Vermont Child Health Improvement Program
UNIVERSITY OF VERMONT LARNER COLLEGE OF MEDICINE

OB/GYN Webinar Series 2018-2019

Hot Topics in Obstetrical Care

Tuesday, May 14, 12:15pm- 1pm EST

Presented by:

The University of Vermont
LARNER COLLEGE OF MEDICINE

THE University of Vermont MEDICAL CENTER

VERMONT DEPARTMENT OF HEALTH

VCHIP Webinars

Collaboration with UVMMC, Vermont Dept. of Health, VCHIP

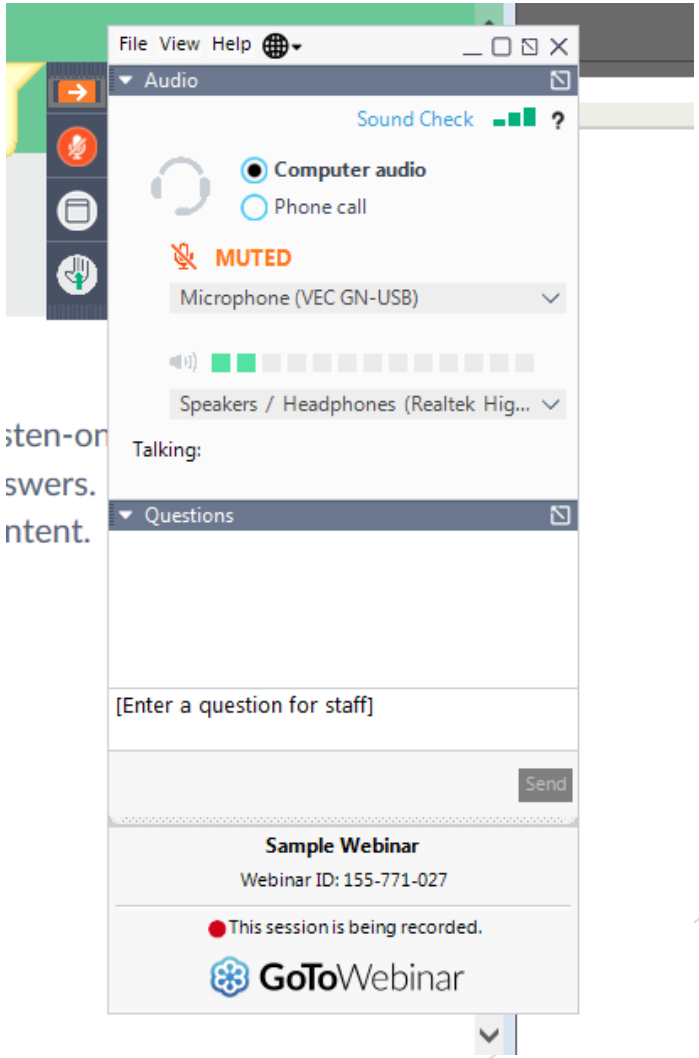
Today's Webinar:

- **Venous Thromboembolism**
  - **Kelley McLean, MD,- Associate Professor OB/GYN & Reproductive Services, LCOM, Maternal Fetal Medicine, UVMMC**
- **Strong Families Vermont**
  - **Margaret Tarmy, RN, MSN, CCM, Vermont Department of Health, Div. of Maternal and Child Health**

Recorded webinars and to register for upcoming webinars, visit vchipobstetrics.org .

Questions/Comments During the Webinar

Use the Question box in your webinar toolbar



Prevention of Peripartum Venous Thromboembolism

VCHIP Webinar, “Hot Topics in Obstetrics”

Kelley McLean, MD
Associate Professor Obstetrics & Gynecology
Division of Maternal Fetal Medicine,
University of Vermont College of Medicine, Burlington, VT

Leading Causes of Maternal Death

Shared Global:

- Hemorrhage
- Pregnancy-related HTN
- Infection

Specific to Developing Countries

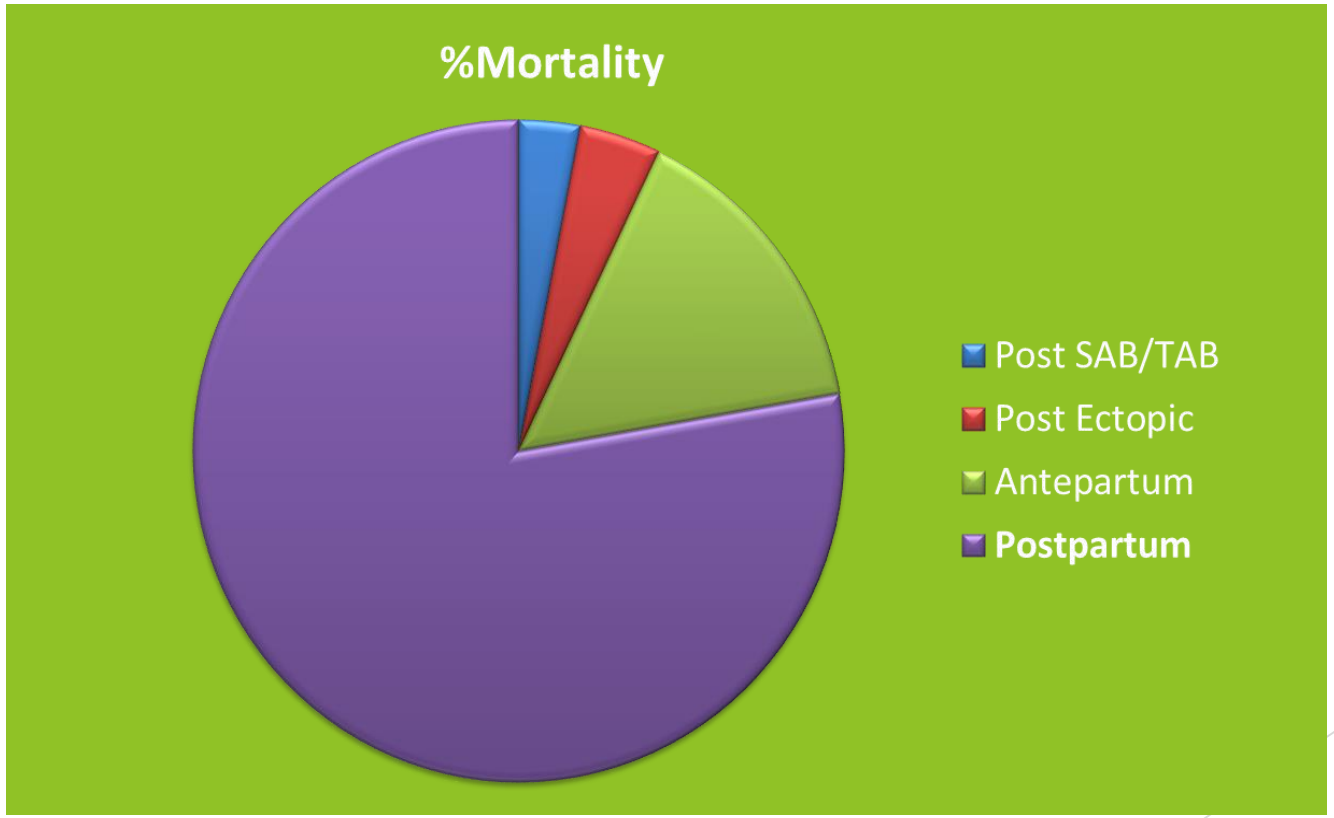
- Obstructed labor
- Unsafe abortions

Specific to Developed Countries

- **Pulmonary Embolism**
- Cardiomyopathy
- Cardiovascular Disease
- “Other” medical Conditions

Maternal Death: Postpartum Risk

- 77% of maternal deaths occur postpartum
  - Likely an underestimate
  - Circulatory disease (venous and arterial) may be a driving force



Obstet Gynecol. 2010: 116(6)

Pregnancy-Related Mortality in the United States, 1998 to 2005

Cynthia J. Berg, MD, MPH, William M. Callaghan, MD, MPH, Carla Syverson, CNM, MN, MPH, and Zsakeba Henderson, MD

- 7 causes of death each contributed 10-13% of deaths: hemorrhage, **PE**, infection, hypertensive d/o of pregnancy, cardiomyopathy, CV conditions, and non CV medical conditions

