedure is to be performed in the operating room.
- 4. During the Procedure
 - Monitor the fetal heart rate, at minimum, every 30 seconds during the procedure.
- 5. Following the Procedure
 - observe the patient for at least one hour;
 - continuously monitor the fetal heart rate and pattern via electronic fetal monitor apparatus for a minimum of one hour;
 - confirm a Category I fetal heart rate tracing post-procedure, prior to discharge;
 - administer Rhogam if indicated;
 - instruct the patient about follow-up plans, and advised whom to call in the event of any issues;
 - give the patient a written discharge instruction sheet.
- 6. Documentation of the Procedure

The details on the procedure should be recorded in the patient's medical record, including:

- gestational age;
- Rh blood type
- results of pre-procedure testing;
- medication administered;
- details on the version attempt, whether it was successful or unsuccessful;
- post-procedure testing; and
- future plans.

Delivery Options: Breech Singleton

Cesarean section is the recommended method for delivery of a singleton living fetus without any significant congenital anomalies, whose gestational age is greater than 24 weeks, and for whom vaginal delivery is not imminent. Assessment of the

2 ACOG Committee on Obstetric Practice: Obstetrics. External Cephalic Version. ACOG Committee Opinion No. 13. American College of Obstetricians and Gynecologists; February 2000.

¹ ACOG Committee on Obstetric Practice: Obstetrics. Mode of Term Singleton Breech Delivery. ACOG Committee Opinion No. 340. American College of Obstetricians and Gynecologists; July 2006.

Breech Presentations, cont'd

fetal presentation should be performed immediately prior to a scheduled cesarean.

If the patient refuses a cesarean section, a detailed written informed consent shall be obtained and placed in the medical record. In this circumstance:

- the obstetrician must be skilled in vaginal breech delivery or have adequate back-up consultants available;
- the adequacy of the pelvis must be assessed: the estimated fetal weight, type of breech, and fetal attitude shall be determined;
- oxytocin shall not be used for induction or augmentation;
- labor dysfunction of any type warrants delivery by cesarean section; and
- breech delivery should be permitted to occur spontaneously, or by assisted breech delivery maneuvers as indicated.

Guideline 32 Management of Twins

The clinician and the patient should have a discussion about the delivery options during the antenatal period and that discussion should be documented in the medical record. An example of a specific written consent is available in *Appendix D*.

Timing of Delivery

Diamniotic twin pregnancies should usually be delivered by seven days prior to the EDD and not later than the EDD. Fetal lung maturity can be presumed by seven days prior to the EDD or assessed if earlier.¹ Obtaining amniotic fluid from only one sac (typically the non-presenting twin) for assessment of fetal pulmonary maturity is acceptable. However, if there is discordant growth between the fetuses, both sacs should be sampled.

Intrapartum Considerations

- 1. The obstetric care provider should evaluate and document fetal presentations.
- 2. Continuously monitor (via EFM) both fetuses throughout active labor and delivery.
- 3. Intravenous access should be established.
- 4. Pain relief remains the patient's choice.
- 5. Sufficient personnel should be available to care for the mother and each baby.
- 6. An ultrasound should be available throughout the delivery to confirm presentation and, if necessary, to document the fetal heart rate.
- Cesarean section is indicated for twin pregnancies with a nonvertex presenting twin unless vaginal delivery is imminent.

After Vaginal Delivery of the First Twin

- I. When monitoring indicates a Category I or II intrapartum fetal heart rate, there is no urgency to deliver the second twin (delivery interval does not appear to affect perinatal outcome).
- 2. If the second twin is not in a vertex presentation, an obstetrician skilled in vaginal breech delivery should be available.
- 3. Total breech extraction, assisted breech delivery, cesarean section, and attempted external cephalic version are all acceptable approaches to the delivery of a breech second twin. Vaginal breech delivery is not recommended in the presence of significant discordance (i.e., second twin larger than first). Previous ultrasound (within 2–4 weeks of labor) can be valuable in determining discordance.

¹ ACOG Committee on Practice Bulletins: Obstetrics. Fetal Lung Maturity. ACOG Practice Bulletin Number 97. American College of Obstetricians and Gynecologists. 2008:112:717–26.

Guideline 33 Mid-trimester Termination

Patients for whom a termination, between 16–23%^{ths} weeks gestation, is planned, should have a plan of care and a discussion of the methods for second trimester termination. Medical-Surgical consents and Massachusetts Department of Public Health consents appropriate for the procedure should be obtained and documented. If appropriate, consent for disposition of fetal remains should be obtained.

