tchmb

A Redesign of Postpartum Care:

Implications for Clinical Practice

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Objectives

1. Review ACOG Recommendations for Postpartum Care (4th Trimester)
2. Discover and discuss barriers to providing this care
    a. Patient level
    b. Clinic/operational level
    c. Policy level
3. Develop successful strategies for implementing recommendations

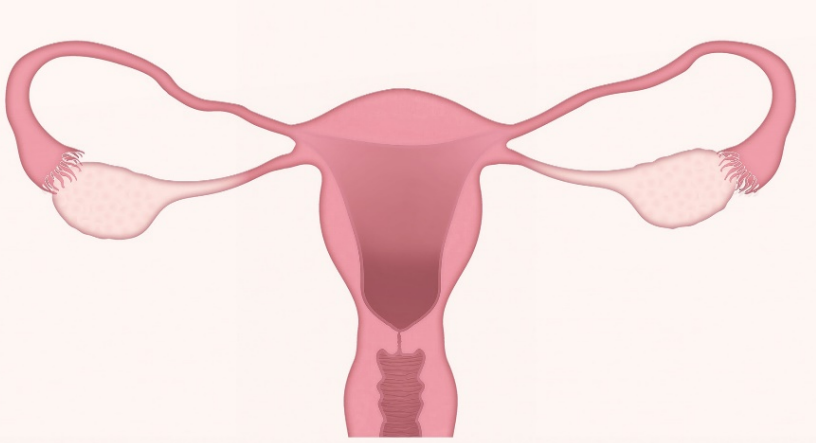
Postpartum Physiology

"Although the changes occurring during the puerperium are considered as physiological, they border very closely upon the pathological, in as much as under no other circumstances does such marked and rapid tissue metabolism occur with a departure from a condition of health."

J. Whitridge Williams (1903)

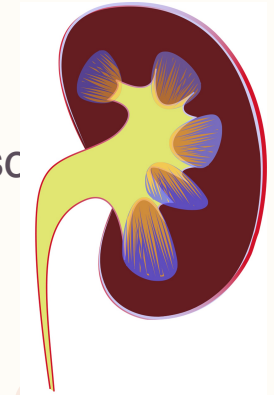
Postpartum Physiology

- Reproductive Tract Involution: 4-6 weeks
  - Vaginal epithelium proliferation by 4-6 weeks
    - *Occurs with resumption of estrogen production by ovaries*
  - Placental site, endometrial, and myometrial involution
  - Hyalinization of the uterine vasculature
  - Reconstruction of cervix
- Complications
  - Placental Site Subinvolution
  - Secondary Postpartum Hemorrhage



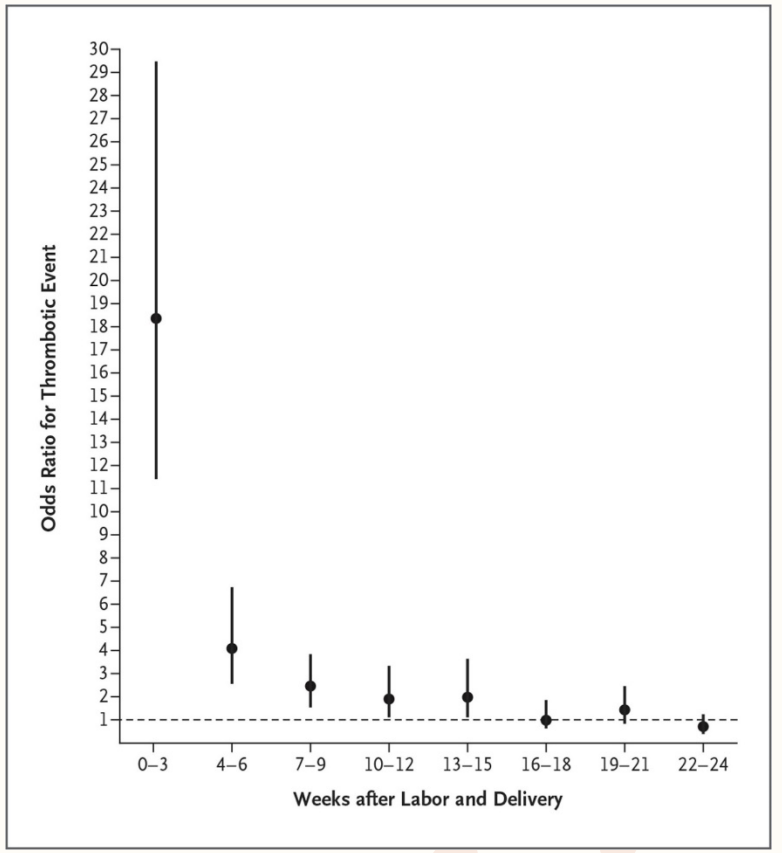
Postpartum Physiology

- Urinary tract Recovery
  - Hydronephrosis and bladder trauma resolve by 2-8 weeks postpartum
  - Healing of pelvic floor often incomplete → urinary incontinence and pelvic organ prolapse
- Abdominal wall
  - Healing of ruptured elastic fibers in the skin, abdominal wall laxity
  - Diastasis recti may result from marked separation of the rectus musc



