Alliance for Innovation on Maternal Health (AIM) Hypertension Learning Session

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THE ALASKA PERINATAL QUALITY COLLABORATIVE

OCTOBER 15, 2019

Welcome to the Alliance for Innovation on Maternal Health (AIM) Hypertension Learning Session

ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

Approved Provider Statements:

Alaska Native Tribal Health Consortium (ANTHC) is accredited by the Washington State Medical Association to provide continuing medical education for physicians.

ANTHC is approved as a provider of continuing nursing education by the Montana Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

Contact Hours:

ANTHC designates this provider-directed activity for a maximum of 1 *AMA PRA Category 1 Credit(s) ™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ANTHC designates this activity as meeting the criteria for one nursing contact hour credit for each hour of participation up to a maximum of 1 hour(s).

Conflict of Interest Disclosures:

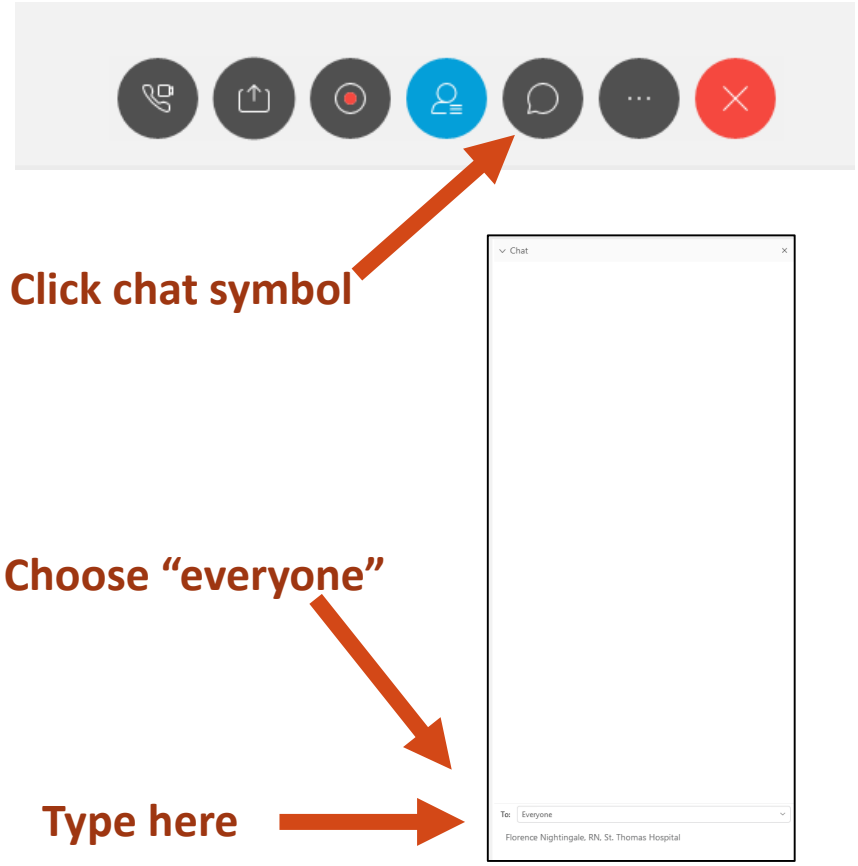
All Presenters and Conference Planners for this activity do not have any relevant relationships or conflict of interests to disclose.

Requirements for Successful Completion:

To receive CE credit please make sure you have claimed credit commensurate with your participation in this activity and completed the course evaluation survey online as directed.

For more information contact us at learning@anthc.org or (907) 729-1387

Introductions



Please type your **name, credentials, and organization** in the chat box and send to everyone

Example: Florence Nightingale, RN, St. Thomas Hospital

AK AIM Hypertension Team

Christina Rodriguez, MD, FACOG
Alaska AIM Physician Lead
Maternal Fetal Medicine
Alaska Native Medical Center

Danette Schloeder, MSN, RNC-OB, C-EFM
Alaska AIM Nurse Lead
Perinatal Clinical Specialist
Children's Hospital at Providence

Margaret Young, MPH
Alaska AIM Data Lead and
DPH Women's, Children's &
Family Health
MCH Epidemiology Unit Manager

Katy Krings, MPH, RN, CPH
Alaska AIM Coordinator
DPH Women's, Children's &
Family Health
Nurse Consultant

Presenters

Rebecca Britt, BSW

Director of Education and Engagement

Preeclampsia Foundation

Darcy Lucey, MSN, ANP-C, FNP, CNM

Mat Su Midwifery and Family Health

Agenda

- AKPQC and AIM Updates
- Hypertension case study
- Patient education best practices and resources
- Accurate blood pressure measurement
- Standards for assessment of proteinuria
- Open discussion and Q&A

AIM Enrollment Update

11 facilities, 79% AK births

AIM-participating facilities	Working on AIM enrollment
Alaska Native Medical Center	Alaska Regional Hospital
Bartlett Regional Hospital	Mat Su Regional Medical Center
Fairbanks Memorial Hospital	Southeast Alaska Regional Health Consortium
The Children's Hospital at Providence	South Peninsula Hospital
Providence Kodiak Island Medical Center	Joint Base Elmendorf-Richardson
	Yukon Kuskokwim Health Corporation

The AKPQC Alliance for Innovation on Maternal Health (AIM) Hypertension Initiative is launching a designation program to showcase facility participation. Designations will be posted to the AKPQC website and facilities receiving a designation will be acknowledged during the AKPQC Annual Meeting January 24 and 25, 2020.

GOLD Facility

- Signed AIM MOU
- Designated OB and Data Leads
- All structure and process measures submitted through CY19 Q3
- Participated in August and October Learning Sessions
- Participated in all monthly check-in calls with AIM leads

SILVER Facility

- Signed AIM MOU
- Designated OB and Data Leads
- Started submitting structure and process measures for at least one quarter in CY2019
- Participated in at least 1 learning session
- Participated in at least 1 monthly check-in call with AIM leads

BRONZE Facility

- Signed AIM MOU
- Designated OB and Data Leads
- Participated in an introductory call with AIM leads

