CLINICAL PRACTICE GUIDELINES ON INTRAPARTUM AND IMMEDIATE POSTPARTUM CARE

2012

A collaboration of the Department of Health and the Philippine Obstetrical and Gynecological Society
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The primary aim of MDG 5 is to reduce by three quarters by between 1990 an 2015, the maternal mortality ratio, especially among less developed countries. The Philippines is among those with high maternal mortality rate (MMR). In 2006, our MMR was 162 deaths/100,000 live births, however, the Family Health Survey in 2011 showed that the MMR has increased to 221 deaths/100,000 live births. It is therefore important that we mobilize our efforts together to avert further deaths of our pregnant mothers.

The Philippine Obstetrical and Gynecological Society (Foundation), Inc. (POGS) stood up to the challenge of World Health Organization (WHO) in 2011 to undertake the development of an updated, evidence based national guideline on intrapartum and immediate postpartum care. The preparation of the current guideline involved various individuals from different sectors. POGS created a Taskforce for the purpose. The Steering Committee, composed of POGS Fellows, was tasked to appraise existing clinical practice guidelines. The steering committee discussed the current state of obstetric practice in the country and generated the list of issues related to intrapartum and postpartum care of normal parturients in facility based settings that needed to be addressed in the guideline. The list of priority issues identified by the steering committee were then assigned to members of the Technical Research Committee who undertook literature searches, retrieved and appraised relevant evidence regarding practices in intrapartum and postpartum care. The Technical Research Committee was composed of POGS Fellows with background in evidence-based medicine.

The target users of these guidelines are skilled birth attendants: the obstetrician specialists, general practitioners, nurses and midwives in private and government health facilities attending to women in labor.

The Philippine Obstetrical and Gynecological Society (Foundation), Inc. recognizing its important role in the attainment of MDG 5 is very happy to collaborate and thankful to the World Health Organization and the Department of Health in making this Clinical Practice Guidelines on Intrapartum and Immediate Postpartum Care possible.

REY H. DE LOS REYES, M.D., FPOGS
President
FOREWORD

Improving maternal Health is one of the eight Millenium Development Goals (MDGs) adopted by the international community at the United Nations Millennium Summit in 2000. The policy brief on Philippine MDGs reveals that there are serious lags in achieving targets for MDGs by 2015: reducing maternal mortality and ensuring universal access to reproductive health services.

Despite the challenge, the Department of Health is fully committed to achieve the targets of MDGs in a way that it respects the culture of the Filipinos while keeping track of the current trends in evidence-based medicine and the rapid evolution in science particularly the medical environment. Its commitment to improve maternal and newborn health goes beyond 2015 when in collaborated with the Australian Agency for International Development-United Nations Joint Programme for Maternal and Newborn Health (AusAid-UN JPMNH) and the Philippine Obstetrician and Gynecological Society in the formulation of the Clinical Practice Guidelines in the management of normal labor, delivery and the immediate post-partum utilizing evidenced-based medicine and concensus development approaches. Specific courses of action adapted to the local situation were likewise developed for the intended expanded target of health providers to include the specialists in the field of obstetrics and gynecology, family medicine, pediatrics, nursing and midwifery, who stand to major proportion of deliveries, particularly in the rural areas and the lower socio-economic sector of the population.

It is thus with pride that the Department of Health endorses the integrated guidelines on intrapartum and immediate post-partum care for low risk, normal vaginal delivery in a facility-based setting by government and private skilled health professionals attending to delivery and care of the mother and newborn for use by the health system. This guide is a product of the DOH AusAID-UN JPMNH and POGS collaboration.

In behalf of the DOH family, I now launch the National Clinical Practice Guide for Intra-partum and Immediate Post-partum Care as one of the reference guides in the provision of maternal and newborn care in the country.

I congratulate and acknowledge with sincere appreciation all the participating and collaborating agencies, organizations and personalities for their valuable contribution in the development of this clinical practice guide.

ENRIQUE T. ONA, MD, FPACS
Secretary of Health
ACKNOWLEDGEMENT

The Department of Health gratefully acknowledges its partners for their valuable contribution in the crafting of the National Clinical Practice Guide for Intra-partum and Immediate Post-partum Care an important reference guide in the provision of maternal and newborn care in the country.

Sincere appreciation is extended to the Australian Agency for International Development-United Nations Joint Programme for Maternal and Newborn Health (AusAid-UN JPMNH) and the Philippine Obstetrical and Gynecological Society for leading this collaboration along with Family Health Office of the National Center for Disease Prevention and Control (FHO,NCDPC) to develop the integrated guidelines on intra-partum and immediate post-partum care for low risk, normal vaginal delivery in a facility-based setting by government and private skilled health professionals attending to delivery and care of the mother and newborn.

The multi-sector participation of critical stakeholders is likewise acknowledged for their technical assessment and validation of the recommendations as well as their active participation in the discussions to establish consensus. This participation includes: World Health Organization (WHO), United Nations International Children’s Emergency Fund (UNICEF), United Nations Fund for Population Development (UNFPA), Japanese International Cooperation Agency (JICA), Integrated Midwives Association of the Philippines (IMAP), Philippine League of Private and Government Midwives Inc. (PLPGMI), Philippine Pediatric Society (PPS), Philippine Academy of Family Physicians (PAFP), Woman Health Philippines (WomanHealth), LIKHAAN, Maternal and Child Nursing Association of the Philippines (MCNAP), 162 to 52 Coalition, Philippine Hospital Association (PHA), LATCH, Kalusugan ng Mag-Ina, HealthPro and the Philippine Health Insurance Corporation (PHIC).

To our Development Partners in government, non-government organizations, professional societies and the international agencies…our Sincerest Thanks.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI</td>
<td>Confidence Interval</td>
</tr>
<tr>
<td>GRADE</td>
<td>Grading of Recommendations Assessment, Development and Evaluation</td>
</tr>
<tr>
<td>MTSL</td>
<td>Management of the Third Stage of Labor</td>
</tr>
<tr>
<td>MDG</td>
<td>Millenium Development Goals</td>
</tr>
<tr>
<td>OR</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>PICO</td>
<td>Population, Interventions, Comparisons, and Outcomes</td>
</tr>
<tr>
<td>RCT</td>
<td>Randomized Controlled Trial</td>
</tr>
<tr>
<td>RevMan</td>
<td>Review Manager software</td>
</tr>
<tr>
<td>RR</td>
<td>Relative Risk</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>1</td>
</tr>
<tr>
<td>INTERVENTIONS DURING LABOR</td>
<td>2</td>
</tr>
<tr>
<td>INTERVENTIONS DURING DELIVERY</td>
<td>3</td>
</tr>
<tr>
<td>INTERVENTIONS IN IMMEDIATE POSTPARTUM</td>
<td>4</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>5</td>
</tr>
<tr>
<td>METHODS</td>
<td>7</td>
</tr>
<tr>
<td>EVIDENCE AND RECOMMENDATIONS</td>
<td>12</td>
</tr>
<tr>
<td>I. INTERVENTIONS DURING LABOR</td>
<td>12</td>
</tr>
<tr>
<td>1. Timing of Admission</td>
<td>12</td>
</tr>
<tr>
<td>2. Continuous support</td>
<td>13</td>
</tr>
<tr>
<td>3. Perineal Shaving</td>
<td>14</td>
</tr>
<tr>
<td>4. Enema during the first stage of labor</td>
<td>15</td>
</tr>
<tr>
<td>5. Admission cardiotocography (CTG) for low risk term</td>
<td>16</td>
</tr>
<tr>
<td>6. Vaginal douching</td>
<td>17</td>
</tr>
<tr>
<td>7. Maternal position during labor</td>
<td>18</td>
</tr>
<tr>
<td>8. Use of the WHO partograph to monitor labor</td>
<td>19</td>
</tr>
<tr>
<td>9. WHO Partograph: two-hour vs. four-hour action line</td>
<td>20</td>
</tr>
<tr>
<td>10. Amniotomy to shorten labor</td>
<td>21</td>
</tr>
<tr>
<td>11. Restricted internal examinations during labor</td>
<td>22</td>
</tr>
<tr>
<td>12. Massage and reflexology for pain management in labor</td>
<td>23</td>
</tr>
<tr>
<td>II. INTERVENTIONS DURING DELIVERY</td>
<td>24</td>
</tr>
<tr>
<td>1. Perineal massage for women in labor</td>
<td>24</td>
</tr>
<tr>
<td>2. Spontaneous vs coached pushing in the 2nd stage of labor</td>
<td>26</td>
</tr>
<tr>
<td>3. Fundal pressure during the second stage of labor</td>
<td>28</td>
</tr>
<tr>
<td>4. Episiotomy</td>
<td>29</td>
</tr>
<tr>
<td>5. Delayed vs. Early cord clamping</td>
<td>30</td>
</tr>
<tr>
<td>6. Type of prophylactic uterotonic: OXYTOXIN vs. PLACEBO</td>
<td>32</td>
</tr>
<tr>
<td>7. Type of prophylactic uterotonic: ERGOT ALKALOID vs. PLACEBO</td>
<td>32</td>
</tr>
<tr>
<td>8. Type of prophylactic uterotonic: OXYTOCIN vs ERGOT ALKALOID</td>
<td>33</td>
</tr>
<tr>
<td>9. Timing of prophylactic uterotonic</td>
<td>34</td>
</tr>
<tr>
<td>10. Route of administration of prophylactic uterotonic</td>
<td>35</td>
</tr>
<tr>
<td>11. Controlled cord traction during the third stage of labor</td>
<td>36</td>
</tr>
<tr>
<td>12. Uterine massage for the third stage of labor</td>
<td>37</td>
</tr>
<tr>
<td>13. Suture material for repair of episiotomy and lacerations</td>
<td>38</td>
</tr>
<tr>
<td>III. POSTPARTUM INTERVENTIONS</td>
<td>39</td>
</tr>
<tr>
<td>1. Icepack over the hypogastrum in the immediate postpartum period</td>
<td>39</td>
</tr>
<tr>
<td>2. Resumption of feeding after vaginal delivery</td>
<td>40</td>
</tr>
<tr>
<td>3. Use of methylergometrine in the postpartum</td>
<td>41</td>
</tr>
<tr>
<td>4. Postpartum prophylactic antibiotics</td>
<td>42</td>
</tr>
<tr>
<td>5. Early vs. Late postpartum discharge</td>
<td>43</td>
</tr>
<tr>
<td>RESEARCH IMPLICATIONS</td>
<td>44</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

The GRADE approach for rating the quality of evidence and strength of recommendations was utilized in the development of this guideline.