Eligibility for second trimester termination should be determined by the best estimate of gestational age. The calculation of gestational age should be consistently applied and transparently obtained by all available dating criteria. Ultrasound verification of gestational age and determination of BPD is preferred, ideally within one week of the procedure.

Prior to Second Trimester Termination

- obtain medical and obstetrical history;
- confirm the gestational age;
- conduct a physical exam; and
- counsel the patient regarding potential risks, agents and methods for the chosen procedure, and the possible risks of the chosen procedure.

The plan of care may include but not be limited to the following:

- the patient wishes for an intact fetus;
- the patient wishes not to have a labor and delivery;
- availability of a care provider experienced in the procedures for second trimester termination;
- medical or obstetric co-morbidities;
- discussion of the appropriate location for the proposed procedure;
- anesthesia consultation as indicated; and
- consultation with Social Work, Chaplaincy, or both as desired.

Institutional Guidelines

Each facility shall develop guidelines for mid-trimester termination to include, at a minimum, details regarding:

- procedures,
- medications,
- monitoring the patient,
- description of training and competency of personnel,
- availability of a physician who can manage complications,
- use of cervical ripening agents,
- potential role of intra-operative ultrasound, and
- potential role of feticidal agents.

Methods of Second Trimester Termination

Methods of second trimester termination include dilation and evacuation and induction of labor. Hysterectomy and hysterotomy are not considered primary methods for terminating a second trimester pregnancy.

Documentation

Documentation should include, but not be limited to, the following:

- discussion of procedures or methods, and their risks and benefits;
- consents for medical-surgical procedures, and the Massachusetts Department of Public Health consents and disposition of fetal remains, if applicable;
- administration of medications: time, date, dose;
- administration of hygroscopic dilators (such as laminaria, dilapan), including date, time, and number placed;
- patient's clinical response;
- delivery or removal of fetal tissue and completeness; and
- complications and need for additional procedures.¹⁻²

2 Stubblefield PG, Carr-Ellis S, Borgatta L. Methods for induced abortion. Obstet Gynecol. 2004;104:174-85

¹ ACOG Executive Board. ACOG Statement of Policy. Abortion Policy. American College of Obstetricians and Gynecologists Reaffirmed 2007. Available at: http://www.acog. org/publications/policy_statements/sop0009.cfm.

Circumcision is the surgical removal of the foreskin of the penis. In the neonatal period, this is an elective procedure performed at the request of the parent(s).

Each institution will develop guidelines for circumcision, including:

- contraindications (e.g., abnormal genital structure, prematurity);
- requirements for physical examination of the infant prior to procedure;
- preparation for procedure, including obtaining consent (using a form specifically for circumcision);.
- time-out (surgical pause) is required prior to the procedure to confirm the patient and the presence of completed consent;
- pain relief: injection anesthetic is expected unless the parent declines; oral sucrose should be considered for comfort;
- documentation; and
- qualifications of performing clinicians.

Pediatricians, obstetrical providers, and nurses should all be involved in the development/approval of guidelines.

Each institution will track short-term complications of the procedure, including the type of complication, the method of circumcision, and the performing clinician.

Appendix A About Your Care During Labor and Birth

Having a baby is a natural event. Most mothers and babies go through labor and birth without serious problems. Even so, certain situations may arise near the end of your pregnancy, or in labor, that can affect the care you or your baby need.

Described below are some of those situations. This form also includes some common practices you might experience during your time at the hospital. If you have questions, be sure to ask your clinician.

Labor

- A nurse will work with your doctor or midwife to take care of you. In some hospitals, doctors training in obstetrics or anesthesia (residents) may also help care for you.
- Other clinicians in-training (i.e., medical students, student midwives, nurses, or physician assistants) may be involved in caring for you. Students are always supervised by your doctor, midwife, or nurse.
- 3. You may have a blood test during labor to measure your blood count or for other purposes.
- 4. When you arrive at the hospital in labor, a nurse will usually put a fetal monitor on your abdomen to check the baby's heartbeat. If the heartbeat is normal, the monitor may be removed. The baby's heartbeat will be checked from time to time during the labor.
- 5. Sometimes a baby's heartbeat needs to be checked more closely and a mother will wear a fetal monitor on her abdomen for part or all of labor. Normal fetal heart rate patterns are reassuring. Sometimes there are variations in the fetal heart rate pattern that cause concern, even when the baby is fine. Studies have shown that these patterns are difficult to interpret and may lead to an increased chance of cesarean or forceps delivery. Fetal monitoring does not prevent cerebral palsy or birth defects.
- 6. In certain situations, more information about the baby's condition is needed than can be obtained from the external monitor. If this happens, your doctor or midwife will place an internal monitor electrode on the baby's head. Very rarely, this can cause infection of the baby's scalp.
- 7. In less than 0.5% (one half of one percent) of deliveries, a blood sample from the baby's scalp is needed to find out

more about how the baby is tolerating labor. The sampling is like having your finger pricked. On rare occasions, the area from which the sample is taken will bleed or get infected.