Postpartum Physiology

- Hematologic & cardiovascular changes
  - Blood volume and cardiac output returns to pre-pregnancy values by 1-2 weeks postpartum
  - Diuresis reverses pregnancy volume expansion within 2-3 weeks
  - Normalization of leukocytosis
  - Hypercoagulability marked, persists for 16 weeks postpartum (Kamel, et al)



Postpartum Physiology

- Lactation
  - Colostrum → transitional milk → mature milk (4-6 weeks)
  - Possible maternal benefits include
    - *decreased postpartum weight retention*
    - *Decreased rates of breast and ovarian cancers*
    - *Cost savings*
  - Over 25% of women report breastfeeding issues in the first 9 months postpartum
  - Complications include: engorgement (50%), mastitis (3-20%), abscesses, galactocele
  - Safety data is limited on drugs during lactation

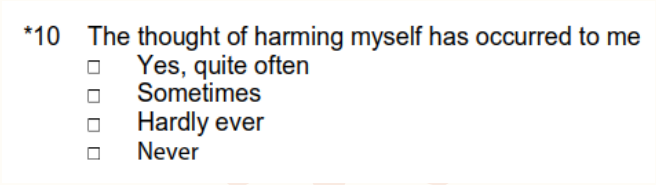
Traditional Postpartum Care

- Single visit at 6 weeks postpartum
  - Depression screen
  - Pap smear/pelvic exam
  - Contraception

- Return to care when indicated/possible (i.e. next pregnancy)

Postpartum Patient Visit #1

- 38 year old G1P1 presents for a postpartum visit at 4 weeks after delivery of an infant, which was complicated by a fetal malformation, gestational diabetes, and hypertension.
  - BP 158/98HR 88 EPDS score 11 (including a score of 2 on question 10)
  - Physical exam with moderate engorgement, well-healed laceration repair, and 3+ pitting edema to the legs bilaterally
  - Patient is tearful, reports great anxiety and sadness from infant's extended stay in the NICU, and breastfeeding

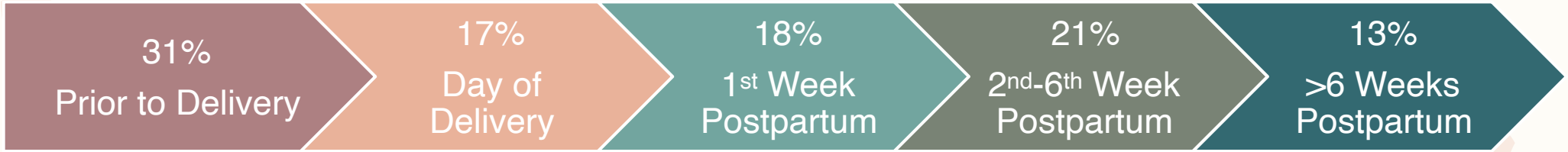

*10 The thought of harming myself has occurred to me
- ☐ Yes, quite often
- ☐ Sometimes
- ☐ Hardly ever
- ☐ Never

Postpartum Patient Visit #1

- What *needs* to be done at this visit?
  - Hypertension: start medication, home BP monitoring
  - Depression: discuss symptoms, assess risk of self-harm, social assessment intimate partner violence screening, referral to psychiatrist ± initiation of anti-depressant medication
  - Lactation/newborn: discuss infant's NICU stay, status, feeding issues including her decreasing milk production and counseling on regular pumping, referral to lactation consultant
- What else *should* be done at this visit?
  - Contraception counseling, including interactions with breastfeeding, hypertension
  - Diabetes screening
  - Referral to establish care with primary care physician

Call for a Redesign: Why?

- Time following birth is critical for setting the stage for long-term health and well-being for both the mother and her infant
- Postpartum care is often fragmented among maternal and pediatric providers, with communication across the transition from inpatient to outpatient care inconsistent
- Lack of attention to maternal health needs is of particular concern given 52% of pregnancy-related deaths occur after the birth of the infant



Maternal Mortality in the U.S.

CBS NEWS / *August 5, 2018, 10:06 AM*

Maternal mortality: An American crisis

U.S. "most dangerous" place to give birth in developed world, USA Today investigation finds

Hospitals know how to protect mothers. They just aren't doing it.

Alison Young, and Alison Young ., USA TODAY
Updated 1:13 p.m. CST Nov. 14, 2019

Maternal Mortality in Texas

Texas Has the Highest Maternal Mortality Rate in the Developed World. Why?

