Guideline Summary NGC-8051

Guideline Title
Nursing care and management of the second stage of labor, second edition. Evidence-based clinical practice guideline.

Bibliographic Source(s)

Guideline Status
This is the current release of the guideline.


Scope

Disease/Condition(s)
Second stage of labor in pregnancy

Guideline Category
Evaluation
Management

Clinical Specialty
Family Practice
Nursing
Obstetrics and Gynecology

Intended Users
Advanced Practice Nurses
Allied Health Personnel
Nurses
Physicians

Guideline Objective(s)
- To provide clinical practice guidelines for management of the second stage of labor based on an extensive review of the best available scientific evidence.
- To provide perinatal registered nurses, certified midwives, certified nurse midwives (CNMs), and Canadian registered midwives with information to optimize perinatal outcomes by the following means:
  - Empowering, preparing and supporting the woman and their families during the second stage of labor
  - Promoting alternative positioning and nondirected pushing techniques based on current evidence
  - Recognizing, responding to, and evaluating the physiologic and psychologic processes occurring during the second stage of labor

Target Population
Women during the second stage of labor for whom a vaginal birth is a planned, anticipated event and who have no contraindications for pushing or vaginal birth

Note: Depending on fetal size and position, gestational age, maternal and fetal condition, and the preferences of the woman and her care provider, vaginal birth is sometimes planned for women with multiple gestations. Therefore, the guideline may be applicable for some women with multiple gestations.

Interventions and Practices Considered

Evaluation/Management
1. Educational preparation of the woman for the second stage of labor, including providing information on the following:
   - Realistic estimation of the phases and duration of second stage of labor
   - Variety of sensations to be experienced
• Directed and nondirected pushing techniques
• Positions woman might assume (e.g., potential benefits of upright position and avoidance of supine position)
• Benefits of having support persons present

2. Supportive care: physical, emotional, instructional and advocacy
3. Positioning: a wide variety of position options available
4. Facilitating delayed and nondirected pushing techniques
5. Evaluation of physiologic processes

Note: The use of fundal pressure and perineal massage were considered but not recommended.

Major Outcomes Considered
• Women’s satisfaction with labor and birth (primary outcome)
• Other labor and birth outcomes (rates of episiotomies; duration of labor; pain intensity; rates of perineal trauma; neonatal morbidity)

Methodology

Methods Used to Collect/Select the Evidence
Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

For the second edition of the guideline, several topic-specific electronic database searches and manual searches were conducted to identify relevant literature. Specifically, MEDLINE, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, and the Cochrane Library were searched for journal articles written in English and published between 2000 and 2007. The primary search terms used were second stage labor, birthing, labor and delivery, operative vaginal birth, and intrapartum; crossed-referenced with labor management, preparation, support, position, pushing, physiology, and/or hyperstimulation.

Number of Source Documents
Not stated

Methods Used to Assess the Quality and Strength of the Evidence
Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Quality-of-Evidence Rating for Quantitative Literature

I: Evidence obtained from at least one properly designed randomized controlled trial or meta-analysis of randomized, controlled trials.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.

II-3: Evidence from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Quality-of-Evidence Rating for Qualitative Literature
The quality-of-evidence rating was assigned according to the following scale:

• Q1: 75% to 100% of the total criteria were met.
• QII: 50% to 74% of the total criteria were met.
• QIII: Less than 50% of the total criteria were met.

Methods Used to Analyze the Evidence
Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Evaluation and Scoring: Quantitative Literature
A system and tool for scoring the quantitative literature was developed based on the method for literature analysis presented in the American Nurses Association (ANA) Manual*. Using this framework, each study reviewed by the Guideline team was evaluated according to the following eight criteria:

- Problem or question studied: Clearly stated, significant, and relevant
- Sampling: Representative sampling, less than 20% dropout rate, and random selection process
- Measurement: Tools/methods appropriate, reliable, and valid
- Internal validity: Accurate conclusions about covariation
- External validity: Valid conclusions about generalizability
- Construct validity: Appropriate independent and dependent variables identified
- Statistical conclusion validity: Statistical significance supported by data (p ≤0.05)
- Justification for conclusions: Causal conclusions justified

A description of the above criteria and a sample scoring tool can be found in the ANA Manual*.