- 8. Sometimes abnormalities in the baby's heart tracing can be corrected by an amnioinfusion. In this procedure, the clinician places a small plastic tube into the uterus and fluid is added to the amniotic fluid. This may take pressure off the umbilical cord in some situations.
- 9. You may have an intravenous line (IV) during labor to supply extra fluids, provide certain types of pain relief medications or antibiotics. Not all women require an IV.
- IO. There are many forms of pain relief for labor such as walking, use of the tub or shower, breathing and deep relaxation techniques, and massage. If you feel you need additional pain relief, your doctor or midwife can offer you other choices that are safe for you and your baby. These include:

Medication: You can be given a medication as a needle injection in your muscle (a "shot") or directly through an IV line. You might get a little drowsy. Allergic reactions are rare, but can happen.

Epidural: An epidural is the most common form of pain relief for labor and birth. An anesthesia specialist will place a thin flexible tube in your back. This procedure will take about 20 minutes. You can then receive pain relief medication through the tube. This will diminish most of the pain of labor.

- If your labor slows down, your doctor or midwife might give you the hormone-like drug oxytocin (Pitocin[®]) through an IV to make your contractions stronger and closer together.
- 12. Sometimes, before a woman starts labor on her own, her health or the health of her baby makes it necessary for labor to be induced. In the United States, about a quarter of labors are induced. Some reasons for induction of labor include a baby that is overdue by more than a week or two, a baby which has not grown well, infection, high blood pressure, diabetes, or a rupture of the bag of waters. Your doctor or midwife can help get labor started in various ways. If a woman's cervix is soft and stretchy, oxytocin (Pitocin®) given through an IV will most commonly be used. If a woman's cervix is not ripe, medications called prostaglandins are usually given first.

- 13. Sometimes, labor may be induced for non-medical reasons after 39 weeks gestation but before your due date. Induction for non-medical reasons may not be scheduled before 39 weeks gestation without establishing or confirming ability of the fetus to breathe room air upon birth (fetal lung maturity), before scheduling the induction of labor.
- 14. Induction has certain risks including creating contractions that are too strong or too frequent, which can stress the baby. In almost all situations, this risk is manageable and the contractions can be decreased. Induction of labor may not be successful and can increase the risk of cesarean birth, especially if this is your first baby and/or your cervix is not ripe (not ready for labor).

Vaginal Birth

- I. Labor contractions slowly open the cervix. When the cervix is completely open, contractions, along with your help, push the baby through the birth canal (vagina). Usually, the baby's head comes out first, then the shoulders, followed by the rest of the body.
- 2. About 10–15 percent of mothers need some help getting the baby through the birth canal. A doctor or midwife may apply a special vacuum cup or forceps to the baby's head to help the mother push the baby out. Large studies have shown that the vacuum cup and forceps are safe.
- 3. In approximately one percent of births, the shoulders do not come out easily, a condition called shoulder dystocia. If this happens, your doctor or midwife will try to help free the baby's shoulders. Shoulder dystocia may cause a broken collar bone or arm for the baby or nerve damage to the baby's arm. Most often, these problems heal quickly. Shoulder dystocia may cause tears around the vaginal opening and bleeding after birth.
- 4. Many women will get small tears around the vaginal opening. Sometimes a doctor or midwife will cut some tissue to make the opening bigger (episiotomy).
- 5. Most women with tears or an episiotomy will need stitches. The stitches will dissolve over a few weeks during healing. The area may be swollen and sore for a few days. Rarely, infection may occur. Infrequently, a tear or cut may extend to the rectum. Most often, after repair, this heals with no problems.

- 6. Normally, the uterus will expel the placenta soon after birth. In about one percent of births, this doesn't happen and the doctor or midwife must reach into the uterus and remove the placenta. If this happens, you may need anesthesia so he or she can remove the placenta.
- 7. All women lose some blood during childbirth. A woman is more likely to lose a lot of blood if:
 - the placenta doesn't pass on its own,
 - she is having multiples, as in twins or triplets, or
 - labor lasts a very long time.
- 8. Pitocin can help reduce bleeding after birth. If bleeding is very heavy, other medications may be used to help contract the uterus. Very few women (less than one percent) need a blood transfusion after vaginal birth.

