



Teaching the Weeks of Fetal Development to Women who are Pregnant or Desire to be Pregnant

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OUR COLLECTIVE CHALLENGE

“Solve some of the depicted problems”



Great News!

- Opportunities for improvement abound!
- A call to action

25th Anniversary

- *IOMs Preventing Low Birthweight*
 - *Led to an increase in prenatal care*
 - *No decrease in low birthweight*
 - [25 Years, Prenatal Risk, and the failure to reinvent prenatal care](#)
- *Recommended flexible, risk appropriate model*
- *Investigation of the content of prenatal care*
 - *Content of objectives of visits*
 - *Not just counting the number of visits*

Systematic review (Fisk & Atun, 2009)

- Funding for maternal and perinatal clinical research in the UK, the EU, the USA, Canada, Australia, India and South Africa
 - Examined both governmental and philanthropic funding
 - Maternal and perinatal conditions are the single largest contributor by category to the global disease burden
 - Proportion of total spending allocated to maternal and perinatal research in the countries studied ranged from <1% to 4% of all health research funding
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Prevention

- Combined and coordinated use of medical, social and educational measures
 - ...prevention is any activity which reduces the burden of mortality or morbidity from disease
 - The act of impeding
 - Conscious
 - Active
 - Continuous
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PRIMORDIAL PREVENTION

- Purest form of prevention
 - Prevention of the emergence of development of *risk factors* in a population
 - Encourage young women and children to adopt healthy lifestyles
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PRIMARY PREVENTION

Aims to reduce both incidence and prevalence

Agency for Healthcare Research and Quality (2010)

- [Routine Prenatal Care by Guideline.gov](#)
 - Counseling
 - Education
 - Intervention
 - See “Guideline Objectives”
- Assessment of PTB modifiable risk factors
- “Increase the rate of appropriate interventions for women with PTB risk factors:
 - Referral
 - Education
 - Home health nurse visits
 - Ultrasound
 - Advice
 - Any documented plan for action/follow-up
 - [Quality Measures](#)

A Brief Overview of Childbirth Education

- AKA antenatal, prenatal or childbirth education
- Information to women:
 - Historically gained informally from other women
 - 1951 – Lamaze
 - 1960 – International Childbirth Education Association
 - 1960s-70s – Women's interest in preparation for natural (unmedicated) birth shifted to independent classes that critiqued the medical establishment and its management of labor and birth
 - [Natural tension](#)
 - 1980s – rise in epidural rates
 - 1990s – decrease attendance in formal childbirth education classes



Current state

- 2000s – a fraction of first time parents attend educational classes; even less attendance with future pregnancies
 - [Listening to mothers \(2007\)](#)
 - Although women want the full information required to make informed decisions, they are not getting that information, even if they attend childbirth classes
 - What constitutes optimal maternity care and what will help families receive what they need for a healthy pregnancy and delivery?
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Personal Experience

- Shifts
 - Women do not desire information about “awake and aware” i.e., natural labor and delivery
 - Assumption for most is medication and epidural birth
 - Families seeking education on parenting techniques
 - Baby Boot Camp Classes
 - Popular with fathers and grandparents
 - Information being gleaned from the Internet
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Evidence and Urgency

- Wide variation in quality
 - The importance of evidence-based information
 - Systematic
 - Consistent information
 - Provided by credible professionals
 - Partnering across disciplines
 - Infuse a sense of urgency into antenatal education
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Huge Gaps = Big Opportunities

- Health system – responsibilities included community perinatal education
 - Women ‘self-diagnosis’ pregnancy within days of a missed cycle
 - Locate a physician or midwife to make an appointment
 - First appointment between 8-11 weeks of gestation
 - Gap between these two events presents a rich opportunity to deliver pertinent and credible early education and offer appropriate population-based health care
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Challenges in our Community

- Dialogue with physician/midwife colleagues
 - “Our office looks like the United Nations”
 - Great need to help clients understand pregnancy wellness
 - Increase in women presenting with previous mental health diagnoses
 - Increase in basic welfare needs (economically strained)
 - Pressure to see more patients during office hours
 - Dwindling resources
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Early Pregnancy Education