Maternal Mortality in Texas

Original Research

Identifying Maternal Deaths in Texas Using an Enhanced Method, 2012

Sonia Baeva, MA, Debra L. Saxton, MS, Karen Ruggiero, PhD, Michelle L. Kormondy, BS, Lisa M. Hollier, MD, MPH, John Hellerstedt, MD, Manda Hall, MD, and Natalie P. Archer, PhD

- Half of obstetric-coded deaths showed no evidence of pregnancy within 42 days, with the majority indicating pregnancy at time of death
- Rate based on their review: 14.6-18.6 per 100,000 live births
- Rate based on traditional analysis: 38.4 per 100,000 live births

How Do We Reduce Maternal Mortality in the U.S. and Texas?

- We must improve women's health not only during pregnancy, but also postpartum and across their life course
  - Requires access to quality health care for all women, including
    - *Preconception care*
    - *Family planning*
  - Address social determinants of health
    - *Poverty*
    - *Racism*
    - *Access to education*

Michael C. Lu,
JAMA

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

ACOG COMMITTEE OPINION

Number 736 • May 2018

(Replaces Committee Opinion Number 666, June 2016)

Presidential Task Force on Redefining the Postpartum Visit
Committee on Obstetric Practice

The Academy of Breastfeeding Medicine, the American College of Nurse-Midwives, the National Association of Nurse Practitioners in Women's Health, the Society for Academic Specialists in General Obstetrics and Gynecology, and the Society for Maternal–Fetal Medicine endorse this document. This Committee Opinion was developed by the American College of Obstetricians and Gynecologists' Presidential Task Force on Redefining the Postpartum Visit and the Committee on Obstetric Practice in collaboration with task force members Alison Stuebe, MD, MSc; Tamika Auguste, MD; and Martha Gulati, MD, MS.

Redefining Postpartum Care

- For women in the U.S., the 6-week postpartum visit punctuates a period devoid of formal or informal maternal support
- Obstetric providers should assist women with accessing the clinical and social resources she needs to successfully navigate the transition from pregnancy to parenthood
- Intense focus on a woman's health prenatally, but care during the postpartum period is infrequent and late

ACOG: Optimizing Postpartum Care (May 2018)

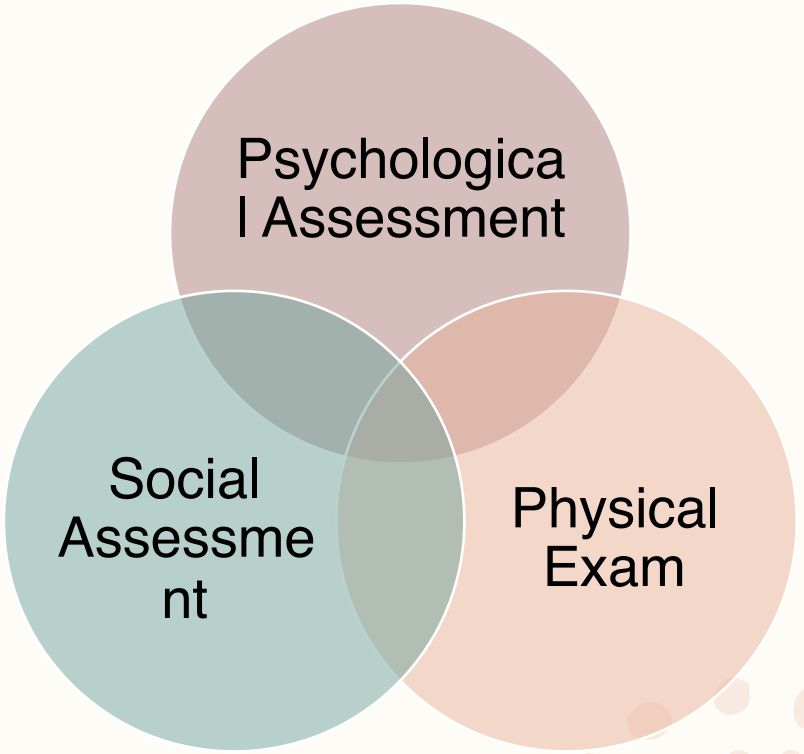
- Postpartum care should be an ongoing process, rather than a single encounter
- Include services and support tailored to each woman's individual needs
- All women should be seen:
  - within 3 weeks of delivery
  - follow-up visits as needed
  - final comprehensive postpartum visit no later than 12 weeks after birth
    - *Timing of this visit should be individualized and woman-centered*

Optimizing Postpartum Care

- Most women who attend postpartum visits report they do not receive enough information at the visit about:
  - Postpartum depression
  - Birth spacing
  - Healthy eating
  - Importance of exercise
  - Changes in sexual health or emotions

Components of Postpartum Care

- Comprehensive visits should include physical, social, and psychological assessment, including:
  - ***Mood and emotional well-being***
  - *Sexuality*
  - ***Contraception***
  - *Birth spacing*
  - *Infant care and feeding*
  - *Sleep/fatigue*
  - ***Physical recovery from birth***
  - *Chronic disease management*
  - *Health maintenance*



