Perio

**Team Members Performing**

- [x] All faculty & staff
- [x] Faculty & staff providing direct patient care or contact
- [x] MD
- [x] House Staff
- [x] RN
- [x] LPN
- [x] Other: Surgical Technicians, Care Partners

**Lead Author & Content Experts**

- Lead Author Sarah Starr MD
- Content Expert 1: Bennett Spetalnick MD
- Content Expert 2: Robin Seaton MSN, RNC-OB, C-EFN
- Content Expert 3: Anna Morad, MD
- Content Expert 4: Peter Grubb, MD
- Content Expert 5: Curtis Baysinger, MD
- Content Expert 6: Mavis Shorn, CNM
- Content Expert 7: Lacey Burke, RN

**SPECIFIC EDUCATION REQUIRED:**

- [x] YES
- [ ] NO

If yes, see section on “Specific Education Required”

**I. Policy**

Qualified personnel collaboratively manage the care of the obstetric patient having cesarean birth.

**II. Purpose**

The goal is to outline collaborative management during the perioperative period for obstetric patients undergoing cesarean birth.

**III. Definitions**

A. **Cesarean Birth:** Birth of the infant, placenta and membranes through an incision in the maternal abdominal and uterine walls. (Menaker 2010)

B. **Delayed Cord Clamping:** Placing clamp on umbilical cord to arrest cord blood flow after a delay (typically 30 seconds to 2 minutes) rather than immediately after birth has occurred.

C. **Skin-to-Skin contact (STS) for Cesarean birth:** Infant is placed chest to chest with mother while cesarean surgery is ongoing.

D. **Transition Nurse:** The transition nurse is defined as an RN who is trained in neonatal resuscitation who is assigned the role of transition nurse for a given cesarean birth. Transition nurse role may be assumed by NICU liaison nurse,
Labor and Delivery nurse or other nurse familiar with and able to carry out STS procedures

E. **Support Persons:** One individual designated by the patient to be present in the operating room and attend the birth.

F. **Qualified Language Interpreters:** Personnel provided through Vanderbilt Interpretive Services who may accompany the patient to the operating room to provide medical language interpretation.

G. **Doulas:** (also known as a labor coach), A non-medical professional employed by the patient to provide information, physical assistance and emotional support before, during and after childbirth. Doulas providing support in the OR will provide the transition nurse the full ability to assess and manage the infant at all times and be prepared to leave the operating room if requested by OR staff.

IV. **Protocol**

A. **Pre-Operative Period**

1. **Nursing:**
   a. Collect information for the obstetric nursing admission history, if not already completed, in accordance with policy [Nursing Admission History](#).
   b. Obtain and document list of patient’s current medications as outlined in the policy [Medication Reconciliation](#).
   c. Obtain and document initial set of baseline vital signs (blood pressure, pulse, respirations, and temperature).
   d. Complete physical assessment on admission to include:
      i. Complete head to toe physical assessment;
      ii. Falls Risk assessment;
      iii. Braden Skin Score assessment;
   e. Identify and note designated support person in the electronic medical record and notify obstetric and anesthesia teams as appropriate of any special requests such as STS.
   g. Initiate pre-operative orders as ordered by the obstetric provider, to include:
      i. IV access- it is preferred that IV shall be placed in non-dominant arm avoiding antecubital area when possible.
      ii. Lab work
      iii. Medication administration
   h. Place convective warming gown and sequential compression Devices (SCDs) to patient prior to transport to the OR.
2. Admission History/Physical Assessments: Labor nurse, obstetric provider and anesthesia provider will review patient’s obstetric history, relevant diagnostic studies and complete history and physical assessments as appropriate.
3. Confirm documentation of completed consent in accordance with the Informed Consent Policy

4. Fetal Status
   1. Upon admission, labor nurse will obtain 20 minute baseline fetal heart rate (FHR) by electronic fetal monitoring (EFM) unless shorter period requested by obstetric provider
      a. If patient not in active labor and FHR is category I tracing, EFM may be discontinued after initial assessment.
      b. If patient is in labor, periodic assessments of maternal-fetal status continue as per policy Nursing Management of the Labor Patient

5. Following induction of anesthesia and/or placement of regional anesthesia in OR, the EFM is re-applied and the fetal heart rate is continuously monitored until the abdominal prep is initiated.

