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AIM HTN Bundle 101: Key Steps for Implementation

Illinois Perinatal Quality Collaborative
May 23 2016
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In control

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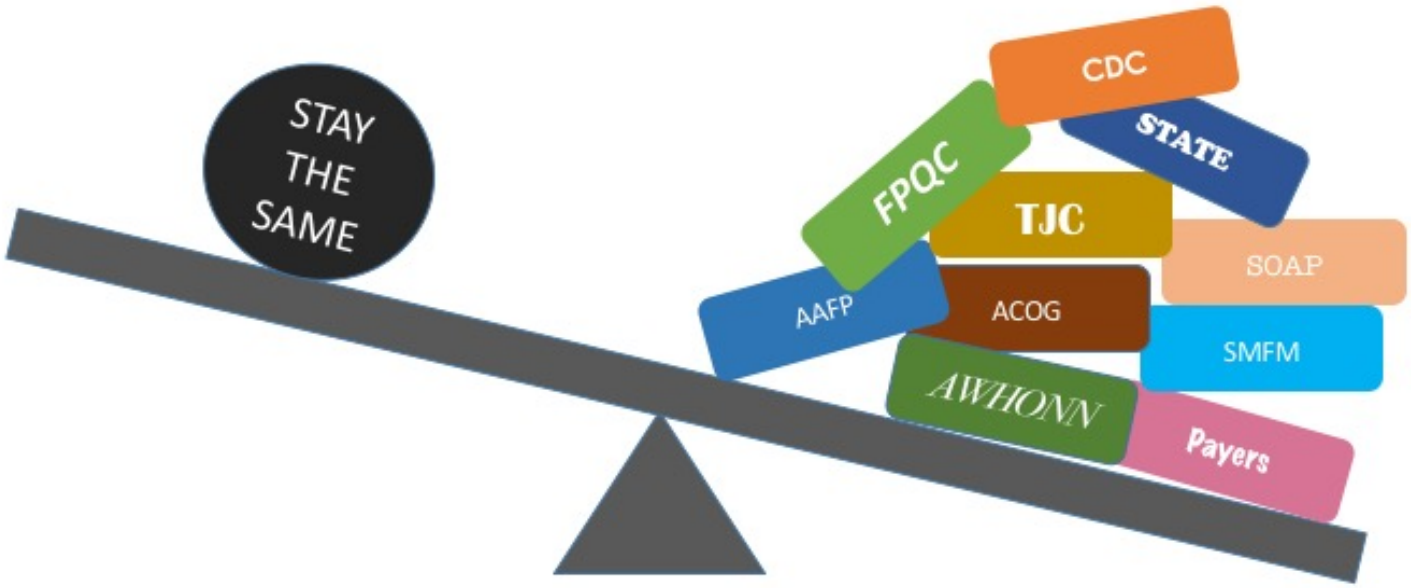
Building the case for change



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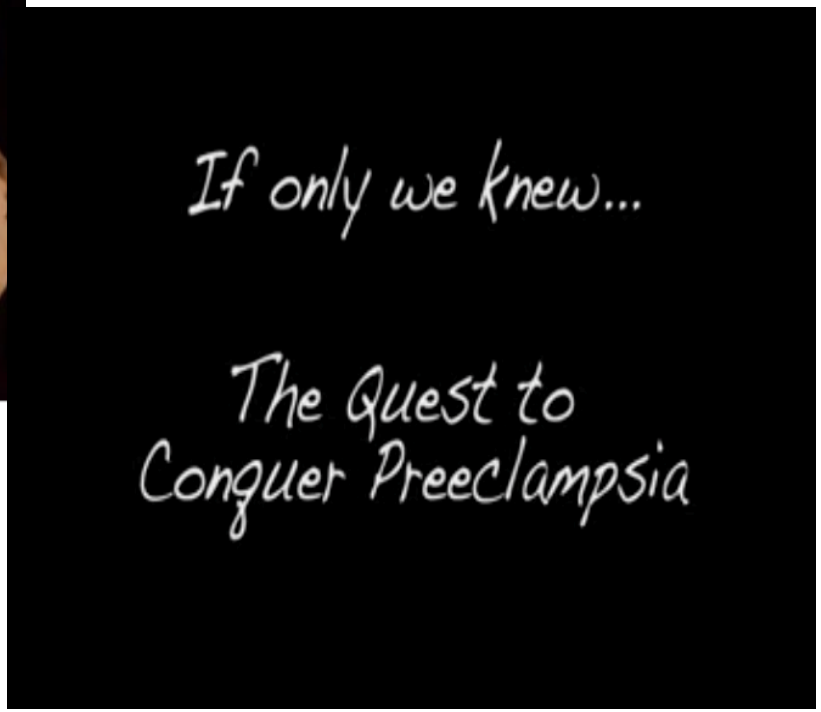
Utilize Patient Stories