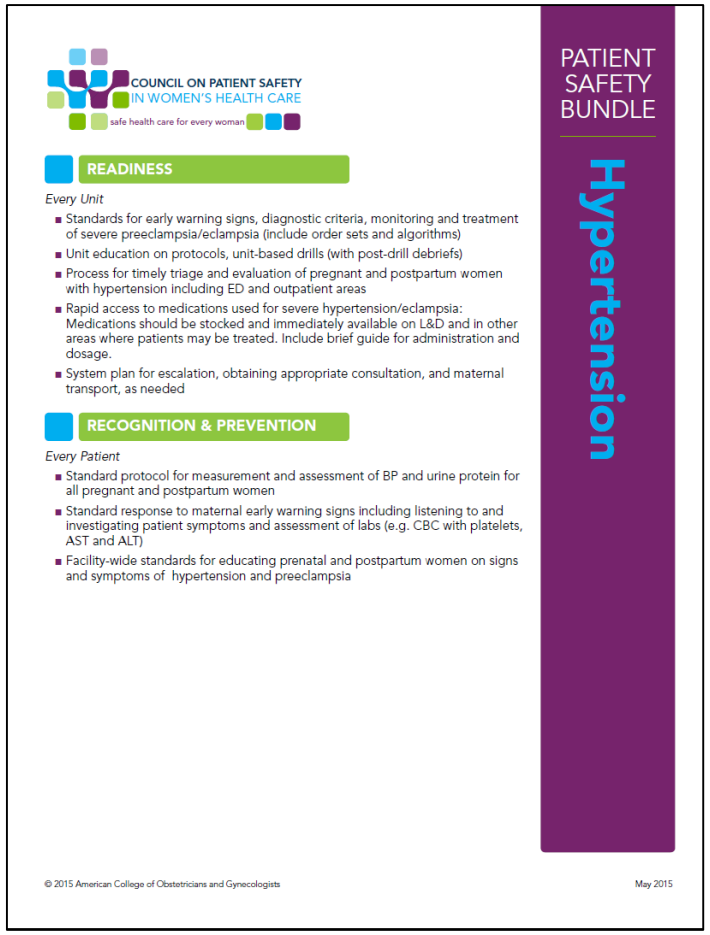
CONTACT:
KATY.KRINGS@ALASKA.GOV
907-269-3418

Evidence of completion due by January 15, 2020

Register at: https://www.eventbrite.com/e/joint-summit-mcdr-akpqc-tickets-70838191939

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

Hypertension Safety Bundle



COUNCIL ON PATIENT SAFETY IN WOMEN'S HEALTH CARE

safe health care for every woman

PATIENT SAFETY BUNDLE

Hypertension

READINESS

Every Unit

- Standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms)
- Unit education on protocols, unit-based drills (with post-drill debriefs)
- Process for timely triage and evaluation of pregnant and postpartum women with hypertension including ED and outpatient areas
- Rapid access to medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage.
- System plan for escalation, obtaining appropriate consultation, and maternal transport, as needed

RECOGNITION & PREVENTION

Every Patient

- Standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women
- Standard response to maternal early warning signs including listening to and investigating patient symptoms and assessment of labs (e.g. CBC with platelets, AST and ALT)
- Facility-wide standards for educating prenatal and postpartum women on signs and symptoms of hypertension and preeclampsia

May 2015

- Checklist of evidence-based practices
- Content modified based on local resources and needs
  - Readiness
  - Recognition and Prevention
  - Response
  - Reporting/Systems Learning

Gestational Hypertension?

A Case Study

Our Practice

- Mixed midwifery practice with CNM's and CDM/CPM providers.
- Birth center and home births only.
- No hospital privileges.
- Back-up OB available most of time, but if she is out of town, we work with EMTALA.
- Regulations for birth centers don't give diagnostic criteria, CDM's regulations state HTN as BP >140/90 on two or more consecutive readings at least 5 min apart.

Gestational Hypertension?

A Case Study

The Patient

- 21 year old G1P0 with no presenting risk factors, negative medical history at first prenatal visit at 10 weeks EGA.
- Married, works full time.
- BMI at beginning of pregnancy 29.
- No surgeries, no allergies, takes vitamins, no medications.
- No presenting complaints other than nausea/vomiting (mild).
- No tobacco, alcohol or drug use.
- No significant family history.

Gestational Hypertension?

A Case Study

First Prenatal Visit

- Initial visit at 10 weeks
- BP 128/64
- Normal physical exam, normal ultrasound
- Labs done- all normal results

Gestational Hypertension?

A Case Study

Blood Pressures

- 2nd trimester readings: 120/78, 134/68, 138/72, 130/62
- 3rd trimester readings: 120/62, 136/78, 140/80 (repeated in office 126/80), 128/70, 138/82, 130/78, 114/62
- Home cuff readings all over, sometimes low, sometimes up to 140/80.
- Compared home cuff reading with manual cuff in clinic, home cuff generally reading higher than manual cuff in office.

Gestational Hypertension?

A Case Study

Other symptoms/labs

- No protein in urine, trace protein at last PNV when BP was 114/62
- Edema in legs and feet at last visit, no headaches, no other symptoms
- 28 week labs show mild anemia and passed 2 hr GTT
- Pre-eclampsia panel at 36 weeks normal (done with BP 138/82)
- Called on-call midwife at 38 weeks with blurry vision/headache, instructed to go to OB triage for evaluation.

Gestational Hypertension?

A Case Study

OB Triage

- Triage nurse monitored BP for over an hour, she was told it was normal and would probably be sent home. Pre-e labs negative.
- OB doctor evaluated patient, told her she had chronic HTN and would need to be induced immediately.
- Induced with Pitocin, delivered vaginally, did not ever have elevated BP in hospital, did not receive any antihypertensive medications.
- Normal BP's at all postpartum exams, no medications.
- Baby normal weight and healthy.

Gestational Hypertension?

A Case Study

Going Forward

- Patient and providers left wondering if she was chronic HTN, Gestational HTN, pre-eclamptic, or none of the above.
- Also wondering how to manage her with next pregnancy.
- Miscommunication/differences in diagnostic criteria used by various providers/facilities.
- This outcome was overall good, but very confusing to patient.
- Midwives wondering if we missed something or mismanaged our patient and how we should manage similar cases going forward.
- Want to facilitate good relationships with hospital providers and safe care.

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Educating Patients: What they need to know

Presented to

Rebecca Britt
Director of Education & Engagement

Learning Objectives

- Understand why educating all pregnant women about preeclampsia signs & symptoms is important for timely diagnosis of disease.
- Utilize two methods for ensuring patient understanding of information.
- Convey appropriate information during prenatal and postpartum periods.

What is Preeclampsia? Any Woman, Any Pregnancy

- Hypertensive disorder of pregnancy
- Typically occurs after 20 weeks gestation and up to 6 weeks postpartum
- There is no known cause or cure
- Preeclampsia can happen to any woman, any pregnancy

Gestational hypertension and preeclampsia. ACOG Practice Bulletin No. 202. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019;133:e1–25.

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How is Preeclampsia Diagnosed?

- BP 140/90+ (2 readings 4 hrs apart)
  - Or one reading of 160/110+
- Proteinuria: 300 mg in 24 hr urine collection
  - Dipstick reading of 2+ Or in the absence of proteinuria:
- In association with (new onset):
  - Thrombocytopenia – low platelet count
  - Impaired liver function
  - Renal insufficiency - poor kidney function
  - Pulmonary edema – fluid around the lungs
  - Cerebral or visual disturbances

Gestational hypertension and preeclampsia. ACOG Practice Bulletin No. 202. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019;133:e1–25.