Box 1. Components of Postpartum Care

Mood and emotional well-being

- Screen for postpartum depression and anxiety with a validated instrument[1,2]
- Provide guidance regarding local resources for mentoring and support
- Screen for tobacco use; counsel regarding relapse risk in postpartum period[3]
- Screen for substance use disorder and refer as indicated[4]
- Follow-up on preexisting mental health disorders, refer for or confirm attendance at mental health-related appointments, and titrate medications as appropriate for the postpartum period

Infant care and feeding

- Assess comfort and confidence with caring for newborn, including
  - feeding method
  - child care strategy if returning to work or school
  - ensuring infant has a pediatric medical home
  - ensuring that all caregivers are immunized[5]
- Assess comfort and confidence with breastfeeding, including
  - breastfeeding-associated pain[6]
  - guidance on logistics of and legal rights to milk expression if returning to work or school[7,8]
  - guidance regarding return to fertility while lactating; pregnancy is unlikely if menses have not returned, infant is less than 6 months old, and infant is fully or nearly fully breastfeeding with no interval of more than 4–6 hours between breastfeeding sessions[9]
  - review theoretical concerns regarding hormonal contraception and breastfeeding, within the context of each woman's desire to breastfeed and her risk of unplanned pregnancy[7]
- Assess material needs, such as stable housing, utilities, food, and diapers, with referral to resources as needed

Sexuality, contraception, and birth spacing

- Provide guidance regarding sexuality, management of dyspareunia, and resumption of intercourse
- Assess desire for future pregnancies and reproductive life plan[10]
- Explain the rationale for avoiding an interpregnancy interval of less than 6 months and discuss the risks and benefits of repeat pregnancy sooner than 18 months
- Review recommendations for prevention of recurrent pregnancy complications, such as 17α-hydroxyprogesterone caproate to reduce risk of recurrent preterm birth, or aspirin to reduce risk of preeclampsia
- Select a contraceptive method that reflects patient's stated needs and preferences, with same-day placement of LARC, if desired[11]

(continued)

Box 1. Components of Postpartum Care *(continued)*

Sleep and fatigue

- Discuss coping options for fatigue and sleep disruption
- Engage family and friends in assisting with care responsibilities

Physical recovery from birth

- Assess presence of perineal or cesarean incision pain; provide guidance regarding normal versus prolonged recovery[12]
- Assess for presence of urinary and fecal continence, with referral to physical therapy or urogynecology as indicated[13,14]
- Provide actionable guidance regarding resumption of physical activity and attainment of healthy weight[15]

Chronic disease management

- Discuss pregnancy complications, if any, and their implications for future childbearing and long-term maternal health, including ASCVD
- Perform glucose screening for women with GDM: a fasting plasma glucose test or 75 g, 2-hour oral glucose tolerance test[16]
- Review medication selection and dose outside of pregnancy, including consideration of whether the patient is breastfeeding, using a reliable resource such as LactMed
- Refer for follow-up care with primary care or subspecialist health care providers, as indicated

Health maintenance

- Review vaccination history and provide indicated immunizations, including completing series initiated antepartum or postpartum[17]
- Perform well-woman screening, including Pap test and pelvic examination, as indicated[18]

Issues to Address Prenatally

- Begin to formulate the postpartum care plan:
  - Discussion of infant feeding
  - “baby blues” and postpartum emotional health
  - Challenges of parenting and postpartum recovery from birth
  - Plans for long-term management of chronic health conditions
    - *Identification of a primary health care provider*
  - Discuss reproductive life plans
- Discuss the purpose and value of postpartum clinical care, including services and support available

Benefits of Anticipatory Counseling

Reducing Postpartum Depressive Symptoms Among Black and Latina Mothers

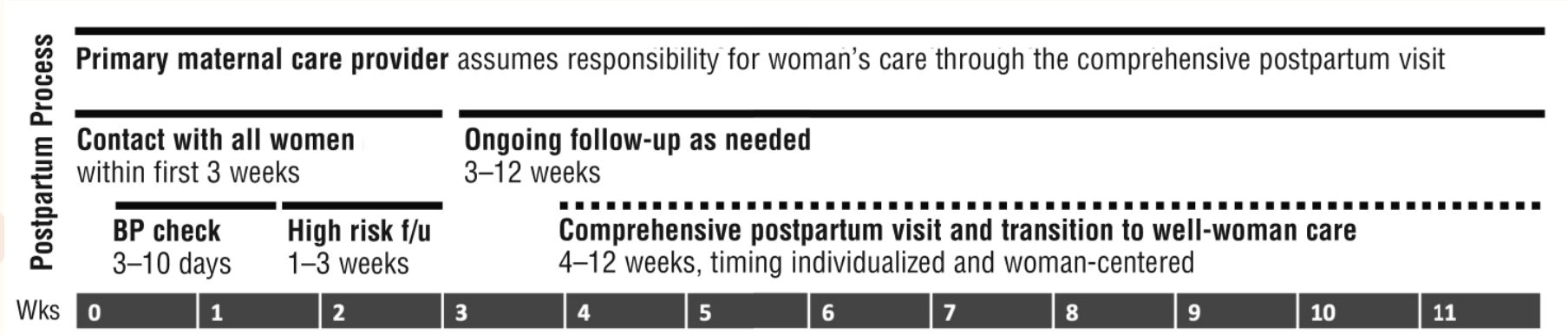
A Randomized Controlled Trial

Elizabeth A. Howell, MD, MPP, Amy Balbierz, MPH, Jason Wang, PhD, Michael Parides, PhD, Caron Zlotnick, PhD, and Howard Leventhal, PhD