Downton Abby

Preeclampsia Foundation



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Variation in quality in American healthcare is not merely "troubling"…it's fundamentally unjust. When we know how to do something that can save lives or reduce suffering, and we fail to reliably make it available to anyone who could benefit, we're all at risk of seeing our loved ones subjected to avoidable harm.

WE CAN DO BETTER!

Joe McCannon-Co-founder and Principle, The Billions Institute

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Successful Implementation Lessons

It takes a broad team to implement systematic change

Multi-disciplinary Implementation Team	
Disciplines & Departments	**Needed?**
Obstetric Providers	YES
Nursing	
Anesthesia	
Blood bank	
Laboratory	
Operating Room	
Support Personnel	
IT/EMR	
Others unique to your hospital setting?	

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Easy Wins Matter!!!!

- Early, straightforward successes builds confidence and enthusiasm for continued improvement

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Goals and Timelines

- Clear, measureable and time-specific, otherwise known as an AIM statement

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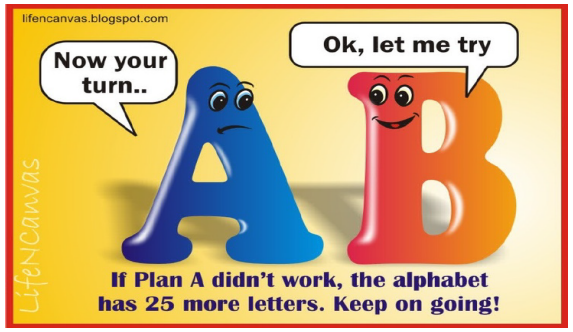
Small Tests of Change Matter

- Needs to be a good fit between intervention and context
- Each unit is unique and must design, implement and sustain change in it's own way
- Be willing to test multiple ideas (PDSA cycles)



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Data and Administrative Support Matters

- Data helps you define your baseline, test changes, provide feedback and answers the question:

> "How do we know the change was an improvement?"

Requires staff time, budgetary resources, education & training

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It Takes Time and Persistence

- Implementation involves coordinataion of multiple clinicians and departments
- Overall success takes time

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Champions are ESSENTIAL

- They actively associate with the project
- Dedicate themselves to incorporating best practices within their unit
- Need both physician and nursing champions to lead change

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Sustainability Plan

- Long term change is dependent on a commitment to sustainability of the new clinical practice.
- The means, to include all stakeholders, plan processes that make sense, and educate and train staff – from the beginning