6. Notifying Anesthesia Team of Non-Scheduled Cesareans
   1. When decision is made to proceed to cesarean birth in a laboring patient, the attending obstetrician shall call the attending anesthesiologist to alert them and answer questions regarding care plan.
   2. The attending anesthesiologist will note the time of this call in the Cesarean Section documentation.

7. Determining Eligibility for Skin-to-Skin Contact (STS) in the OR
   a. STS contact in the OR shall be offered to patients undergoing cesarean birth where medically appropriate.
   b. Definitive eligibility for STS shall be determined in consultation with anesthesia, obstetrics and pediatrics
   c. Contraindications to STS contact for mother include but are not limited to:
      i. Patient refusal
      ii. General anesthesia
      iii. Patient unresponsive
      iv. Patient unstable or requiring high acuity care
      v. Infant requires urgent intervention
   d. In cases where maternal medical reasons preclude STS but infant is medically appropriate for STS, a support person may be identified by transition nurse to provide STS in the labor room following birth.

8. Transition Nurse
1. Transition nurse shall be notified by charge nurse of all patients presenting for cesarean birth when available.

2. Transition nurse will review the patient’s history and explain available cesarean birth practices with patient and family answering questions regarding STS, delayed cord clamping, use of window drape and support person accompaniment in operating room.

Transition nurse shall be present as staffing allows to facilitate STS for all cesarean births where medically appropriate.

B. Intraoperative Period

1. Support Person Guidelines
   1. Support person will generally be limited to one person unless special circumstances exist.

2. Support Person Accompaniment to OR
   a. If patient requests support person be present for transport to OR and placement of regional anesthesia, the labor nurse will notify anesthesia by calling the anesthesia attending physician as soon as possible.
   b. Approval for accompaniment of support person to OR shall be made at discretion of attending anesthesiologist on duty.
   c. Anesthesia team member will review procedures with support person prior to procedure:
      i. Support person should wait outside OR door while patient is transferred to OR table
      ii. Enter and/or move about the OR room only as physically escorted by staff member
      iii. Remain seated at all times unless instructed to stand
      iv. Support person may be asked to leave the OR if patient care requires it.

3. Delayed Cord Clamping
   a. Delayed cord clamping will be employed for all cesarean births unless not medically advised.
   b. Medical appropriateness will be determined by attending obstetric surgeon.

4. Window Drape for Viewing Cesarean Birth
   a. Use of window drape should be confirmed with attending surgeon, and surgical technologist notified prior to procedure.
   b. See section IV.B.12.2: for additional details on window drape use.

5. Circulating Nurse Duties
   a. Understand principles of aseptic technique and maintain aseptic conditions at all times.
b. Perform surgical counts according to policy **Counts, Sharps, Sponges and Instruments**
c. Insert Foley catheter per protocol, if not already in place
d. Perform surgical prep per protocol
e. Apply electrosurgical unit (ESU) grounding device according to manufacturer’s instructions
f. Ensure that newborn resuscitation equipment is ready Notify NICU team in anticipation of birth
g. Operating room temperature shall be set at 72 degrees prior to delivery of infant
h. Provide physical support and reassurance for placement of regional anesthesia when applicable
i. Assist anesthesia providers with positioning the patient on the OR table and placement of hip wedge.
j. Assist surgical technologist by providing requested irrigating solutions, prep solutions, suture, sterile blanket pack, and window drape when applicable.
k. Verify all necessary equipment is turned on and functioning properly (ESU, suction, infant warmer, OR lights, SCDs)
l. Circulating nurse shall notify L and D charge nurse prior to delivery of infant that transition nurse shall be dispatched to the OR
m. Assist surgical team with surgical site dressing at completion of procedure.

n. Verify location of drains, label and document appropriately.
o. Clean patient of excess blood and prep solution.
p. Confirm that pathology specimens and paperwork are placed in the designated location.
q. Assist with patient transport to the post anesthesia care area.