The guideline panel made a total of 30 recommendations.

For each recommendation, the quality of the supporting evidence was graded as high, moderate, low or very low using the systematic value judgments outlined in the GRADE approach.

Taking into account the quality of the evidence, together with the balance of benefits and harms, local values and preferences, and costs, the guideline panel decided on three possible courses of action: 1) recommend for an intervention, 2) recommend against an intervention or, in cases where the balance of desirable and undesirable effects are unclear, 3) issue no specific recommendation for or against an intervention. The resulting recommendation is then assigned a corresponding strength of recommendation-strong or weak, as judged by the guideline panel.

In three instances, the panel felt that a clear picture of the balance of desirable and undesirable effects was lacking prompting the panel to issue no specific recommendation for or against 1) coached pushing in labor, 2) uteronic administration before or after placental delivery and 3) uteronic administration using the intramuscular or the intravenous route.

To convey pivotal inputs that went into the process of decision making and to clarify the intended meaning of the recommendation, remarks are posted after the recommendation statement in the full document. Should there be any doubt as to the intended meaning of a recommendation, the end user is advised to refer to the full document.

The recommendations are listed as three sets: interventions during labor, interventions during delivery and immediate postpartum interventions. The recommendations for each set are further grouped into two: interventions that are recommended and interventions that are NOT recommended.
## INTERVENTIONS DURING LABOR

### Table 1. Interventions during labor that are **recommended**.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Strength of Recommendation</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Among low-risk pregnancies, admission into the labor room should be done when the parturient is already in active labor.</td>
<td>Strong</td>
<td>Very Low</td>
</tr>
<tr>
<td>2 Continuous maternal support (compared to usual care) is recommended for women in labor.</td>
<td>Strong</td>
<td>Moderate</td>
</tr>
<tr>
<td>7 Upright maternal positions are recommended for women in the first stage of labor.</td>
<td>Strong</td>
<td>Very Low</td>
</tr>
<tr>
<td>8 The routine use of the WHO Partograph to monitor the progress of labor is recommended.</td>
<td>Strong</td>
<td>Very Low</td>
</tr>
<tr>
<td>9 The use of the WHO Partograph, two-hour action line (over the four-hour action line) is recommended.</td>
<td>Strong</td>
<td>High</td>
</tr>
<tr>
<td>11 The total number of internal examinations that a woman receives during the course of labor should be limited to 5 examinations or less.</td>
<td>Strong</td>
<td>Low</td>
</tr>
</tbody>
</table>

### Table 2. Interventions during labor that are **NOT recommended**.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Strength of Recommendation</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Routine perineal shaving for women in labor is NOT recommended.</td>
<td>Strong</td>
<td>Moderate</td>
</tr>
<tr>
<td>4 The routine use of enema during the 1st stage of labor is NOT recommended.</td>
<td>Strong</td>
<td>Low</td>
</tr>
<tr>
<td>5 Admission cardiotocography (CTG) for low risk women in labor is NOT recommended.</td>
<td>Strong</td>
<td>Moderate</td>
</tr>
<tr>
<td>6 Vaginal douching during labor is NOT recommended.</td>
<td>Strong</td>
<td>Low</td>
</tr>
<tr>
<td>10 Among parturients in spontaneous labor, routine amniotomy is NOT recommended.</td>
<td>Strong</td>
<td>Very Low</td>
</tr>
<tr>
<td>12 Massage and reflexology during labor is NOT recommended.</td>
<td>Strong</td>
<td>Very Low</td>
</tr>
</tbody>
</table>
## Table 3. Interventions during delivery that are recommended.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Strength of Recommendation</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. In pregnant women having vaginal birth, restrictive episiotomy (over routine episiotomy), is recommended.</td>
<td>Strong</td>
<td>Low</td>
</tr>
<tr>
<td>5. Delayed cord clamping is recommended.</td>
<td>Strong</td>
<td>Moderate</td>
</tr>
<tr>
<td>6. Management of third stage labor (MTSL): Among parturients in the third stage of labor, prophylactic use of oxytocin (over no uterotonic) is recommended.</td>
<td>Strong</td>
<td>Low</td>
</tr>
<tr>
<td>7. MTSL: Among parturients in the third stage of labor, prophylactic use of ergot alkaloid (over no uterotonic) is recommended.</td>
<td>Weak</td>
<td>Very Low</td>
</tr>
<tr>
<td>8. MTSL: Among parturients in the third stage of labor, prophylactic use of oxytocin over ergot alkaloid is recommended.</td>
<td>Strong</td>
<td>Low</td>
</tr>
<tr>
<td>11. MTSL: In women in the third stage of labor after vaginal birth, controlled cord traction is recommended.</td>
<td>Strong</td>
<td>High</td>
</tr>
<tr>
<td>12. MTSL: Uterine massage after placental delivery is recommended.</td>
<td>Strong</td>
<td>Moderate</td>
</tr>
<tr>
<td>13. The use of absorbable synthetic suture materials (over chromic catgut) for primary repair of episiotomy or perineal lacerations is recommended.</td>
<td>Strong</td>
<td>Low</td>
</tr>
</tbody>
</table>

## Table 4. Interventions during delivery that are NOT recommended.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Strength of Recommendation</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. For women in the second stage of labor, perineal massage is NOT recommended.</td>
<td>Strong</td>
<td>Low</td>
</tr>
<tr>
<td>3. The use of fundal pressure during the second stage of labor is NOT recommended.</td>
<td>Strong</td>
<td>Very Low</td>
</tr>
</tbody>
</table>
Table 5. Interventions during delivery for which the panel **did not issue specific recommendations**.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Strength of Recommendation</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Among parturients delivering vaginally without epidural anesthesia, <em>either spontaneous or coached pushing may be done</em>.</td>
<td>No Specific Recommendation</td>
<td>Very Low</td>
</tr>
<tr>
<td>9 MTSL: Among women in the third stage of labor after vaginal birth, prophylactic uterotonics may be given before or after delivery of the placenta.</td>
<td>No Specific Recommendation</td>
<td>Moderate</td>
</tr>
<tr>
<td>10 MTSL: Prophylactic uterotonics may be administered through the intramuscular or the intravenous route.</td>
<td>No Specific Recommendation</td>
<td>No evidence</td>
</tr>
</tbody>
</table>

INTERVENTIONS IN IMMEDIATE POSTPARTUM

Table 6. Interventions in Immediate Postpartum that are **recommended**.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Strength of Recommendation</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Among postpartum women who delivered vaginally, early (&lt;6 hours after delivery) resumption of feeding is recommended.</td>
<td>Strong</td>
<td>No evidence</td>
</tr>
<tr>
<td>4 Prophylactic antibiotics are recommended for women who sustained a third or fourth degree perineal tear during vaginal delivery.</td>
<td>Strong</td>
<td>Moderate</td>
</tr>
<tr>
<td>5 In healthy women who delivered vaginally to term infants, early postpartum discharge is recommended.</td>
<td>Strong</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 7. Interventions in Immediate Postpartum that are **NOT recommended**.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Strength of Recommendation</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Routine use of icepacks over the hypogastrium in the immediate postpartum period is NOT recommended.</td>
<td>Strong</td>
<td>No evidence</td>
</tr>
<tr>
<td>3 Among postpartum women who delivered vaginally, oral methylergometrine is NOT recommended.</td>
<td>Strong</td>
<td>Moderate</td>
</tr>
</tbody>
</table>
BACKGROUND

Improving maternal health is one of the eight (8) Millennium Development Goals (MDG) adopted by the international community at the United Nations Millennium Summit in 2000 to reduce the maternal mortality ratio by three quarters between 1990 and 2015. The policy brief on Philippine MDGs reveals that there are serious lags in implementation of MDG 5 in the areas of maternal mortality rates and access to reproductive health services.  (http://www.nscb.gov.ph/stats/mdg/mdg_watch.asp)

Maternal care practices especially during the antepartum, intrapartum and postpartum period vary in healthcare settings. Certain intrapartum care practices that have been proven without benefit are still being routinely done. Among these are the use of enemas, shaving the perineum, withholding food and drink during labor, routine insertion of intravenous fluids and routine episiotomy. On the other hand, practices which have been proven to be beneficial such as the use of the WHO partograph to monitor labor, allowing position of choice during labor, allowing a companion of choice during labor, and the use of oxytocin in the active management of the third stage of labor (AMTSL) are under-implemented by health professionals in the majority of government and privately owned health facilities

As evidenced in the observational study done by Department of Health (DOH) with WHO in 2009, clinical practice in 51 hospitals that represent approximately 10% of deliveries nationwide were still not compliant with the DOH and WHO standards. (Sobel et al)

The Philippine Obstetrical and Gynecological Society first prepared clinical practice guidelines for normal delivery in 2000. These were developed with the intention of minimizing non-beneficial interventions in the conduct of normal labor and delivery. This was mainly for use by the members of the society.

In 2007, the Department of Health (DOH), seeing the need to standardize the process of normal labor and delivery, convened a Task Force headed by Dr Mario Festin to formulate Clinical Practice Guidelines for Facility Based Delivery. Using the evidence-based medicine and consensus development approaches, specific guidelines adapted to the local situation were formulated with an intended expanded target being the main health providers including obstetricians, physicians whose main clients were women and midwives who attend to a major proportion of deliveries, particularly in the rural areas and in the lower socio-economic sectors of the population. Unfortunately, the guidelines were not disseminated even to health facilities under the DOH.

POGS prepared the second edition of the CPG on the conduct of Normal Labor and Delivery in 2009. The Committee on CPG again used the evidence-based medicine approach, appraising literature and gathering the best evidence to update clinical practice of normal labor and delivery, making it responsive to the most current and acceptable standard. Different types of clinical evidence were categorized and graded according to the strength of their freedom from various
biases. These were presented to various groups of the POGS including the Board of Trustees, Regional Directors, Chairs and Training Officers of accredited residency training programs in Obstetrics and Gynecology and a Task Force review group before dissemination to the members of the POGS.

Given the current trends in evidence-based medicine and a rapidly-evolving medical environment, the POGS felt the need to come up with a revision of the guidelines on normal labor and delivery, with specific focus on issues that continue to be a source of discussion and controversy among the practicing obstetricians and other skilled birth attendants in our country.