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Prevalence of Preeclampsia

- 2-8% or approximately 1 in 25 pregnancies are complicated by preeclampsia
- A leading cause of maternal morbidity and mortality
- African American women are 3x more likely to die from preeclampsia
- 75% of Preeclampsia related deaths happen postpartum

Howell E. Reducing disparities in severe maternal mortality and morbidity. Clin Obstet Gynecol. 2018.
English F, Kenny L, McCarthy, F. Risk factors and effective management of preeclampsia. Integr Blood Press Control. 2015; 8: 7–12

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Top 5 Reasons Providers Don't Educate Their Patients about Preeclampsia

1. Not enough time
2. Patients already get too much information
   - Can't absorb it all
   - Too anxious about their pregnancies
3. Materials are not written at a low enough grade level
4. My patients only speak Spanish
5. I don't have a budget for education materials

Symptoms

- Swelling of the face or hands
- Headache that won't go away
- Visual disturbances
- Stomach or URQ pain
- Nausea/vomiting (after 20 weeks)
- Sudden weight gain
- Breathlessness
- "just not feeling right"; unexplained "anxiety"

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Patient Education: Does it Really Matter?

- Patient is often the first responder; can speed time to diagnosis, impact outcomes
- What she needs to know is not obvious
- With greater understanding of seriousness, greater compliance and reporting
- Patient education is currently not routinely provided by health care providers
- And when it is, information is often not understood

Factors Associated with Patient Understanding of Preeclampsia

14%

- Pregnant women able to provide characteristics that correctly reflected preeclampsia.

43%

- Score on a quiz of 25 relatively simple questions about preeclampsia.

Whitney B. You, Michael Wolf, Stacy Cooper Bailey, Anjali U. Pandit, Katherine R. Waite, Rina M. Sobel & William Grobman (2012) Factors Associated with Patient Understanding of Preeclampsia, Hypertension in Pregnancy, 31:3, 341-349,

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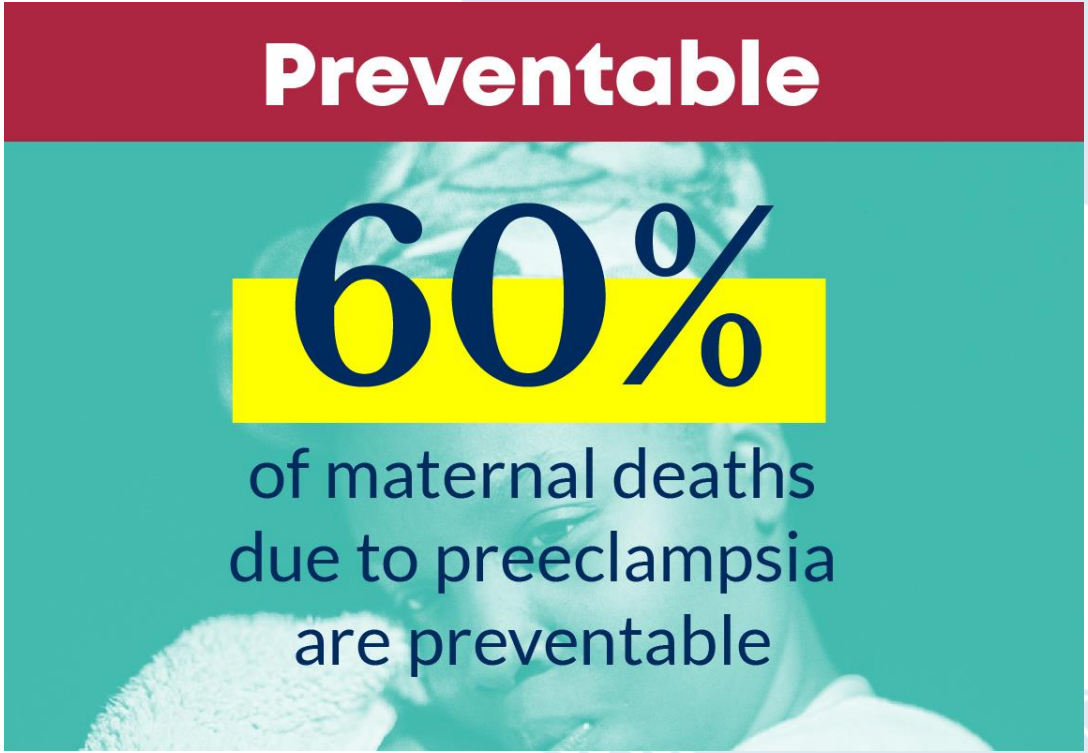
Factors Associated with Patient Understanding of Preeclampsia



Main EK, McCain CL, Morton CH, Holtby S, Lawton ES. Pregnancy-related mortality in California: causes, characteristics, and improvement opportunities. Obstet Gynecol. 2015: 125(4):938-947.

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Deadly Consequences

- Based on a CMQCC Maternal Mortality Review of over 200 cases of pregnancy related deaths, delays in seeking care appeared to be directly related to fatal outcomes

- A common theme in cases reviewed was their apparent lack of knowledge of the significance of symptoms and when to seek medical attention.

Morton, Christine H. et al. Translating Maternal Mortality Review Into Quality Improvement Opportunities in Response to Pregnancy-Related Deaths in California. Journal of Obstetric, Gynecologic & Neonatal Nursing . 48.3 (2019): 252 – 262

It Matters Because?

When women know how to recognize the signs and symptoms, and they understand the explanations offered, **they are more likely to report symptoms and comply with prescribed treatments.**

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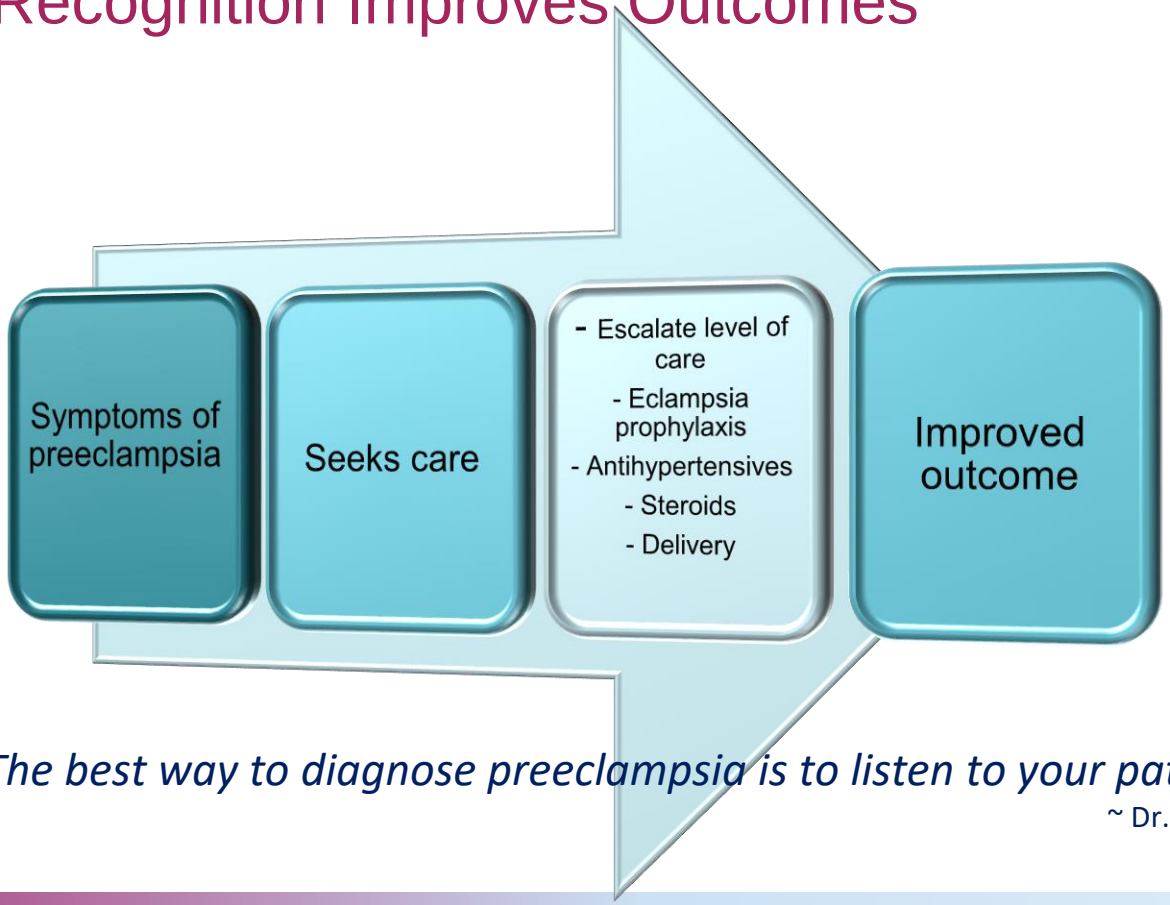
Maternal Recognition Improves Outcomes