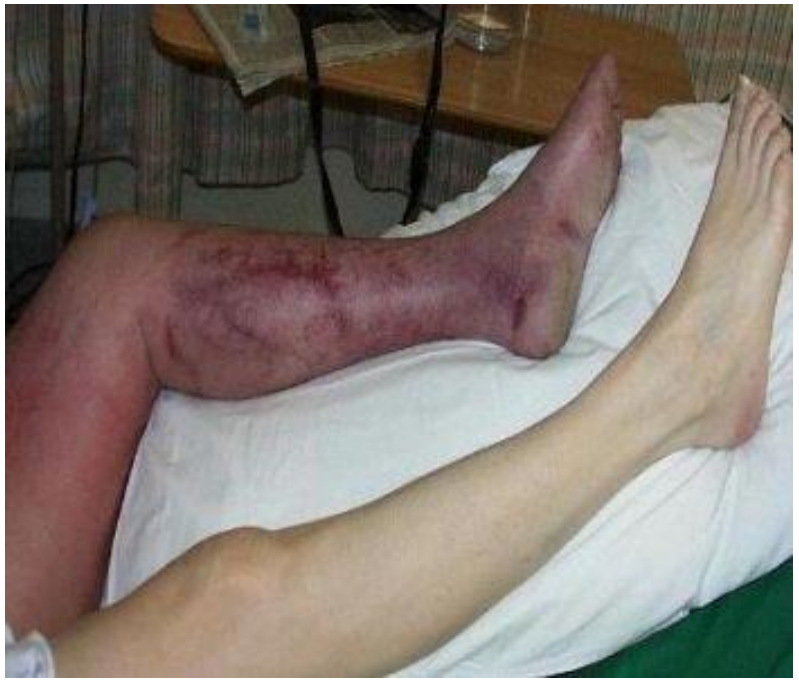
Berg, *Obstet Gynecol.* 2010

VTE and U.S. Maternal Mortality

- From 2006 to 2010, the PERCENTAGE contribution to pregnancy-related deaths from embolism slightly declined; however, the absolute INCIDENCE of maternal death from PE has remained stable at ~1/100,000 pregnancies or 10% of U.S. maternal deaths
- The U.S. maternal death rate due to PE has remained stable despite ACOG 2011 recommendation to apply mechanical compression devices to all patients undergoing cesarean
- The incidence of VTE has actually increased over the same time frame

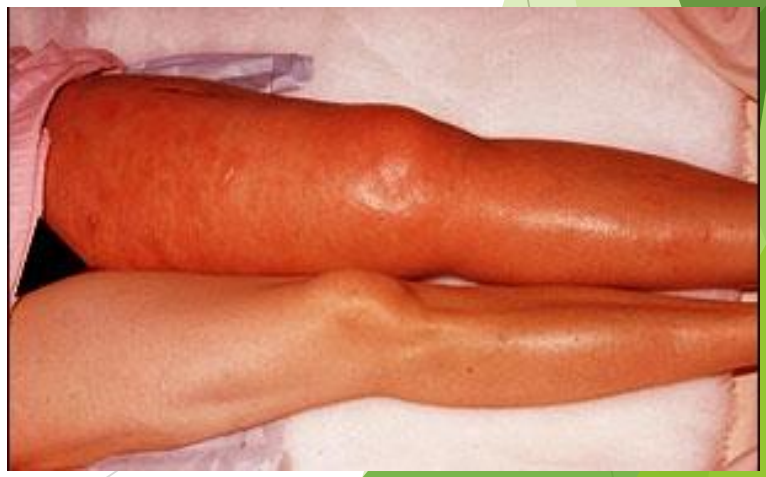
Creanga, A.A., et al. Pregnancy-related mortality in the United States, 2006-2010 *Obstet Gynecol.* (2015,Jan);125(1):5-12.
Friedman, Am J Obstet Gynecol 2014;212:221.e1-12

PREGNANCY-RELATED THROMBOSIS



Antepartum Venous Thromboembolism (VTE) Risk

- Risk of venous thromboembolism (VTE) in pregnancy ≈ 1/1000-1,600 births
  - Leading cause of maternal morbidity in the US
- 4-5x increased thrombosis risk in pregnancy vs. non-pregnant



Post-Partum: Even Worse…..

- **20-80x increased venous thrombosis risk post partum vs. non-pregnant**
- Approx. 1/2 to 2/3 of pregnancy-related VTE occurs in the post partum period
- Period of greatest daily VTE risk in post partum
  - Especially true for PE

Duration of Increased Risk of Thrombosis Postpartum

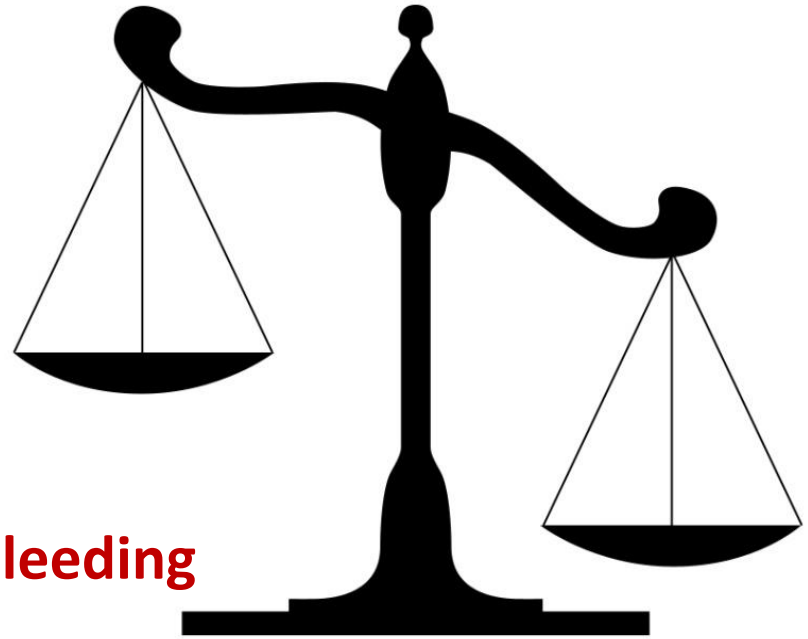
- Increased VTE risk extends beyond the conventional 6 week postpartum window:
  - Kamel et al.: “Risk of a Thrombotic Event after the 6-Week Postpartum Period”:
    - Retrospective cross-over cohort study, 1,687,930 postpartum women
      - Elevated thrombosis risk up to 12 weeks, with no further increased risk >12 weeks PP
      - 0-6wks PP: Odds ratio 10.8 (95% CI 7.8-15.1)
      - 7-12wks PP: Odds ratio 2.2 (95% CI 1.67-4.5)

Kamel et al. NEJM 2014

Hemostatic Changes in Pregnancy

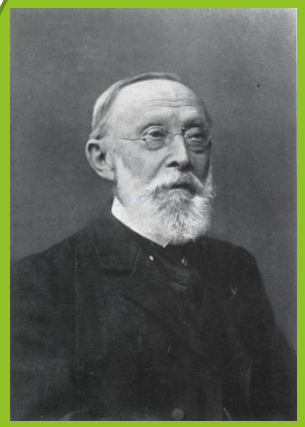
Hemostasis and Pregnancy

- Pregnancy presents a paradoxical challenge to the hemostatic system
  - Hemorrhagic AND thrombotic risk
- Local and systemic adaptations allow a hemostatic balance to avoid hemorrhage, while maintaining blood fluidity
- Relative shift away from the non-pregnant anti-coagulant state to a more pro-coagulant state



What Accounts for this Prothrombotic Shift?

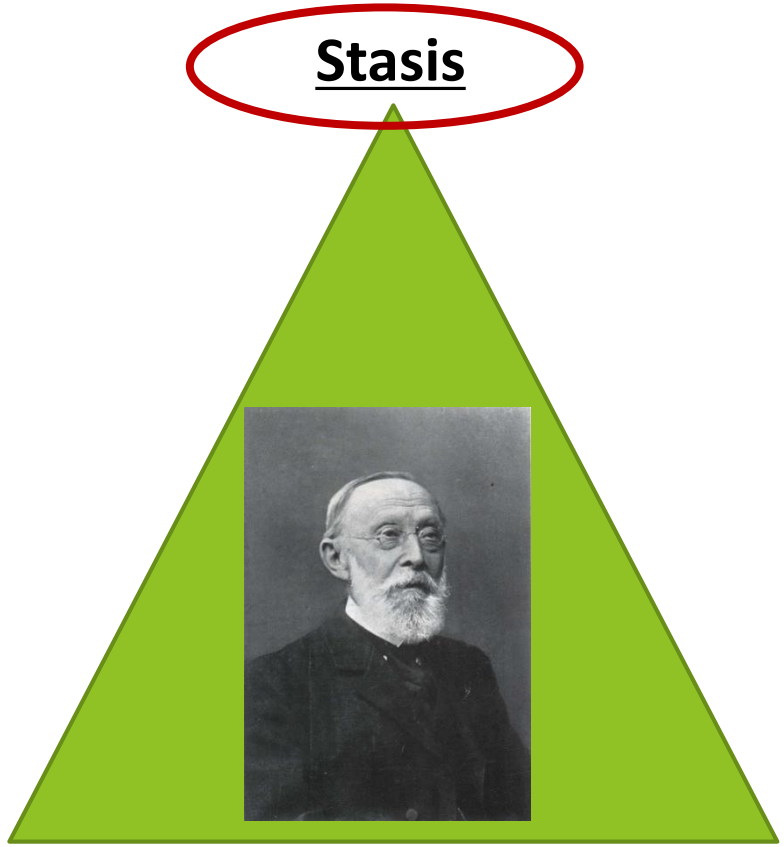
Stasis



Endothelial Injury

Hypercoaguability

What Accounts for this Prothrombotic Shift?