- Created proposal for comprehensive early pregnancy education course
 - Offered between in-office pregnancy confirmation (reimbursable) and “first” prenatal appointment
 - Focus on pregnancy wellness and prevention
 - Ability to assess holistically
 - Provide continuity of care
 - Comprehensive approach
 - Referral mechanism initiated by childbirth educators
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Nutritional and Exercise



- Expected body changes
 - Weight gain
 - General physical changes
 - Nutritional Recommendations
 - 24 hour food diary
 - [Choose my plate.gov](http://Choosemyplate.gov)
 - Meal planning activity
 - Intake form – to take to first appointment
 - Exercise recommendations
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Mental health and social service

- Screen for perinatal depression
 - Referral to perinatal psychiatric CNS
 - Weekly program throughout pregnancy and first year of infant's life
 - Assess social service needs
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Fetal Development Content

- Weeks of fetal development addressed by trimesters
- Having the hard conversations
 - Definition of viability
 - Explanation of infant outcomes when born prematurely
- Balancing 'miracle' media stories

March of Dimes

Modifiable Risk Factors

- Tobacco, alcohol, drugs
- Late or no prenatal care
- Stress
- Domestic violence
- Diabetes
- Obesity
- STIs
- IVF
- Underweight prior to pregnancy

Non-modifiable risk factors

- Hx of preterm birth
- Multiples
- Generational link
- Work environment and hours
- Environmental pollutants
- Ethnicity
- Age
- Income status
- Fetal congenital anomalies

Implications of late-preterm birth

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.



35 weeks



40 weeks

march of dimes
pregnancy & newborn
health education center™
marchofdimes.com

- In the last 6 weeks of pregnancy, your baby's brain adds connections needed for balance, coordination, learning and social functioning. During this time, the size of your baby's brain almost doubles.

- Babies born early have more learning and behavior problems in childhood than babies born at 40 weeks.

- Babies born early are more likely to have feeding problems because they can't coordinate sucking, swallowing and breathing as well as full-term babies.

- Babies born early are likely to have breathing problems, like apnea. Apnea is when a baby stops breathing.

- Babies born early are more likely to die of sudden infant death syndrome (SIDS). SIDS is when a baby dies suddenly and unexpectedly, often during sleep.

To order our booklet or multiple copies of our materials, call 1-800-367-6633.
#37-2229-07, Late-preterm Birth Development Card 2/08

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 research available at time of publication. Check marchofdimes.com for updated information. Modified after a fetal brain card developed by the Healthy Babies Are Worth the Wait™ Initiative.
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Preventing preterm birth

- Definition of preterm labor
 - What do you define as prematurity? What week of pregnancy?
- Risks for preterm infants
- Prevention of prematurity
 - Good oral hygiene
 - Nutrition and weight control
 - Consistent prenatal care
- Preterm labor can often be stopped or delayed*
- Teach warning signs

Centering Pregnancy Model

Model of group prenatal care that provides more than 20 hours of contact time between the childbearing care provider and a cohort of pregnant women with similar due dates

- **Objectives for expectant women**
 - Decrease maternal mortality and morbidity
 - Increase well being
 - Promote self care skills
- **Objectives for fetus/neonate**
 - Reduce preterm birth, intrauterine growth restriction, mortality and failure to thrive
 - Reduce abuse, neglect, injuries, hospitalizations
 - Promote healthy growth and development, immunizations, routine health supervision
- **Objectives for providers**
 - Increase provider satisfaction
 - Maintain cost effective measures
 - Streamline prenatal services for diverse populations

Research (n = 458) [Ickovics and colleagues, 2003](#)

- Matched cohort study
- Subjects in group prenatal care had longer gestations ($P < .001$), and their infants had heavier birth weights ($P < .01$)
- Statistically and clinically significant increase in the birth weights in preterm infants born to mothers in the groups compared with the birth weights of preterm infants in the control group
 - Principal limitation lack of randomization
 - Matched design reduces the likelihood of selection bias

Research (n = 1,047) [Ickovics and associates \(2007\)](#)