**Evaluation and Scoring: Qualitative Literature**

Because several of the studies reviewed were qualitative in nature, the first edition guideline development team determined that different criteria were required to evaluate these studies and rate the quality of evidence. Consequently, the team developed a new scoring tool based on evaluative criteria of qualitative research discussed by Burns and Grove**. Each qualitative study reviewed was evaluated according to the following categories***:

1. Descriptive vividness
2. Methodological congruence
3. Analytical preciseness
4. Theoretical connectedness
5. Heuristic relevance


**Methods Used to Formulate the Recommendations**

***Expert Consensus***

**Description of Methods Used to Formulate the Recommendations**

The second edition of Nursing Care and Management of the Second Stage of Labor Evidence-Based Clinical Practice Guideline was developed by the Evidence-Based Clinical Practice Guideline Revision Team, which is comprised of Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) member experts who are nationally and internationally recognized for their significant contributions in perinatal nursing. The team members were selected for their expertise as scientists and clinicians dedicated to improving the health and well-being of women and newborns.

The process for Guideline development described herein was the result of the combined efforts of AWHONN’s committees for Practice, Research, and Education undertaken in 1998 using the framework presented in the American Nurses Association (ANA) Manual to Develop Guidelines*.

Development of the first edition of this Evidence-Based Clinical Practice Guideline began in 1999 with the convening of a team of AWHONN expert member volunteers to serve on the Evidence-Based Clinical Practice Guideline Development Team. Team members participated throughout 1999 and 2000 in teleconferences and extensive literature review, evaluation, and scoring. During regularly scheduled teleconferences, members reviewed and achieved consensus on each clinical practice recommendation, accompanying referenced rationale, and quality-of-evidence rating. A similar process was followed for revising the Evidence-Based Guideline. A new team convened in the fall of 2006, including three members from the original team and two new members. During 2007 and early 2008, the original Guideline content was updated and revised, and the section addressing evaluation of the physiologic process of labor was expanded.


**Rating Scheme for the Strength of the Recommendations**

Not applicable

**Cost Analysis**

A formal cost analysis was not performed and published cost analyses were not reviewed.

**Method of Guideline Validation**

Clinical Validation-Trial Implementation Period

External Peer Review
Description of Method of Guideline Validation

The Association of Women's Health, Obstetric and Neonatal Nurses' (AWHONN's) Research-Based Practice Program provides a systematic, participative approach to the design, implementation, and evaluation of evidence-based practice guidelines for use by practitioners in clinical settings. AWHONN began guideline development on the management of the second stage of labor in 1993 with a research utilization project called Second Stage Labor Management (known as RU2). The project was conducted over a 2-year period at 40 hospitals: 38 in the United States and two in Canada. The goals of the RU2 were 1) to assist in promoting the birth of the noncompromised fetus by minimizing negative maternal hemodynamic changes caused by inappropriate positions and pushing techniques and 2) to minimize maternal fatigue. The RU2 focused on promoting alternative positioning and pushing techniques.

Nurses and agencies who participated in RU2 received information regarding research related to management of the second stage of labor, the practice protocol focusing on positioning and pushing techniques, and the rationale for the use of these methods of care delivery. Because management of the second stage of labor may overlap with the domains of other disciplines, such as obstetric medical practice and anesthesiology, the protocol was also presented to these health care providers. The research utilization project provided valuable insight into the process of changing nursing practice based on available research. The first edition of AWHONN's Evidence-Based Clinical Practice Guideline, Nursing Management of the Second Stage of Labor, reflected the results of the RU2. Recommendations from RU2 along with findings from current research form the foundation for the second edition of this Guideline, Nursing Care and Management of the Second Stage of Labor.

Recommendations

Major Recommendations

Note from the National Guideline Clearinghouse (NGC): Referenced rationale and quality of evidence ratings for each recommendation are provided in the original guideline document.

Preparation of the Woman

Assessment

1. Assess all pregnant women prenatally for their understanding of the sensations, expectations and knowledge deficit about the second stage of labor. This assessment should be repeated at the onset of labor.

2. Assess the pregnant woman’s available support system for the second stage of labor. This assessment should be initiated during the prenatal period and repeated at the onset of labor.

Intervention

1. Present realistic guidelines for pregnant women regarding the second stage of labor through childbirth curriculum, classes, and health care provider interactions. This intervention ideally should take place during the prenatal period and again at the onset of labor. The information should include but not be limited to the following:
   a. The duration of the second stage of labor may exceed the woman’s expectations.
   b. The second stage of labor is composed of two phases.
   c. Sensations of the second stage of labor may include relief, increased discomfort, burning, stretching, involuntary pushing, increased effort, and/or a diminished or absent urge to push.
   d. Pushing techniques may vary. Pushing efforts may be directed or nondirected, but nondirected pushing is preferable. Women should be permitted to choose whether or not to hold their breath while pushing (closed- vs. open-glottis pushing).
   e. The supine position should be avoided.
   f. A variety of upright positions may be used, such as kneeling, squatting, sitting, and/or standing.