9. **NICU team duties**
   1. The NICU team shall assess the newborn as consulted and provide indicated interventions as needed
   2. When STS is planned, it shall be a shared goal that the infant be placed skin to skin as quickly as possible if infant status is reassuring.
   3. The NICU team shall communicate any concerns regarding infant status to transition nurse prior to hand off of infant for STS
   4. Following assignment of 5 minute Apgar score and with a reassuring infant status, report shall be given and care is then transferred to transition nurse

10. **Transition Nurse Duties**
1. When available, transition nurse should be in operating room prior to birth and communicate with NICU team to facilitate STS as soon as possible after birth.
2. Transition nurse shall be provided space at the head of bed near patient’s head where she/he can easily view, assess and physically manage infant during STS.
3. Confirm placement of monitors away from chest area and communicate any need for adjustment to anesthesia provider.
4. Patient gown shall be pulled down to upper chest per patient comfort level to allow STS.
5. Assignment of identification bracelets in accordance with Patient Identification Policy may be done at birth but should not delay establishment of STS.
6. Place infant STS with blanket laid over infant and mother’s chest as a unit, with infant’s head visible.
7. Remain at head of bed at arms’ length of mother/infant at all times.
8. Assess infant and intervene as needed.
9. Communicate any concerns for maternal fatigue or somnolence to anesthesia provider.
10. Discontinue STS if warranted; as appropriate take infant to either nursery or NICU for further assessment.
11. STS should be facilitated until completion of first feed or for at least one hour where possible.
12. Administration of vitamin K and antibiotic eye ointment may be administered in the operating room but should not delay start of STS.
13. Transition nurse provides routine newborn care per Routine Newborn Care policy.

11. Anesthesia Provider Duties
   1. Practices regarding support person management
      a. Coordinate with transition nurse regarding support person management. Anticipate and communicate to transition nurse any clinical situation that may require stopping STS or removal of support person from room.
   2. Specific anesthesia practices regarding use of window drape:
      a. Confirm that drape shade fully obscures view of operative field prior to birth and adjust as needed.
      b. Following delivery of the head, confirm with obstetric team prior to opening shade.
      c. After opening shade, confirm that patient and support person can clearly view infant through window.
      d. Keep shade raised until infant leaves the operative field or when instructed by surgeon.
      e. Once drape is lowered, confirm that drape obscures view of operative field and adjust as needed.
3. **Anesthesia provider participation in facilitation of STS**
   a. EKG pads shall be placed away from upper chest and shoulders when possible.
   b. If not done previously, adjust back and head of bed incline combined with slight trendelenberg as acceptable to surgical team.
   c. At time of birth; re-confirm medically appropriate for STS
      i. Patient awake, alert and responsive
      ii. Full upper extremity motor strength, with strong hand grip bilaterally
      iii. Hemodynamically stable and stable acuity of care
   d. Scenarios wherein STS should be monitored closely and may need to be discontinued
      i. Mother fatigued or somnolent
      ii. Mother with significant anxiety
      iii. Mother with high spinal blockade and mild upper extremity weakness but intact hand grip—any degree of upper extremity weakness should be communicated to transition nurse to assist in care
      iv. Infant with signs of distress or non-reassuring values
   e. Anesthesia team will communicate with transition nurse regarding physical space considerations and any need for increased physical access. If needed, anesthesia provider may:
      i. ask transition nurse to relocate to support person chair located immediately next to patient’s head and have support person escorted to alternate location away from anesthesia area, or
      ii. request that transition nurse escort support person and baby to labor and delivery until further notice.