Cesarean Section

- I. Approximately one third of mothers give birth by cesarean. Some cesareans are planned, while others are unexpected.
- 2. During cesarean birth, a doctor delivers the baby through an incision in the mother's abdomen.
- 3. The most common reasons for cesarean birth are:
 - the cervix doesn't open completely,
 - the baby doesn't move down the birth canal,
 - the baby needs to be delivered quickly because of a problem for mother or baby, and
 - the baby is not in a position that allows for a vaginal delivery, and
 - the mother has had a cesarean section before.
- 4. Anesthesia is always used for a cesarean section: most are performed using regional anesthesia such as a spinal, epidural, or combined spinal-epidural technique, so the mother is awake during the procedure. The rest are performed using general anesthesia.
- 5. Blood loss is greater with cesarean birth than with a vaginal birth. It is still rare (12 in 1,000) to need a transfusion.
- 6. Infection is more common after cesarean birth. Often, doctors give antibiotics during the birth to help prevent this.
- A thin tube called a urinary (foley) catheter will drain the bladder during the operation. It will usually remain in place for 12–24 hours afterwards.

- In less than one percent of cesarean sections, the operation may cause damage to the bowel or urinary system. Most of the time these problems will be recognized and corrected during the operation.
- 9. In less than one percent of cesarean sections, the baby might be injured during the birth. When this does happen, it is usually minor.

After Birth

- The chance of uterine infection after a vaginal birth is 2–3 percent; after cesarean birth, the chance of uterine infection is 20–30 percent. Antibiotics can lower the risk, but won't guarantee that you won't get an infection.
- 2. You may have cramps as the uterus returns to its normal size. This cramping gets stronger with each birth. You may notice it more when breastfeeding.
- 3. If your baby is delivered vaginally, you will probably have discomfort around the vaginal opening. If you have a cesarean birth, you will have pain from the incision in your abdomen. Ask your doctor or midwife for pain relief if you need it.
- 4. Vaginal bleeding is normal after birth. It will lessen over 1-2 weeks. About one percent of women have heavy bleeding and need treatment. Sometimes this type of bleeding can happen weeks after birth.
- 5. Most women feel tired and weepy after birth. For about ten percent of new mothers, these feelings don't go away or get worse (postpartum depression). If this happens, ask your doctor or midwife for help.
- 6. Various factors influence when you go home from the hospital. These include your health, your baby's health, and the help and support you have at home.

Newborn

- I. At one minute after birth, and again at five minutes after birth, the baby will be assigned Apgar scores. The scores reflect the baby's heart rate, breathing, color, muscle tone, and vigor. These scores assist your pediatrician and the nursery staff in planning the care of your baby.
- About 3–4 percent of babies are born with birth defects. Many do not hurt the baby (such as extra fingers or toes). Some, such as some heart abnormalities, can be serious.
- 3. Approximately 7–10 percent of babies are born before term (less than 37 weeks of pregnancy), or have a problem that will require some form of special care, i.e., treatment in a Special Care Nursery or a Neonatal Intensive Care Unit. A small percentage of babies born after 37 weeks also may require some form of special care.
- 4. About 12–16 percent of babies pass meconium (the first bowel movement) into the amniotic fluid before delivery. When this occurs, the baby's mouth and airway will be suctioned at the time of delivery to remove as much of the meconium as possible.
- 5. After your baby is born, he or she will be given eye ointment to prevent infection of the eyes and an injection of Vitamin K to prevent bleeding. Using only a few drops of blood from his or her heel, tests will be done to screen your baby for 29 different diseases. The results will be sent to your pediatrician in the community. Your baby's hearing will be checked while in the hospital. You will also be encouraged to have your baby receive the first immunization against hepatitis B before going home.
- 6. Three to four of every 1,000 newborns have serious bacterial infections of the blood, lungs, and—in rare cases—the surface of the brain and spinal cord. If you carry Group B Strep, develop a fever during labor, or if your membranes (bag of waters) are ruptured for a long time, you may be given antibiotics during your labor to reduce the risk of infection to your baby.
- 7. If your baby is at increased risk of infection or shows signs of infection, your pediatrician may decide to send blood or cultures to the laboratory for analysis. Your baby may also receive antibiotics.

