“Reducing the Risks of Vacuum-Assisted Deliveries—
A Practical Approach”
Lecture Outline

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Speaker: Dr. Ross W. McQuivey is the Medical Director and consulting physician for Clinical Innovations, Inc. He is also an Adjunct Clinical Faculty Member of Stanford University Hospital’s Department of Obstetrics & Gynecology. He has served as a visiting professor in the Port Moresby General Hospital (Papua New Guinea) as an outreach obstetrician and working directly with Dr. Aldo Vacca. He is dedicated to improving women and children’s healthcare. He leads Clinical Innovation’s educational efforts and assists in the research, design and clinical testing of new products. Dr. McQuivey completed his undergraduate degree from Stanford University and did his medical school and residency training in Obstetrics and Gynecology at the University of Utah. During his residency, he was twice recognized for excellence in teaching. Dr. McQuivey has been published several times on vacuum delivery. He has provided educational seminars on vacuum-assisted delivery to physicians around the world.

I. Objectives:
   a. Cite indications and contraindications for vacuum delivery;
   b. Identify obstetrical factors that influence the outcome of vacuum delivery;
   c. Discuss anatomical principles, clinical reasoning, and technical skills required for the use of vacuum delivery;
   d. Compare and contrast the efficacy of the vacuum products available;
   e. Identify when to abandon the procedure

II. History of Vacuum Use
   a. Introduction of VAVD
      a. 1998 FDA Public Health Advisory
      b. Changing face of operative delivery trends

III. Indications and Contraindications to Operative Vaginal Deliveries
   a. Prerequisites—proper patient selection
   b. Indications
      i. Prolonged second stages of labor
      ii. NRFHT
      iii. Maternal benefit
   c. Contraindications
      i. Prematurity
      ii. Known bone demineralization or bleeding disorder
      iii. Non-vertex presentation
      iv. Unknown position
      v. Fetal head not engaged
IV. Complications of the Vacuum Device
   a. Neonatal
      i. Effects: chignon, abrasion, bruising, laceration, cephalohematoma
      ii. Complications: subgaleal hemorrhage, intercranial hemorrhage, skull fractures
   b. Can these be avoided?
      i. The Flexion Point
      ii. Different cups
         1. rigid vs. soft
         2. benefits and disadvantages

V. Proper Technique
   i. Flexion Point
      1. 3cm anterior of posterior fontanelle along sagittal suture
      2. promotes flexion
      3. limits asynclitism
      4. optimal diameters = least amount of force
   ii. Axis traction
      1. Two-handed technique
      2. How hard is too hard?
   iii. Decreasing vacuum between contractions
   iv. Decreasing numbers of pop-offs (detachments)
   v. Auto-rotation

VI. Perineal Preservation? Vacuum vs Forceps
   i. Less perineal trauma associated with VAVD
   ii. Less anaesthetic requirements
   iii. Does that lead to better outcomes?
      1. short-term—literature
      2. long-term—recent literature

VII. Knowing when to say “when”
   a. Knowing when to say “when”
      i. No more than 2 pop-offs(?)
      ii. Progress made with EACH pull
      iii. No longer than 20 minutes
      iv. No more than 3 pulls(?)
      v. What to do after a failed VAVD?

VIII. Discussion

IX. Products mentioned
   a. “Kiwi Omni-Cup and Pro-Cup” Clinical Innovations, Inc.
   b. “Mystic, Mityvac M-Style, MitySoft Bell-Style” Cooper Surgical, Inc.
   c. “Soft-Touch, Velvet-Touch, Secure Cup” Utah Medical Products, Inc.
   d. “Silc Cup”; Multiple Manufacturers
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