12. **Surgical Team Duties**
   1. Specific practices for birth and infant assessment
      a. Prior to cord clamping and cutting, surgeon will stimulate and fully dry infant with blanket pack provided by surgical technologist and place hat upon infant
      b. The 1 minute Apgar will be assigned by the obstetrician and confirmed by NICU team when cord is intact
      c. Following cord clamping, the neonate is handed to neonatal team

C. **POST-OPERATIVE PERIOD**
   Nursing Recovery Care following Cesarean Birth
   1. **Maternal Vital Signs**
1. Monitor blood pressure, pulse and respirations every 15 minutes x 4 then every 30 minutes x 2 then every hour until discharged from recovery area.

2. Monitor temperature upon arrival to recovery room.
   a. If temperature is >38 degrees Celsius (> 100.4 degrees Fahrenheit), notify provider and repeat temperature in one hour
   b. If temperature is <36 degrees Celsius (< 96.8 degrees Fahrenheit) place convective warming blanket on patient and monitor temperature every 15 minutes until normothermia is achieved
   c. If normothermic, assess temperature again prior to discharge from recovery care

3. If the patient becomes hypotensive and symptomatic, begin fluid bolus of LR or NS, administer oxygen and notify house officer.

4. Monitor SaO2 continuously via pulse oximeter and document every 15 minutes x 4. Notify provider and apply oxygen via face mask or nasal cannula if SaO2 < 95%

2. Maternal Assessment
   1. Complete head to toe physical assessment due to change in patient status.
   2. Perineum and Fundus
      a. Administer pharmacy prepared IV solution of 15 units of oxytocin (Pitocin*) in 250 milliliters of normal saline per provider order.
      b. Palpate uterine fundus for position, height and tone every 15 minutes x 4 then every 30 minutes x 2 then every hour until discharged from recovery area. Uterine massage is indicated if uterus is not firmly contracted. Support the lower uterine segment during massage to prevent uterine prolapsed or inversion
      c. Assess amount and character of lochia noting any clots.
      d. Inspect perineum for bleeding, edema, hemorrhoids, hematoma and breakdown of episiotomy.
      e. Increase frequency of assessment if hypotonic uterus or abnormal bleeding noted. Abnormal findings which may require intervention include fundus above the umbilicus; fundus deviated to right or left, fundus soft or boggy to palpation, presence of clots > 1-2cm, or bleeding which soaks one or more peripads in less than one hour.

3. Surgical Site
   a. Assess dressing upon admission to recovery area and every 15 minutes x 4 then every 30 minutes x 2 then every hour until discharged from recovery area.
b. Document leakage, drainage, bleeding and/or dressing changes. If bleeding or drainage present mark area on dressing and monitor for additional changes.

c. Report any significant drainage or discharge to provider.

4. Input

a. Assess IV site for appearances and patency initially and every two hours.

b. Measure and record all intake every two hours until IV discontinued.

5. Urine Output

a. Assess for bladder distension upon admission to recovery room and with each fundal assessment.

b. Verify Foley catheter, if present, is patent and note volume and characteristics of urine.

c. Measure and record urine output at least every two hours, more often if directed per provider orders.

3. Post Anesthesia Recovery

1. Continuous EKG monitoring is continued in the recovery area following procedures with general anesthesia. EKG monitoring may be discontinued after 1 hour if normal sinus rhythm.

2. Following regional anesthesia, assess and document for return of sensory and motor function every 15 minutes until normalization or transfer to postpartum care (then resume assessment per postpartum standards).

3. Remove epidural catheter at the end of the recovery period unless otherwise ordered. For procedure on epidural removal, refer to policy Epidural Analgesia: Nursing Care of the Pregnant Patient in Labor and Delivery

4. Pain Management

1. All pain medications are to be ordered by the anesthesia team during the immediate postoperative period.

2. Assess patient comfort on admission to recovery area. Document pain control interventions and patient response to interventions according Pain Management Guidelines

3. Patients not given long-acting epidural or spinal narcotics may be given PCA orders per Obstetric team. Confirm with anesthesia if long-acting narcotics were given.