Unlike the previous editions of the POGS CPG on normal labor and delivery, the goal of the present collaborative work is to develop an integrated guideline on intrapartum and immediate post-partum care for a low-risk, normal vaginal delivery in a facility based setting by government and private skilled birth attendants (doctors, nurses and midwives).

The current guidelines were developed following the procedures for CPG Development recommended by WHO. The steps involved in the guideline development process included:

1. Identification of priority questions and outcomes by the Steering committee
2. Literature search and evidence retrieval by the Technical Research Committee
3. Assessment, synthesis of the evidence by the Technical Research Committee
4. Formulation of recommendations by a panel of various stakeholders
5. Planning for dissemination, implementation, impact evaluation and updating

References

METHODS

Clinical Practice Guideline development process

The development cycle utilized in the preparation of this guideline used both the evidence-based approach and formal consensus techniques (nominal group & modified Delphi techniques).

The use of the evidence-based approach was adopted due to its inherent advantage of coming up with recommendations based on the results of studies with acceptable qualities.

Formal consensus techniques enabled the panel members to discuss issues on generalizing the evidence to the local scenario, taking into account clinically important harms and benefits, costs, and preferences, alongside the current best available evidence to come up with informed recommendations. The modified Delphi technique allowed for the consensus process to continue without necessitating a repeat en-banc session.

The multi-sectoral representation of the panel members offered an opportunity to work with different stakeholders whose represented viewpoints are important components in clinical decision-making.

The GRADE process

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) is both a system and a process. It is a formal system of grading evidence and recommendations and a structured process for developing and presenting evidence summaries and carrying out the steps involved in developing recommendations. The application of GRADE system and process is applied to the development of systematic reviews and healthcare guidelines.

The GRADE system offers a transparent process of going from evidence to recommendations. It accomplishes this by clearly separating the process of judging the quality of evidence and the strength of recommendation.

In the GRADE system, the evaluation of the quality of evidence is a highly structured multi-step process. First, a list of clinically important outcomes, by which competing management strategies will be judged, is generated. From this list, short-listed critical outcomes are identified. Using this list of critical outcomes, a per outcome evaluation of the quality of evidence is done using an explicit set of criteria for grading down and grading up the quality of evidence taking into account the study design and how it succeeds at ensuring internal validity, consistency of results across studies, directness of the evidence, precision of overall estimate of effect and evaluation for possible detection/publication bias. The resulting product of this stage of the process is an overall, across all considered outcomes, rating of the quality of evidence for the two competing interventions under consideration. GRADE rates the quality of evidence into four categories: high, moderate, low and very low.
The process then moves into the generation and rating of recommendations. In this stage, guideline authors consider the balance of desirable and undesirable effects of two competing interventions and patient values and preferences to determine the direction of a recommendation - to do or not do an intervention. These factors, along with the quality of evidence determine the strength of recommendation. The GRADE system offers two grades of recommendation: strong or weak. Both the direction and strength of recommendation can be further modified because of cost and utilization considerations.

To further enable users of the GRADE process, a software, GRADEpro, guides users through the process of grading the quality of the evidence and developing recommendations using the GRADE approach.¹

Bibliography:


Organization of guideline development committees

The creation of the current guideline involved various individuals from different sectors. The Steering Committee, Technical Research Committee and Committee on Clinical Practice Guideline Development were composed of members of the Philippine Obstetrical and Gynecological Society (POGS). The guideline panel was composed of representatives from various stakeholder sectors- physicians, nurses and midwives representing both the government and the private sector. A guideline development expert, advisors on evidence review and a writer/editor were also invited to assist in the development of the guideline.

The steering committee was tasked to oversee the development of the practice guideline from inception to completion and dissemination of the manuscript. The steering committee discussed the current state of obstetric practice in the country, reviewed existing guidelines and generated the list of issues related to intrapartum and postpartum interventions among normal vaginal births in facility-based settings that needed to be addressed in this guideline.

¹ “GRADEpro | The Cochrane IMS.”
The Technical Research Committee was tasked with retrieving, reviewing and summarizing evidence that would make possible evidence-guided panel recommendations. The list of priority issues identified by the steering committee were then assigned to members of the Technical Research Committee. The committee member assigned to a topic then generated a focused PICO research question. Each Technical Research Committee member undertook literature searches, retrieved and appraised relevant evidence regarding practices in intrapartum and postpartum care and prepared summaries of the best available evidence related to the topic at hand.

**Preparation of the evidence summaries**

The Technical Research Committee used the WHO recommended GRADE approach for evaluating and summarizing the evidence. The GRADE profiler software was used to apply the Grading of Recommendations Assessment, Development and Evaluation (GRADE) criteria for critical appraisal to the retrieved evidence.

Evidence profiles and summary of findings tables were prepared for each intervention under consideration using GRADEpro (Version 3.2 for Windows). (Annex 2)

Both the Steering Committee and the Technical Research Committee underwent a one day workshop on the GRADE methodology to prepare for the task at hand.

Technical oversight was provided by members of the POGS Committee on Clinical Practice Guideline Development, an expert on CPG development and evidence review advisors.

The evidence-based draft prepared by the Technical Research Committee was circulated to the panelists one week prior to the en banc meeting.

**Decision making during the guideline panel meeting**

The en banc meeting of all panelists was conducted on May 2 and 3, 2012. Orientation on the GRADE process and interpreting estimates of effect were conducted at the start of the first day of the meeting.

All the guideline panel members were asked to state their representation and declare any conflicts of interest prior to the start of the panel meeting.

Prior to the discussion of each topic during the panel meeting, members of the Technical Research Committee gave a short presentation highlighting the clinical outcomes considered, the evidence-based estimate of effect of the intervention for the critical outcomes that were selected by the panel and a draft recommendation based on the evidence.
It was agreed that guideline panel would discuss each of the topics and arrive at a consensus for all voting points (selection of critical outcomes, recommendation and strength of recommendation). Consensus was defined as agreement of 75% of the participants.

The guideline panel members voted on which of the presented outcomes should be considered as critical in decision making. The guideline panel also voted on the addition of new outcomes in cases where outcomes deemed important by the panel members were not in the list of outcomes generated by the Technical Research Committee member. After selecting the critical outcomes and hearing the Powerpoint presentation on the estimate of effect and the draft recommendation, the guideline panel then discussed points that should be considered in coming up with the final recommendation. In addition to the scientific evidence, the guideline panel took into consideration local values and preferences, the magnitude of effect, the balance of benefits versus harm, resource use and feasibility of each recommendation. Subsequently, the guideline panel voted on the recommendation (do, do NOT) and the strength of recommendation (strong, weak).

A total of 29 topics were discussed in the course of the en banc meeting. Recommendations on 28 of the presented topics were made. The guideline panel voted not to provide a recommendation on the use of commercially available perineal antiseptics in the postpartum period; there were concerns that such recommendations may be misconstrued as outright endorsements of commercial perineal antiseptics.

Modified Delphi circulations

It was planned that issues not resolved by consensus during the en banc meeting would be discussed and voted on by correspondence.

Five of the previously identified priority topics were not discussed during the panel meeting and were discussed and voted on by correspondence. Consensus was reached on two of the five topics—the use of fundal pressure during labor and massage for intrapartum pain relief. The evidence drafts for the three topics for which consensus was not reached are included in a separate section of this document. (Annex 3)

Topics on the Active Management of the Third Stage of Labor (AMTSL)

There are two distinct approaches to the management of the third stage of labor: active and expectant or conservative. In active management, a package of interventions is implemented routinely in an attempt to reduce postpartum blood loss. Originally, this package consists of:

- Early administration of prophylactic uterotonic,
- Early umbilical cord clamping and cutting, and
- Controlled cord traction to deliver the placenta.
While in expectant management or “hands-off” approach:
   No uterotonic is given
   The umbilical cord is neither clamped nor cut until the placenta is delivered, or at least, until cord pulsations have ceased
   Signs of placental separation are awaited and the placenta delivered spontaneously with just the aid of gravity or minimal maternal effort.

Over the years many possible variations in each of the components of the active approach have been used including:
   Variations in the choice of uterotonic agent (oxytocin, ergot alkaloids, etc.),
   Variations in timing of uterotonic administration (early or any time before placental delivery, late or after placental delivery),
   Variations in route of uterotonic administration (intravenous infusion or bolus, intramuscular, etc.),
   Variations in the timing of umbilical cord clamping and cutting (immediate or any time before cessation of cord pulsations, late or after cord pulsations or after placental delivery)
   Addition or omission of controlled cord traction

There were also some studies which cited the use of only one or two components of the active approach and combined these with component(s) of the expectant approach. Finally, some studies have added uterine massage to the active management package.

These variations have made it difficult to evaluate the overall benefits and harms of the active management package compared to expectant management in randomized controlled trials. The panel, therefore, deemed it more appropriate to look into the effects of the individual components of third stage of labor management.
EVIDENCE AND RECOMMENDATIONS

I. INTERVENTIONS DURING LABOR

1. Timing of Admission

Evidence on the effect of admitting women to the labor room during the active phase of labor, as contrasted to admitting them during the latent phase of labor, was obtained from one prospective cohort study.

To assess the effect of the timing of admission into the labor room among term pregnancies, this prospective cohort study assessed 810 women in labor. Four hundred seventy-four low-risk nulliparous women who were admitted in the latent phase of labor women were compared with 336 women who were admitted in the active phase of labor, which was determined by the parturient having regular, painful contractions and cervical dilatation greater than 3 cm. There was a significant decrease in the need for cesarean deliveries in the group admitted during the active phase of labor (OR 0.18, 95% CI 0.13, 0.25). Although there was an increase in the need for labor augmentation using oxytocin (OR 1.15, 95% CI 0.85 to 1.53) and of neonates with Apgar scores less than 7 at 5 minutes of life in the active phase group, these results were not statistically significant (OR 2.05, 95% CI 0.77, 5.46).

RECOMMENDATION

Among low-risk parturients, admission to the labor room during the active phase of labor is recommended.

STRONG Recommendation-VERY LOW Quality of Evidence

Remarks

The guideline panel acknowledged that there may be situations where low-risk parturients are admitted early to a facility-based setting. However, it is recommended that admission to the labor room be done when the patient is in the active phase of labor.

