The Challenge of Preventing Late Preterm Birth

Alan R. Fleischman, M.D.
Senior Vice President and Medical Director
Changing Distribution of Singleton Live Births

Over 4 million babies born per year

Peak Shifted: 40 to 39 weeks

Source: National Center for Health Statistics, final natality data
Prepared by March of Dimes Perinatal Data Center, 2009
Prematurity
(<37 weeks gestation)

- Has increased 10% in the last decade and over 30% in the last 20 years
- #1 Perinatal Health Challenge
- A leading cause of infant mortality
- The leading cause of cerebral palsy, blindness, deafness, and retardation
U.S. Preterm Births
Percent of Live births, 1996-2007

Source: National Center for Health Statistics
Prepared by March of Dimes, Perinatal Data Center, 2009
U. S. Preterm Births 2000-2006

467,201 476,250 480,812 499,008 508,356 520,000 543,000

Premature Birth Report Card

Map showing the premature birth rates by state, with grades ranging from A to F.
Definitions

**Weeks of Pregnancy**

- **Preterm**: 22 weeks
- **Term**: 37 weeks
U.S. Preterm Births by Week of Gestation, 2006

Source: National Center for Health Statistics, Prepared by March of Dimes Perinatal Data Center, 2007
Definitions

**Weeks of Pregnancy**

- **Preterm**
  - 22 weeks
  - 3-37 weeks

- **Late Preterm**
  - 37-40 weeks

- **Term**
  - 41 weeks and beyond

[Source: March of Dimes]
U.S. Preterm Birth Rates

Year

1990
1995
2000
2006

% late preterm

10.6
11.0
11.6
12.8

% less than 34 weeks

3.3
3.3
3.4
3.7

71% Late Preterm

less than 34 weeks
Late Preterm (34-36 6/7 weeks)
Definitions

**Weeks of Pregnancy**

- **Preterm**
  - 22 weeks
  - Late Preterm
  - Early Term
  - Full Term

- **Term**
  - 4 weeks
  - 37 weeks
  - 3 weeks
  - 9 weeks
  - 1 week
Definitions

**Weeks of Pregnancy**

- **Preterm**: 22 weeks to 36 weeks
- **Late Preterm**: 37 weeks to 38 weeks
- **Early Term**: 39 weeks to 40 weeks
- **Full Term**: 41 weeks to 42 weeks
- **Term**: 43 weeks and beyond
Why are Late Preterm Rates Rising?

- Inaccurate gestational dating
- Changing culture of obstetrical practice--more interventionist
- Few evidence-based interventions after 34 weeks
- Mal-aligned incentives of health care insurance/delivery systems
- Litigious environment, defensive medicine
- Elective inductions/c-sections for convenience—both professional and patient
American College of Obstetricians and Gynecologists - Practice Bulletin, August, 2009

ACOG Practice Bulletin No. 107, August, 2009

Induction of Labor

More than 22% of all gravid women undergo induction of labor in the United States, and the overall rate of induction of labor in the United States has more than doubled since 1980 to 22.4 per 1,000 live births in 2005 (1). The goal of induction of labor is to achieve vaginal delivery by stimulating uterine contractions before the spontaneous onset of labor. Generally, induction of labor is used as a therapeutic option when the benefits of expeditious delivery outweigh the risks of continuing the pregnancy. The benefits of labor induction must be weighed against the potential maternal and fetal risks associated with this procedure (2). The purpose of this document is to review current evidence for cervical ripening and induction of labor and to summarize the effectiveness of these approaches based on appropriately conducted, outcomes-based research. These practice guidelines describe the indications for and contraindications to induction of labor, describe the various agents used for cervical ripening, site methods used to induce labor, and outline the requirements for the safe clinical use of the various methods of inducing labor.

- No elective induction or elective cesarean delivery before 39 weeks without clinical indication.

- Even a mature fetal lung test result before 39 weeks of gestation, in the absence of appropriate clinical circumstances, is not an indication for delivery.
NIH Consensus Development Conference on Vaginal Birth After Cesarean: New Insights

March 8–10, 2010, Bethesda, Maryland
Conclusions:
• A trial of labor after a previous c-section is “reasonable.”
• There is a paucity of data which prevents quantification of risks and benefits that might help make an informed decision about trial of labor versus elective repeat cesarean delivery.
• There are substantial barriers that women face in accessing clinicians and facilities that are able and willing to offer a trial of labor.
• Medico-legal considerations add to and exacerbate these barriers.
• Healthcare organizations and clinicians should make public their policies about VBAC so women can make informed choices about their healthcare provider and where they wish to deliver.
Consequences of Prematurity