"The best way to diagnose preeclampsia is to listen to your patients."

~ Dr. Baha Sibai

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That’s Why…

…Now when? And how?

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Prenatal Education

15-20 weeks

- Provide printed materials (low lit, tear off pad)
- Assess patient health literacy. Does she understand?

20 weeks+

- Review warning signs OFTEN for women considered at risk, occasionally for women at low risk.
- Check for understanding. “Have you experienced...?”
- Check proper behavior response. “What would you do if you experienced...?”
- Take home reminders, hardcopy materials

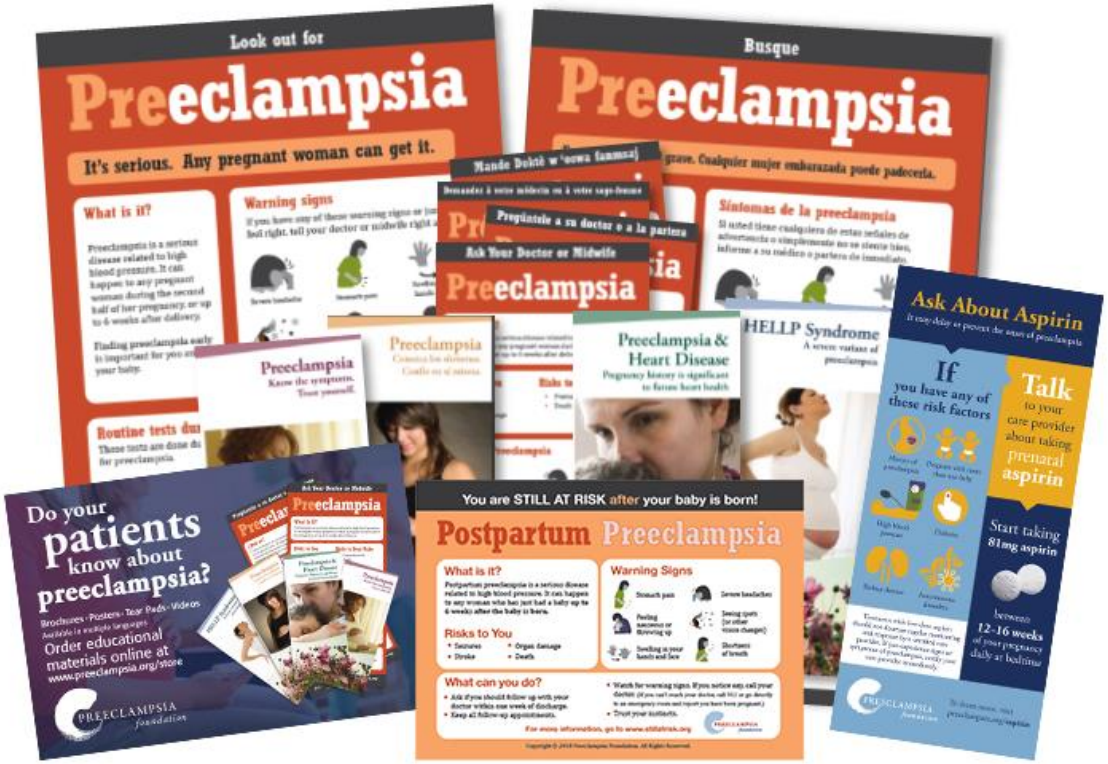
Outpatient management

- Extra vigilance to ensure patient knows all warning signs and does not hesitate to make contact immediately.
- Consider geography and length of travel time to care.

Key Strategies for Effective Patient Communication

- Do not assume your patient's literacy level or understanding by appearance
- In both oral and written communication, use plain, non-medical language (hbp not hypertension)
- Speak slowly
- Organize information into 2 or 3 components (chunk & check)
- Use "teach back" to confirm understanding with open-ended Q's

Your Patient Education Toolkit



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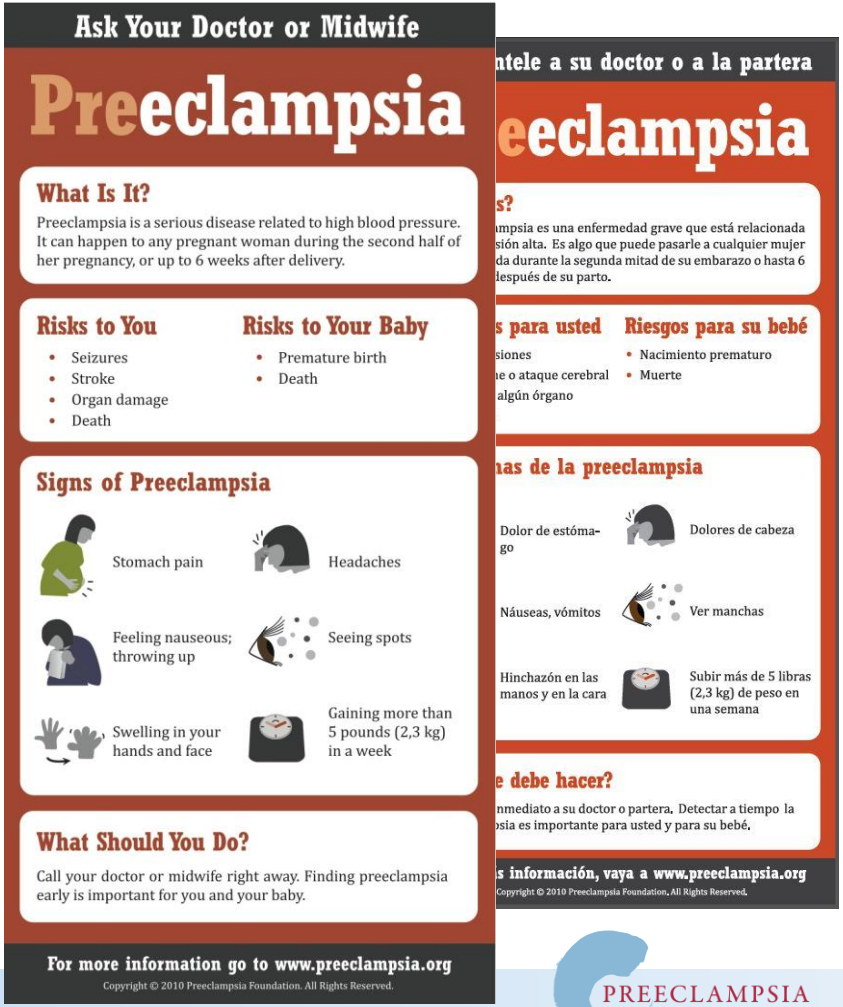
Preeclampsia Tear Pad