Infrequent or Rare Events

The following problems occur infrequently or rarely during pregnancy:

- A few babies are born too early to survive, or they have serious medical problems. Of every 1,000 babies born, about 6–7 die in utero after 20 weeks gestation (stillbirth or fetal death); and 4–5 per 1,000 babies born die shortly after birth or within one month of their birth.
- 2. About 3 out of every 1,000 mothers develop blood clots in their legs after giving birth and require treatment. This is more likely to occur after cesarean section than after vaginal birth.
- 3. In about 1–2 out of 1,000 births, a doctor must remove the uterus (hysterectomy) to stop heavy, uncontrollable bleeding. This means a woman cannot become pregnant again.
- 4. About 6 out of every 1,000 women receive blood transfusion after giving birth. The risks associated with blood transfusion include an allergic reaction, fever, or infection. The chance of contracting hepatitis from a transfusion is 1 in 100,000; the chance of contracting HIV is less than 1 out of 1,000,000.
- 5. Very rarely (less than 1 in 10,000), mothers don't survive childbirth. Causes might include extremely severe bleeding, high blood pressure, blood clots in the lungs, and problems caused by other medical conditions.

Summary

Most babies are born healthy and most mothers go through labor and birth without serious problems. You should realize though, that pregnancy and childbirth have some risks. Many of the possible problems sound very frightening. Remember, most of these problems are uncommon, and the most serious events are quite rare.

Your health care team will watch carefully for signs of possible problems. They will do their best to identify them early, explain them, and offer you treatment. Your health care team looks forward to caring for you during labor and birth, and to delivering a healthy baby.

Authorization for Obstetrical Care

- O I have read *About Your Care During Labor and Birth*.
- I understand what has been discussed with me, as well as the content of this form. I have been given the opportunity to ask questions and have received satisfactory answers.
- O I understand that no guarantees or promises have been made to me about expected results of this pregnancy.
- I am aware that other risks and complications may occur. I also understand that during the remainder of my pregnancy, or during labor, unforeseen conditions may be revealed that require additional procedures.
- O I know that anesthesiologists, pediatricians, resident doctors, and other clinical students/staff may help my doctor or midwife.
- O I retain the right to refuse any specific treatment.
- All of my questions have been answered.

I consent to obstetrical care during my birthing experience. I understand that some of the procedures described above may occur. I retain the right to refuse any specific treatment. Ongoing discussion(s) about my current status and the recommended steps will be a part of my care.

Patient Name (print)	DOB or Patient ID#		
Patient Signature	Date	Time	
Clinician Name (print)			
Clinician Signature	Date	Time	

O I accept blood transfusions in the case of a life-threatening medical emergency.

O I refuse blood transfusion under any circumstances and have signed a separate form specifically for the refusal of blood products.

Patient Signature

Date

Time

Appendix B Breech Version or External Cephalic Version

A Breech Version or External Cephalic Version may be an option for a woman whose baby is in the breech (or buttocks down) position late in pregnancy. This procedure allows the clinician to try to turn the baby from breech to the more usual head down position.

About four percent of babies are in the breech position after 37 weeks gestation. This position causes some increased risk for the baby and a slightly higher than average chance of birth trauma. The mother has a high chance of cesarean section. For these reasons, the clinician and mother may elect to try to turn the baby.

This procedure is carried out in the hospital. An ultrasound is used to verify the baby's position and to help the clinician decide what direction to push on your abdomen. The baby's well being is evaluated with an external fetal monitor. A medication may be given by injection to help the uterine muscle relax. Often the medication makes your heart beat faster, and occasionally can cause brief palpitations. After these preparations are complete, the clinician will push on the baby through your abdominal wall in an attempt to turn it.

After the procedure, the baby is again evaluated with the fetal monitor. If you are Rh negative, Rh immune globulin is usually administered at this time as well.

About 50 percent of the time, the baby can be turned into the head down position. In the other 50 percent, the baby does not turn, but remains breech. Usually, once turned, the baby will stay head down; sometimes the baby may turn back to breech.

If successful, this procedure reduces the chance of cesareansection delivery, but it is associated with a number of risks:

- During the turning, the baby's heart rate may fall. This is not uncommon and the heart rate usually quickly returns to normal.
- The procedure may cause the onset of labor or cause the membranes to rupture. For this reason, breech version is usually performed within a few weeks of the due date, when the baby should be mature.
- Rarely (in less than one percent of cases) the baby can be entangled in the cord by the turning.
- Very rarely (in less than 0.5 percent of cases) the placenta may separate from the wall of the uterus. If this happens, the blood flow to the baby is reduced, which can be dangerous for the baby.
- If a problem does occur, an emergency cesarean section may be needed to deliver the baby quickly. Rarely, a problem will happen hours or days after the version.
- In very rare instances, the baby can die.