• Acute:
  - Respiratory Distress Syndrome
  - Cardiovascular Function
  - Fluid and Electrolyte Balance
  - Jaundice
  - Nutrition and Growth
  - Infection
  - Necrotizing Enterocolitis
  - Intraventricular Hemorrhage and Periventricular Leukomalacia
Consequences of Prematurity

- Long-term:
  - Chronic Respiratory Problems
  - Re-hospitalization
  - Neurodevelopmental Problems
    - Cerebral Palsy
    - Cognitive Deficits
    - Hearing and Vision Impairment
    - Autistic Symptomatology
Consequences of Late Preterm Delivery

- Temperature instability
- Hypoglycemia
- Breathing difficulties
- Feeding difficulties
- Jaundice
- Sepsis
- Increased neonatal and infant mortality
- Increased NICU use and readmission
- Increased cost
Consequences of Late Preterm Delivery

Recent Studies:


Relevance:
Late preterm infants have significant long term deficits including school learning problems, disability, and lower rates of college education and lower net salaries.
Every Week Counts

New information about your pregnancy including the last few weeks

Patient Brochures

Healthy Babies are Worth the Wait™

Cada semana cuenta

Nueva información sobre su embarazo, incluyendo las últimas semanas

Healthy Babies are Worth the Wait™

(Para un bebé sano, vale la pena esperar)
Brain at 35 weeks weighs only 2/3 of what it will weigh at 39-40 weeks.

Human Brain Growth and Development

Kinney, 2006
If your pregnancy is healthy, it’s best if your baby is born at 40 weeks.

A baby’s brain at 35 weeks weighs only two-thirds of what it will weigh at 40 weeks.
Your baby needs time

- Your baby needs 40 weeks to grow healthy and strong before he’s born. Important things are happening to your baby in the last weeks of pregnancy. His brain and lungs are still growing.

- If your pregnancy is healthy, it’s best to stay pregnant 40 weeks to give your baby all the time he needs.

- Full-term babies may have fewer health problems than babies born earlier.

Why the Last Weeks of Pregnancy Count

About the March of Dimes
The March of Dimes helps moms have healthy pregnancies and healthy babies. Visit marchofdimes.com or nacersano.org for the latest information and resources.

To order our catalog or multiple copies of our materials, call 1-800-367-4658.
English #57-2208-07 Why the Last Weeks of Pregnancy Count 1/08

March of Dimes materials are for information purposes only and are not to be used as medical advice. Always seek medical advice from your health care provider. Our materials reflect current scientific recommendations at time of publication. Check marchofdimes.com for updated information.

© March of Dimes Foundation, 2008
Questions to ask

These questions may be useful when you talk to your doctor or CNM about having your baby. Take this booklet to your next checkup and ask these questions:

If your doctor or CNM recommends delivery before 39 weeks:
• Is there a problem with my health or the health of my baby that may make me need to have my baby early?
• Can I wait to have my baby until I’m closer to 40 weeks?

About inducing labor
• Why do you need to induce my labor?
• How will you induce my labor?
• Will inducing labor increase the chance that I’ll need to have a c-section?

About c-section
• Why do I need to have a c-section?
• What problems can a c-section cause for me and my baby?
• Will I need to have a c-section in future pregnancies?
Institute of Medicine Report: Preterm Birth: Causes, Consequences, and Prevention, 2006

Annual Societal Economic Costs Associated with Preterm Birth, US, 2005

- Medical Care Services: $16.9 billion (65%)
- Lost Household and Labor Market Productivity: $5.7 billion (22%)
- Maternal Delivery: $1.9 billion (7%)
- Special Education Services: $1.1 billion (4%)
- Early Intervention Services: $611 million (2%)

Total costs: $26.2 Billion

Preterm is less than 37 completed weeks gestation.
Average Expenditure for Newborn Care

- Uncomplicated: $4,551
- Premature/LBW: $49,033
- Other Complications: $10,273
- All Births: $10,327

Thomson Reuters for the March of Dimes, 2009
Healthy Babies Healthy Business

A multidimensional workforce well-being program from the March of Dimes

USA TODAY's Better Life health blog looks at preemies, dog bites and the power of chili peppers

Preemie's care: $50,000 for year

A new study has the financial cost of premature birth can also cost a perspective on the money spent to care for one premature and low-birthweight baby for one year—over $40,000. The blog post explores the consequences of nearly 400,000 premature births each year.

Doctors have struggled to address the growing cost of healthcare.

Preventing preemies birth is crucial if we can begin to work on our nation's declining health care costs and help businesses sustain their bottom line.

Preemies are more likely to suffer complications, spend more time in the hospital and have a higher risk of death. —cdc.gov

Preemies need more than 14 days in the hospital in their first year; compared with, on average, one day for full-term babies, the report states.
Thank You!!!