- Each tear pad has 50 sheets
- They are double sided with English on the front and Spanish on the back
- The colors are evidence based, and proven to better get an expecting mom's attention
- The illustrations and language is targeted to low literacy audiences
- Increases patient and **provider** awareness



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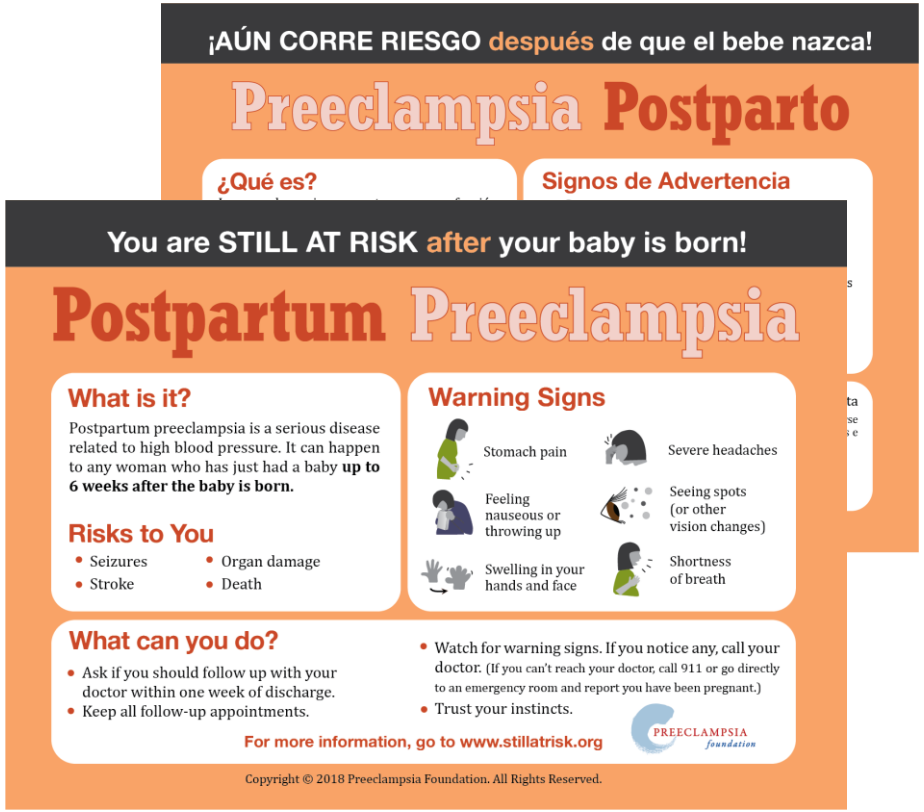
Postpartum Tear Pad

- New in 2018 – For Postpartum Moms
- Great for use during hospital discharge or for at-risk patients before delivery
- They are double sided with English on the front and Spanish on the back
- The illustrations and language is targeted to low literacy audiences
- Can also help trigger early follow-up appointments



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Postpartum Education

- Common misconception: “Delivery is the cure”
- 75% of preeclampsia related deaths happen in the postpartum period
- Vulnerable period, exacerbated by PPD, unknown experience, sleep deprivation, focus is on baby
- Same warning signs
- Up to 6 weeks PP
- Health systems are not optimized for PP (ER?)
- Discharge instructions must be clear, inclusive!

Von Dadelszen P, Magee LA. Preventing deaths due to hypertensive disorders of pregnancy. Best Pract Res Clin Obstet Gynaecol. 2016; 36:83-102.

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Patient Education Videos

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Summary

- Prenatal and post partum patient education about preeclampsia is recommended for timely diagnosis and improved outcomes, supported by upcoming ACOG guidelines
- Ensure comprehension; use proven techniques
  - Chunk & Check
  - Teach back
  - Illustrated symptoms tear pads
- Women want/need this information!

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Do your patients know about preeclampsia?

Brochures · Posters · Tear Pads · Videos

Available in multiple languages

Order educational materials online at www.preeclampsia.org/store

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rebecca.britt@preeclampsia.org

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References

- *English F, Kenny L, McCarthy, F. Risk factors and effective management of preeclampsia. Integr Blood Press Control. 2015; 8: 7–12*
- Gestational hypertension and preeclampsia. ACOG Practice Bulletin No. 202. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019;133:e1–25.
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- *Von Dadelszen P, Magee LA. Preventing deaths due to hypertensive disorders of pregnancy. Best Pract Res Clin Obstet Gynaecol. 2016; 36:83-102.*

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ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

Blood Pressure (BP) Measurement

Basic assessment that is frequently inaccurately performed leading to delays in diagnosis and treatment

Common positioning problems can lead to inaccurate BP measurement

Patient has ...	*Reading may be off by ... **
Crossed legs	2-8 mmHg
Cuff over clothing	5-50 mmHg
Cuff too small	2-10 mmHg
Full bladder	10 mmHg
Talking or active listening	10 mmHg
Unsupported arm	10 mmHg
Unsupported back/feet	6 mmHg

** These values are not cumulative*

AMERICAN MEDICAL ASSOCIATION. (2019). HOW TO GET THE MOST ACCURATE BLOOD PRESSURE MEASUREMENT. RETRIEVED FROM HTTPS://WWW.AMA-ASSN.ORG/DELIVERING-CARE/HYPERTENSION/HOW-GET-MOST-ACCURATE-BLOOD-PRESSURE-MEASUREMENT.