- Mothers receiving a two-step behavioral educational intervention were less likely to screen positive for depression
  - 15 minute in-hospital review of patient education materials with social worker
  - 2 week postpartum phone call by social worker to assess symptoms

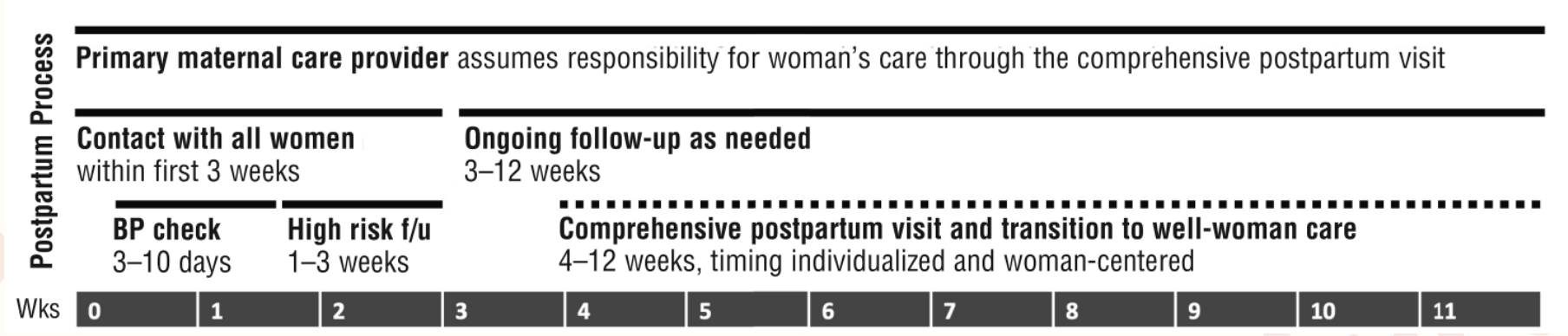
Initial Postpartum Assessment

- Office visit is not required, weigh the benefit of in-person visit with burden of traveling
  - Home visits
  - Phone support
  - Text messages, app-based support
  - Remote BP monitoring
- Find a local obstetrical provider if prolonged infant hospitalization remote from the woman's home is anticipated



Initial Postpartum Visit: Complex Medical Care

- Hypertensive disorders of pregnancy - follow-up within 7-10 days
  - Severe hypertension within 3-5 days
  - More than half of postpartum strokes occur within 10 days of discharge
- Women with complex medical problems may require multiple visits



Other Recommendations For Timing of Postpartum Care

- WHO
  - Screening of all woman/infant dyads at 3 days, 1-2 weeks, and 6 weeks postpartum
- NIH
  - Screen all women for resolution of “baby blues” at 10-14 days postpartum
    - *Facilitates early detection and treatment of postpartum depression*
- Undesired discontinuation of breastfeeding often occurs within 6 weeks of delivery (20% of cases)
  - Earlier visit provides an opportunity to provide support and intervene

Postpartum Care Plan: Team and Visits

- Postpartum care plan: review and update after birth
  - Postpartum care team
    - *Identification of team members, and documentation of contact information*
  - Postpartum visits
    - *Either documentation of pre-scheduled visits, or specific contact information and instructions on when/how to make appointments postpartum*

Table 2. Postpartum Care Team* ⇦

Team Member	Role
Family and friends	• Ensures woman has assistance for infant care, breastfeeding support, care of older children • Assists with practical needs such as meals, household chores, and transportation • Monitors for signs and symptoms of complications, including mental health
Primary maternal care provider (obstetrician–gynecologist, certified nurse midwife, family physician, women's health nurse practitioner)	• Ensures patient's postpartum needs are assessed and met during the postpartum period and that the comprehensive postpartum visit is completed • "First call" for acute concerns during postpartum period • Also may provide ongoing routine well-woman care after comprehensive postpartum visit
Infant's health care provider (pediatrician, family physician, pediatric nurse practitioner)	• Primary care provider for infant after discharge from maternity care
Primary care provider (also may be the obstetric care provider)	• May co-manage chronic conditions (eg, hypertension, diabetes, depression) during postpartum period • Assumes primary responsibility for ongoing health care after comprehensive postpartum visit
Lactation support (professional IBCLC, certified counselors and educators, peer support)	• Provides anticipatory guidance and support for breastfeeding • Co-manages complications with pediatric and maternal care providers
Care coordinator or case manager	• Coordinates health and social services among members of postpartum care team
Home visitor (eg, Nurse Family Partnership, Health Start)	• Provides home visit services to meet specific needs of mother–infant dyad after discharge from maternity care
Specialty consultants (ie, maternal–fetal medicine, internal medicine subspecialist, behavioral health care provider)	• Co-manages complex medical problems during postpartum period • Provides prepregnancy counseling for future pregnancies

Abbreviation: IBCLC, international board certified lactation consultant.

