Chapter 1

Introduction

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CAUSES AND PREVENTION OF LABOR DYSTOCIA: A SYSTEMATIC APPROACH

Labor dystocia, *dysfunctional labor, failure to progress*, *arrest of labor, arrested descent*—all these terms refer to slow or no progress in labor, which is one of the most vexing, complex, and unpredictable complications of labor. Labor dystocia is the most common medical indication for primary cesarean sections. Dystocia also contributes indirectly to the number of repeat cesareans, especially in countries where rates of vaginal births after previous cesareans (VBAC) are low. In fact, the American College of Obstetricians and Gynecologists (ACOG) estimates that 60% of all cesareans (primary and repeat) in the United States are attributable to the diagnosis of dystocia.[1] Thus, preventing primary cesareans for dystocia enables the number of repeat cesareans to be brought down by a comparable number. The prevention of dystocia also reduces the need for many other costly and risky corrective obstetric measures, and spares numerous women from the discouragement and disappointment that often accompany a prolonged or complicated birth.

The possible causes of labor dystocia are numerous. Some are intrinsic:

- The *powers* (the uterine contractions).
- The *passage* (size, shape, and joint mobility of the pelvis and the stretch and resilience of the vaginal canal).
- The *passenger* (size and shape of fetal head, fetal presentation and position).
- The *pain* (and the woman's ability to cope with it).
- The *psyche* (anxiety, emotional state of the woman).

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Others are extrinsic:

- *Environment* (the feelings of physical and emotional safety generated by the setting and the people surrounding the woman).
- *Ethno-cultural* factors (the degree of sensitivity and respect for the woman's culture-based needs and preferences).
- *Hospital or caregiver policies* (how flexible, family- or woman-centered, how evidence-based).
- *Psycho-emotional care* (the priority given to non-medical aspects of the childbirth experience).

The Labor Progress Handbook focuses on prevention, differential diagnosis, and early interventions to use with dysfunctional labor (dystocia). The emphasis is on relatively simple and sensible care measures or interventions designed to help maintain normal labor progress, and to manage and correct minor complications before they become serious enough to require major interventions. We believe this approach is consistent with worldwide efforts, including those of the World Health Organization, to reserve the use of medical interventions for situations in which they are needed: "The aim of the care [in normal birth] is to achieve a healthy mother and baby with the least possible level of intervention that is compatible with safety."[2]

The suggestions in this book are based on the following premises:

- Progress may slow or stop for any of a number of reasons at any time in labor—prelabor, early labor, active labor, or during the second or third stage.
- The timing of the delay is an important consideration when establishing cause and selecting interventions.
- Sometimes several causal factors occur at one time.
- Caregivers and others are often able to enhance or maintain labor progress with simple non-surgical, non-pharmacological physical and psychological interventions. Such interventions have the following advantages:
  - compared to most obstetric interventions for dystocia, they carry less risk of harm or undesirable side effects to mother or baby;
  - they treat the woman as the key to the solution, not the key to the problem;
  - they build or strengthen the cooperation between the woman, her support people (loved ones, doula), and her caregivers;
  - they reduce the need for riskier, costlier, more complex interventions;
  - they may increase the woman's emotional satisfaction with her experience of birth.
- The choice of solutions depends on the causal factors, if known, but trial and error is sometimes necessary when the cause is unclear. The greatest drawbacks are that the woman may not want to try these interventions; they sometimes take time; or they may not correct the problem.
- Time is usually an ally, not an enemy. With time, many problems in labor progress are resolved. In the absence of clear medical or psychological contraindications, patience, reassurance, and low- or no-risk interventions may constitute the most appropriate course of management.
- The caregiver may use the following to determine the cause of the problem(s):
  - *objective observations*: woman's vital signs; fetal heart rate patterns; fetal presentation, position, and size; cervical assessments; assessments

of contraction strength, frequency, and duration; membrane status; and time;
- *subjective observations*: woman's affect, description of pain, level of fatigue, ability to cope using self-calming techniques;
- *direct questions* of the woman and collaboration with her in decisions regarding treatment:
  "What was going through your mind during that contraction?"
  "Please rate your pain during your previous contraction."
  "Why do you think labor has slowed down?"
  "Which options for treatment do you prefer?"

• Once the probable cause and the woman's perceptions and views are determined, appropriate primary interventions are instituted and labor progress is further observed. The problem may be solved with no further interventions.

Chart 1.1 illustrates the step by step approach followed in this book—from detection of little or no labor progress through graduating levels of interventions (from simple to complex) to correct the problem.