2. Encourage pregnant women to have support people present for their labor and birth and educate them regarding the following:
   a. Benefits of having support during labor, including the labor nurse, family members, and significant others.
   b. Availability of alternative sources of support, such as doulas.

3. Encourage labor support while respecting individual desires and cultural influences.

Expected Outcomes

1. Pregnant women will receive consistent education, information, and preparation from childbirth educators, prenatal care providers, and intrapartum providers regarding the duration, expectations, and sensations of the second stage of labor.

2. Women will have a supportive person present during their second stage of labor.

Supportive Care - Physical, Emotional, Instructional, and Advocacy

Assessment

1. Assess the woman throughout the prenatal period to evaluate the need for physical, emotional, instructional, psychosocial and supportive care. On admission to the labor and birth unit, assess the woman’s expectations and concerns regarding clinical management, use of pain medication, and presence of loved ones and support persons. Also, offer the woman the opportunity to express her fears and feelings related to childbirth.

2. Evaluate the father’s, partner’s or labor coach’s knowledge of physical, emotional, and psychosocial support needed during labor and augment as needed to meet the individual woman’s needs.

Intervention
Physical Comfort

1. Promote well-being and relief of pain by encouraging ambulation; facilitating position changes; applying cool or warm compresses; changing linens, underpads, and gowns; offering fluids as ordered; and providing massage and touch.
2. If available, provide the opportunity to birth in a home-like setting.
3. Validate and explain the physical sensations experienced by the woman during the second stage of labor.
4. Explain the need for vaginal examination and the pressure and/or pain sensations anticipated. Negotiate when exams will be performed whenever possible. Perform vaginal examinations only as needed, share findings with the woman and her partner, and acknowledge and apologize for the discomfort caused during these procedures.

Emotional Support

1. Provide reassurance, empathy, and encouragement to the woman by methods such as the following:
   a. Acknowledgment of the stress and work of labor
   b. Praise
   c. Acknowledgement of unpleasant sensations
   d. Presence with the woman
   e. Encouragement to express fears and concerns
   f. Engagement in conversation
2. Accept the woman's behavior, vocalizations or spontaneous grunts as helpful/productive.
3. Assist the father, partner or other support person by encouraging supportive behaviors (sponging, wiping forehead, and hand holding) and providing relief/break periods and access to nourishment during the second stage of labor.

Instructional Support

1. Implement techniques that can reduce the stress caused by lack of knowledge or fear of the unknown. Examples include the following:
   a. Explain present and anticipated events, procedures and care provider findings
   b. Use coaching and counseling techniques
   c. Empower the woman and significant others to ask questions and seek clarification
2. Identify information needed by the woman to push.
3. Provide explanations for procedures and answer questions in language that is easily understood by laypersons.

Advocacy

1. Facilitate collaboration or negotiation among other caregivers on behalf of the woman to support care decisions and preferences whenever possible.
2. Except as clinically necessary, limit the people present at birth to those requested/designated by the woman in labor.

Expected Outcomes

1. The woman will express satisfaction with her experience during the second stage of labor.
2. The support person will provide appropriate assistance during labor and will also feel supported.

Positioning

Assessment

1. Assess the woman's knowledge regarding positioning during the second stage of labor.
2. Assess the woman's ability to maintain effective alternative upright positions during the second stage of labor.
3. Assess fetal presentation, position, station, and descent.

Intervention

1. Continue to provide information to the laboring woman and her partner regarding positioning throughout the second stage of labor, including why the supine position should be avoided.
2. Avoid the supine position during the second stage of labor and assist the woman in using an upright (or right/left lateral position) during the second stage of labor.
3. Encourage multiple position changes and the use of upright positioning aids, such as birthing balls, cushions, squat bars, and birthing stools, with assistance from the nurse or woman's support person.

Expected Outcomes

Maintaining an upright position during labor may have the following effects:
   a. Increase the pelvic diameter.
   b. Decrease the duration of the second stage of labor.
   c. Minimize the intensity of pain.
   d. Decrease the incidence of perineal trauma.
   e. Increase satisfaction with the birthing experience.
**Pushing Techniques**

**Assessment**
1. Assess the woman's knowledge of pushing techniques and expectations around the second stage of labor.
2. Assess fetal presentation, position, and station prior to initiation of pushing.
3. Assess the initiation of Ferguson's reflex and the woman's readiness to begin pushing.