*Members of the care team may vary depending on the needs of the mother–infant dyad and locally available resources.

Postpartum Care Plan: Infant Feeding

- Intended method of feeding
  - Counsel on patient-specific risks and benefits of breastfeeding
  - Lactation support
- Resources for community support
  - WIC
  - Lactation warm lines
  - Mothers' groups
  - Return-to-work resources

TEXAS WIC
Smart Choices • Healthy Families

Postpartum Care Plan: Reproductive Life Planning

- Desire for and timing of future pregnancies
- Advise women to avoid inter-pregnancy intervals shorter than 6 months, and counsel about the risks/benefits of repeat pregnancies sooner than 18 months
- Shared decision-making regarding contraceptive options
  - Provider is the expert on clinical evidence, patient is the expert on her experiences and values
  - Ensure full range of contraceptive options are explained
  - Allow woman to select the method best suited to her nee

Postpartum Care Plan: Pregnancy Complications

- Review the details of the delivery
  - Traumatic experiences can result in PTSD in 3-16% of women
- Complications (preterm birth, gestational diabetes, hypertension, etc.) should be discussed, including any indicated testing
  - Recommended interventions in future pregnancies should be discussed
- Placental path should be reviewed and shared
- Recommendations to optimize maternal health in the inter-pregnancy period
  - Optimize glycemic indices
  - Attaining an optimal weight – diet and life style modifications

Optimizing Care to Improve Maternal Outcomes

- Ambia, et al
- Women with elevated HgbA1c at presentation for prenatal care were more likely to experience:
  - Preeclampsia
  - Shoulder dystocia
  - Neonatal death
  - Fetal anomalies
    - *Rate 7% versus 14%*

	HbA1c values		
	> 10% N = 273	≤ 10% N = 779	P-value
Selected perinatal outcomes			
Preeclampsia with severe features	84 (31)	167 (21)	0.002
Delivery at < 34 weeks gestation	19 (7)	67 (9)	0.39
Shoulder dystocia	8 (3)	9 (1)	0.045
Neonatal death	5 (2)	4 (1)	0.042
Stillbirth	6 (2)	9 (1)	0.21
Hypoglycemia	22 (8)	46 (6)	0.21
Respiratory support within 24 hours	32 (12)	90 (12)	0.94
Large for gestational age	62 (23)	128 (16)	0.02
Neonatal intensive care admit	40 (15)	92 (12)	0.22
Fetal anomalies	38 (14)	55 (7)	< 0.001

Data presented as N (frequency)

Postpartum Care Plan: Chronic Medical Conditions

- Counsel regarding the importance of timely follow-up with a primary care provider
  - Hypertension, diabetes, thyroid disorder, renal disease, mood and substance use disorders
  - Diabetes mellitus
  - Thyroid disorder
  - Renal disease
  - Mood disorders
  - Substance use disorders
- Review doses of medications (antiepileptic, psychotropic agents)
  - Dosing is adjusted for postpartum physiology
  - Medication is compatible with breastfeeding, as needed

Postpartum Care Plan: Cardiovascular Risk (ASCVD)

- Pregnancy is a natural “stress test”
- Many pregnancy complications increase her future cardiovascular risks
  - Preterm delivery
  - Gestational diabetes
  - Gestational hypertension, preeclampsia, eclampsia
- Not assessed when using risk screening tools
- Patients with elevated cardiovascular risk should be counseled and referred

Postpartum Care Plan: Mental Health

- Postpartum Depression/Anxiety
  - Anticipatory guidance regarding the signs/symptoms of depression and anxiety
  - Screening for postpartum depression with a validated instrument
  - Management and referral of women diagnosed with psychiatric conditions postpartum
- Substance Use
  - Screen for tobacco use, counsel on risks
  - Screen for substance use disorder and refer as indicated

Postpartum Care: Pregnancy Loss

- Women who experience a miscarriage, stillbirth, or neonatal death must follow-up with an obstetric provider
  - Emotional support and bereavement counseling
  - Referral, as needed, to support groups and counselors
  - Review of labs and pathology
  - Counseling regarding recurrence risk, future pregnancy planning

Support and Counseling Services

M.E.N.D.
Mommies Enduring Neonatal Death
Miscarriage, Stillbirth & Infant Loss Support

first candle
Saving babies. Supporting families.

