Fast Facts for the L&D Nurse

Labor and Delivery Orientation in a Nutshell

Second Edition

Cassie Giles Groll
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Kathryn “Cassie” Giles Groll, DNP, CNM, is a doctorally prepared, certified nurse midwife, who is part of a full-scope OB/GYN private practice in New Jersey. She earned her master's degree in nursing and doctoral degree from the University of Medicine and Dentistry of New Jersey. She is licensed in both New Jersey and New York as a certified nurse midwife with prescriptive authority and as an OB/GYN nurse practitioner in the state of New York. She has worked as a midwife since 2006 and clinically as an RN in obstetrics in a variety of capacities, including as a clinical instructor of obstetrics at Columbia University, New York, and in the high-risk women's health float pool at New York-Presbyterian/Weill Cornell Medical Center, New York. She is a member of the American College of Nurse-Midwives, the Medical History Society of New Jersey, and Sigma Theta Tau International Honor Society of Nursing. She has served as an advocate for sexual assault victims in Somerset, New Jersey.
FAST FACTS FOR
THE L&D NURSE

Labor & Delivery Orientation in a Nutshell

Second Edition

Cassie Giles Groll, DNP, CNM
This book is dedicated to my children, Cooper and Charlotte. You have both brought me so much happiness and laughter. I cannot imagine my world without you. I live and breathe every second for our next hug. I am so proud of you and the little people you have become. And to my husband, Chris, without whose undying support and immense patience, nothing would be possible. I love you! Also to my parents, who have supported me so that I could have everything I have today. Thank you!
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Preface

The second edition of this book continues to provide basic information pertaining to standard obstetric practices commonly seen in labor and delivery (L&D). Its intent is to reduce the amount of basic questions new nurses need to ask coworkers, allowing the senior staff to focus on more emergent questions new nurses may have. This allows new nurses a comfortable independence and confidence in their new environment.

As with the first edition, the purpose of this book is not to overwhelm the nurse with information, but to provide a tool that is simple in use and format. It provides clear instructions on what to do, equipment needed, and whom to call in the event of an emergency. It does not take the place of practitioner orders or institutional guidelines.

As the face of medicine changes, the need to use the term provider instead of physician or doctor is indicated. Certified nurse midwives are gaining more and more popularity in the obstetric community, including in private midwifery practices and private physicians' offices. There is much misunderstanding of what exactly a certified nurse midwife does and what the scope of practice is. A certified nurse midwife is a highly skilled, uniquely trained nurse in the field of normal obstetrics and gynecology. He or she can order drugs, deliver babies, and do in-office and L&D procedures, as well as assist in surgery. In many hospitals, midwives help train
PREFACE

the residents. Most midwives who deliver out of hospitals believe in pain medications for their patients and are highly skilled in emergency situations. They have achieved a postgraduate education, and many of them hold doctoral degrees in the field of nursing or other health-related fields. The regulations and scope of practice vary from state to state, and if you have any questions about what midwives can do on your unit, be sure to ask senior nursing staff or consult your institutional protocols.

This second edition provides clinical updates to important topics such as effacement, cesarean delivery, ultrasound, phases of labor, definition of gestational age and delivery indications, and others. The second edition introduces a new chapter on meconium and its significance as an emergent practice condition. New illustrations are introduced that depict and facilitate understanding of effacement and dilatation of the cervix, breech presentation and delivery, umbilical cord prolapse, placental abruption, and others, and additional clinical practice information is highlighted in “Fast Facts in a Nutshell” boxes. There are also two new and useful appendices: a quick-reference appendix for most commonly referenced clinical charts and tables, and an additional new appendix containing an alphabetically ordered synopsis of important drug-related information with L&D and nursing implications.

A special note to the nurses who use this guide: It is a great responsibility to be an L&D nurse. Although there are days you will forget and will see that day as just another day at work, remember it is one of the most amazing days in the life of your patient and that she should be met and guided through this process with the same enthusiasm you would want surrounding the birth of your own child. It is also important to remember that as a new life enters this world, he or she should be greeted with love and joyfulness, with profound happiness that he or she is here. You should always be humbled by the fact that it is a privilege to be part of a miracle.

Cassie Giles Groll
I want to express my deepest gratitude to Dr. Elaine Diegmann, CNM, ND, and Dr. Labib Riachi, MD. Elaine, thank you for believing in me and teaching me how to be a midwife. You have given me the most amazing gift: the ability to partake in a miracle. I am extraordinarily lucky to have been your student. Special thanks to my friend and mentor, Dr. Riachi, who through the years has been more than generous with his time and expertise.

This book would not have been possible without my expert panel: Dr. Elaine Diegmann, CNM, ND; Dr. Labib Riachi, MD; Dr. Ginette Lange, CNM, PhD; Dr. Joyce Hyatt, CNM, DNP; Ruth Monchek, CNM; and Dr. Russell Hoffman, MD. Your input and immense knowledge were invaluable to this process.

To my friend, Dr. Rachel Behrendt, DNP, I thank you for graciously offering your expertise in proofreading.