Further studies are required to establish the effect of timing of labor room admission on neonatal outcomes.
Reference


2. Continuous support

Evidence related to continuous support, compared to usual support, for women during childbirth was extracted from one Cochrane Systematic Review updated in December 2011 with twenty-one (21) trials involving 15,061 women.

Of the twenty-one studies, only three small trials were judged by the review authors as high risk for bias because of unclear allocation concealment and non-blinding of outcome assessors.

The trials evaluated the effects of continuous, one-to-one intrapartum support compared to usual care. Continuous support was given by providers with a variety of experiences, through education and practices as nurses, midwives, doulas or childbirth educators or by the woman’s husband or partner, female relative or friend. In nine trials, the support was provided by a member of the hospital staff; in seven trials the providers are doulas or women who had given birth before or a childbirth educator or retired nurses; and in five trials, the companions were of the woman’s choice either a female relative or friend or partner.

There was clear benefit for continuous support compared to usual care in terms of the need for intrapartum anesthesia or analgesia (RR 0.90, 95% CI 0.84 to 0.97) and duration of labor (mean difference of -0.58 hours, 95% CI -0.86 hours to -0.30 hours).

Eighteen trials involving 14,005 participants showed that women who had continuous support during labor were more likely to have spontaneous vaginal birth (RR of 1.08, 95% CI 1.04-1.12). Studies showed that women receiving continuous support were less likely to have instrumental vaginal birth (18 trials with 14,004 women; RR 0.90, 95% CI 0.84 to 0.96) and cesarean birth (21 trials with 15,061 participants; RR 0.79, 95% CI 0.67 to 0.92).

Continuous support had no apparent impact on the likelihood of serious perineal trauma (RR 0.97, 95% CI 0.92 to 1.01).

Infants born to women receiving continuous support were less likely to have low 5-minute APGAR scores (with an RR of 0.70, 95% CI 0.50 to 0.96).
Continuous maternal support (compared to usual care) is recommended for women in labor.

**STRONG Recommendation-MODERATE Quality of Evidence**

**Reference**


**3. Perineal Shaving**

Evidence related to perineal shaving of women in labor was extracted from one Cochrane systematic review of 3 RCTs. The trials evaluated the effect of routine perineal shaving before birth (women on admission, in labor), and the intervention was compared with no perineal shaving.

In all three trials there were no significant differences found in those who had or had not been shaved with regard to maternal febrile morbidity (OR 1.16, 95% CI 0.70 to 1.90), wound infection (OR 1.52; 95% CI 0.79 – 2.90) and wound dehiscence (OR 0.13; 95% CI= 0.00 to 6.70). No neonatal infection was observed but the sample size may have been too small (underpowered) to show any difference.

One trial in the systematic review assessed maternal satisfaction as an outcome using a Likert scales on 5 degrees to measure a woman’s intensity of satisfaction. No significant difference was found between the two groups (Mean Difference 3.80, 95% CI -0.13 to 0.13).

**RECOMMENDATION**

Routine perineal shaving for women in labor is NOT recommended.

**STRONG Recommendation-MODERATE Quality of Evidence**

**Remarks**

Although the evidence suggests that there is no clinical benefit or harm in doing perineal shaving, the guideline panel put a value on avoiding added costs and man-power requirements for a procedure that does not impact clinical outcomes.
4. Enema during the first stage of labor

Evidence for the use of enema among parturients in the first stage of labor came from a Cochrane review of randomized trials on the topic consisting of 4 studies last revised in 2010. There were no other new randomized trials which were published after the last review.

There was no significant difference between those who had an enema and those who did not for the following outcomes: maternal infections during puerperium (RR 0.66, 95% CI 0.42 to 1.04), overall neonatal infections (RR 1.12, 95% CI 0.76 to 1.67), neonatal pneumonia (RR 0.10, 95% CI 0.01 to 1.73) and episiotomy dehiscence (RR 0.69, 95% CI 0.41 to 1.14).

Level of patient satisfaction was comparable in both groups (0.1 lower to 0.1 higher).

The only outcome for which there was clear benefit in undergoing enema was in the prevention of fecal soiling during delivery (RR:0.36, 95% CI 0.17 to 0.75).

RECOMMENDATION

The routine use of enema during the first stage of labor is NOT recommended.

STRONG Recommendation-LOW Quality of Evidence

Remarks

The current evidence suggests that there is no harm or clinical benefit to doing enema. However, the guideline panel put a high value on avoiding added cost and inconvenience to the patient in recommending that the routine use of enemas during labor be avoided.

Reference

Reveiz L, Gaitidence suggests that there is no harm or clinical benefit to doing enema. However, the guideline panel put a high value on avoiding added cost and inconvenience to the patient in recommending that the routine use of enemas during labor be avoided.
5. Admission cardiotocography (CTG) for low risk term patients in labor

Evidence comparing CTG on admission to intermittent auscultation of the fetal heart rate for low risk term (37 to 42 weeks AOG) pregnant patients in labor was obtained from one Cochrane systematic review of four randomized controlled trials. These trials were judged by the review authors as having a low risk of bias. Evidence showed no benefit for the use of the CTG on admission for low-risk women in labor. Although not statistically significant, results showed a trend that admission CTG increases the cesarean section rate by approximately 20% compared to auscultation (RR 1.20, 95% CI 1.00 to 1.44). This finding should be interpreted with caution because in the study of Mires (2001) which contributed the most weight for this outcome in the meta-analysis, 37% (n=704) of women randomized to intermittent auscultation developed complications during pregnancy and required CTG on admission.

There was no significant difference between CTG and auscultation of the fetal heart rate in terms of instrumental vaginal birth, perinatal mortality, APGAR score less than 7 for more than 5 minutes and NICU admission. Patients who had an admission CTG had a significantly higher rate of continuous electronic fetal monitoring during labor (RR 1.30, 95% CI 1.14 to 1.48).

RECOMMENDATION

Admission cardiotocography (CTG) for low-risk women in labor is NOT recommended.

STRONG Recommendation-Moderate Quality of Evidence

References


6. Vaginal douching

Evidence related to vaginal douching during labor was extracted from one Cochrane systematic review of 3 randomized controlled trials. Although the included studies were judged by the Cochrane review authors to have low risk of bias, the review authors cited the following limitations of their review: the included trials differed in the concentrations and volumes of chlorhexidine used for vaginal irrigation, one study used 20 ml chlorhexidine or sterile saline solution, while the other two studies used 200 ml chlorhexidine or sterile saline solution. Only 3012 women were included in the 3 trials, thus, the review might not have enough power to detect small effect size. All three studies were conducted in the U.S. which limits the applicability of the evidence in the local setting.

This systematic review evaluated the effectiveness and side effects of vaginal douching during labor with vaginal irrigation with chlorhexidine or sterile saline solution. For maternal outcomes, there were no significant differences for the incidences of chorioamnionitis (intrauterine infection) (RR 1.10, 95% CI 0.86 to 1.42) and postpartum endometritis (puerperal sepsis) (RR 0.83, 95% CI 0.61 to 1.13) between the two groups. There was no report about other maternal outcomes and side effects in the included studies. For the neonatal outcomes, the review did not find any statistically significant differences in terms of perinatal mortality (RR 1.015, 95% CI 0.17 to 5.79), neonatal meningitis (RR 0.33, 95% CI 0.01 to 8.09) and neonatal sepsis with confirmation by blood culture (RR 0.75, 95% CI 0.17 to 3.35).

There was a low event rate for neonatal pneumonia (RR inestimable). The review also did not find any other neonatal outcomes and side effects of chlorhexidine antisepsis during labor in the three trials.

RECOMMENDATION

Routine vaginal douching during labor is NOT recommended.

STRONG Recommendation-LOW Quality of Evidence

Reference

7. Maternal position during labor

Evidence for effect of upright vs. recumbent position during the first stage of labor was derived from a Cochrane review of 21 studies with a total of 3706 women. There was considerable variation in the interventions women received as study subjects may have had difficulty maintaining the intervention position or preferred alternative positions. There was also variation in caregiver behavior in relation to study protocols; in some studies women were strongly encouraged by staff to mobilize - any woman in the intervention group that remained in bed for more than 30 minutes was asked to get out again; in other studies, women had more choice and more gentle encouragement.

Nine studies with a total of 1677 women contributed data on the length of the first stage of labor. The first stage of labor was approximately one hour shorter for women randomized to upright as opposed to recumbent positions (MD -0.99 hour, 95% CI -1.60 hour to -0.39 hour). Various studies defined and measured the length of the first stage of labor in different ways. Measurement may have commenced on admission or at various points of cervical dilatation according to different hospital policies or study designs.

Eight studies with a total of 1784 women contributed data on the need for epidural analgesia. Women randomized to upright positions were less likely to have epidural analgesia, and this difference reached statistical significance (RR 0.83 95% CI 0.72 to 0.96).

There was no significant difference between the two groups in terms of the rates of spontaneous vaginal birth (RR 1.01, 95% CI 0.97 to 1.05), assisted vaginal delivery (RR 0.99, 95% CI 0.78 to 1.26) and caesarean delivery (RR 0.73, 95% CI 0.51 to 1.07). In terms of neonatal Apgar scores <7 at 5 minutes, there was no significant difference between the two groups (RR 3.27 95% CI 0.34 to 31.05).

None of the studies collected information on women’s satisfaction with their general experience of childbirth.

RECOMMENDATION

Upright maternal positions are recommended for women in the first stage of labor.

STRONG Recommendation-VERY LOW Quality of Evidence

Remarks

Taking into account the discomfort of a parturient in pain and the potential effect of prolonged labor on the fetus, the panel felt that a shortening of the duration of labor by at least 23 minutes is clinically significant.
Reference


8. Use of the WHO partograph to monitor labor

Evidence Summary

Evidence on the use of the WHO partograph as compared to the non-use of a partograph came from 2 studies comparing WHO partograph to non-use of the partograph. The quality evidence ranged from very low to high, due to issues with quasi-randomization, allocation concealment, inconsistency and imprecision.

There was no significant difference between the use of the WHO partograph as compared to non-use of a partograph in terms of the rate of caesarean section (1590 patients, RR 0.64, 95% CI 0.24 to 1.7), maternal infection (1156 participants, RR 1.23, 95% CI 0.88 to 1.73) and instrumental vaginal delivery (1590 participants, RR 1.0, 9% CI 0.8 to 1.25).