Share
Pregnancy & Infant Loss Support
About Families Caregivers

GRIEF · COMPASSION · COMMUNITY · HOPE ·
MISS FOUNDATION

ANGEL NAMES
Association

Center for Loss in Multiple Birth (CLIMB)

Now I Lay Me Down to Sleep
Remembrance Walk
Our Journey Together

The Compassionate Friends
Supporting Family After a Child Dies
Find a Local Chapter | Contact | En Español
FIND SUPPORT | HOW YOU CAN HELP | RESOURCES | NEWS & EVENTS | ABOUT

Postpartum Care Plan: Transition to Well-Woman Care

- Identify primary care provider or primary “medical home”
  - May be her obstetrician-gynecologist
- Referrals to other subspecialists as needed
- Provide written recommendations for follow-up for well-woman care and any ongoing medical issues
  - Provide these to the patient and primary care provider

Postpartum Care Plan: Returning to Work

- 23% of employed women return to work within 10 days of delivery
- Additional 22% return between 10 and 40 days
- Ensure women, their families, and employers understand:
  - Completion of the comprehensive postpartum visit does not obviate the need for continued recovery and support through 6 weeks postpartum and beyond

Table 1. Suggested Components of the Postpartum Care Plan* ⇦

Element	Components
Care team	Name, phone number, and office or clinic address for each member of care team
Postpartum visits	Time, date, and location for postpartum visit(s); phone number to call to schedule or reschedule appointments
Infant feeding plan	Intended method of infant feeding, resources for community support (eg, WIC, Lactation Warm Lines, Mothers' groups), return-to-work resources
Reproductive life plan and commensurate contraception	Desired number of children and timing of next pregnancy Method of contraception, instructions for when to initiate, effectiveness, potential adverse effects, and care team member to contact with questions
Pregnancy complications	Pregnancy complications and recommended follow-up or test results (eg, glucose screening for gestational diabetes, blood pressure check for gestational hypertension), as well as risk reduction recommendations for any future pregnancies
Adverse pregnancy outcomes associated with ASCVD	Adverse pregnancy outcomes associated with ASCVD will need baseline ASCVD risk assessment, as well as discussion of need for ongoing annual assessment and need for ASCVD prevention over lifetime.
Mental health	Anticipatory guidance regarding signs and symptoms of perinatal depression or anxiety; management recommendations for women with anxiety, depression, or other psychiatric issues identified during pregnancy or in the postpartum period
Postpartum problems	Recommendations for management of postpartum problems (ie, pelvic floor exercises for stress urinary incontinence, water-based lubricant for dyspareunia)
Chronic health conditions	Treatment plan for ongoing physical and mental health conditions and the care team member responsible for follow-up

Abbreviations: ASCVD, atherosclerotic cardiovascular disease; WIC, Special Supplemental Nutrition Program for Women, Infants, and Children.

ACOG: Policy and Postpartum Care

"Optimizing care and support for postpartum families will require policy changes."

- Changes in the scope of postpartum care should be facilitated by reimbursement policies that support postpartum care as an ongoing process, rather than an isolated visit
- Provisions for paid parental leave are essential to improve the health of women and children and reduce disparities
  - Maintenance of full benefits and 100% pay for at least 6 weeks
- Obstetric providers should be in the forefront of policy efforts to enable all women to recover from birth and nurture their infants

Coverage by Medicaid for Postpartum Care

- Medicaid finances ~45% of births in the United States
- Traditionally Medicaid coverage ends 60 days postpartum
- 31 states & District of Columbia have adopted Medicaid expansion programs
  - Such policies have been associated with improved rates of low birth weight and

Texas Policy

2007
- Texas launches Women's Health Program (WHP), most costs covered by Medicaid 1115 waiver
- Covered family planning, screening for acute/chronic health conditions

2011
- Medicaid 1115 waiver renewal not approved by CMS

2013
- WHP Replaced with Texas Women's Health Program (TWHP) and Expanded Primary Healthcare Program (EPHC), using state funds

2016
- TWHP and EPHC consolidated into Healthy Texas Women (HTW), with auto-enrollment of eligible Medicaid for Pregnant Women clients into HTW after pregnancy

2020
- CMS approves Medicaid 1115 waiver for THW, to cover most costs with federal funds