BP Measurement: Equipment

Mercury Sphygmomanometer

Gold Standard

Aneroid

Automated

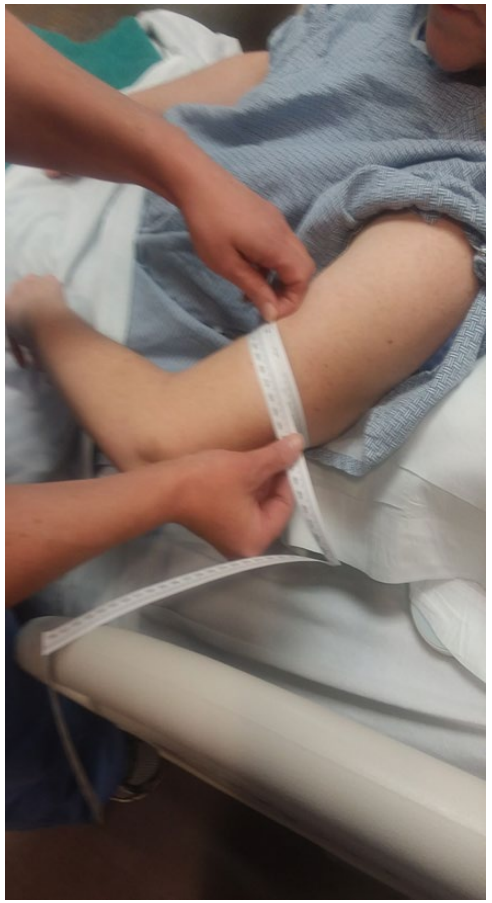
BP Measurement: Preparation and Positioning

- 5 minutes of rest without talking or moving prior to procedure
- Seated or semi-reclined position
- Feet flat on floor, legs uncrossed
- Arm at heart level
- Avoid caffeine, exercise, or smoking for at least 30 minutes prior
- No talking during the procedure by patient or clinician

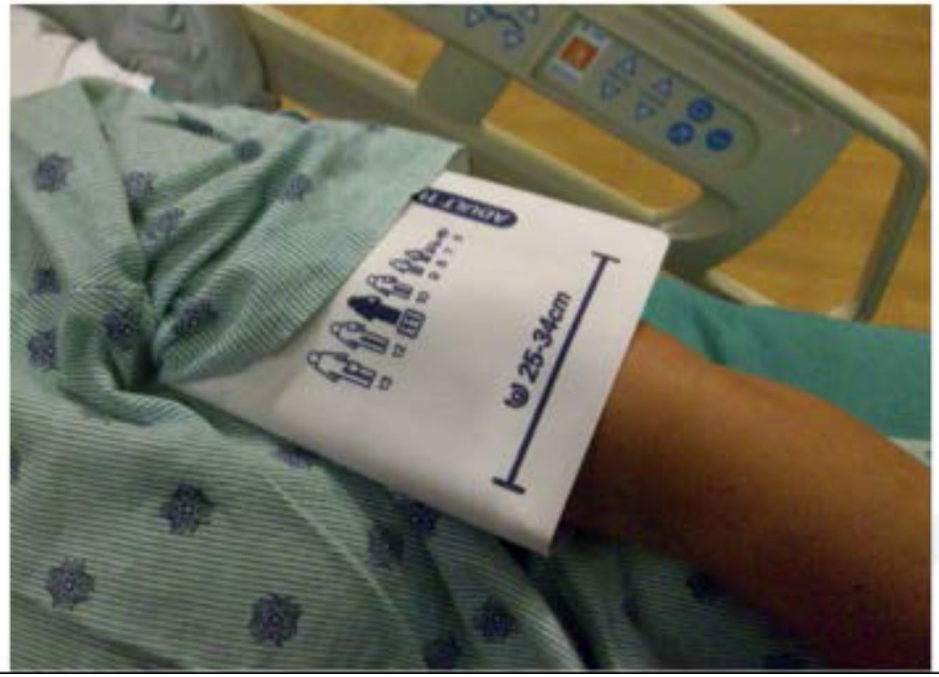
COUNCIL ON PATIENT SAFETY IN WOMEN'S HEALTH CARE. (2015). SAFETY ACTION SERIES: BLOOD PRESSURE BASICS. RETRIEVED FROM HTTPS://SAFEHEALTHCAREFOREVERYWOMAN.ORG/SAFETY-ACTION-SERIES/BLOOD-PRESSURE-BASICS/.

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

BP Measurement: Cuff Sizes



Arm Circumference (cm)	Cuff Size
22-26	"Small Adult": 12x22 cm
27-34	"Adult": 16x30 cm
35-44	"Large Adult": 16x36 cm
45-52	"Adult Thigh": 16x42 cm



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BP Measurement: Cuff Placement

- Place cuff directly on the skin
- Bladder over the brachial artery
- Lower end of the cuff 2-3 cm above the antecubital fossa

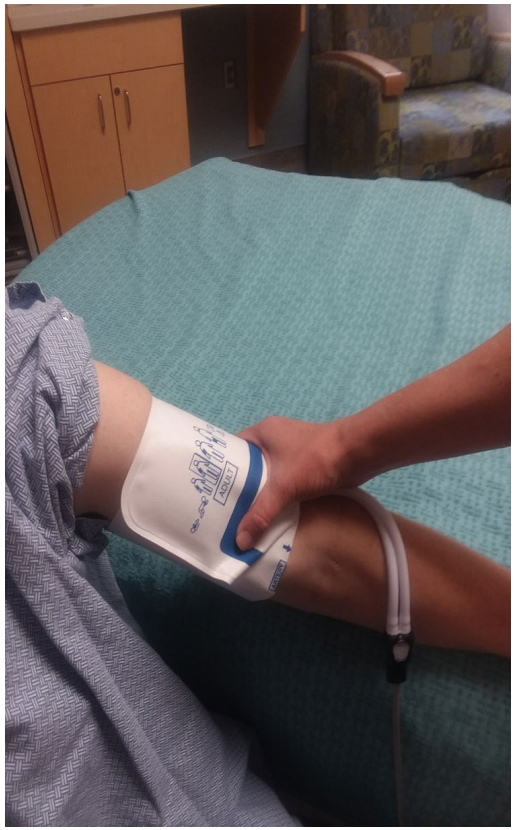


PHOTO CREDIT: JANET FISHER AND NIKOLE IHLER, UNIVERSITY OF UTAH HEALTH.

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

BP Measurement: Miscuffing

#1

#2

#3

PHOTO CREDIT: JANET FISHER AND NIKOLE IHLER, UNIVERSITY OF UTAH HEALTH.

Polling Question

Which is the most commonly observed positioning or cuffing problem at your facility?