Authorization for Breech Version or External Cephalic Version

- O I have read Breech Version or External Cephalic Version.
- I understand what has been discussed with me, as well as the content of this form. I have been given the opportunity to ask questions and have received satisfactory answers.
- O I understand that no guarantees or promises have been made to me about expected results of this pregnancy.
- O I know that anesthesiologists, pediatricians, resident doctors, and other clinical students/staff may help my doctor or midwife.
- O I consent to breech version (external cephalic version).

I consent to obstetrical care during my birthing experience. I understand that some of the procedures described above may occur. I retain the right to refuse any specific treatment. Ongoing discussion(s) about my current status and the recommended steps will be a part of my care.

Patient Name (print)	DOB or Patient ID#		
Patient Signature	Date	Time	
Clinician Name (print)	-		
Clinician Signature	Date	Time	

O I accept blood transfusions in the case of a life-threatening medical emergency.

O I refuse blood transfusion under any circumstances and have signed a separate form specifically for the refusal of blood products.

Patient Signature

Date

Time

Appendix C

Delivery Following a Previous Cesarean Section

If you have had one baby by cesarean section, you may have some questions about what happens in the next pregnancy. Each woman who has previously delivered by cesarean section must discuss the situation with her clinicians and decide to either A) plan a repeat cesarean, or B) plan a trial of labor with the goal of vaginal delivery. Both options have risks and benefits. This information is a summary of the issues for you to give your consent for vaginal delivery after having had a previous cesarean section, and (and once you and your obstetrical care provider have signed it) will also serve as your consent.

Who is a Candidate for a Trial of Labor?

- I. When a cesarean section is done, an incision is made in the uterus. If this incision is sideways (transverse) in the lower part of the uterus, the scar is usually strong and the risk of rupture of the scar during labor for a future pregnancy is low.
- 2. Most women who have had one previous cesarean section with the transverse incision are candidates for a trial of labor in their next pregnancy. Some women with more than one previous cesarean can consider vaginal delivery, but the risk of rupture of the scar goes up with the number of cesarean sections.
- 3. Some women have an incision in the lower part of the uterus, but positioned up and down (vertical). Vaginal delivery can be considered, but the risk of rupture of the scar is higher than for transverse scars.
- 4. Some women have "classical" incisions (a vertical incision in the upper part of the uterus). The risk of complications is higher in this situation. For this reason, vaginal birth is not recommended after a classical incision.
- 5. Your clinician will review the records from your last cesarean(s) to verify the incision type(s). If your records are unavailable, your clinician will not be able to determine what type of incision you had and the two of you will have to decide how to proceed without that information.

What Else is Needed for a Trial of Labor?

The following other needs should be met before you and your clinician decide on a trial of labor:

- your pelvis should be judged adequate;
- you should have no other uterine scars; and
- the obstetrician and other personnel must be immediately available should an emergency cesarean section be required.

How Successful is a Trial of Labor?

- From 60–80 percent of women who have a trial of labor for delivery will give birth vaginally. Even those who have had two cesareans have demonstrated a relatively high success rate with a vaginal delivery.
- 2. Some studies show that the success rate for a trial of labor declines if the baby is big (40 percent for babies 10 lbs. or larger). Success rates may also be lower for women who had their first cesarean section done for arrest of labor.

What are the Benefits and Risks of a Vaginal Birth?

- I. If the trial of labor results in a vaginal birth, the mother usually has a faster recovery time, shorter hospital stay, decreased discomfort, less chance of blood transfusion, less chance of postpartum infection, and the risks of major surgery (cesarean section) are avoided. Vaginal birth also reduces the risk of respiratory difficulty for the newborn in the first few hours of life.
- If a trial of labor is not successful, however, a cesarean will be needed again. Such an unplanned cesarean section has more risk for both mother and baby than a planned cesarean. This includes a higher chance of postpartum infection, blood transfusion, and uterine rupture.
- 3. Uterine rupture can occur after a previous cesarean section. This rupture can occur during pregnancy or labor. The risk of uterine rupture of a low transverse uterine incision is less than one percent. Should a rupture occur, an emergency cesarean section is needed. The baby may be injured or die from this rupture. Occasionally, the uterus cannot be repaired and a hysterectomy (removal of the uterus) could result. Rarely, other organs such as the bladder or bowel may be injured from a uterine rupture or emergency cesarean section.

- 4. The risk for rupture of the scar also goes up if the labor is induced, especially if the cervix is not ready for labor.
- 5. The safety of a vaginal birth (after cesarean) with twins, breech babies, or after more than one previous cesarean section, is not well studied.

What Are the Benefits and Risks of a Scheduled Repeat Cesarean Section?