The studies did not investigate the following identified critical outcomes: maternal death, perinatal death, postpartum hemorrhage and birth injuries to the infant (cephalhematoma, injury to the brachial plexus, etc.).

RECOMMENDATIONS

The routine use of the WHO Partograph to monitor the progress of labor is recommended.

STRONG Recommendation-VERY LOW Quality of Evidence

Remarks

Although the study reported that use of the WHO partograph did not result in a change in the rates of caesarean section, instrumental delivery or maternal infection, the guideline panel still strongly feels that use of the WHO partograph should be continued. The presence of the partograph encourages healthcare providers to diligently monitor the progress of a parturient’s labor and facilitates early identification of delayed labor progress. It is an important monitoring and screening tool especially in low-resource settings.

Further studies are needed to elucidate the effect of using the WHO partograph on the following critical outcomes: maternal death, perinatal death, postpartum hemorrhage and birth injuries to the infant.
9. WHO Partograph: two-hour vs. four-hour action line

Evidence on the effect of using the two-hour action line vs. the four-hour action line of the WHO partograph came from two studies. The quality evidence ranged from moderate to high, mainly due to imprecision.

There was no significant difference between using the two-hour action line vs. the four-hour action line of the WHO partograph in terms of postpartum hemorrhage (RR 1.07, 95% CI 0.9 to 1.26), caesarean section (RR 1.06, 95% CI 0.85 to 1.32) and instrumental vaginal delivery (RR 0.91, 95% CI 0.8 to 1.03).

The studies investigated maternal death (3601 participants) and perinatal death (3601 participants) but there were no events for these outcomes.

None of the studies looked at maternal infection and neonatal birth injuries.

RECOMMENDATIONS

The use of the WHO Partograph, two-hour action line (over the four-hour action line) is recommended.

STRONG Recommendation-HIGH Quality Evidence

Remarks

The current prevailing practice is to use the four-hour action line of the WHO Partograph as the basis for clinical decisions to intervene in the course of labor.

The study reported that the use of the two-hour action line, rather than the four-hour action line, did not result in any change in terms of the risk for postpartum hemorrhage, caesarean section and instrumental delivery. Despite this, the guideline panel feels that using the earlier action line would result in improved maternal and neonatal outcomes.
This decision is guided by the knowledge that in many instances, there is considerable delay in transporting a woman in labor from a local healthcare facility to a referral center. Taking action based on the two-hour action line could provide much needed lead time to compensate for transportation delays.

Further studies with bigger cohorts are needed to investigate the effect of using the two-hour action line (vs. the four-hour action line) of the WHO partograph on the following outcomes: maternal death, perinatal death, maternal infection and neonatal birth injuries.

References


10. Amniotomy to shorten labor

Evidences related to the effect of amniotomy, as compared to no amniotomy, for shortening spontaneous labor were extracted from one Cochrane systematic review of 14 randomized controlled trials (involving 4893 women).

There was no significant difference between those who underwent amniotomy vs. those who did not in terms of the duration of the first stage of labor (MD 20.43 minutes lower, 95% CI 95.93 minutes lower to 55.06 minutes higher). The same result was obtained when subgroup analyses of primiparous and multiparous women were done.

Likewise, there was no statistically significant difference in the second stage of labor between the two groups (MD 2.38 minutes lower, 95% CI 5.27 minutes lower to 0.5 minutes higher). Subgroup analysis of primiparous women, however, showed a statistically significant reduction in the length of the 2nd stage of labor.

Women in the amniotomy group had a significantly reduced risk of dysfunctional labor (RR 0.75, 95% CI 0.64 to 0.88).

There was no significant difference between the amniotomy and the no amniotomy group in terms of risk of caesarean section (RR 1.26, 95% CI 0.98 to 1.62), risk of cord prolapse (RR 0.33, 95% CI 0.01 to 8.18) and risk of maternal infection (RR 0.81, 95% CI 0.38 to 1.72).

There was a trend towards a lower risk of having an APGAR score of <7 at 5 minutes for babies born to mothers in the amniotomy group but this was not statistically significant (RR 0.55, 95% CI 0.29 to 1.05).
RECOMMENDATION

Among parturients in spontaneous labor, routine amniotomy is NOT recommended.

STRONG recommendation- VERY LOW Quality of Evidence

Remarks

The guideline panel felt that because of the significant risks of amniotomy seen in local practice (cord prolapse, abruptio placenta, intrauterine infection), the procedure should not be done routinely. Amniotomy should only be undertaken during the active phase of labor when there are clear indications.

Reference


11. Restricted internal examinations during labor

Evidence on the effectiveness of restricting the number of internal examinations done on a woman in labor was obtained from one randomized controlled trial which reported separately on maternal and fetal outcomes (published as 2 separate studies) and one observational study.

To assess the risk for maternal and neonatal infections among term pregnancies, with preterm rupture of membranes, a randomized controlled trial studied 5,018 women, with restricted number of internal examinations (IE) defined as less than 3 examinations. There was a significant decrease in the odds of chorioamnionitis among women who had less than 3 IE’s (OR 0.28, 95% CI 0.16, 0.48). The outcomes of infants born to the women in the above study were analyzed in a separate study. There was a significant decrease in the odds of neonatal sepsis among infants born to women who had a restricted number of internal examinations (OR 0.39, 95% CI 0.21, 0.74).

Looking at endometritis and subsequent urinary tract infection among women in labor (not necessarily with PROM), another prospective surveillance study of 161,077 deliveries over a 7-year period. (Note: data from all vaginal deliveries from January 1997 to December 2003 in 66 maternity units. The Mater Sud-Est Network routine surveillance was established in 1995 and participation in the surveillance was voluntary and could be non-continuous.) The study defined restrictive IE as...
less than 5 internal examinations. Although not statistically significant, the study showed that there was a trend towards decreased endometritis in the restricted IE group (OR 0.86, 95% CI 0.72, 1.04). Women who received less than 5 IE’s also had lower odds of having a urinary tract infection as compared to those who received an unlimited number of internal examinations (OR 0.66, 95% CI 0.57, 0.76).

Based on these studies, whether we use 3 or 5 internal examinations as the cut off for “restricted” number of internal examinations, limiting the number of internal examinations on a woman in labor, results in a decreased risk for both maternal and neonatal infections.

**RECOMMENDATION**

The total number of internal examinations that a woman receives during the course of labor should be limited to 5 examinations or less.

**STRONG Recommendation-LOW Quality of Evidence**

References


**12. Massage and reflexology for pain management in labor**

Evidence related to the use of massage and reflexology for pain management in labor was extracted from one Cochrane systematic review of 5 randomized controlled trials involving 326 women. Six outcomes were analysed as to their importance and quality of evidence.
Two studies evaluating the outcome of pain relief were identified. However, there was significant heterogeneity between studies—the studies were therefore not combined. Both studies showed no difference in satisfaction with pain relief between groups (Study A: 60 participants, 0.47 higher, 95% CI 0.13 lower to 1.07 higher), (Study B: 50 participants, 14.40 lower, 32.7 lower to 3.9 higher).

There was no significant difference between the massage and usual care group in terms of rate of assisted vaginal birth (105 participants, RR 0.46, 95% CI 0.14 to 1.5), rate of caesarean section (105 participants, RR 0.73, 95% CI 0.24 to 2.22), length of labor (97 participants, 0.34 standard deviations higher, 95% CI 0.07 lower to 0.75 higher) and rate of NICU admissions (44 participants, RR 1.93, 95% CI 0.13 to 28.79).

No trial reported on the Apgar score of the neonate at 5 minutes.

**RECOMMENDATION**

**Massage and reflexology for pain management during labor is NOT recommended.**

**STRONG Recommendation-VERY LOW Quality of Evidence**

**Remarks**

Further studies conducted or undertaken with a large number of participants are needed to elucidate the effect of massage during labor.

**Reference**


**II. INTERVENTIONS DURING DELIVERY**

**1. Perineal massage for women in labor**

Evidence related to perineal massage for women during childbirth was extracted from one Cochrane Systematic Review updated in 2011 with two trials (Albers 2005 and Stamp 2001) involving 2,147 women. Assessment of methodological quality of both studies showed low risk of bias except for blinding. Given the nature of the intervention, it was not possible to blind the intervention for the clinician or the midwife performing the technique.
The trials evaluated the effects of perineal massage compared to hands-off (or no massage in the perineum). Perineal massage is defined as massage of the perineum during the second stage of labor using water-soluble lubricant or gel applying gentle, slow massage, with 2 fingers of the midwife’s gloved hand moving from side to side just inside the patient’s vagina. Mild, downward pressure (toward the rectum) was applied with steady, lateral strokes, which lasted 1 second in each direction. This motion precluded rapid strokes or sustained pressure. A sterile, water-soluble lubricant was used to reduce friction with massage. Massage was continued during and between pushes, regardless of maternal position and the amount of downward pressure was dictated by the woman’s response. The participants in the included studies were nulliparous and multiparous women expecting a vaginal birth, singleton vertex presentation at term, with no medical complications.

There was no significant difference in terms of the following maternal outcomes: intact perineum or no trauma after vaginal birth (RR 1.05, 95% CI 0.87 to 1.28), occurrence of first and second degree lacerations (RR of 1.02, 95% CI 0.93 to 1.13), rate of episiotomy (RR 1.42, 95% CI 0.42 to 4.87), vaginal pain at three (RR of 0.97, 95% CI 0.90 to 1.05) and ten days postpartum (RR 0.86, 95% CI 0.73 to 1.02), anorectal trauma (RR 0.90, 95 CI 0.73 to 1.10) and blood loss of more than 500 ml (RR 0.91, 95% CI 0.61 to 1.36).

Results for the outcome of third and fourth degree laceration showed that women in the massage group were less likely to have these types of laceration compared to the hands-off group with an RR of 0.52 (95% CI 0.29 to 0.94).

No study evaluated the following outcomes: perineal edema, wound infection and wound dehiscence

For the neonatal outcomes, there was no statistically significant difference between the massage and hands-off group in terms of Apgar score less than 7 at 5-minutes (2147 participants, RR of 0.83, 95% CI 0.35 to 1.95).

No studies evaluated neonatal infection as an outcome.