A. Cuff over clothing

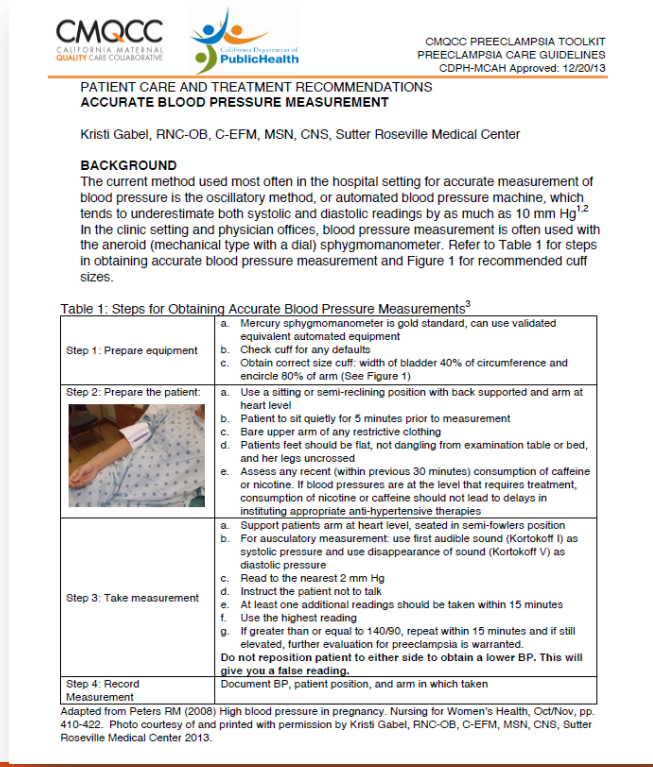
B. Cuff to small or large

C. Unsupported back/feet

D. Not applicable to me

BP Measurement: Improving Accuracy

- Incorporate BP measurement into annual training or skills days
- Develop a facility-specific module for training
- Post laminated instructions on units
- Develop BP kits with:
  - Selection of cuff sizes
  - Measuring tape
  - Stethoscope
  - Laminated instructions



CMQCC CALIFORNIA MATERNAL QUALITY CARE COLLABORATIVE — California Department of PublicHealth

CMQCC PREECLAMPSIA TOOLKIT
PREECLAMPSIA CARE GUIDELINES
CDPH-MCAH Approved: 12/20/13

PATIENT CARE AND TREATMENT RECOMMENDATIONS
ACCURATE BLOOD PRESSURE MEASUREMENT

Kristi Gabel, RNC-OB, C-EFM, MSN, CNS, Sutter Roseville Medical Center

BACKGROUND

The current method used most often in the hospital setting for accurate measurement of blood pressure is the oscillatory method, or automated blood pressure machine, which tends to underestimate both systolic and diastolic readings by as much as 10 mm Hg[1,2] In the clinic setting and physician offices, blood pressure measurement is often used with the aneroid (mechanical type with a dial) sphygmomanometer. Refer to Table 1 for steps in obtaining accurate blood pressure measurement and Figure 1 for recommended cuff sizes.

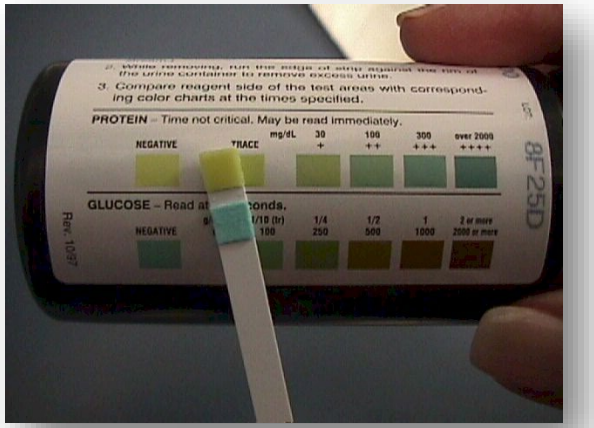
Table 1: Steps for Obtaining Accurate Blood Pressure Measurements[3]

Step 1: Prepare equipment	a. Mercury sphygmomanometer is gold standard, can use validated equivalent automated equipment b. Check cuff for any defaults c. Obtain correct size cuff: width of bladder 40% of circumference and encircle 80% of arm (See Figure 1)
Step 2: Prepare the patient:	a. Use a sitting or semi-reclining position with back supported and arm at heart level b. Patient to sit quietly for 5 minutes prior to measurement c. Bare upper arm of any restrictive clothing d. Patients feet should be flat, not dangling from examination table or bed, and her legs uncrossed e. Assess any recent (within previous 30 minutes) consumption of caffeine or nicotine. If blood pressures are at the level that requires treatment, consumption of nicotine or caffeine should not lead to delays in instituting appropriate anti-hypertensive therapies
Step 3: Take measurement	a. Support patients arm at heart level, seated in semi-fowlers position b. For ausculatory measurement: use first audible sound (Kortokoff I) as systolic pressure and use disappearance of sound (Kortokoff V) as diastolic pressure c. Read to the nearest 2 mm Hg d. Instruct the patient not to talk e. At least one additional readings should be taken within 15 minutes f. Use the highest reading g. If greater than or equal to 140/90, repeat within 15 minutes and if still elevated, further evaluation for preeclampsia is warranted. **Do not reposition patient to either side to obtain a lower BP. This will give you a false reading.**
Step 4: Record Measurement	Document BP, patient position, and arm in which taken

Adapted from Peters RM (2008) High blood pressure in pregnancy. Nursing for Women's Health, Oct/Nov, pp. 410-422. Photo courtesy of and printed with permission by Kristi Gabel, RNC-OB, C-EFM, MSN, CNS, Sutter Roseville Medical Center 2013.

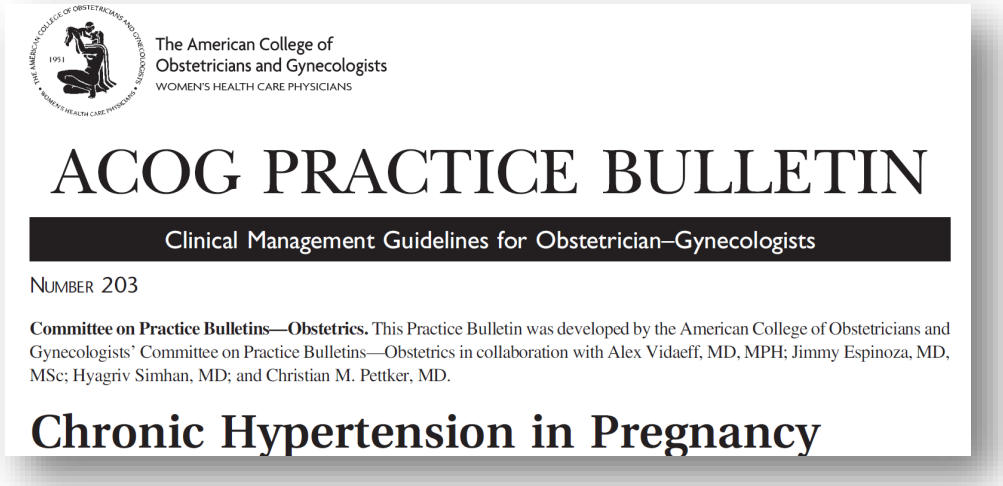
Methods of Urine Protein Assessment

- **Urine Dipstick- detects albumin**
  - Not sensitive to low levels of albuminuria
  - Graded on negative, trace, 1-4+
  - 2+ or greater predictive of significant proteinuria (usually >500 mg/day)
- **24 hour urine collection**
  - Gold standard
  - Cumbersome, often collected incorrectly
- **Spot urine protein-to-creatinine ratio**
  - Correlates well with 24 hour urine on population level
  - Individual level- some variation (time of day, etc)