5. Transport/Discharge

1. An anesthesia provider and RN accompany patient from the operating room to the recovery area and remain with the patient until baseline vital signs have been obtained

2. Patient’s anesthesia provider provides report to patient nurse using the Situation Background Assessment Recommendations (SBAR) format. Anesthesia provider remains at the patient’s bedside until both he/she
and the recovery room nurse are comfortable with patient’s current condition and plan for postoperative management.

3. Transition nurse accompanies the infant to the recovery area and stays with the infant until baseline vital signs have been obtained.
   a. Infant may be transported in mother’s arms to recovery at discretion of transition nurse if present.

4. Prior to discharging patient from recovery care, the following goals should be met:
   a. Patient’s vital signs are within baseline range.
   b. Patient can flex hips and knees.
   c. Patient’s oxygen saturation is at the preoperative level.
   d. Patient’s urine output is greater than 30 ml/hr if Foley is present.
   e. Postoperative labs are within the normal range.
   f. Patient's temperature is within the normal range.
   g. Patient is comfortable without excessive pain.
   h. Post-operative orders are completed.

6. **Nursing implications**: notify physician on duty for any of the following:
   1. Blood pressure >140/90 or <80/40
   2. Sustained heart rate > 120 or < 60
   3. Dysrhythmia
   4. Respiratory rate > 26 or < 12
   5. Temperature <96.8 or > 100.0
   6. Labored breathing or apparent airway obstruction.
   7. Sustained altered sensorium.
   8. Inability to tolerate PO fluid intake if ordered.
   10. Excessive bleeding.
   11. Urinary output < 30 ml/hr.
   12. Excessive perineal edema.
   13. Excessive pain, unresponsive to ordered medications.

7. **Patient/Family Education**
   1. Unit routine and plan of care.
   2. Expected length of stay.
   3. Medications as indicated.
   4. Equipment.
   5. Nutritional intake as indicated.
   6. Continuum of care plan.

8. **Documentation**
   1. Nursing assessments, interventions and plan of care.
   2. Transition nurse notes.
   3. Operative record.
   4. Anesthetic record.

D. REFERENCES
American Academy of Pediatrics (AAP), Breastfeeding and the Use of Human Milk, Pediatrics 2012; 129; e827


Perioperative Standards and Recommended Practices, Association of Peri-Operative Registered Nurses (AORN) 2010


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Hutton EK, Hassan ES, Late v. Early clamping of the umbilical cord in full-term neonates: systematic review and meta-analysis of controlled trials, JAMA 2007 Mar 21;297(11)1241-52

Rabe H et al A systematic review and meta-analysis of a brief delay in clamping the umbilical cord of preterm infants, Neonatology. 2008;93(2):138-44


Moore ER et al, Early skin-to-skin contact for mothers and their healthy newborn infants, Cochrane Database Syst Rev 2012 May 16;5:CD003519


**Clinical Policy Manual:** CL 30-02.04 Pain Management Guidelines

**Operations Policy Manual:** OP 20-10.17 Informed Consent
Area Specific Policy Manual: Labor and Delivery: AS 201111-20.03 Nursing Management of the Labor Patient

Newborn Nursery: AS 209117-10.15 Routine Newborn Care

Perioperative Learning Center: AS 201170-300.07 Counts, Sharps, Sponge and Instruments

E. APPROVAL:

Notes regarding area specific policy approval: The clinical area manager, under supervision of Director/PCC Administrator, is responsible for signature process of policies. At minimum, the following roles approve all area specific policies:

OB-PCC Committee Date: June 18, 2013

Bennett Spetalnick, MD
OB/GYN Department Chair

Tejuana Holmes, MSN, RN
Administrative Director of Womens’ PCC

Frank Boehm, MD
Director, Maternal Fetal Medicine

Sandy Smith
Manager, Labor & Delivery

Curtis Baysinger, MD
Director, Obstetric Anesthesia