- Women assigned to group care were significantly less likely to have preterm births compared with those in standard care
 - 9.8% compared with 13.8%, with no differences in age, parity, education, or income between study conditions
 - Equivalent to a risk reduction of 33% or 40 per 1,000 births
 - Effects were strengthened for African-American women: 10.0% compared with 15.8%
 - There were no differences in birth weight nor in costs associated with prenatal care or delivery

SECONDARY PREVENTION

Actions which halt the progress of a disease at its initial stage and prevent complications



Initiation

- Following signs of preterm labor and prior to delivery
 - Window of opportunity often very short
 - Interventions:
 - Counseling families
 - Managing expectations
 - Providing **consistent** information compassionately
 - Framing the issues appropriately and truthfully
 - Avoiding fearful words ('withholding care', 'nothing we can do')
 - Avoiding perceptions of abandonment
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Counseling Patients

- [Kaempf and colleagues, 2006](#)
 1. Educated themselves on available literature of preivable birth
 - Focus on neurological development
 2. Reviewed current local practice
 3. Surveyed MFM, neos, other clinicians
 4. Developed guidelines for counseling women
 - Focused on survival rates and neurodevelopmental issues
 - Also discussed other common NICU morbidities, i.e. chronic lung disease and necrotizing enterocolitis
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Methods and Results

- n = 28 pregnant women
- Between 22 0/7 and 26 6/7 weeks gestation
- Formal interview with clinician
 - Viewed as highly understandable, useful, consistent, and performed in a comfortable manner
 - Families need a clear framework for discussion and want responsible guidance from physicians
- “Physicians and nurses who participate in the medical care of pregnant women presenting at risk for delivery at the edge of viability should possess knowledge and sympathetic understanding of the enormous medical, social, emotional, and financial problems associated with premature infants”

TABLE 2 PSVMC Obstetrics and Neonatology Medical Staff Guidelines for the Care of Extremely Early-Gestation Pregnancies and Extremely Premature Infants

Weeks	Obstetric Care	Neonatal Care
<23	Tocolysis as indicated; no steroids; no cesarean section for fetal indications	NICU care not offered; comfort care provided
23 $\frac{0}{7}$ to 23 $\frac{6}{7}$	Tocolysis as indicated; steroids not recommended; cesarean section for fetal indications not recommended	NICU care not recommended because of high mortality and neurologic disability rates; comfort care provided
24 $\frac{0}{7}$ to 24 $\frac{6}{7}$	Tocolysis as indicated; steroid use if mother/family choose NICU care at <26 wk; cesarean section may be declined or chosen after review of clinical outcomes; majority of medical staff members do not recommend cesarean section for fetal indications	NICU care may be declined and comfort care provided or NICU care may be chosen by mother/family after review of probable and potential clinical outcomes with medical staff members; majority of medical staff members do not recommend NICU care
25 $\frac{0}{7}$ to 25 $\frac{6}{7}$	Tocolysis as indicated; steroid use if mother/family choose NICU care at <26 wk; cesarean section may be declined or chosen after review of clinical outcomes; majority of medical staff members do recommend cesarean section for fetal indications	NICU care may be declined and comfort care provided or NICU care may be chosen by mother/family after review of probable and potential clinical outcomes with medical staff members; majority of medical staff members do recommend NICU care
26 $\frac{0}{7}$ to 26 $\frac{6}{7}$	Tocolysis as indicated; steroid use as indicated; cesarean section for fetal indications recommended strongly	NICU care provided in majority of cases

Introduction to Palliative Care

- [NPA Palliative Care Position Statement](#)
- “An approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual” ([WHO, 2011](#))

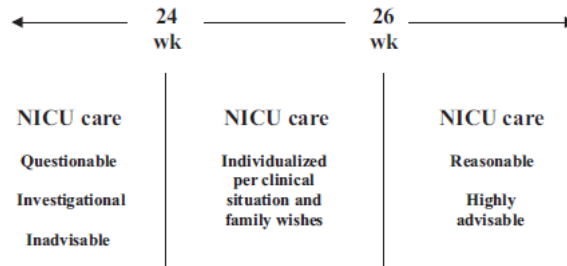


FIGURE 2
Summary diagram of the PSVMC continuum approach to periviability counseling.