Hypertensive Disorders of Pregnancy: Protein Evaluation

- **Practice Bulletin- Chronic Hypertension**
  - **Baseline Protein/Creatinine ratio (P/C) or 24-hour urine for total protein and creatinine**
  - **Urine P/C <0.15 indicates <300 mg on a 24-hr sample**
- **Routine prenatal care for low risk patients**
  - **No role for routine urine dipstick evaluation**


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

ACOG PRACTICE BULLETIN

Clinical Management Guidelines for Obstetrician–Gynecologists

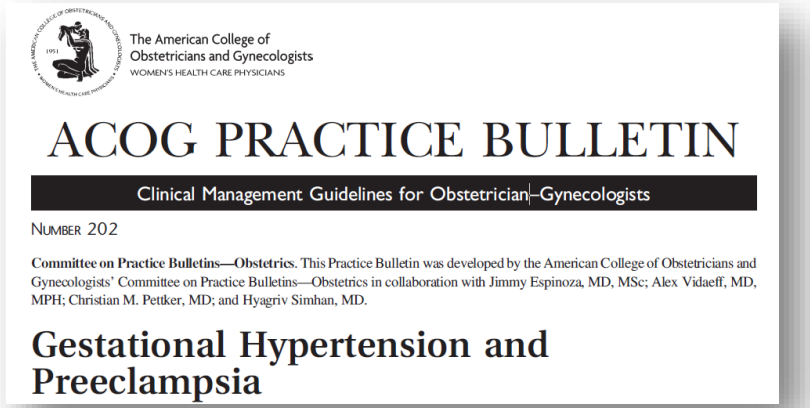
NUMBER 203

Committee on Practice Bulletins—Obstetrics. This Practice Bulletin was developed by the American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics in collaboration with Alex Vidaeff, MD, MPH; Jimmy Espinoza, MD, MSc; Hyagriv Simhan, MD; and Christian M. Pettker, MD.

Chronic Hypertension in Pregnancy

Hypertensive Disorders of Pregnancy: Protein Evaluation

- **Preeclampsia Diagnostic Criteria**
  - **Elevated BPs**
  - **Proteinuria**
    - **≥ 300 mg in a 24 hr collection**
    - **≥ 0.3 mg/dL on Protein/creatinine ratio**
    - **Urine dipstick 2+ (only if quantitative tests not available)**
- **In the absence of proteinuria- other criteria can suggest a diagnosis of preeclampsia**
  - **Platelets <100,000, Creatinine 1.1 mg/dL or twice normal, LFTs > twice normal**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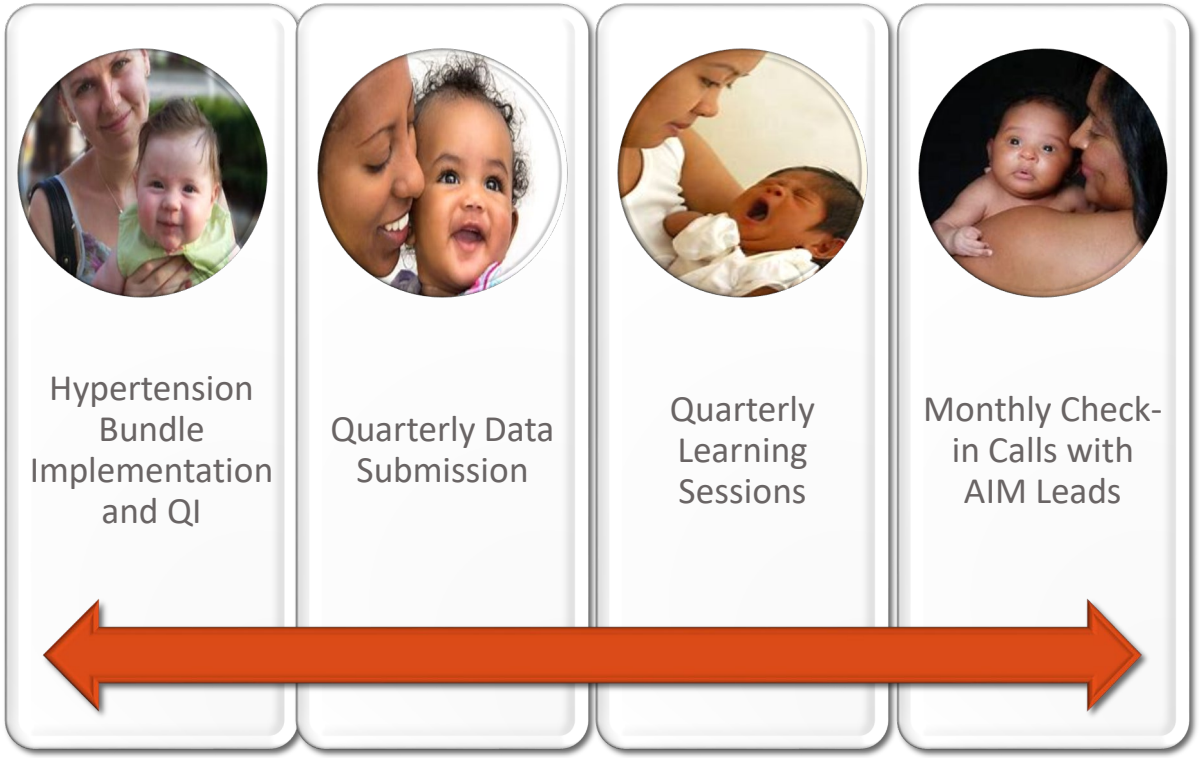
Gestational Hypertension and Preeclampsia

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

Participate in AIM



Eliminate preventable hypertension-related severe maternal morbidity

How to receive CNE/CME

- Complete the online evaluation survey:

https://www.surveymonkey.com/r/AIMSession2

- Certificate will be sent to the email address provided in the survey

ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

Certificate of Completion

This certificate is awarded to

For successfully completing 1 Contact Hours for participation in

Alliance for Innovation on Maternal Health (AIM)
Hypertension Learning Session
October 15, 2019
Anchorage, Alaska

Jennifer Fielder, MSN, RN
Continuing Education Nurse Educator

Alaska Native Tribal Health Consortium (ANTHC) is approved as a provider of continuing nursing education by the Montana Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.
ANTHC designates this activity as meeting the criteria for one nursing contact hour credit for each hour of participation up to a maximum of 1 hour.
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Alaska Native Tribal Health Consortium // 3900 Ambassador Drive, Anchorage, AK 99508 // P: (907) 729-1900 // anthc.org

Questions?

KATY KRINGS
KATY.KRINGS@ALASKA.GOV
907-269-3418

MARGARET YOUNG
MARGARET.YOUNG@ALASKA.GOV
907-269-5657

DANETTE SCHLOEDER
DANETTE.SCHLOEDER@PROVIDENCE.ORG
907-212-2513

CHRISSY RODRIGUEZ
CERODRIGUEZ@ANTHC.ORG
907-729-1087