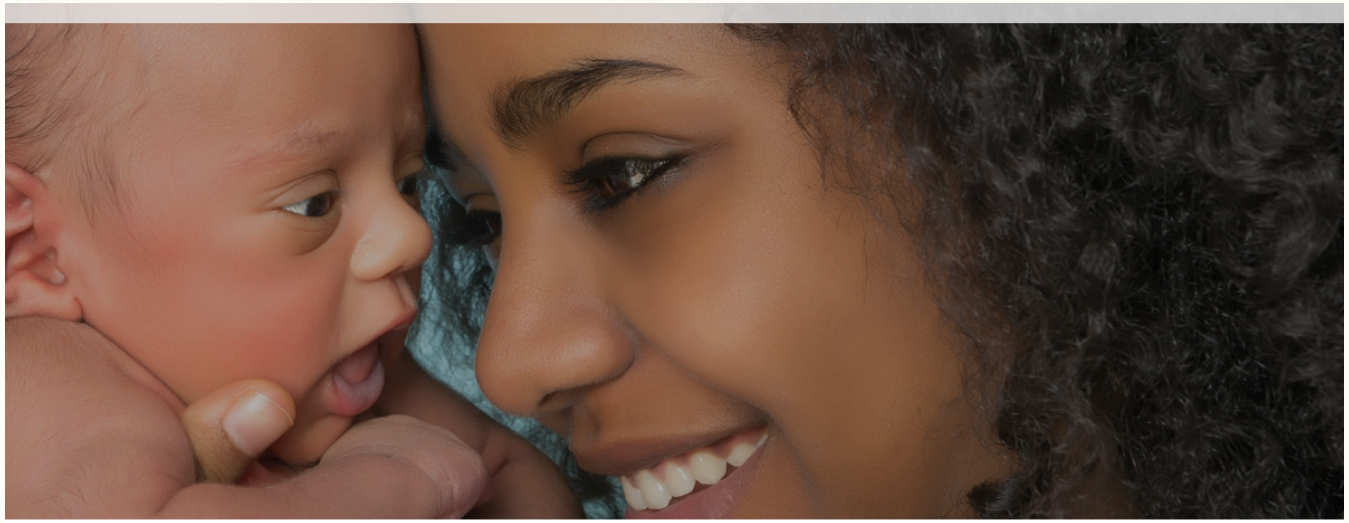
Postpartum Visit Attendance

- Up to 40% of women do not attend the postpartum visit
  - Impedes management of chronic health conditions
  - Decreases access to reliable contraception
  - Increases risk of short interval pregnancy
- Attendance worse among women with limited resources

Increasing Engagement

- Provider/Clinic interventions:
  - Discuss the importance of postpartum care during prenatal visits
  - Ensure variety of caregivers reinforce the importance of follow-up
    - *Intrapartum support staff, postpartum nurses, discharge planners*
  - Schedule postpartum visits during prenatal care or before hospital discharge
  - Use technology for appointment reminders (email, texts)
- Policy level interventions:
  - Increase access to paid sick days and family leave

TCHMB Efforts



Postpartum Access to Healthcare (PATH)

Conclusions

- ACOG recommendations are feasible
- Care barriers:
  - Provider/clinic: Integration of psychosocial elements into traditional medical care
    - *Use of entire postpartum care team and community resources*
  - Policy: Funding for women receiving Medicaid coverage
    - *Providers must act as advocates for our patients*
- Strategies for success:
  - Organize and document a postpartum care plan
  - Begin to address postpartum care during prenatal care

Recap

- https://www.polleverywhere.com/my/polls

Thank You,
Questions?

Overall Mortality Rates in Texas and Southern U.S.

- Overall mortality rate for women ages 15-49 in Texas is 94 per 100,000
- Overall mortality rate for women ages 15-49 in the South is 122 per 100,000
- Leading causes of death:
  - Accidents, malignancy, heart disease, suicide, cirrhosis, homicide, diabetes, stroke, influenza, lower respiratory disease, sepsis
- 26 times more likely to die in an accident than from pregnancy/ childbirth

Age	U.S. Mortality Rate (per 100,000)	Texas Mortality Rate (per 100,000)	Texas Pregnancy-related Mortality Rate (per 100,000)
15-19	29	29	0.5
20-24	50	45	1.5
25-29	68	51	1.9
30-34	93	77	2.1
35-39	120	106	1.8
40-44	164	147	1.2
45-49	241	220	0.9

https://wonder.cdc.gov/controller/datarequest

Preconception (Interpregnancy) Care

- Several national and international medical organizations and advocacy groups have focused on the optimization of health before conception.
- This has resulted in the development of clinical recommendations and educational materials.

Birth Defects: Modifiable Risk Factors

- Periconception folate supplementation
  - Decreases the risk of neural tube defects (NTD)
- Periconception medication exposures
  - Isotretrinoin (Accutane) exposure associated with anophthalmia
  - Certain seizure medications associated with NTDs and cleft lip/palate
- Uncontrolled diabetes and/or obesity
  - High blood sugar is associated with NTDs as well as heart, kidney, and skeletal defects
- Alcohol or tobacco use
  - Associated with heart defects, gastroschisis, and omphalocele

Preconception Medication Modifications

- Many medications are teratogenic (cause birth defects):

Acitretin/Isotretinoin	Cyclophosphamide	Paroxiteine
ACE-Inhibitor	Lamotrigine	Phenytoin
ARB	Lithium	Phenobarbital
Testosterone	Methimazole	Topiramate
Carbamazepine	Methotrexate	Warfarin

- These medications should NEVER be used in women of childbearing age without use of a *reliable* birth control method
- These medications should be transitioned to another medication PRIOR to cessation of that birth control method

Causes of Maternal Mortality in Texas

1. Cardiac event
2. Drug overdose
3. Hypertension/Eclampsia
4. Hemorrhage
5. Sepsis