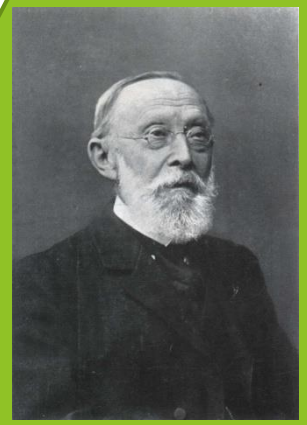


Virchow's Triad: Stasis

- Hormone-mediated ↑ in venous capacitance
  - Increased circulating progesterone
  - Local endothelial production of prostacyclin and nitric oxide
- IVC and pelvic vein compression by the uterus
  - Macklon et al. used ultrasound to show an ↑ in vessel diameter, and a ↓ in flow velocity with increasing gestation

Creasy and Resnik, 6th Edition
Macklon et. al BJOG 1997

Stasis



Endothelial Injury

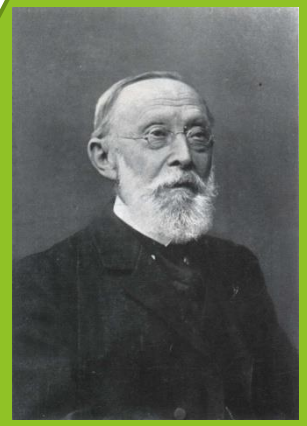
Hypercoaguability

Virchow's Triad: Hypercoaguability

- Progressive ↑in most coagulation factors
  - ↑in factors I, VII, VIII, X (FII, V, IX relatively stable)
- ↓in protein S
- Progressive ↑ in APC resistance
- vWF and fibrinogen ↑
- ↓ fibrinolysis
  - Due primarily to ↑ PAI-1, PAI-2

Morgan; *International J Obstetric Anesth,* 2012

Stasis



Endothelial Injury

Hypercoaguability

Virchow's Triad: Endothelial Injury

- Unclear contribution during pregnancy
  - Pregnancy results in improved endothelial function
- Endothelial dysfunction and injury associated with preeclampsia
- Delivery causes vascular injury and changes at the uteroplacental interface
- Surgical delivery amplifies injury

Post-Partum

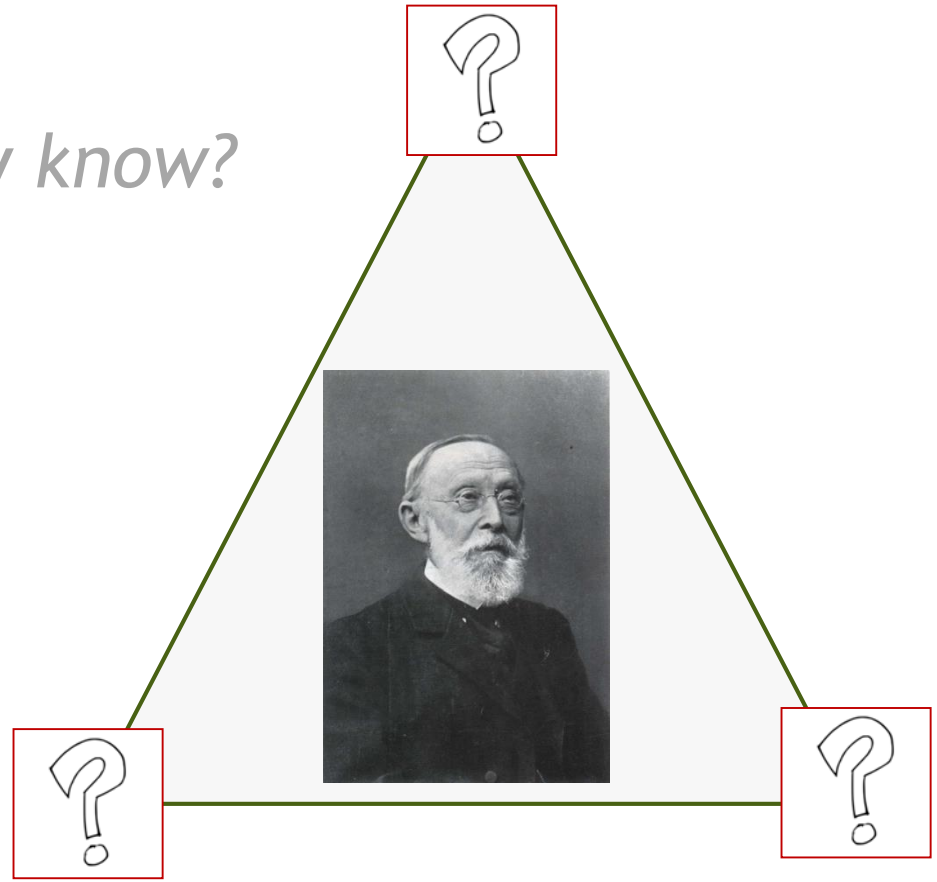
Stasis

Endothelial Injury

Hypercoaguability

Post-Partum

What do we really know?



What we *DON'T* know: Hemostatic Changes AFTER Pregnancy

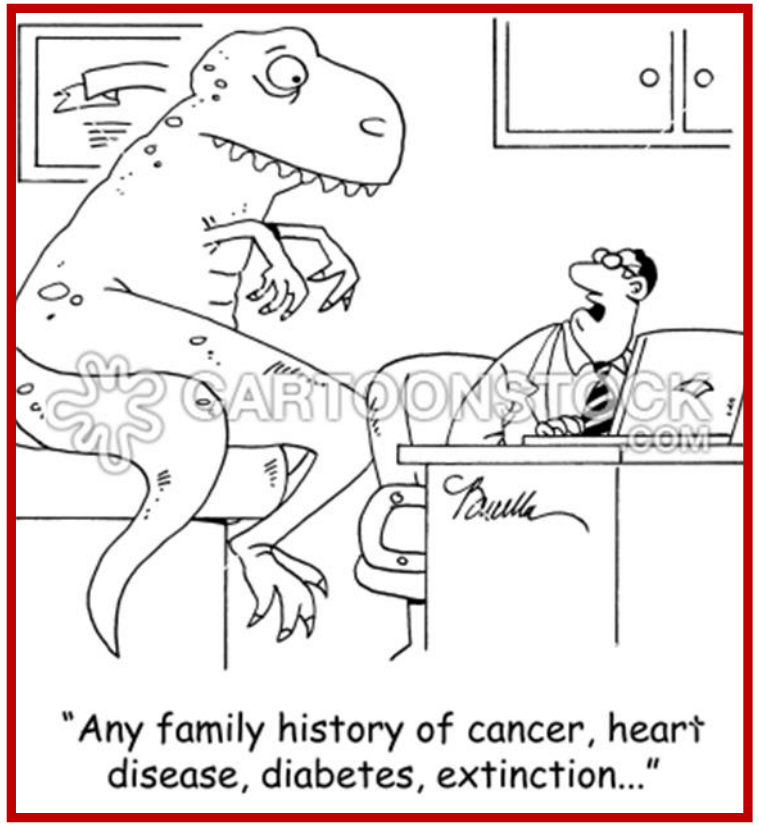
- Specific mechanism(s) leading to substantially increased risk are not well-characterized
  - Stasis?
  - Endothelial Injury?
  - Hypercoaguability?
- If post and antenatal VTE are pathologically distinct

POSTPARTUM VTE PROPHYLAXIS

VTE: Risk Factors

- **Personal history of VTE**
- Family history of unprovoked VTE
- Thrombophilia
- Obesity
- Smoking
- Multiples
- ART
- Hemorrhage
- Blood product transfusion
- Intrapartum infection
- C-section
- Cardiac Dz

- Planned thromboprophylaxis decisions rest on HISTORY: personal hx of VTE, family hx of VTE, known thrombophilia



Thrombophilias

- Risk estimates for VTE in pregnant women with thrombophilia are imprecise (at best)
- Deficiencies in natural anticoagulants (PC, PS, AT) were once thought to be particular high-risk
  - Older studies
  - Methodological problems
  - Recent, more rigorous studies do not support such a high risk

Thrombophilias: Estimated RR of Pregnancy-Related VTE

- Antithrombin: 4.7
- Protein C deficiency: 4.8
- Protein S deficiency: 3.2
- FVL hetero: 8.3
- **FVL homozygous: 34.4**
- Prothrombin G20201A mutation heterozygous: 6.8
- **Prothrombin G20201A mutation homozygous: 26.4**