**RECOMMENDATION**

*For women in the second stage of labor, perineal massage is NOT recommended.*

**STRONG Recommendation-LOW Quality of Evidence**

**Remarks**

The evidence showed that there is a clear benefit (decrease the risk of third and fourth degree laceration) and no clear harm in doing perineal massage. Despite this, the guideline panel had lingering concerns regarding the paucity of evidence on harms in perineal massage commonly noted in practice: perineal edema, wound infection and
wound dehiscence. Concerns regarding these perceived harms attendant to perineal massage led the guideline panel to recommend against routinely doing perineal massage.

Further studies to determine the effect of perineal massage on the following outcomes are needed: perineal edema, wound infection, wound dehiscence and neonatal infection.

References


2. Spontaneous vs coached pushing in the 2nd stage of labor

Evidence was derived from 5 randomized clinical trials which compared spontaneous pushing from coached pushing during the second stage of labor without epidural anesthesia. Coached pushing was described as doing the Valsava maneuver as prompted by the nurse-midwife while spontaneous pushing as allowing the parturient to initiate the pushing without cue. Outcomes considered critical were duration of the 2nd stage of labor, instrumental delivery (forceps and vacuum deliveries, and cesarean section), 5 minute apgar < 7, bladder atony and pelvic organ prolapse.

Based on pooled analysis of 4 studies of 525 women, there was no significant difference in the duration of the 2nd stage of labor between the two groups (MD 3.49 minutes higher, 2.18 minutes lower to 9.16 minutes higher). There was also no significant difference in the risk of instrumental delivery (425 participants, OR 0.70, 95% CI 0.34 to 1.43) and the infant’s risk of having a 5-minute apgar < 7 (393 participants, RR 0.35, 0.01 to 8.43).

Evidence for the outcomes 3 months after the delivery came from a single study with a 60% drop out rate. The study did not specifically report on bladder atony. There was no reported pelvic organ prolapse in both groups.
RECOMMENDATION

Among parturients delivering vaginally without epidural anesthesia, either spontaneous or coached pushing may be done.

NO SPECIFIC Recommendation-VERY LOW Quality of Evidence

Remarks

There is limited evidence on the effect of spontaneous pushing as compared to coached pushing.

Further studies with bigger sample sizes are needed to determine the effectiveness of coached pushing vs. spontaneous pushing among parturients delivering vaginally without epidural anesthesia in terms of the following outcomes: duration of the 2nd stage of labor, instrumental delivery (forceps and vacuum deliveries, and cesarean section), 5 minute apgar < 7, bladder atony and pelvic organ prolapse.

References


Lam C-OC. Comparison of two pushing techniques used in the second stage of labour for their effect on maternal fatigue in the early postpartum period: a randomised trial. Master’s thesis. La Trobe University, Australia, 2006.


3. Fundal pressure during the second stage of labor

Fundal pressure during the second stage of labor is defined as the manual downward force applied externally to the abdomen at the level of the fundus to expedite delivery.

Evidence on the use of fundal pressure during the second stage of labor was obtained from one systematic review (which included only 1 trial) and two other randomized trials.

To assess the effect of the use of fundal pressure to shorten the duration of the second stage of labor, 1 trial assessed 68 women in labor. The use of fundal pressure lengthened the duration of the second stage of labor by a mean of 29.20 minutes (range: 3.34 to 55.06 min).

More relevant than the effect of fundal pressure on the duration of the second stage of labor is its effect on maternal and neonatal outcomes.

Although anecdotal/case reports have associated uterine rupture with the use of fundal pressure, there were no studies to document the effect of this intervention on the risk of uterine rupture.

To assess the risk of extensive perineal injuries – tears involving 3rd or 4th degree lacerations – three trials involving 1229 women showed a significant increase in its occurrence (RR 9.10, 95% CI 4.10, 20.21).

There were no statistically significant differences in terms of postpartum hemorrhage (2 trials, n=1161) (RR 0.69, 95% CI 0.33, 1.47), operative vaginal deliveries (2 trials, n=1161) (RR 1.09, 95% CI 0.94, 1.27), low neonatal Apgar score (1 trial, n= 500) (RR 4.62, 95% CI 0.22, 95.68), nor reduction in admission to the neonatal intensive care unit ( 2 trials, n=1161) (RR 1.51, 95% CI 0.76, 2.99).

**RECOMMENDATION**

The use of fundal pressure during the second stage of labor is NOT recommended.

**STRONG Recommendation-VERY LOW Quality of Evidence**

**Remarks**

There appears to be no benefit in applying fundal pressure during the second stage of labor-it increases the duration of labor and increases the risk of severe perineal trauma without achieving any benefit in terms of decreased postpartum hemorrhage, decreased operative vaginal deliveries or improved neonatal outcomes (better APGAR 8scores,
reduced admissions into the neonatal intensive care unit). This recommendation places a high value on avoiding maternal injuries (anecdotal reports of an increased risk of uterine rupture and evidence-supported increase in risk for severe perineal tears in parturients who received fundal pressure).

References


4. Episiotomy

Available evidence comparing the use of restrictive and routine episiotomy in pregnant women having vaginal birth came from one systematic review of 8 randomised trials. Restrictive episiotomy (episiotomy as needed) was defined as when intention was not to perform an episiotomy unless it was absolutely necessary for maternal or fetal reasons i.e. cases of forceps delivery, fetal distress, shoulder dystocia or when the operator considered that a severe laceration was impending or imminent. Routine episiotomy was defined as when intention was to avoid a tear by performing liberal episiotomy at the time the fetal head was distending the introitus. There was a serious risk of selection bias in one study as the method of allocation was not clearly established. The quality of evidence ranged from low to moderate due to issues of inconsistency and imprecision.

Restrictive episiotomy was significantly associated with more anterior perineal trauma (4896 participants, RR 1.84, 95% CI 1.61-2.10). There was no significant difference in severe vaginal and perineal trauma (4838 participants, RR 0.92, 95% CI 0.72-1.18). Compared with routine episiotomy, restrictive episiotomy resulted in less severe perineal trauma (4404 participants, RR 0.67, 95% CI 0.49-0.91), less posterior perineal trauma (2079 participants, RR 0.88, 95% CI 0.84-0.92), fewer healing complications (1119 participants, RR 0.69, 95% CI 0.56-0.85) and less need for suturing (4133 participants, RR 0.71, 95% CI 0.61-0.81). There was no significant difference in infection rates (1298 participants, RR 1.02, 95% CI 0.48-2.16).
**RECOMMENDATION**

In pregnant women having vaginal birth, restrictive episiotomy (over routine episiotomy), is recommended.

**STRONG Recommendation-LOW Quality of Evidence**

**Remarks**

The study population included both primigravid and multigravid parturients. The parturients underwent various types of episiotomy incisions (midline, medio-lateral, etc.).

Severe perineal trauma was defined as second degree or worse perineal tears/injuries.

**Reference**


### 5. Delayed vs. Early cord clamping

Evidence related to the timing of cord clamping was extracted from one Cochrane systematic review.

For the seven outcome measures, eight randomized trials were included in the review with a total of 2,399 subjects assessed. Participants were healthy pregnant women who were expected to give birth vaginally. However, one study (van Rheenen study) was conducted in Zambia where malaria is endemic and another study (Cernadas trial) included women who gave birth by caesarean section. While the timing of early clamping was relatively consistent at less than one minute, the timing for delayed cord clamping varied from more than one minute to five minutes or when cord pulsations have ceased. In terms of randomization, three studies (Emhamed, Nelson, Saigal) had unclear allocation concealment.

Three trials with a total of 671 newborns were assessed in terms of hemoglobin at birth at less than 24 hours of life. There were significantly lower infant hemoglobin levels at birth in the early clamping group compared with the late clamping group (WMD -2.17 grams/dL; 95% CI -4.06 grams/dL to -0.28 grams/dL; random effects model).

Three trials with a total of 463 newborns showed no difference between the early and late cord clamping groups in the detection of polycythaemia (RR 0.39, 95% CI 0.12 to 1.27).
Five trials with a total of 1762 newborns showed that there were significantly fewer infants requiring phototherapy for jaundice in the early cord clamping group than in the late cord clamping group (RR 0.59, 95% CI 0.38 to 0.92).

Two trials with a total of 1342 newborns showed that there was no difference in the need for resuscitation for APGAR scores less than 7 at 5 minutes between the early and late cord clamping group (RR 1.23, 95% CI 0.73 to 2.07).

Three trials with a total of 1293 infants showed there was no statistically significant difference in NICU admissions between the early and late cord clamping groups (RR 1.03, 95% CI 0.56 to 1.90).

Two studies of 382 newborns showed that the early cord clamping groups had significantly lower infant hemoglobin levels 24 hours after birth than the late clamping groups (WMD -1.34 g/dL; 95% CI -1.88 g/dL to -0.88 g/dL; 382 infants).

**RECOMMENDATION**

Delayed cord clamping is recommended.

**STRONG Recommendation-Moderate Quality Evidence**

**Remarks**

Delayed cord clamping is defined as clamping of the cord at more than one minute to five minutes after delivery or when cord pulsations have ceased.

Although the study reported that infants in the delayed cord clamping group had a higher risk of jaundice requiring phototherapy, the guideline panel put a higher value on the beneficial effects of cord clamping in terms of greater hemoglobin both at birth (within 24 hours of life) and between the 24th to 48th hour of life. Decreasing the risk of infant anemia could translate to even greater benefits in a developing country where there is poor access to good nutrition.

In the local experience, delayed cord clamping does not appear to increase the incidence of neonatal jaundice.

**Reference**

6. Type of prophylactic uterotonic: OXYTOXIN vs. PLACEBO

Evidence on the prophylactic use of oxytocin vs. placebo to prevent postpartum hemorrhage was derived from a systematic review-four RCT's comparing oxytocin alone with no uterotonics or placebo. Two of the 4 included trials were judged by the authors of the systematic review to have low risk of bias and there was considerable variation in the dose, route, and timing of administration of oxytocin in these trials.

Compared with no uterotonics or placebo, the use of oxytocin resulted in significant reduction in the incidence of blood loss ≥ 500 ml (1273 participants, RR 0.61, 95% CI 0.51-0.72) and the need for additional or therapeutic uterotonics (2227 participants, RR 0.53, 95% CI 0.41-0.69). There was no significant difference in the incidence of blood loss ≥ 1000 ml, need for maternal blood transfusion manual removal of placenta and the length of the third stage of labor between the two groups.

There were no studies that looked into the incidence of maternal hypotension with the use of oxytocin.