And finally, thanks to my husband, Chris, for volunteering to help with the medical illustrations. Your talent is beyond words and has made this book visually beautiful. Thank you!
PART I

General Orientation and Labor and Delivery Overview

This section presents common occurrences of labor and delivery (L&D). It covers definitions, everyday terminology, and common actions with which you should become totally familiar. The section presents a review of medications you may come in contact with on a daily basis, including its indication and common dosages. Remember, in the L&D unit, you have two patients and your actions must take both patients into account.
MEDICATIONS TO KNOW

- Betamethasone (Celestone)
- Butorphanol (Stadol)
- Calcium gluconate
- Carboprost (Hemabate)
- Citric acid/sodium citrate (Bicitra)
- Dexamethasone
- Dinoprostone (Cervidil)
- Ephedrine
- Erythromycin (erythromycin ophthalmic) ointment
- Hydralazine
- Indomethacin (Indocin)
- Insulin
- Labetalol (Trandate)
- Lidocaine (Xylocaine)
- Magnesium sulfate
- Meperidine (Demerol)
- Methylergonovine (Methergine)
- Misoprostol (Cytotec)
- Morphine
- Nalbuphine (Nubain)
- Naloxone
- Nifedipine (Procardia)
- Oxytocin (Pitocin)
- Promethazine (Phenergan)
- Rh\textsubscript{D} immunoglobulin, human (IGIM) (RhoGAM)
- Terbutaline
- Vitamin K (phytonadione)

ABBREVIATIONS TO LEARN

- AFI—amniotic fluid index
- AFP—alpha fetoprotein
- AROM—artificial rupture of membranes
- CVS—chorionic villa sampling
- DKA—diabetic ketoacidosis
• EDC—estimated date of confinement
• EFW—estimated fetal weight
• FHR—fetal heart rate
• GBS—group B streptococcus
• GC/CT—gonorrhea/Chlamydia trachomatis
• GDM—gestational diabetes mellitus
• HBsAg—hepatitis B surface antigen
• ISE—internal scalp electrode
• I UPC—intrauterine pressure catheter
• IUFD—intrauterine fetal demise
• LGA/SGA—large for gestational age/small for gestational age
• LMP—last menstrual period
• MVU—Montevideo units
• NSVD—normal spontaneous vaginal delivery
• PPROM—preterm premature rupture of membranes
• ROM—rupture of membranes
• SROM—spontaneous rupture of membranes
• Toco—tocodynamometer
• UCX—uterine contractions
• U/S—ultrasound
• VBAC—vaginal birth after cesarean section

EQUIPMENT TO LOCATE AND BECOME FAMILIAR WITH

• Compression boots
• Electrosurgery hookup
• Infant pulse oximeter
• Infant warmer
• Infusion pump
• Nitrazine paper
• Pulse oximeter
• Speculum
• Suction hookup
• Tenaculum
• Umbilical cord clamp
• Surgical instruments
• Ring forceps
• T-clamps
• Allis clamps
• Kochers
• Curved Kellys
• Straight Halsteds
• Tube occluding forceps
• Lap sponges
• Bovie tip
• Blades
• Needle holders
• Towel clips
• Scissors
• Forceps
• Scalpels
• Self-retaining retractors
• Suction tips
AMNIOTIC FLUID

Composed mostly of fetal urine; the volume differs depending on gestation age. It protects and cushions the fetus as well as contributing to GI tract and lung maturity and development.

AMNIOTIC FLUID INDEX (AFI)

- U/S is used to measure AFI.
- Abdomen is divided into four quadrants, and largest pocket of fluid in each quadrant is measured.
- At least one pocket of fluid needs to be $2 \times 2$ cm or greater or AFI total greater than 5.
- No cord or fetal parts should be present in pocket.
- Normal index is greater than 5 and less than 24 cm at term.

OLIGOHYDRAMNIOS—AFI LESS THAN 5 CM AT TERM

Causes

- ROM
- Genitourinary malformation
- Postdates
- Placental insufficiency

Risks

- Prolonged ROM may lead to infection
- Continued oligohydramnios may cause malformation
- Cord compression leading to fetal hypoxia (nonreassuring tracing)
- Fetal demise
**Interventions**

- IV fluids for mother
- Antibiotics if preterm
- Induction of labor if term

If patient is in labor, continuous fetal monitoring is possible by amniinfusion.

**POLYHYDRAMNIOS—AFI GREATER THAN 24 CM AT TERM**

**Causes**

- Diabetes mellitus
- Maternal substance abuse
- Tracheoesophageal malformation
- Neural tube defects
- Chromosomal abnormalities
- Twin-to-twin transfusion syndrome

**Risks**

- Unstable lie of fetus
- Cord prolapse with SROM or AROM

**Interventions**

- In labor
  - Controlled AROM (needle point) to prevent SROM
  - U/S for fetal lie if patient is in labor
- If preterm
  - Amnioreduction
  - Indomethacin (Indocin) 25 mg PO q 6 hr × 48 hr to reduce fetal urine production
ASSESSMENT OF RUPTURE OF MEMBRANES (ROM)

Visual

- Sterile speculum inserted into vagina
  - Pooling of fluid noted at fornix of cervix or in vaginal vault
- If unsure, patient should cough to visualize escape of fluid from cervix

Ferning

- Sterile speculum inserted into vagina
  - Use cotton swab to obtain fluid.
  - Smear on slide.
- If positive ROM, ferning pattern will be seen under microscope

pH Balance Assessment

- Sterile speculum inserted into vagina
  - Touch nitrazine paper to noted fluid
  - Normal vaginal pH when pregnant is less than 4.5
  - Amniotic fluid pH is less than 7.0
- Nitrazine paper/swab changes color to blue at pH less than 7.0

  Note: Some vaginal infections can cause vaginal pH to reach levels of 7.0 or greater.

Amniotic Fluid Protein

- Obtain before vaginal exam
  - No speculum necessary
I. GENERAL ORIENTATION AND LABOR AND DELIVERY OVERVIEW

- Insert swab into vagina
- If placental alpha microglobulin-1 is present, test will be positive for ROM
- Follow directions for specific product used by individual institution

SOURCES