Chest 2012

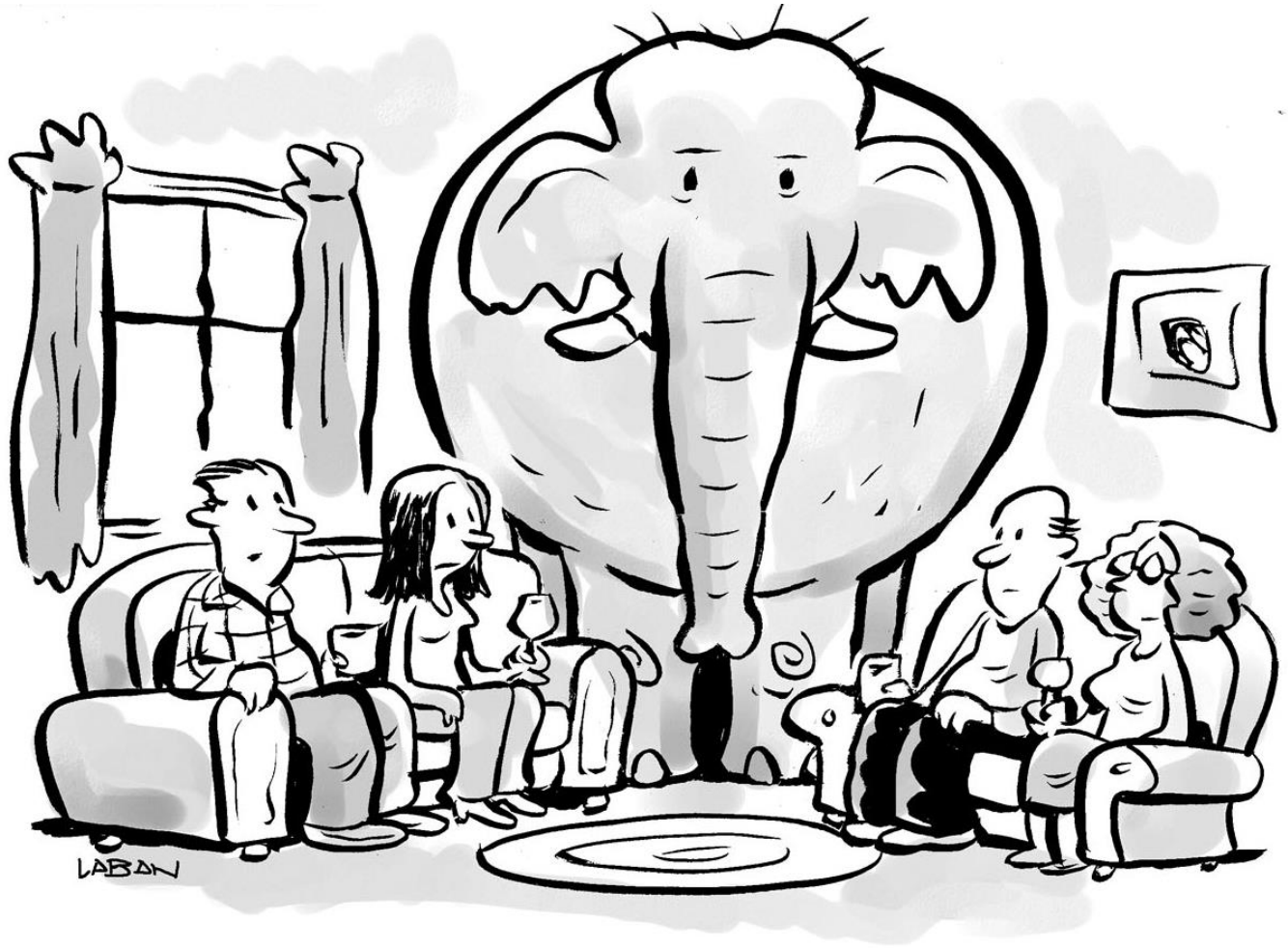
Antepartum and/or Postpartum thromboprophylaxis based on pre-existing risk:

- American Society of Hematology (2018)
- ACOG (2018)
- RCOG (2017)
- CHEST Guidelines (2012)
- Your local friendly Maternal Fetal Medicine and Hematology colleagues

Antepartum and/or Postpartum thromboprophylaxis based on pre-existing risk:

- There is some variation in recommendations for antepartum and/or postpartum prophylaxis based on preexisting risk
  - In general, there is more agreement than not (particularly for postpartum)
  - The same is not true for thromboprophylaxis decisions based on peripartum complications (i.e. postpartum heparin)…….

Thrombophrophylaxis for Peripartum Indications



"As a matter of fact, it's pretty much **all** *we talk about."*

Thromboprophylaxis for peripartum complications

- The majority of women who will require postpartum thromboprophylaxis will be identified during and/or after delivery
- Unlike national and international guidelines for women with significant preexisting risk, such as prior VTE, thrombophilia, and family history of VTE, there is generally less agreement on what do do for women with peripartum risk factors for VTE

Delivery hospitalization and VTE Prophylaxis: EVIDENCE GAP

- ACOG, ACCP (CHEST), RCOG, and the National Partnership for Maternal Safety (NPMS) VTE bundle provides several risk assessment strategies of varying complexity from which to choose
  - Significantly different rates of pharmacological prophylaxis have been shown to result
- Beyond the highest risk patients (those with prior VTE events and high-risk thrombophilias), no high-quality evidence exists to determine which VTE risk factors, alone or in combination, place patients at such high risk that pharmacological prophylaxis is mandated

ACOG

- ….“thromboprophylaxis should be individualized according to patient risk factors”
- “Each facility should carefully consider the risk assessment protocols available and adopt and implement one of them in a systematic way to reduce the incidence of VTE in pregnancy and the postpartum period”

“Insomnia is very common. Try not to lose any sleep over it.”

Peripartum VTE risk assessment

- Historically, RCOG has been a leader, though some have argued that RCOG's guidelines result in over-treatment (as opposed to ACOG's guidelines, which likely result in under-treatment)
- More recently, the California Maternal Quality Care Collaborative (CMQCC), has created risk assessment tools and thromboprophylaxis recommendations specific to the delivery hospitalization
  - Recommendations are based on their own review of California's maternal mortality data
  - **Their data review demonstrate that cesarean delivery and obesity are leading risk factors for maternal VTE death**

Pregnancy-Related Mortality from VTE in California: 2002-2007

- 5th leading cause of pregnancy-related death
- Accounted for 9% (n=29) of all pregnancy-related deaths in California
- Nearly all of these deaths had at least:
  - Some chance of preventability (45%) and
  - More than half **(52%)** had a **Good-to-Strong** chance of preventability

The California Pregnancy-Associated Mortality Review. Report from 2002-2007 Maternal Death Reviews. Sacramento: California Department of Public Health, Maternal Child and Adolescent Health Division. 2017

Pregnancy-related mortality from VTE in CA, 2002-2007: significant association with obesity and cesarean delivery

- Overall, 17% of the women who had a pregnancy-related maternal death in California had a BMI ≧ 35
- Among VTE related deaths, 61% of women had a BMI ≥ 35 (crude OR of ~7.4; RR of ~3.6)
- Additionally, 80% of the obese women who died from VTE had a cesarean delivery (crude OR of ~6.7; RR of ~2.5)

The California Pregnancy-Associated Mortality Review. Report from 2002-2007 Maternal Death Reviews. Sacramento: California Department of Public Health, Maternal Child and Adolescent Health Division. 2017

CMQCC Venous thromboembolism (VTE) Toolkit

- 77 page online document- available for free download (after registration with an email address)
- emphasizes risk assessment throughout pregnancy to identify women who may benefit from pharmacological thromboprophylaxis
- The Toolkit advocates for the creation of user-friendly guidelines, which can be individualized for the particular “culture and available resources” of different facilities
- Toolkit authors worked to maintain “fundamental consistency” with the National Partnership for Maternal Safety (NPMS) VTE bundle and the Safe Motherhood Initiative/American Congress of Obstetricians and Gynecologists (ACOG) District II
- ACOG, ACCP, RCOG, and NPMS protocols and recommendations were reviewed and utilized

Improving Health Care Response to Maternal Venous Thromboembolism: A California Quality Improvement Toolkit

February 2018

THIS COLLABORATIVE PROJECT WAS DEVELOPED BY:

THE MATERNAL VENOUS THROMBOEMBOLISM TASK FORCE
CALIFORNIA MATERNAL QUALITY CARE COLLABORATIVE
MATERNAL, CHILD AND ADOLESCENT HEALTH DIVISION
CENTER FOR FAMILY HEALTH
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

CMQCC
California Maternal
Quality Care Collaborative

CDPH
California Department of
PublicHealth

CMQCC
California Maternal
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TOOLKITS

- Cardiovascular Disease Toolkit
- Early Elective Deliveries Toolkit
- OB Hemorrhage Toolkit, V2.0
- Preeclampsia Toolkit
- Supporting Vaginal Birth and Reducing Primary Cesareans Toolkit
- Venous Thromboembolism Toolkit

WEBINARS

RESOURCE LIBRARY

Toolkits

CMQCC Maternal Quality Improvement Toolkits aim to improve the health care response to leading causes of preventable death among pregnant and postpartum women as well as to reduce harm to infants and women from overuse of obstetric procedures. All Toolkits include a compendium of best practice tools and articles, care guidelines in multiple formats, hospital-level implementation guide, and professional education slide set. The Toolkits are developed in partnership with key experts from across California, representing the diverse professionals and institutions that care for pregnant and postpartum women. CMQCC is grateful to the volunteers who make this work possible.