RECOMMENDATION

Among parturients in the third stage of labor, prophylactic use of oxytocin (vs. no uterotonic) is recommended.

STRONG Recommendation-LOW Quality of Evidence

Remarks

Oxytocin should only be administered to patients in whom there are no known contraindications.

Reference


7. Type of prophylactic uterotonic: ERGOT ALKALOID vs. PLACEBO

Evidence on the prophylactic use of ergot alkaloids vs. placebo came from a systematic review. Three randomized controlled trials provided information on parenteral ergot alkaloids when used alone compared with no uterotonics or placebo. Two of the 3 included trials in this review were judged to have high risk of bias either because of inadequate allocation concealment or unclear
blinding. There were also variations in the ergot preparations used, routes of administration, and dosages among the trials.

Compared with no uterotonics or placebo, the use of parenteral ergot alkaloids resulted in significant reductions in postpartum hemorrhage ≥ 500 ml (3409 participants, RR 0.38, 95% CI 0.21-0.69), postpartum hemorrhage ≥ 1000 ml (1429 participants, RR 0.09, 95% CI 0.01-0.72) and the need for additional uterotonics (2409 participants, RR 0.25, 95% CI 0.10-0.66). However, parenteral ergot alkaloids significantly increased the risk of hypertension (2559 participants, RR 2.6, 95% CI 1.03-6.57), and pain after birth requiring analgesia (1429 participants, RR 2.53, 95% CI 1.34-4.78). There was no statistically significant difference in the need for maternal blood transfusion (1579 participants, RR 0.34, 95% CI 0.05 to 2.16) and the need for manual extraction of placenta between the two groups (2429 participants, RR 3.75, 95% CI 0.14 to 99.71).

**RECOMMENDATION**

Among parturients in the third stage of labor, prophylactic use of ergot alkaloid (vs. no uterotonic) is recommended.

**WEAK Recommendation-VERY LOW Quality of Evidence**

**Remarks**

Ergot alkaloids should only be administered to patients in whom there are no known contraindications.

The use of ergot alkaloids are to be avoided in patients known to be predisposed to developing hypertensive episodes.

**Reference**


**8. Type of prophylactic uterotonic: OXYTOCIN vs ERGOT ALKALOID**

Evidence on the prophylactic use of oxytocin vs. ergot alkaloid to prevent postpartum hemorrhage was derived from a systematic review—three studies comparing oxytocin with ergot alkaloids. However, there was considerable variation in the preparations, dosages, routes, and timing of administration of the oxytocin and ergot alkaloids used in the included trials.
When compared head-to-head, there was no significant difference in the effects of oxytocin and ergot alkaloids on the risk for postpartum bleeding ≥ 500 ml (1660 participants, RR 1.03, 95% CI 0.73-1.47), postpartum bleeding ≥ 1000 ml (697 participants, RR 1.09, 95% CI 0.45 to 2.66), need for maternal blood transfusion (224 participants, RR 3.74, 95% CI 0.34 to 40.64), need for manual extraction of placenta (697 participants, RR 0.71, 95% CI 0.49 to 1.02), and the need for therapeutic uterotonics (1208 participants, RR 1.02, 95% CI 0.67-1.55).

None of the studies reported the length of 3rd stage of labor in patients who were given oxytocin as compared to those who were given ergot alkaloids.

RECOMMENDATION

Among parturients in the third stage of labor, prophylactic use of oxytocin over ergot alkaloid is recommended.

STRONG Recommendation-LOW Quality of Evidence

Remarks

Although both oxytocin and parenteral ergot alkaloids are effective in reducing postpartum hemorrhage and the need for therapeutic uterotonics, oxytocin should be used as the first-line agent for prophylactic management of the third stage of labor because it has a more favorable side-effect profile, is more stable in most environments, and is widely available.

Oxytocin and ergot alkaloids should only be administered to patients in whom there are no known contraindications.

The use of ergot alkaloids are to be avoided in patients known to be predisposed to developing hypertensive spikes.

Reference


9. Timing of prophylactic uterotonic

Available evidence for the timing of administration of prophylactic uterotonic as part of the management of the third stage of labor after vaginal delivery came from a systematic review of 3 randomized trials. Two of these trials were double
blind placebo-controlled. Oxytocin was the only uterotonic drug used, however the dose and route varied among the 3 trials. There were no major concerns related to the risk of bias in the included studies, although two are small and probably underpowered.

The administration of oxytocin before delivery of the placenta, as compared to administering oxytocin after delivery of the placenta, does not significantly affect the incidence of postpartum hemorrhage-blood loss ≥ 500 ml (1667 participants, RR 0.81, 95% CI 0.62-1.04), blood loss ≥ 1000 ml (130 participants, RR 0.98, 95% CI 0.48 to 1.98), retained placenta (1667 participants, RR 1.54, 95% CI 0.76-3.11), need for additional uterotonics (1667 participants, RR 1.10, 95% CI 0.8 to 1.52) and duration of the third stage of labor (1667 participants, MD -0.30 minutes, 95% CI -0.95 to 0.36). No studies reported on neonatal outcomes.

**RECOMMENDATION**

**Among women in the third stage of labor after vaginal birth, prophylactic uterotonics may be given before or after delivery of the placenta.**

**NO SPECIFIC Recommendation-MODERATE Quality of Evidence**

**Remarks**

Current best evidence suggests that the effect of administering a uterotonic either before or after the delivery of the placenta are comparable. What is important is that a uterotonic is administered (be it before or after placental delivery) to prevent postpartum hemorrhage.

Further studies are required to establish the effect of timing of prophylactic uterotonic administration on neonatal outcomes.

**Reference**


10. **Route of administration of prophylactic uterotonic**

Literature search was done for evidence on the effect of the route of administration of prophylactic uterotonic. Unfortunately, as of the time of this evidence review, there is no completed trial that could provide reliable evidence as to whether or not oxytocin given intramuscularly is as effective and safe as when given
intravenously for prophylactic management of the third stage of labor after vaginal delivery.

RECOMMENDATION

Prophylactic uterotonics may be administered through the intramuscular or the intravenous route.

NO SPECIFIC Recommendation-NO evidence

Remarks

It is important to note that majority of low-risk pregnancies in the country are delivered in settings where intravenous access is not commonplace.

In theory, intravenous administration causes an almost immediate action rather than when given intramuscularly. On the other hand, intramuscular injection is quicker to administer, more convenient for the provider, and requires relatively less skill to provide. Whether one route is better than the other in terms of maternal and neonatal outcomes still needs to be elucidated in future studies.

Reference


11. Controlled cord traction during the third stage of labor

Evidence for the use of controlled cord traction as part of the management of the third stage of labor came from 2 randomized controlled trials which were both done in developing countries. The first RCT (1), which is small, served as a feasibility study for the second much larger, multi-center and multi-country RCT (2). Both trials were deemed to have low risk of bias and high adherence to protocol.

The combined result of the two trials showed that, compared to the feased cord traction or the maneuver in which the birth attendant pushes the uterine fundus upwards with one hand while the other hand applies continuous, steady traction on the umbilical cord to deliver the placenta, results in minimal but significant reduction in the risk of postpartum hemorrhage or blood loss ≥ 500 ml (23441 participants, RR 0.93, 95% CI 0.87-0.99) but not in severe postpartum hemorrhage or blood loss ≥ 1000 ml (23441 participants,
RR 0.76 95% CI 0.76-1.09). It was also found out that controlled cord traction does not increase the risk of maternal death or serious maternal morbidity (23232 participants, RR 0.65 95% CI 0.37-1.13) and the need for additional or therapeutic uterotonics (23585 participants, RR 1.02 95% CI 0.97-1.07).

**RECOMMENDATION**

In women in the third stage of labor after vaginal birth, controlled cord traction is recommended.

**STRONG Recommendation-HIGH Quality of Evidence**

**Remarks**

Evidence shows that controlled cord traction has little effect on the reduction of postpartum hemorrhage. However, because evidence shows that the procedure is safe, the routine use of this intervention is not discouraged.

**References**


**12. Uterine massage for the third stage of labor**

Evidence concerning the use of uterine massage comes from a systematic review which included a single randomized controlled trial conducted in a teaching hospital in a developing country. Two hundred women who delivered vaginally and subsequently received active management during the third stage of labor, including the routine use of 10 units oxytocin, were randomly allocated to receive uterine massage (every 10 minutes for 60 minutes) versus no uterine massage. The study had a small sample size. The mean blood loss at 60 minutes after delivery was lower in the uterine massage group (MD -77.40 ml, 95% CI -118.71 ml to -36.09 ml) and the need for therapeutic uterotonics was reduced in the uterine massage group (RR 0.20, 95% CI 0.08-0.50). There was no significant difference in the risk for blood loss ≥ 500 ml between those who received uterine massage and those who received usual care (RR 0.52, 95% CI 0.16 to 1.67). There were no cases of retained placenta in the study.
RECOMMENDATION

Uterine massage after placental delivery is recommended.

STRONG Recommendation-MODERATE Quality of Evidence

Remarks

The guideline panel felt that despite the limited data on the effect of uterine massage on severe postpartum hemorrhage and retained placenta, uterine massage should still be recommended. This decision placed a high value on the modest reduction in blood loss and decreased need for therapeutic uterotonics with the use of the intervention. Furthermore, the intervention is simple, inexpensive and can be applied in any setting.

More studies with sufficient numbers of subjects are needed to get a clearer picture of the effects of sustained uterine massage on the incidence of severe postpartum hemorrhage and retained placenta.

Reference


13. Suture material for repair of episiotomy and lacerations

Evidence for this intervention was derived from a Cochrane review of 18 trials with 10,171 women. Outcomes considered important were short-term and long-term pain, analgesia use, superficial wound dehiscence, dyspareunia, resuturing of wound and need for removal of suture material.

Synthetic absorbable sutures material (which includes Dexon, Vicryl and Vicryl Rapide) was associated with less short-term pain at day 3 or less (RR 0.83 95% CI 0.76 to 0.90) based on pooled analysis of 9 trials (n=4,017). Analgesia use was also reduced with synthetic absorbable sutures compared to chromic catgut (5 trials, n=2820, RR = 0.71, 95% CI 0.59 to 0.87). Likewise, the risk of wound dehiscence was less likely to be encountered with absorbable sutures (RR = 0.58, 95% CI 0.36 to 0.94) compared with chromic catgut in a pooled analysis of 4 trials (n=2219). However, the need for suture removal at 3 months was higher with absorbable sutures (RR 1.81, 95% CI 1.46 to 2.24) based on pooled analysis of 3 high quality trials (n=2520).