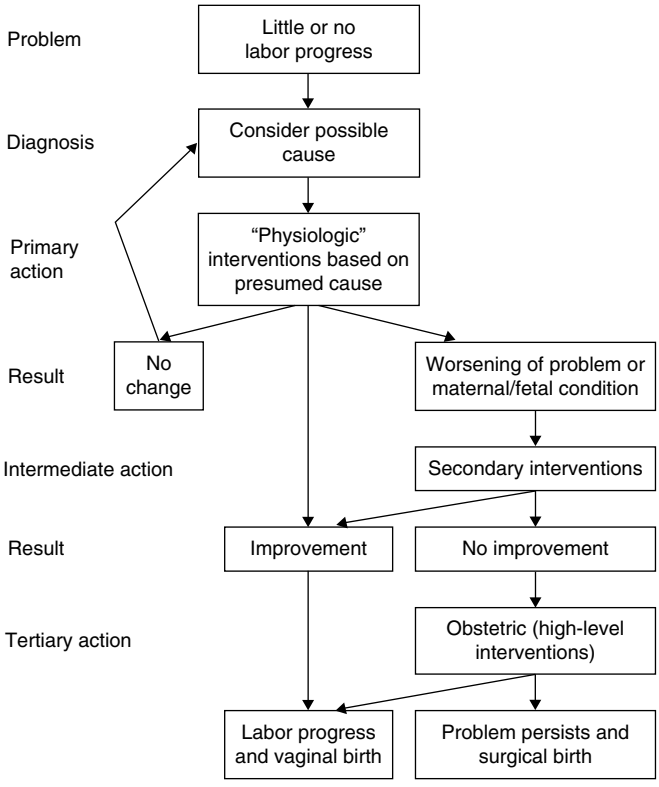

Chart 1.1. Care plan for the problem of "little or no labor progress."

If the primary physiologic interventions are medically contraindicated or if they are unsuccessful, then secondary—relatively low-technology—interventions are utilized, and only if those are unsuccessful are the tertiary, high-technology obstetrical interventions instituted under the guidance of the physician or midwife. Other similar flow charts appear throughout this book showing how to apply this approach to a variety of specific causes of dysfunctional labor.

Many of the interventions described here are derived from the medical, midwifery, nursing, and childbirth education literature. Others come from the psychology, sociology, and anthropology literature. We have provided references for these, when available. Suggestions have also come from the extensive wisdom and experience of nurses, midwives, physicians, and doulas (labor support providers). Many are applications of physical therapy principles and practices. The fields of therapeutic massage and chiropractic provide methods to assess and correct soft tissue tension and imbalance that can impair labor progress. Some items fall into the category of "shared wisdom," where the original sources are unknown. We apologize if we neglect to mention the originator of an idea that has become widespread enough to fall into this category. Finally, some ideas originated with the authors, who have used them successfully in their work with laboring women.

Scientific evaluation of non-medical non-pharmacological techniques is sparse and often inconclusive. During the past half-century, extensive scientific evaluation of numerous entrenched medical customs, policies, and practices, intended to improve birth outcomes, has found that many are ineffective or even harmful. Routine practices, such as enemas, pubic shaving, continuous electronic fetal monitoring, maternal supine and lithotomy positions in the second stage of labor, episiotomy, immediate clamping of the umbilical cord, routine suctioning of the baby's airway after birth, and separation of the newborn from mother are examples of care practices that became widespread before they were scientifically evaluated. Then, once well-controlled trials of safety and effectiveness had been performed and the results combined in meta-analyses, these common practices were found to be ineffective and to increase risks.[3,4]

Where possible in this book, we base our suggestions on scientific evidence and cite appropriate references. However, numerous simple and apparently risk-free practices have never been scientifically studied, yet are widely used and based on observation and the experience of leaders in the field. Other valid considerations, such as women's needs, preferences, and values, also play a large role in the selection of approaches to their care.

This book points out various areas in which more research is needed. Some of the strategies suggested in this book will lend themselves to randomized controlled trials, while others may not. Perhaps readers will gather ideas for scientific study as they read this book and apply its suggestions.

DIFFERENCES IN MATERNITY CARE PROVIDERS AND PRACTICES IN THE UNITED KINGDOM, THE UNITED STATES, AND CANADA

This book is being published simultaneously in North America and the United Kingdom, where the approaches to maternity care are quite different from one another. For example, in the United Kingdom, midwives and general practitioners provided the maternity care for more than 80% of the 776,000 births in 2014.[5] In the United States, less than 10% of the 4 million pregnancies and births per year are attended by midwives, while the vast majority, even those at low risk, are under the care of physicians, mostly obstetricians. During labor, women in the United States are usually cared for by nurses until shortly before they give birth, when physicians arrive to attend the actual birth and immediately post partum.

Canadian maternity care for approximately 390,000 births in 2015 was provided by approximately 2100 family doctors, 1650 obstetricians, and 1300 midwives.[6] Obstetricians attend approximately 70% of all low-risk births in Canada. Family doctors attended approximately 22% of low risk births.[7] Less than 10% were attended by midwives in 2013.