Maternal Quality Improvement Toolkits:

- Improving Health Care Response to Maternal Venous Thromboembolism, 2018
- Improving Health Care Response to Cardiovascular Disease in Pregnancy and Postpartum, 2017
- Toolkit to Support Vaginal Birth and Reduce Primary Cesareans and Implementation Guide, 2016
- Improving Health Care Response to Obstetric Hemorrhage, V2.0, 2015 (V1.0 released in 2010)
- Improving Health Care Response to Preeclampsia, 2014
- Elimination of Non-medically Indicated (Elective) Deliveries Before 39 Weeks Gestational Age, 2010 (Licensed to March of Dimes)

Contact Us

If you are having problems downloading our toolkit, please try using another internet browser. Our website functions best in Chrome, Firefox or Safari.

If you are still unable to download the toolkit or have further questions, please contact CMQCC Admin.

Quality Improvement Quick Links

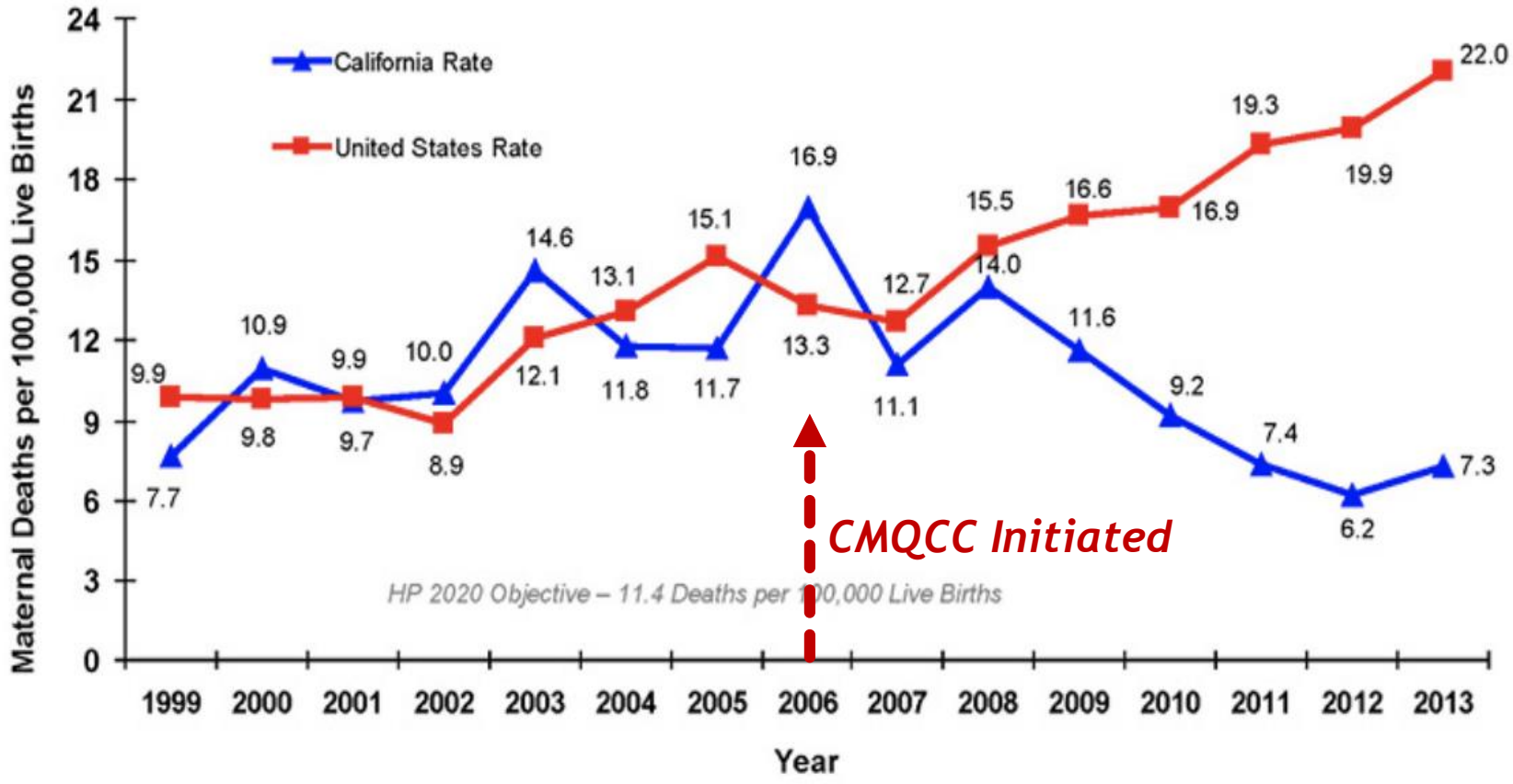
Check out our resource guides for the following quality improvement initiatives:

Obstetric hemorrhage

Preeclampsia

Supporting Vaginal Birth

Maternal Mortality Rate, California and United States; 1999-2013



SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2013

CMQCC VTE Toolkit: Major Components

1. Suggested prophylaxis and treatment regimens, review of recognized thrombophilias
2. Risk assessment
   - First Prenatal Visit/Outpatient Prenatal Care*
   - Antepartum Hospitalization (non-Delivery)
   - Delivery Hospitalization
     - Cesarean Birth
     - Vaginal Birth
   - Post-discharge Extended Duration Anticoagulation
3. Anesthesia and Analgesia considerations
4. Patient, provider and nursing education materials
5. Implementation strategies

IV. CMQCC VTE Toolkit: VTE Risk Assessment

Standardized Risk Assessment: *Throughout Pregnancy*

1. First prenatal visit/Outpatient prenatal care

2. Antepartum hospitalization(non-delivery)

3. Delivery hospitalization, including cesarean and vaginal birth

4. Post-discharge extended duration anticoagulation

Standardized Risk Assessment: *Throughout Pregnancy*

1. First prenatal visit/Outpatient prenatal care
2. **Antepartum hospitalization (non-delivery)**
3. Delivery hospitalization, including cesarean and vaginal birth
4. Post-discharge extended duration anticoagulation

Antepartum Hospitalization: Ambulation!

- The CMQCC Maternal VTE Task Force recommends that upon admission to the hospital, all antepartum patients should be encouraged to **(i) maintain full ambulation**, **(ii) ensure hydration**, and **(iii) utilize mechanical prophylaxis** (knee length sequential compression devices) while in bed
- Emphasis on ambulation for VTE prevention and rapid deconditioning should be an integral part of the antepartum hospitalization bundle.
  - Evidence suggests that there is no advantage for prolonged bed rest or activity restriction for any of the common obstetrical conditions requiring hospitalization
  - A concerted educational program must be implemented to change the longstanding culture of “bed rest with bathroom privileges.”


“Bedrest With Bathroom Privileges”

Antepartum Hospital Admission VTE Risk Assessment

Clinical History	Risk Level	Anticoagulation
Encourage ambulation and avoid dehydration at all risk levels		
All patients not in high risk category with anticipated admission **<** 72 hours	**LOW**	Mechanical prophylaxis placed on admission continue through discharge Reassess at 72 hours
All patients admitted not in high risk category with anticipated or actual length of stay **≥** 72 hours	**MEDIUM**	Mechanical prophylaxis placed on admission continue through discharge **PLUS** Prophylactic-dose LMWH or UFH in collaboration with anesthesia
High risk or Antiphospholipid Syndrome (APS), with no prior VTE, regardless of family history Prior provoked, idiopathic, or estrogen related VTE Low risk thrombophilia **AND** family history of VTE **OR** single prior VTE **OR** Patients already receiving LMWH or UFH as outpatient Multiple prior VTE episodes Prior VTE and high risk or APS	**HIGH**	*Mechanical prophylaxis placed on admission continue through discharge* **PLUS** Prophylactic dose LMWH / UFH in collaboration with anesthesia **OR** *Mechanical prophylaxis placed on admission continue through discharge* **PLUS** Prophylactic ***or*** Therapeutic dose LMWH / UFH consistent with antepartum dosing in collaboration with anesthesia

CMQCC California Maternal Quality Care Collaborative

CDPH California Department of PublicHealth

Standardized Risk Assessment: *Throughout Pregnancy*

1. First prenatal visit/Outpatient prenatal care
2. Antepartum hospitalization(non-delivery)
3. **Delivery hospitalization, including cesarean and vaginal birth**
4. Post-discharge extended duration anticoagulation

VTE prophylaxis for Delivery Hospitalization: Cesarean Birth ≠ Vaginal Birth

- The CMQCC VTE Toolkit conceptually separates cesarean and vaginal birth (based on their own California state data)
  - Simple risk stratification used after cesarean birth
  - VTE risk assessment largely based on BMI if vaginal birth

Cesarean Birth Major and Minor VTE Risk Factors

Major VTE Risk Factors	Minor VTE Risk Factors
☐ BMI > 35 kg/m^2 @ delivery	☐ Multiple gestation
☐ Low risk thrombophilia	☐ Age > 40
☐ Postpartum hemorrhage requiring:	☐ Postpartum hemorrhage ≥1000 ml
☐ Transfusion or further operation, (e.g. hysterectomy, D&C) or Interventional Radiology procedure	but not requiring: ○ Transfusion or further operation, (e.g. hysterectomy, D&C) or Interventional Radiology procedure
☐ Infection requiring antibiotics	☐ Family history of VTE (VTE occurring in a first-degree relative prior to age 50)
☐ Antepartum hospitalization ≥ 72 hours, current or within the last month	☐ Smoker
☐ Chronic medical conditions: Sickle Cell disease, Systemic Lupus Erythematosus, Significant Cardiac disease, active Inflammatory Bowel Disease, active cancer, Nephrotic syndrome	☐ Preeclampsia
Women with **one major or two minor risk factors** should receive in-hospital post cesarean pharmacologic prophylaxis	