- A repeat cesarean section can be planned and the date selected. The mother avoids any chance of a long labor followed by another cesarean section. The risks of an attempted vaginal delivery are avoided.
- The most common complication associated with cesarean sections is infection. The infection rate is higher in women who are delivered by cesarean section than for women who have vaginal births.
- 3. Blood loss is usually more with a cesarean than with a vaginal delivery. Approximately 12 in 1,000 of all women delivered by cesarean section require blood transfusion.
- 4. Injury to the urinary system occurs in less than 1 in 200 women. These problems are usually identified and repaired at the time of the cesarean section.
- 5. Injury to the bowel (the intestines, colon, or rectum) is very rare, occurring in fewer than 1 in 1,000 cesarean deliveries. If an injury to the bowel occurs, it will usually be recognized and fixed at the time of the cesarean section.

- 6. Occasionally, after cesarean section, the placenta in a future pregnancy can implant over the old scar. This increases the risk of bleeding and premature delivery in that pregnancy. The chance of the placenta implanting in the wrong place increases as more cesarean sections are performed.
- 7. Once one pregnancy has been delivered by cesarean section, the chance of cesarean section in the next pregnancy increases. With each subsequent surgery, there is a higher risk of scarring and possibly increase in difficulty of the surgery. There is also an increased risk for rupture of the uterus in subsequent pregnancies if labor occurs.
- 8. Rarely, infertility may result from the adhesion formation (internal scar tissue).
- 9. Rarely, a hysterectomy can be required.

Who Should Not Try Labor and Vaginal Delivery?

For some women, the risks of a trial of labor following a previous cesarean section clearly outweigh the benefits. This includes women with:

- previous classical cesarean section;
- some previous uterine surgery, including some myomectomies;
- more than two consecutive cesarean sections and no prior or interval vaginal deliveries;
- prior uterine rupture or dehiscence;
- a too small (contracted) pelvis; or
- medical or obstetrical problems that prevent vaginal delivery.

Authorization for Delivery Following a Previous Cesarean Section

- O I have read Delivery Following a Previous Cesarean Section.
- I understand what has been discussed with me, as well as the content of this form. I have been given the opportunity to ask questions and have received satisfactory answers.
- I understand that no guarantees or promises have been made to me about expected results of this pregnancy.
- I am aware that other risks and complications may occur. I also understand that during the remainder of my pregnancy, or during labor, unforeseen conditions may be revealed that require additional procedures.
- O I know that anesthesiologists, pediatricians, resident doctors and other clinical students/staff may help my doctor or midwife.
- I retain the right to refuse any specific treatment.
- All of my questions have been answered.

I have chosen to attempt a trial of labor and vaginal delivery.

Ongoing discussion(s) about my current status and the recommended steps will be a part of my care.

Patient Name (print)	 DOB or Patient ID#		
Patient Signature	 Date	Time	
Clinician Name (print)			
Clinician Signature	 Date	Time	

O I accept blood transfusions in the case of a life-threatening medical emergency.

• I refuse blood transfusion under any circumstances and have signed a separate form specifically for the refusal of blood products.

Patient Signature	Date	Time	
—OR—			

I have chosen not to attempt a trial of labor and vaginal delivery.

Ongoing discussion(s) about my current status and the recommended steps will be a part of my care.

Patient Name (print)	DOB or Patient ID#	DOB or Patient ID#	
Patient Signature	Date	Time	
Clinician Name (print)			
Clinician Signature	Date	Time	

O I accept blood transfusions in the case of a life-threatening medical emergency.

O I refuse blood transfusion under any circumstances and have signed a separate form specifically for the refusal of blood products.

Time

Date

Patient Signature

Appendix D The Delivery of Twins

The following information is provided to give you an idea of possible events and risks related to the labor and delivery period for a pregnancy with twins.

Timing of Delivery

- Approximately 40 percent of twin pregnancies enter labor early.
- Sometimes, medical complications require early delivery.
- Almost all women with twins are delivered before or by their due dates.

Route of Delivery

The recommended route of delivery depends in large part on how the babies are presenting.

- Vertex/Vertex (the babies are both head down): vaginal delivery is usually recommended for both babies.
- Non-vertex Presenting Twin (the first baby is not head down): cesarean-section delivery is generally recommended.
- Vertex/Non-vertex Twins (the first baby is head down and the second is lying either buttocks down (breech) or sideways): the best approach to this complex situation is unclear. The options include:

- cesarean delivery of both twins:
- vaginal delivery of the first baby, followed by an attempt to turn the second baby;
- vaginal delivery of the first baby, followed by breech vaginal delivery of the second baby; or
- vaginal delivery of the first baby, followed by cesarean delivery of the second baby (an uncommon situation that usually results from a complication during attempted vaginal delivery of the second baby).