**Intervention**
1. Discuss and reinforce expectations and information about the second stage of labor (i.e., duration, sensations, pain, and appropriate pushing techniques, as this stage begins).
2. Involve the woman in the decision to start pushing.
3. Support and facilitate delayed pushing until the active phase of the second stage of labor (initiation of Ferguson's reflex) unless contraindicated by maternal or fetal condition.
   - Delayed pushing may also be appropriate for women with epidural analgesia who do not feel the urge to push.
4. Encourage women to push spontaneously as they feel the urge.
5. Women should be encouraged to push for 6 to 8 seconds with a slight exhale for approximately three to four pushes per contraction or as tolerated by the woman and fetus. Traditional breath holding for 10 seconds should be discouraged, and women should be encouraged to “do what comes naturally.”

**Expected Outcomes**
1. Women will be supported in a physiological approach to the second stage of labor in which pushing may be delayed until the urge to push is felt.
2. Women will be encouraged to use exhalatory open-glottis pushing versus forced pushing or Valsalva maneuver and discouraged from using prolonged closed-glottis pushing.

**Evaluation of Physiologic Processes of the Second Stage of Labor**

**Assessment**
1. Assess maternal vital signs as per institution protocol.
2. Assess the woman's comfort level to ensure she has adequate pain relief if so desired. Continue epidural analgesia/anesthesia during the second stage of labor if the woman has chosen this method of pain relief.
3. Assess the woman's urinary bladder status periodically.

**Assessment Specific to Each Phase of the Second Stage of Labor**

**Latent or Passive Fetal Descent Phase**
1. Assess whether the woman has an urge to push and her knowledge of when to let the care provider know she feels ready to begin pushing.
2. Assess the woman’s position to promote optimal maternal–fetal oxygen exchange while resting in anticipation of the urge to push. Avoid the supine position.
3. Assessment of fetal status during passive descent may be at the same frequencies used during the first stage of labor.

**Active Pushing Phase**
1. Assess the woman's progress during active pushing, including effectiveness of pushing efforts and descent of the presenting part.
2. Assess fetal status during active pushing, particularly the fetal response to maternal pushing efforts. Frequency of assessment may be at intervals suggested for the second stage of labor.

**Intervention**

**Latent or Passive Fetal Descent Phase**
1. Encourage the woman to rest and follow her body's own sensation until she feels the urge to push.
2. Delay maternal pushing efforts until the woman feels the urge to push to shorten the active pushing phase.

**Active Pushing Phase**
1. Facilitate fetal descent, increase maternal comfort, and minimize trauma by the following methods:
   a. Support and facilitate the woman's spontaneous pushing efforts.
   b. Evaluate the effectiveness of upright or other positions (lateral, semi-Fowlers, standing, kneeling, squatting, or using the towel-pull technique) on fetal descent and maternal-fetal condition.
   c. Encourage frequent maternal position changes as per the woman's comfort and maternal–fetal condition and evaluate their effectiveness on fetal descent, fetal well-being and maternal comfort. Assist the woman in changing position as needed.
2. Promote fetal well-being by the following methods:
   a. Use fetal assessment data (either from electronic fetal monitoring [EFM] or intermittent auscultation) to guide maternal pushing efforts. If the fetal heart rate (FHR) characteristics are nonreassuring, consider discontinuation of pushing temporarily to allow the fetus to recover. Try encouraging maternal pushing efforts with every other or every third contraction to help maintain a reassuring FHR pattern.
   b. Avoid uterine hyperstimulation during second-stage pushing, and, if it occurs, treat it using:
- Lateral positioning
- Intravenous fluid bolus of lactated Ringer's solution
- Decreasing or discontinuing oxytocin infusion (if applicable)

If the FHR is nonreassuring during hyperstimulation, discontinue oxytocin (if applicable).

**Rapid Fetal Descent**
1. Help the woman maintain a lateral position whenever possible.
2. Help the woman avoid sitting or squatting positions.

**Protracted Fetal Descent**
1. Acknowledge the woman’s progress through the second stage of labor and support her behavior.
2. Provide feedback to the woman aimed at keeping the perineum relaxed and directing bearing down toward the perineum.
3. Continue to support spontaneous pushing efforts. Avoid counting to 10 to encourage prolonged breath holding.
4. Evaluate fetal position. If occiput posterior (OP), change maternal position to facilitate rotation. Position changes may include lying on one’s side or resting on hands and knees with a side-to-side pelvic rock.
5. Continue or initiate upright positioning (sitting, standing, kneeling or squatting). Provide support, such as a squatting bar or other aids.
6. Discourage use of the supine, semi-recumbent, or lithotomy position.
7. Help the woman maintain an empty bladder by encouraging her to void or by intermittent catheterization if a full bladder is palpated and the woman is unable to void.