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CDPH California Department of PublicHealth

Cesarean Birth VTE Risk Assessment and Suggested Prophylaxis

Clinical History	Risk Level	Prophylaxis Regimen
Encourage ambulation and avoid dehydration at all risk levels. **All women having cesarean birth receive mechanical prophylaxis.**		
Not meeting medium or high risk criteria	**LOW**	Mechanical prophylaxis placed prior to cesarean and continued until fully ambulatory
Cesarean Delivery with 1 Major ***or*** **≥ 2** Minor Risk Factors (See Table 6)	**MEDIUM**	Mechanical prophylaxis placed prior to cesarean and continued until fully ambulatory **PLUS** Prophylactic dose LMWH / UFH postpartum, continue until discharge
High risk thrombophilia (including acquired) no prior VTE, regardless of family history Prior provoked, idiopathic, or estrogen related VTE Low risk thrombophilia **AND** family history of VTE **OR** single prior VTE Patients already receiving LMWH or UFH as outpatient Multiple prior VTE Prior VTE with High Risk thrombophilia (including APS)	**HIGH**	Mechanical prophylaxis placed prior to cesarean and continued until fully ambulatory **PLUS** Prophylactic dose LMWH / UFH in hospital and continued until 6 weeks from date of delivery Mechanical prophylaxis placed prior to cesarean and continued until fully ambulatory **PLUS** Therapeutic dose LMWH / UFH postpartum (Postpartum dose ≥ Antepartum dose) in hospital and continued until 6 weeks from delivery date after discharge

CMQCC California Maternal Quality Care Collaborative

CDPH California Department of PublicHealth

With What and How Long?

- “We express a preference for LMWH over UFH because of its favorable safety profile”
- “The optimal duration of prophylaxis after cesarean section is not established. If we extrapolate from general surgery, treatment until discharge from the hospital, with extended prophylaxis for those with significant ongoing risk factors, may be appropriate”

Vaginal Birth VTE Risk Assessment and Suggested Prophylaxis

Clinical History	Risk Level	Anticoagulation
Encourage ambulation and avoid dehydration at all risk levels		
Delivery BMI ≥ 40 kg/m^2	**LOW**	Mechanical prophylaxis placed prior to delivery and continued until fully ambulatory
Delivery BMI ≥ 40 kg/m^2 **PLUS** Antepartum hospitalization ≥ 72 hours anticipated currently or within past month **OR** **Delivery BMI ≥ 40 kg/m^2 PLUS** Low Risk Thrombophilia	**MEDIUM**	Mechanical prophylaxis placed prior to delivery and continued until fully ambulatory **PLUS** Prophylactic dose LMWH / UFH postpartum hospitalization **BMI ≥ 40 kg/m^2 plus thrombophilia** (consider LMWH/UFH continuation 6 weeks postpartum)
High risk thrombophilia with no prior VTE regardless of family history Prior provoked, idiopathic, or estrogen related VTE Low risk thrombophilia **AND** family history of VTE *ANY* single prior VTE **OR** Patients already receiving LMWH or UFH as outpatient Multiple prior VTE Prior VTE with High Risk or Antiphospholipid Syndrome (APS)	**HIGH**	Mechanical prophylaxis placed prior to delivery and continued until fully ambulatory **PLUS** Prophylactic dose LMWH / UFH postpartum in hospital and **continued until 6 weeks from date of delivery after discharge** **OR** Mechanical prophylaxis placed prior to delivery and continued until fully ambulatory **PLUS** Therapeutic dose LMWH / UFH postpartum **(Postpartum dose ≥ Antepartum dose)** in hospital and **continued until 6 weeks from date of delivery after *discharge***

CMQCC California Maternal Quality Care Collaborative

CDPH California Department of PublicHealth

"Hospitals providing maternity care should implement uniform VTE prophylaxis strategies for childbearing women. Because no high-quality data has established which approach is best, hospital leaders should choose a strategy that best fits their patient population, local resources, and factors such as availability of electronic medical record (EMR) decision support"

Percentage of Patients Pharmacologic Prophylaxis Guideline Comparison

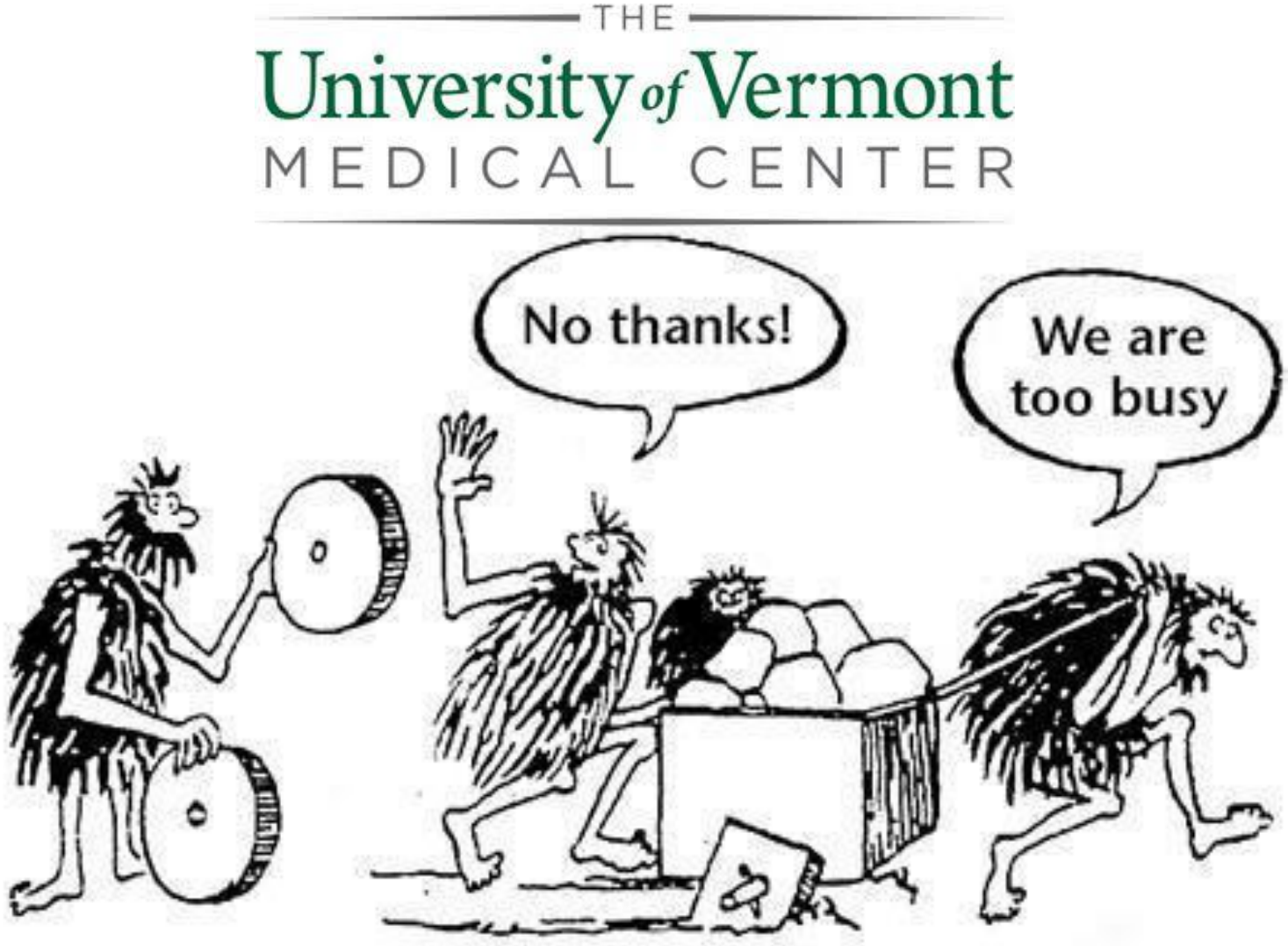
1%	ACOG	Personal history of VTE / thrombophilia
25%	CMQCC	Simplified Qualitative Major/Minor Risk Assessment (mostly obesity +CS)
35%	ACCP	Emergency caesarean, Preeclampsia Obesity, Multiple gestation Postpartum hemorrhage
85%	RCOG	Complex scoring system extensive risk factor list

Parity

So….what are we doing at UVMMC??

THE
University of Vermont
MEDICAL CENTER

So….what are we doing at UVMMC??