Counseling women threatening extremely premature birth [Kaempf and associates, 2009](#)

- Retrospective chart review
- Interviews with patients 3 days and 6-12 months following delivery
- Comprehensive periviability counseling
- Palliative comfort care requested at a higher percentage at each decreasing gestational week

TABLE 4 Final Decisions for Resuscitation Versus Palliative Comfort Care in 121 Infants at 22 to 26 Weeks' PMA

Weeks at Birth (PMA)	n	NICU Resuscitation, n (%)	Palliative Comfort Care, n (%)	Time to Death Comfort Care, Range, min	NICU Death, n (%) ^a	Overall Survival %
22 ⁰ / ₇ –22 ⁶ / ₇	13	0 (0)	13 (100)	5–138	—	0
23 ⁰ / ₇ –23 ⁶ / ₇	18	7 (39)	11 (61)	5–171	7 (39)	0
24 ⁰ / ₇ –24 ⁶ / ₇	24	15 (62)	9 (38)	10–124	6 (25)	38
25 ⁰ / ₇ –25 ⁶ / ₇	23	19 (83)	4 (17)	34–119	2 (9)	74
26 ⁰ / ₇ –26 ⁶ / ₇	43	43 (100)	0 (0)	—	1 (2)	98

^a Resuscitated but later died in the NICU.



Results

- Periviability guidelines are well accepted and can be used by all neonatologists, obstetricians, and nurses who provide care to pregnant women and infants at extremely early gestational ages
 - Women report information is highly understandable, useful, consistent, and respectful
 - Given formal information, [contained in guidelines], a substantial proportion of parents will choose palliative comfort care for their extremely premature infant up through 25 6/7 weeks' postmenstrual age
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Perinatal Palliative Care

- Down streaming from pediatric and neonatal palliative care literature
 - A novel domain dedicated to providing health care to fetuses diagnosed prenatally with life-limiting conditions along with supportive care to parents and family members
 - Of necessity, PPC involves an interdisciplinary team approach
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Perinatal Palliative Care

- Goals of care
 - Help families with the process of making choices about pregnancy management and birth decisions
 - Facilitate advanced care planning and after-birth care that incorporates the family's personal and religious beliefs
 - Assist families in preserving hope while preparing for birth and grieving their anticipated loss
 - When the neonate's life is expected to be brief
 - [Creating a Birth Plan](#)
 - [In-house Comfort Care Orders](#)
-



TERTIARY PREVENTION

Initiated following delivery



Tertiary Prevention

- Goals include
 - Reduce or limit impairment and disability
 - Minimize suffering
 - Promote patient's adjustment to irremediable conditions – make families healthy again
 - Full NICU measures
 - Palliative care interventions
 - Can coincide with NICU care or be chosen exclusive of NICU
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Palliative Care Protocol

- [Catlin & Carter \(2002\)](#)
 - Neonatal EOL palliative care protocol
 - Interventions directed to help families make meaning of their loss
 - Facilitate healing practices and rituals
 - Photography
 - Mementos
 - Sibling and grandparent involvement
 - Spiritual and cultural rituals
 - Bereavement follow-up
-



• **WHO WILL LEAD US?**

**WHAT WILL YOUR
LEGACY BE?**

Routes for Interventions?

- **Partnerships**
 - Insurance Providers – hiring of 100 primary nurse “Health Coaches”
 - Provide health coaching and case management to members across the continuum of health ranging from health promotion to end of life planning
 - March of Dimes
 - Researchers
 - Entrepreneurs
 - Local and regional businesses



Staying Current with Technology

- Podcasts
 - Weekly emails
 - [The Parent Review \(TPR\)](#)
 - [iPhone aps](#)
 - Creation of DVD
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**NATIONAL PERINATAL ASSOCIATION
2011**

**WINNING THE RACE IN PROVIDING QUALITY
PERINATAL CARE**

IMAGINE.....THE POSSIBILITIES



Thank you!
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