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No. 148-Guidelines for Operative Vaginal Birth

This guideline has been prepared and reviewed by the Clinical Practice Obstetrics Committee and approved by Executive and Council of the Society of Obstetricians and Gynaecologists of Canada.

Yvonne M. Cargill, MD, Ottawa, ON

Catherine Jane MacKinnon, MD, Brantford, ON

Clinical Practice Obstetrics Committee: Catherine Jane MacKinnon (Chair), MD, Brantford, ON Marc-Yvon Arsenault, MD, Montréal, QC; Elias Bartellas, MD, St. John's, NL; Yvonne M. Cargill, MD, Ottawa, ON; Sue Daniels,RN,Dartmouth, NS; Tom Gleason, MD, Edmonton, AB; Stuart Iglesias, MD, Gibsons, BC; Michael C. Klein, MD,Vancouver, BC; Carolyn A. Lane, MD, Calgary, AB; Marie-Jocelyne Martel, MD, Saskatoon, SK; Ann E. Sprague, RNC, BN, MEd, Ottawa, ON; Ann Roggensack, MD,Kingston, ON; Ann Kathleen Wilson, BHSc,RM, Ilderton, ON.

Key Words: Vacuum extraction delivery, obstetrical forceps delivery, operative birth, Caesarean section, second stage of labour

Abstract

Objective: To provide guidelines for operative vaginal birth in the management of the second stage of labour.

Options: Non-operative techniques, episiotomy, and Caesarean section are compared to operative vaginal birth.

Outcome: Reduced fetal and maternal morbidity and mortality.

Evidence: MEDLINE and Cochrane databases were searched using the key words ''vacuum" and "birth" as well as "forceps" and "birth" for literature published in English from january 1970 to June 2004. The level of evidence and quality of rec-ommendations made are described using the Evaluation of Evidence from the Canadian Task Force on the Periodic Health Examination.

Recommendations:

1. Non-operative interventions such as one-to-one support, par- togram use, oxytocin use, and delayed pushing in women using epidurals will decrease need for operative birth (I-A).
2. Manual rotation may be used alone or in conjunction with instrumental birth with little or no increased risk to the preg-nant woman or to the fetus (III-B).
3. Routine episiotomy is not necessary for an assisted vaginal birth (II-lE).
4. When operative intervention in the second stage of labour is required, the options, risks, and benefits of vacuum, forceps, and Caesarean section must be considered. The choice of intervention needs to be individualized, as one is not clearly safer or more effective than the other (II-B).
5. Failure of the chosen method, vacuum and/or forceps, to achieve delivery of the fetus in a reasonable time should be considered an indication for abandonment of the method (III-C).
6. Adequate clinical experience and appropriate training of the operator are essential to the safe performance of operative deliveries. Hospital credentialing boards should grant privileges for performing these techniques only to an appropriately trained individual who demonstrates adequate skills (III-C).

Validation: The Clinical Practice Obstetrics Committee and Executive and Council of the Society of Obstetricians and Gynaecologists of Canada approved these guidelines.

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Table 1. Key to evidence statements and grading of recommendations, using the ranking of the Canadian Task Force on Preventive Health Care

Quality of evidence assessment[a]	Classification of recommendations[b]
I: Evidence obtained from at least one properly randomized controlled trial II-1: Evidence from well-designed controlled trials without randomization II-2: Evidence from well-designed cohort (prospective or retrospective) or case-control studies, preferably from more than one centre or research group II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in the category III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees	A. There is good evidence to recommend the clinical preventive action B. There is fair evidence to recommend the clinical preventive action C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making D. There is fair evidence to recommend against the clinical preventive action E. There is good evidence to recommend against the clinical preventive action

[a]The quality of evidence reported in these guidelines has been adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

[b]Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in The Canadian Task Force on Preventive Health Care.

OPERATIVE VAGINAL BIRTH

Obstetrical-care providers frequendy face dilemmas in the management of the second stage of labour. The decision as to whether or not a particular birth requires assistance and the choice and timing of any intervention must involve consideration of the risks of the potential techniques and the skills of the operator, as well as the urgency of the need to expedite the birth process.

Operative vaginal birth refers to forceps- or vacuum-assisted delivery. Manual rotation, episiotomy, and, rarely, symphysiotomy can also be used to effect a vaginal birth. Caesarean section is the surgical alternative to operative vaginal birth. Experts often provide conflicting evidence for and against the use of these procedures.[1,2]

The literature discussing the use of vacuum and forceps includes prospective randomized trials comparing the outcomes after forceps- and vacuum-assisted birth.[3–6] These trials do not use the same inclusion criteria, the same instruments, or look at the same outcomes, making comparison of these 2 techniques difficult. Neonatal mortality and serious morbidity related to spontaneous vaginal birth, vacuum or forceps, or Caesarean section have been reviewed in a large retrospective study.[7] None of these prospective[3–6] or retrospective[7] studies discuss specifics of the technique used for vacuum or forceps procedures, the time required, or the criteria for abandonment of the procedure.

The quality of evidence and classification of recommendations reported in this guideline have been described using the Evaluation of Evidence criteria outlined in the Report of the Canadian Task Force on the Preventive Health Exam (Table 1).[8]

Indications for Operative Vaginal Birth

Operative intervention in the second stage of labour may be indicated by conditions of the fetus or of the mother (Table 2). In cases of non-reassuring fetal status, operative delivery may prevent hypoxic brain damage[9] or fetal death.[9] Maternal indications include congestive heart failure[9] or cerebral vascular malformations.[9] Operative procedures may also be indicated for inadequate progress in labour[9]; in these cases, it is extremely important to ensure there is in fact adequate uterine activity.[10]

Non-Operative Practices That Decrease the Need for Operative Birth

Several non-operative interventions have been shown to decrease the need for operative birth. One such intervention is the involvement of one-to-one birth attendants, who provide care during labour and birth.[11] Such attendants were described as experienced, continuously present, and able to

Table 2. Indications for operative vaginal birth

Fetal
• non-reassuring fetal status
Maternal
• medical indications to avoid valsalva (e.g., cerebral vascular disease, cardiac conditions)
Inadequate progress
• adequate uterine activity documented
• no evidence of cephalopelvic disproportion
• lack of effective maternal effort