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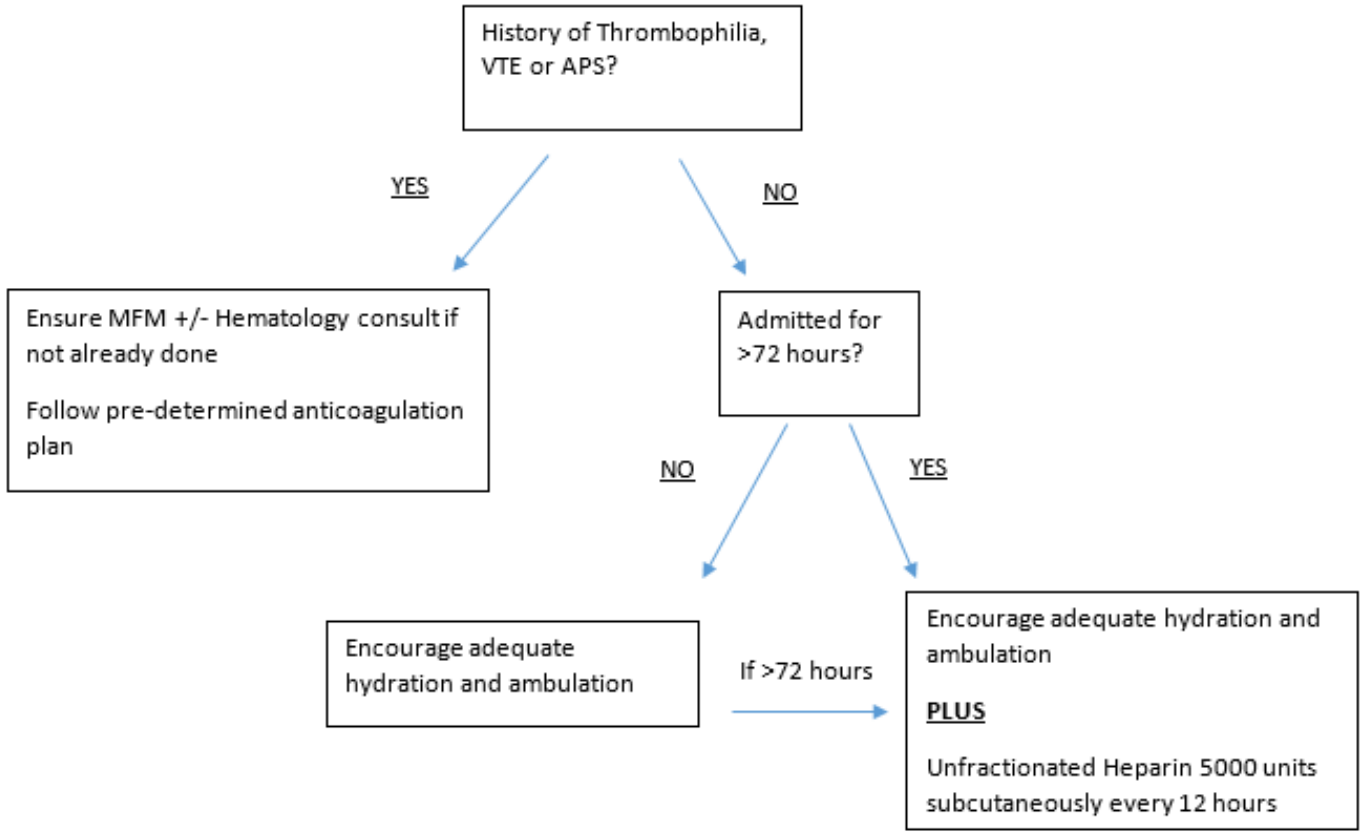
UVMMC Thromboprophylaxis Protocol for Obstetric Inpatients*

ANTEPARTUM



Nursing Instructions:
Notify treatment team/provider for acute change in clinical status eg. Contractions, bleeding, abnormal tracing

Provider instructions:
Order CBC every 3 days only between day 4-14 of initiation of UFH or until UFH is stopped, whichever comes first
Must inform anesthesiologist if initiated and state at every sign out
Provider to place order to hold heparin with change in patient clinical status

POSTPARTUM

All postpartum patients should be encouraged to have adequate hydration and ambulation

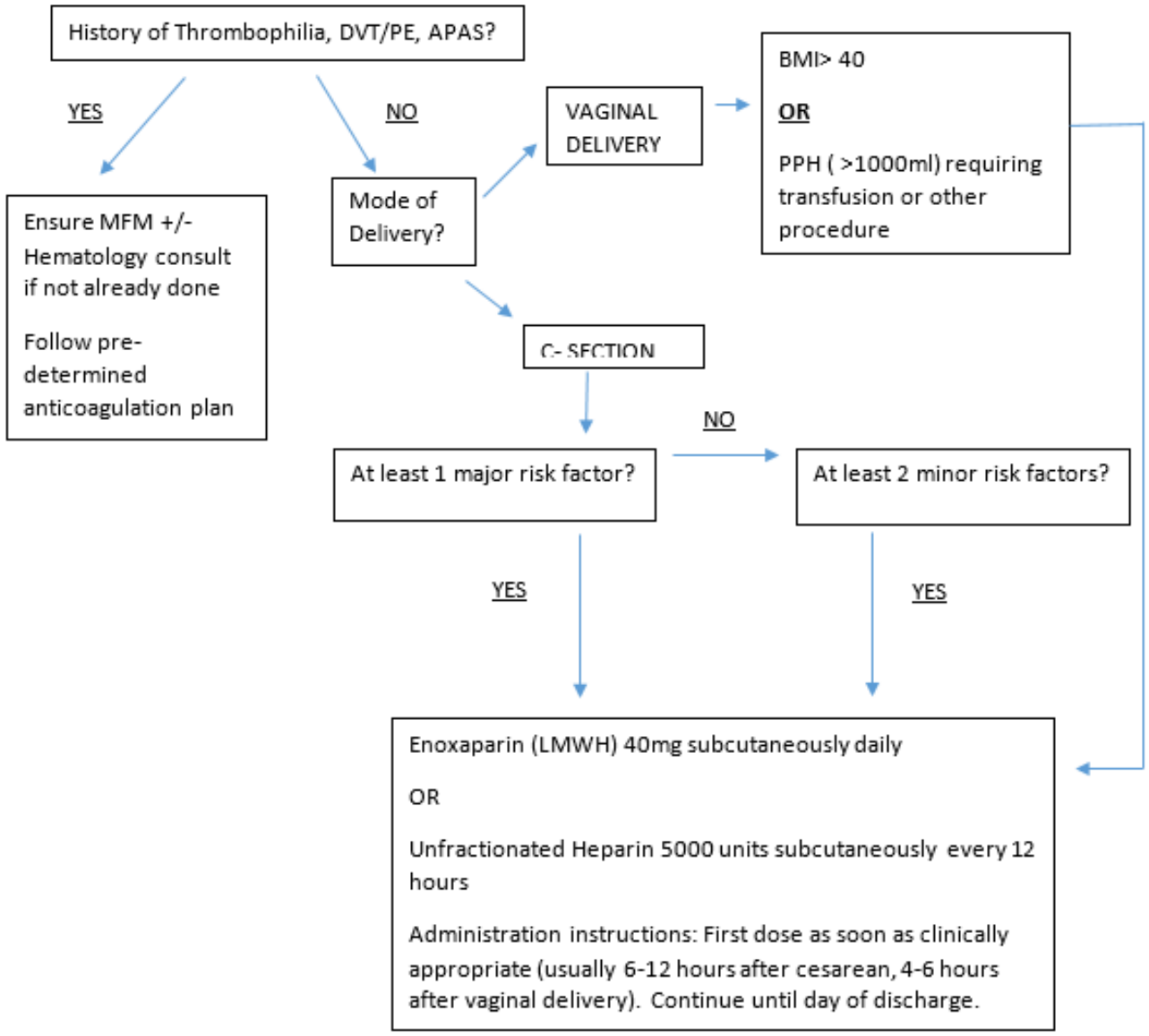


TABLE 1

MAJOR Risk factors:

BMI>35 near delivery

PPH requiring transfusion, D&C or other procedure

Infection requiring antibiotics

Antepartum admission > 72 hours

Chronic medical conditions i.e. SLE, SS disease, significant cardiac disease, Active IBD, Nephrotic syndrome, Active cancer

MINOR Risk factors:

Multiple Gestation

Age >40

PPH not requiring transfusion or additional procedures

Family history of VTE (1st degree relative <50 years)

Pre-eclampsia

Smoker

Created: 2019
Updated:

Anticoagulants and Breastfeeding

	Warfarin	UFH	LMWH
Breast Milk Excretion?	NO	NO	Yes
Properties	Polar Non-lipophilic Highly protein bound	High MW Strong neg. charge	<MW than UFH *Small* amounts excreted Poor oral bioavailability
Safety in Breastfeeding	**SAFE**	**SAFE**	**SAFE** ***Undetectable neonatal anti-Xa levels**

VTE is the “single cause of death most amenable to reduction by systematic change in practice”

Steven Clark, M.D., Semin Perinatol 2012;36(1):42-7

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NURSE HOME
VISITING
PROGRAM

Background

- ***FEDERAL FUNDING-*** Maternal Infant Early Childhood Home Visiting program (MIECHV) to implement an evidenced-based nurse-led structured home visiting intervention for families needing extra support.
- ***MODEL***: A child-focused prevention model. Internationally known as MECSH (Maternal Early Childhood Sustained Home visiting), originates in Australia, and also is implemented in the UK & South Korea.
- ***ADAPTABLE***: to fit with local systems and match local needs. MECSH was able to come to VT because of our integrated CIS system infrastructure.