**Additional Considerations**
1. Absent data to suggest benefit along with limited data to suggest harm, perineal massage during the second stage of labor should be avoided.
2. The use of fundal pressure to expedite a routine, uncomplicated, vaginal birth should be avoided.

**Clinical Algorithm(s)**

The "Suggested Algorithm for Second Stage of Labor Management" can be found in the quick care guide of this document (see the "Availability of Companion Documents" field).

**Evidence Supporting the Recommendations**

**Type of Evidence Supporting the Recommendations**

The type of supporting evidence is identified and graded for each recommendation (see the original guideline document for referenced rationale and specific quality of evidence ratings for each recommendation).

**Benefits/Harms of Implementing the Guideline Recommendations**

**Potential Benefits**

Appropriate management of the second stage of labor enabling optimal perinatal outcomes

**Potential Harms**

Not stated

**Qualifying Statements**

**Qualifying Statements**

- The Association of Women's Health, Obstetric and Neonatal Health (AWHONN) requires authors to identify investigational products or off-label uses of products regulated by the U.S. Food and Drug Administration at first mention and whenever appropriate in the content. Misoprostol is mentioned in this evidence-based clinical practice guideline. This medication is used in obstetric practice for cervical ripening, and for this purpose, its use is considered off-label.
- This Evidence-Based Clinical Practice Guideline was developed for AWHONN, the Association of Women's Health, Obstetric and Neonatal Nurses, as an informational resource for nursing practice. The Guideline does not define a standard of care; nor is it intended to dictate an exclusive course of management. It presents general methods and techniques of practice that AWHONN believes to be currently and widely viewed as acceptable, based on current research and recognized authorities.
- Proper care of individual patients may depend on many individual factors to be considered in clinical practice, as well as professional judgment in the techniques described here. Variations and innovations that are consistent with law, and that demonstrably improve the quality of patient care, should be encouraged. AWHONN believes that the drug classifications and selections set forth in this text are in accordance with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check information available in other published sources for each drug for potential changes in indications, dosages, warnings, and
Implementation of the Guideline

Description of Implementation Strategy
An implementation strategy was not provided.

Implementation Tools
Quick Reference Guides/Physician Guides
Staff Training/Competency Material

IOM Care Need
Staying Healthy

IOM Domain
Effectiveness
Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Adaptation
Not applicable: The guideline was not adapted from another source.

Date Released
2000 Jan (updated 2007 Jan)

Guideline Developer(s)
Association of Women's Health, Obstetric, and Neonatal Nurses - Professional Association

Source(s) of Funding
Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN)
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Guideline Committee
Evidence-based Clinical Practice Guideline Development Team

Composition of Group That Authored the Guideline

Evidence-Based Clinical Practice Guideline Development Team: Kathleen Rice Simpson, PhD, RNC, FAAN, Team Leader; Sandra K. Cesario, RNC, PhD, Project Manager; Karen H. Morin, DSN, RN; Karen Trapani, RNC, BSN; Linda J. Mayberry, RN, PhD, FAAN; Erna Snelgrove-Clarke, RN, MN

Financial Disclosures/Conflicts of Interest
The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) requires authors and nurse planners in a position to control content of an evidence-based clinical practice guideline to disclose all relevant financial relationships with any commercial interest. The authors of this guideline and nurse planners disclosed no relevant financial relationships that might create a conflict of interest.

Guideline Status
This is the current release of the guideline.

Guideline Availability

Electronic copies: Not available at this time.
Print copies: Available by contacting the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), 2000 L Street, N.W. Suite 740, Washington, D.C. 20036; Phone: (800) 354-2268; Web site: www.awhonn.org/store.

Availability of Companion Documents

The following is available:

Print copies: Available with purchase of the evidence-based guideline by contacting the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), 2000 L Street, N.W. Suite 740, Washington, D.C. 20036; Phone: (800) 354-2268; Web site: www.awhonn.org/store.

Also, the appendices of the original guideline document contain a continuing nursing education credit application, post-test questions, and an evaluation form.

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI on April 9, 2002. The information was verified by the guideline developer on June 7, 2002. This summary was updated by ECRI Institute on December 15, 2010. The updated information was verified by the guideline developer on February 15, 2011.

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