The differences in caregivers, with their differing approaches to childbirth, are reflected in the rates of interventions and cesarean births when labor is diagnosed as low risk at the outset. Where there are high numbers of obstetricians caring for low-risk women, practices such as inductions, cesareans, and admissions to intensive care nurseries are more common than where maternity care is provided by midwives and family physicians, who rely on less invasive approaches, and reserve the obstetric interventions for high-risk pregnancies.

Because of these differences in maternity care, the willingness to introduce new practices, and the power to do so, will vary among caregivers in different countries. We hope our readers will utilize the simplest, least risky measures when problems are first identified, reserving more complex interventions for more serious problems, and educate themselves and change policies where necessary.

NOTES ON THIS BOOK

This book is directed toward caregivers—midwives, nurses, and physicians—who want to support and protect the physiological process of labor, with the objective of avoiding complex, costly, and more risky interventions. It will also be helpful for students in obstetrics, midwifery, and maternity nursing; for childbirth educators (who can teach many of these techniques to expectant parents); and for doulas (trained labor support providers whose scope of practice includes use of many of the non-clinical techniques). The chapters are arranged chronologically according to the phases and stages of labor.

Because a particular maternal position or movement is useful for the same problem during more than one phase of labor, we have included illustrations of these positions in more than one chapter. This will allow the reader to find

position ideas at a glance when working with a laboring woman. Complete descriptions of all the positions, movements, and other measures can be found in the "Toolkit" chapters (10 and 11).

CHANGES IN THIS FOURTH EDITION

With this edition we welcome Lisa Hanson, CNM, PhD, as second author. We have updated content throughout the book, adding new suggestions, illustrations, and references. Chapter 2 includes a new section on incorporating a trauma-informed care approach into perinatal care, and references to more detailed sources. In Chapter 3, Wendy Gordon, LM, CPM, MPH, and Lisa Hanson, CNM, PhD, have updated information on assessments of progress and maternal-fetal wellbeing. Chapter 4 contains instructions for using Bishop Score criteria to differentiate prelabor from labor and help parents adjust their expectations while maintaining their optimism. Another section reviews complementary and alternative medicine (CAM) techniques that are sometimes used in attempts to start labor.

Chapter 5 addresses new guidelines redefining the onset of active labor, and includes a detailed table comparing the Friedman, Zhang and NICE models of labor progress. Chapter 6 now includes information about the Ottawa Hospital Second Stage Protocol;[8] Chapter 7 provides information on supporting the microbial health of newborns; and Chapter 8 updates information on routine rupture of the membranes, manual and digital rotation of the OP or OT fetus, and the potential of manual rotation to reduce the risks of cesarean birth and postpartum hemorrhage.

In acknowledgement of the widespread use of epidural analgesia, Penny Simkin has written a new chapter (Chapter 9) on epidural and other types of neuraxial analgesia (NA). Labors with epidural analgesia are frequently accompanied by slow progress, and the necessity for synthetic oxytocin, instrumental delivery, episiotomy, or cesarean delivery. However, strategies are available to reduce the need for these interventions.

Although women laboring with NA cannot use many of the maternal positions and movements that other women use, the same mechanical principles still apply. This chapter shows how to use them to foster labor progress. It also suggests simple, low-risk ways to reduce some of the undesirable medication effects, adapt the management that accompanies NA to further prevent dystocia, and help women who use NA to have positive psychological outcomes.

In addition to updating the "Toolkit" (Chapters 10 and 11), we now provide cross-references between it and the main text, to help readers retrieve information more quickly.

A NOTE FROM THE AUTHORS ON THE USE OF GENDER-SPECIFIC LANGUAGE

In these times of rapidly increasing awareness and acceptance of the wide variety of family configurations, we want to acknowledge and support the unique gifts provided by all, including heterosexual couples and their infants; single-parent

families; blended families formed by second marriages; and families with gay, lesbian, transgender parents, or gender-queer parents who will carry and give birth to their infants. Despite our support of all family configurations, after discussion with our publishers, we are retaining gender-specific language, referring to the pregnant person as "mother" or "woman." We mean no disrespect to family groups who identify differently.

CONCLUSION

The current emphasis in obstetrics is to find better ways to treat dystocia once it occurs. This book focuses on prevention, and a step-wise progression of interventions aimed at using the least invasive approaches that will result in safe delivery.

To our knowledge, this is the first book that compiles labor progress strategies that can be used by a variety of caregivers in a variety of locations. Most of the strategies described can be used for births occurring in hospitals, at home, and in free-standing birth centers.

We hope this book will make your work more effective and more rewarding. Your knowledge of appropriate early interventions may spare many women from long, discouraging, or exhausting labors, reduce the need for major interventions, and contribute to safer and more satisfying outcomes. The women may not even recognize what you have done for them, but they will appreciate and always remember your attentiveness, expertise, and support, which contribute so much to their satisfaction[9] and positive long-term memories of their childbirths.[10]

We wish you much success and fulfillment in your important work.

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