Vermont Children's Integrated Services

strong families


MECSH®
Maternal Early Childhood
Sustained Home-visiting
Mission Statement
Within a salutogenic (health creating) child-focused prevention model, support identified families with young children to adapt and self-manage in their parenting journey, and source the resources to parent effectively despite the difficulties and challenges they face in their day to day lives

Program Goals

- Improve transition to parenting by supporting mothers through pregnancy.
- Improve maternal health and wellbeing by helping mothers to care for themselves.
- Improve child health and development by helping parents to interact with their children in developmentally supportive ways.
- Develop and promote parents' aspirations for themselves and their children.
- Improve family and social relationship networks by helping parents to foster relationships within the family and with other families and services.

MIECHV Benchmarks

- In addition to program goals: there are 18 benchmarks that we collect, track and report data on to MIECHV:
- Breastfeeding
- Postpartum care, IPV & referrals, Depression screening & referrals
- Tobacco cessation
- Preterm births, Well Child Visits, Safe Sleep, Child Injury
- Parent Child Interaction
- Early Language and Literacy, Developmental screening, Behavioral concerns and referrals
- Education, Insurance

Who? What?

WHO?

- Target population: pregnant women at risk of adverse maternal and/or child health and developmental outcomes: lack of support, life stressors, mental illness, childhood abuse, IPV, alcohol or drug use in the home.
- Medicaid Eligible
- At any point during pregnancy, subsequent pregnancies.
- Can be referred up to 6 weeks post-partum, caregivers of newborns< 6 weeks.
- Voluntary program.

WHAT?

- Visits occur in home. Minimum of 25 visits occur during enrollment.
- Sustained home visiting: This program is designed to continue until the child turns 2 years old.
- Flexibility for the family to leave the program sooner if family and nurse home visitor feel it is appropriate/goals are met.

Nurse Home Visiting Program Curriculum

HOW WE DO IT:

Family Partnership Model: A framework that incorporates strengths based approach to working together to manage challenges

Helper Qualities

Helper Skills

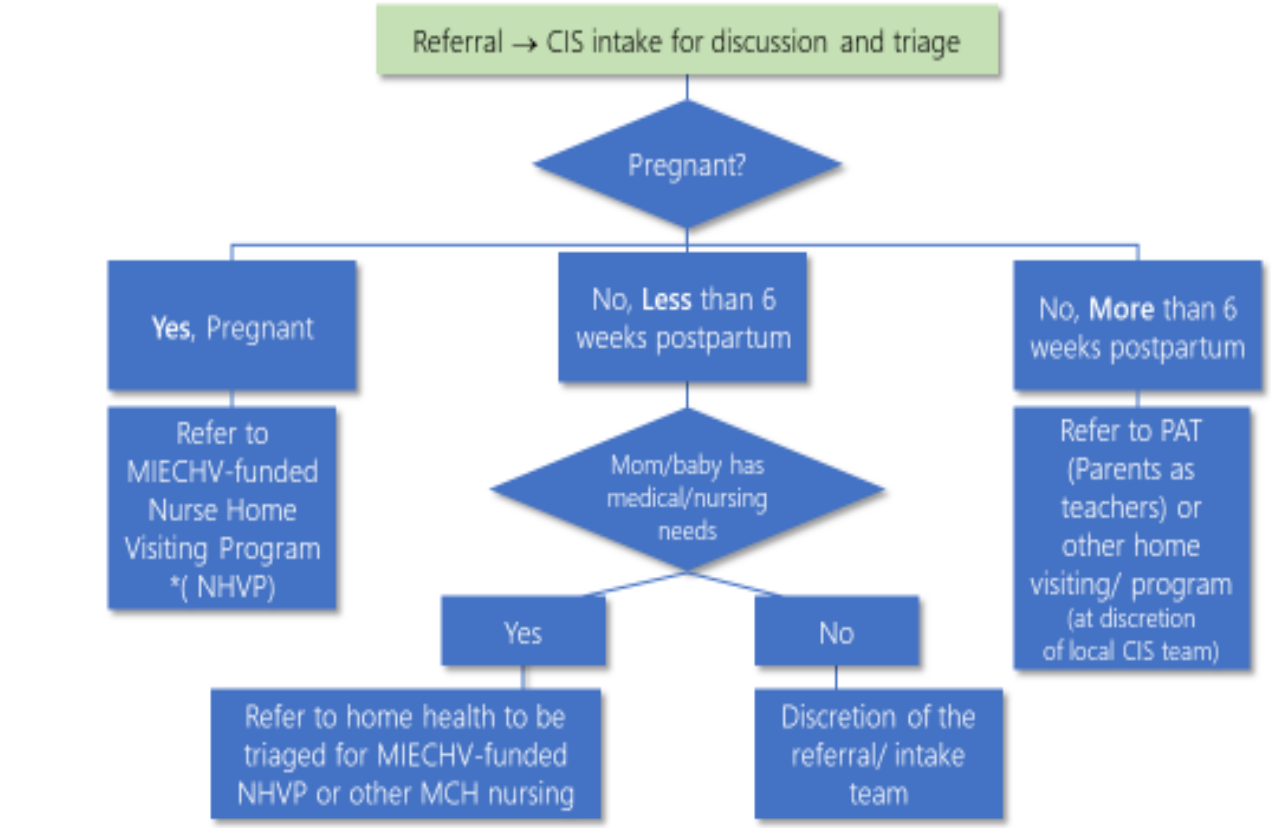
The HELPING PROCESS: exploration, understanding, goal setting, strategy planning, implementation, review, ending all impacting relationship building (tools for all of these steps)

Nurse Home Visiting Program Curriculum

- **WHAT WE DO:**
- 25 visits: prenatal to age 2 progressing in frequency from weekly> q2 weeks> q6 weeks and >q2 months.
- Various program educational materials at specific stages that teach and engage parents to enhance their babies communication, how to nurture emotional development and promote healthy infant feeding and active play
- *Learning To Communicate* (how your baby communicates & how to encourage that development)
- *First Relationships* (nurturing social & emotional development)
- *Healthy Beginnings* and Florida States Curriculum's "*Partners for a Healthy Baby*" (approved by WIC as 2nd Nutrition Education)
- Assessments and screenings, surveys:

Maternal & newborn/child nursing assessments, IPV & Edinburgh screening, Health habits, parent-child interaction (IT Home), Ages and Stages : ASQ3-ASQ-SE, Adapting & self managing, Parent satisfaction survey,

CIS Sustained Home Visiting Referral Flow



Exceptions

- If caseloads are met/ waitlists exist at home health for MIECHV-funded NHVP, referral is at the discretion of CIS teams, and may include non-MIECHV-funded NHVP
- If the family was served by to PAT or other home visiting program in the past and would like to continue with the same home visitor, family may enroll in PAT or other home visiting program regardless of pregnancy status

8/12/18

Program outcomes

MECSH
Maternal Early Childhood Sustained Home-visiting

- Children
  - Improved development/Child communication and symbolic behaviour#
- Mothers
  - Improved warm parenting/reduced hostile parenting*
  - Less birthing intervention
  - Improved health#†
  - Longer time breastfeeding†
  - Improved parenting confidence/self-efficacy#†
  - Improved use of services†
- Families
  - Improved home environment (for safety*, regularity* and child development#)
- Community
  - Fewer vulnerable children at school entry

Kemp L, Harris E, McMahon C, Matthey S, Vimpani G, Anderson T, Schmied V, Aslam H, Zapart S. (2011) Child and family outcomes of a long-term nurse home visitation program: a randomised controlled trial. *Archives of Disease in Childhood* 96:533-540

Kemp L, Harris E, McMahon C, Matthey S, Vimpani G, Anderson T, Schmied V, Aslam H. (2013) Benefits of psychosocial intervention and continuity of care by child and family health nurses in the pre and postnatal period: Process evaluation. *Journal of Advanced Nursing* 69(8), 1850-1861

Kemp L, Cowley S, Byrne F. (2017) Maternal Early Childhood Sustained Home-visiting (MECSH): A UK update. *Journal of Health Visiting* 5(8):392-397

replicated (MECSH trial and right@home trial forthcoming) * right@home trial †replicated (MECSH trial and Bulundidi Gudaga trial forthcoming)

Key Points

- Community based family centric holistic services
- Primary service coordinator as a single point of contact
- Multidisciplinary approach
- Customized services enabling precision home visiting
- MECSH® is a MIECHV funded, evidence-based program
- MECSH® is custom-built for Strong Families Vermont

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Questions?

This webinar was recorded and will be available to view within 5 days at vchipobstetrics.org

Vermont Child Health Improvement Program
UNIVERSITY OF VERMONT LARNER COLLEGE OF MEDICINE

OB/GYN Webinar Series 2018-2019

Upcoming Webinar:

-June 11, 2019 @ 12:15pm
Severe Maternal Morbidity & VT Dept. of Health Topic

To Register visit: vchipobstetrics.org
Contact: Amanda.slater@uvmhealth.org

Thank you!

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