Pooled analysis of 4 low quality trials (n=2402) showed that more women with catgut sutures required resuturing compared with synthetic sutures (RR=0.25 95%CI 0.08 to 0.74).
There was no significant difference between groups for long term pain at 3 months (RR 0.86, 95% CI 0.68 to 1.09, 4 trials n=2525) and dyspareunia at 3 months (RR 0.93, 95% CI 0.70, 1.24, 5 trials n=2506) however more than 15 % of women, irrespective of materials used, reported painful sexual intercourse three months after delivery.

**RECOMMENDATION**

The use of absorbable synthetic suture materials (over chromic catgut) for primary repair of episiotomy or perineal lacerations is recommended.

**STRONG Recommendation- LOW Quality of Evidence**

Remarks

Plain catgut is manufactured from collagen derived from the intestines of healthy mammals (sheep and cows). It reportedly causes an inflammatory response in the tissues due to proteolytic breakdown and phagocytosis. Catgut treated with chromic salts (chromic catgut) and impregnated with glycerol (Softgut) were innovations that were introduced to circumvent problems found in the original plain catgut.

The guideline panel recognizes that the cost of absorbable synthetic sutures may limit its widespread use.

**Reference**


**III. POSTPARTUM INTERVENTIONS**

1. Icepack over the hypogastrium in the immediate postpartum period

A thorough search of both the Pubmed and Cochrane database done on April 15, 2012 found no studies addressing the use of ice/cold packs nor cold compresses in the immediate postpartum period among patients who underwent vaginal delivery.
RECOMMENDATION

Routine use of icepacks over the hypogastrium in the immediate postpartum period is NOT recommended.

STRONG Recommendation-NO evidence

Remarks

The guideline panel identified the following critical outcomes related to the use of icepacks: postpartum hemorrhage, uterine atony, need for blood transfusion, need for additional uterotonics, need for surgical interventions to control bleeding and neonatal hypothermia.

Although there were no studies to provide information on the effect of applying icepacks over the hypogastrium in the postpartum period, the guideline panel felt strongly that the practice should not be encouraged.

Skin to skin contact between mother and baby at birth and early initiation of breast feeding are considered to be part and parcel of good practice in all birthing facilities within the country. Applying icepacks over the mother’s hypogastrium may increase the risk of infant hypothermia and offset the thermoregulatory benefits of skin to skin contact.

2. Resumption of feeding after vaginal delivery

A thorough search of both the Pubmed and Cochrane database done on April 15, 2012 yielded no studies to provide evidence on the optimal time to resume feeding in women who delivered vaginally.

RECOMMENDATION

Among postpartum women who delivered vaginally, early (<6 hours after delivery) resumption of feeding is recommended.

STRONG Recommendation-NO Evidence

Remarks

The following were critical outcomes related to the optimal time to resume feeding in women who delivered vaginally: improved wound healing, early return of bowel movement, breastfeeding/latching and reduction of unfavorable outcomes (DVT, pneumonia, other thromboembolic phenomenon).

Although there was no available evidence on the optimal time to resume feeding in women who delivered vaginally, the guideline panel did not foresee any significant detrimental effects in resuming feeding early.
There is a need to undertake studies on the optimal time to resume feeding in postpartum women who delivered vaginally.

3. Use of methylergometrine in the postpartum

Evidence related to the use of oral methylergometrine during the postpartum period among patients delivered vaginally came from one randomized controlled trial.

The study randomly assigned 217 women to receive either 0.125 mg tablet of methylergometrine orally thrice a day for 3 days and compared it against placebo. Results showed that there was no significant difference between the two groups in terms of the need for analgesics (RR 1.21, 95% CI 0.89 to 1.65), and length of hospital stay (median stay: 5 days for both groups).

None of controls and only one patient in the treatment group had postpartum hemorrhage (RR inestimable).

The study did not investigate on the outcomes of hypertension and on breast feeding rate.

Evidence from the study needs to be interpreted with caution. The study had a small sample size and may possibly be underpowered to detect differences between the two groups being compared.

RECOMMENDATION

Among postpartum women who delivered vaginally, oral methylergometrine is NOT recommended.

STRONG Recommendation-MODERATE Quality of Evidence

Remarks

Based on only one study with a small sample size, there is limited evidence on the effect of routine administration of oral methylergometrine.

Further studies are needed to determine the effectiveness of administering methylergometrine among postpartum patients who delivered vaginally.

Reference

4. Postpartum prophylactic antibiotics

Evidence on the effect of routine postpartum antibiotic use after vaginal delivery was obtained from a Cochrane review in 2010; there was only one randomized trial that was included. This trial had 147 participants studying the effect of prophylactic antibiotics (single intravenous dose of a second-generation cephalosporin) on women with third or fourth degree perineal tears after delivery. Wound disruption and the occurrence of purulent discharge at 2-week postpartum visit in the treatment group was 8.20%, while it was 24.10% in the control group (risk ratio 0.34, 95% confidence interval 0.12 to 0.96).

From the data gathered, it is shown that prophylactic antimicrobial administration helps prevent postpartum wound infection after a third- or fourth-degree perineal tear.

Data obtained from this one trial should be interpreted with caution since there was high rate of loss to follow up among the subjects included. Further studies are thus needed in this area.

**RECOMMENDATION**

**Prophylactic antibiotics are recommended for women who sustained a third or fourth degree perineal tear during vaginal delivery.**

**STRONG Recommendation-Moderate Quality of Evidence**

**Remarks**

Antibiotics should only be administered to patients in whom there are no known contraindications.

Third and fourth degree perineal tears are treated in tertiary centers. In such settings, intravenous access (IV) is readily established. A single dose, IV prophylactic antibiotic is ideal in that it would obviate the need for prolonged admission and would circumvent issues of antibiotic compliance after discharge.

Further studies with larger sample sizes are needed to elucidate the effectiveness of postpartum prophylactic antibiotics. Best evidence would come from studies that delve into the cost effectiveness of different types of antibiotics and their corresponding route of administration and optimal dosing.
5. Early vs. Late postpartum discharge

Evidence related to timing of postpartum discharge in healthy women who delivered vaginally were extracted from one Cochrane systematic review of 10 randomized controlled trials involving 4489 women.

Early postpartum discharge was defined in the study as “earlier than standard care”. Standard care in the settings where the studies were conducted ranged from 24 hours to four days.

Study participants were women who delivered to term infants ≥ 2500 grams who received standard care from their hospital.

There was no significant difference between the early and late discharge groups in terms of Maternal readmissions for complications related to childbirth (excludes those who underwent unplanned CS) (RR 1.29, 95% CI 0.59 to 2.8), maternal depression/anxiety (RR 0.66, 95% CI 0.39 to 1.12), rates of breastfeeding in the first 8 weeks postpartum (RR 0.90, 95% CI 0.76 to 1.06) and infant feeding problems (RR 0.89, 95% CI 0.51 to 2.4)

There was no available data on the effect of the timing of hospital discharge in relation the rates of neonatal readmission.

**RECOMMENDATION**

In healthy women who delivered vaginally to term infants, early postpartum discharge is recommended.

**STRONG Recommendation-LOW Quality Evidence**

**Remarks**

Studies that investigate the effect of early postpartum discharge on neonatal morbidity requiring readmission need to be undertaken in order to guide policy decisions, taking into account costs and benefits of early postpartum discharge for both the mother and the neonate.
Reference


RESEARCH IMPLICATIONS

Various knowledge gaps on interventions for low-risk women who delivered vaginally were identified in the course of developing this guideline.

Although there are planned or ongoing researches addressing some of the identified research gaps, they are still listed here as there is no certainty that these planned researches would reach completion and yield conclusive results.

The evidence base required for a number of recommendations concerning the choice of drug, timing of administration, and optimal dosage of drugs are limited. Since conducting primary research to answer these questions would require large sample sizes and extensive funding requirements, it may be more feasible to pool results from smaller studies using meta-analysis.

Research gaps:

♦ Timing of admission to labor room (active phase vs. latent phase of labor) on neonatal outcomes

♦ Coached vs. spontaneous pushing in parturients without epidural anesthesia on the following outcomes: duration of the 2nd stage of labor, instrumental delivery (forceps and vacuum deliveries, and cesarean section), 5 minute apgar < 7, bladder atony and pelvic organ prolapse

♦ Use of the WHO partograph vs. non-use of the WHO partograph on the following outcomes: maternal death, perinatal death, postpartum hemorrhage, birth injuries to the infant

♦ Use of the two-hour action line vs. the four-hour action line of the WHO partograph on the following outcomes: maternal death, perinatal death, maternal infection and neonatal birth injuries

♦ Effectiveness of massage during labor in terms of the following outcomes: satisfaction with pain relief, rate of assisted vaginal birth, rate of caesarean section, length of labor, rate of NICU admissions

♦ Perineal massage (vs. hands off approach) on the following outcomes: perineal edema, wound infection, wound dehiscence and neonatal infection
♦ Timing of prophylactic uterotonic administration (after delivery of placenta vs. before delivery of the placenta) on neonatal outcomes

♦ Route of administration of prophylactic uterotonics (intramuscular vs. intravenous) during the third stage of labor and its effect on maternal and neonatal outcomes

♦ Effect of uterine massage (vs. no uterine massage) on the incidence of severe postpartum hemorrhage and retained placenta

♦ Optimal time to resume feeding in postpartum women who delivered vaginally in terms of the following outcomes: rate of wound healing, return of bowel movement, breastfeeding/latching, DVT, pneumonia, other thromboembolic phenomenon

♦ Effectiveness of administering methylergometrine among postpartum patients who delivered vaginally on the following outcomes: postpartum hemorrhage, need for analgesia, length of hospital stay, maternal hypertension and breastfeeding rates

♦ Postpartum antibiotics
  o Choice and dosing of prophylactic postpartum antibiotics on neonatal and maternal outcomes
  o Cost effectiveness of different prophylactic antibiotic regimens (taking into account type of drug, route of administration and optimal dosing)

♦ Timing of postpartum discharge
  o Effect of timing of postpartum discharge on neonatal morbidity that requires readmission
  o Cost effectiveness of early postpartum discharge (taking into account both maternal and neonatal costs and outcomes)