Each approach has risks.

- Vaginal delivery poses additional risks for the second twin, including the (rare) risk of birth trauma.
- A cesarean section, which may be unavoidable even if a vaginal delivery is desired, includes the risk of bleeding, infection, and surgical injury to the bowel or bladder.

In some situations, vaginal breech delivery of the second twin is not recommended such as when:

- the second baby is estimated to be considerably larger than the first,
- the pelvis is judged to be too small to allow the baby to deliver safely, or
- the baby is very small (less than 4 pounds) or very early (less than 32 weeks).

Authorization for Twin Delivery

- I have read *The Delivery of Twins*.
- I understand what has been discussed with me, as well as the content of this form. I have been given the opportunity to ask questions and have received satisfactory answers.
- I am aware that other risks and complications may occur. I also understand that during the remainder of my pregnancy, or during labor, unforeseen conditions may be revealed that require additional procedures.
- O I know that anesthesiologists, pediatricians, resident doctors and other clinical students/staff may help my doctor or midwife.
- All of my questions have been answered.

I consent to obstetrical care.

Patient Name (print)	DOB or Patient ID#	
Patient Signature	Date	Time
Clinician Name (print)		
Clinician Signature	Date	Time

O I accept blood transfusions in the case of a life-threatening medical emergency.

O I refuse blood transfusion under any circumstances and have signed a separate form specifically for the refusal of blood products.

Patient Signature

Date

Time

Appendix E

Primary Cesarean Section on Maternal Request

Occasionally, a woman will request a primary (first time) cesarean section without a medical indication. This information summarizes the issues and also serves as your consent.

The Benefits and Risks of a Scheduled Elective Primary Cesarean Section

- A cesarean section can be planned and the date selected. The mother avoids any chance of a long labor. The risks of a vaginal delivery are avoided.
- 2. For the mother, the most common complication associated with a cesarean section is infection. The infection rate is higher in women who are delivered by cesarean section than for women who have vaginal births.
- 3. For the mother, blood loss is usually greater with a cesarean section than with a vaginal delivery. Approximately 12 in 1,000 of all women having a cesarean section require blood transfusion.
- Injury to the bladder or ureters (the urinary system) occurs in less than 1 in 200 women who deliver by cesarean section. These problems are usually identified and repaired at the time of the cesarean section.

- 5. Injury to the mother's bowel (the intestines, colon, or rectum) is rare, occurring in less than 1 in 1,000 cesarean sections. If an injury to the bowel occurs, it will usually be recognized and fixed at the time of the cesarean section.
- 6. Delivering a baby by cesarean section can lead to serious problems in future pregnancies. Occasionally, after cesarean section, the placenta in a future pregnancy can implant over the old scar. This increases the risk of bleeding and premature delivery in that pregnancy. The chance of the placenta implanting in the wrong place increases as more cesarean sections are performed.
- 7. Once one pregnancy has been delivered by cesarean section, the chance of cesarean section in the next pregnancy increases. With each subsequent surgery, there is a higher risk of scarring and possibly increase in difficulty of the surgery. There is also an increased risk for rupture of the uterus in subsequent pregnancies if labor occurs.
- 8. Rarely, infertility or chronic pelvic pain may result from the formation of scar tissue (adhesions).
- 9. Rarely, a hysterectomy may be needed.

Authorization for Primary Cesarean Section on Maternal Request

- O I have read Elective Primary Cesarean Section and About Your Care During Labor and Birth.
- O I understand that I have the option for vaginal delivery and that I do not have specific medical indications for cesarean section.
- I understand the risks and benefits of an elective primary cesarean section as explained above and as explained by my clinician. I am aware that other risks and complications may occur.
- I understand what has been discussed with me, as well as the content of this form. I have been given the opportunity to ask questions and have received satisfactory answers.
- O I understand that no guarantees or promises have been made to me about expected results of this pregnancy.
- I am aware that other risks and complications may occur. I also understand that during the remainder of my pregnancy, or during labor, unforeseen conditions may be revealed that require additional procedures.
- O I know that anesthesiologists, pediatricians, resident doctors and other clinical students/staff may help my doctor or midwife.
- O I retain the right to refuse any specific treatment.
- O All of my questions have been answered.

I request and consent to elective primary cesarean section.

Patient Name (print)	DOB or Patient ID#		
Patient Signature	Date	Time	
Clinician Name (print)			
Clinician Signature	Date	Time	

O I accept blood transfusions in the case of a life-threatening medical emergency.

O I refuse blood transfusion under any circumstances and have signed a separate form specifically for the refusal of blood products.

Patient Signature

Date

Time

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