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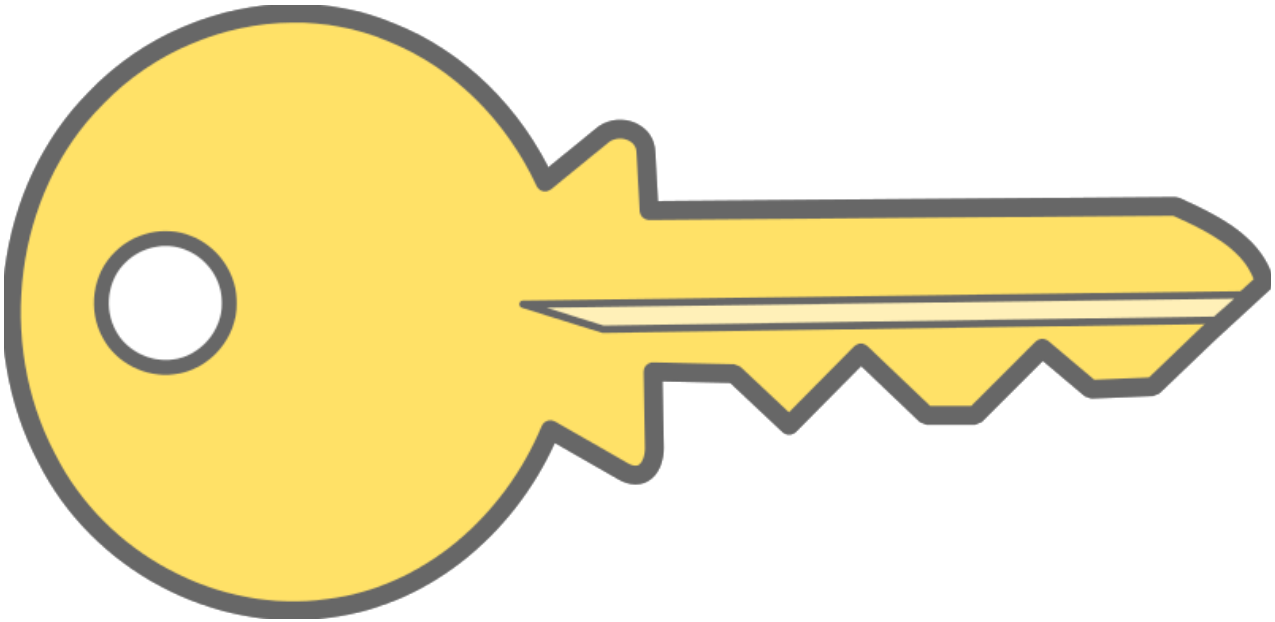
An engaged staff is a key to sustainability



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The Alliance for Innovation on Maternal Health (AIM)

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

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safe health care for every woman

PATIENT SAFETY BUNDLE

Hypertension

RESPONSE

Every case of severe hypertension/preeclampsia

- Facility-wide standard protocols with checklists and escalation policies for management and treatment of:
  - Severe hypertension
  - Eclampsia, seizure prophylaxis, and magnesium over-dosage
  - Postpartum presentation of severe hypertension/preeclampsia
- Minimum requirements for protocol:
  - Notification of physician or primary care provider if systolic BP =/> 160 or diastolic BP =/> 110 for two measurements within 15 minutes
  - After the second elevated reading, treatment should be initiated ASAP (preferably within 60 minutes of verification)
  - Includes onset and duration of magnesium sulfate therapy
  - Includes escalation measures for those unresponsive to standard treatment
  - Describes manner and verification of follow-up within 7 to 14 days postpartum
  - Describe postpartum patient education for women with preeclampsia
- Support plan for patients, families, and staff for ICU admissions and serious complications of severe hypertension

REPORTING/SYSTEMS LEARNING

Every unit

- Establish a culture of huddles for high risk patients and post-event debriefs to identify successes and opportunities
- Multidisciplinary review of all severe hypertension/eclampsia cases admitted to ICU for systems issues
- Monitor outcomes and process metrics

Note: "Facility-wide" indicates all areas where pregnant or postpartum women receive care. (E.g. L&D, postpartum critical care, emergency department, and others depending on the facility).

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Readiness

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Readiness

- Adopt standard diagnostic criteria, monitoring and treatment for severe hypertension, preeclampsia, eclampsia to include order sets and algorithms

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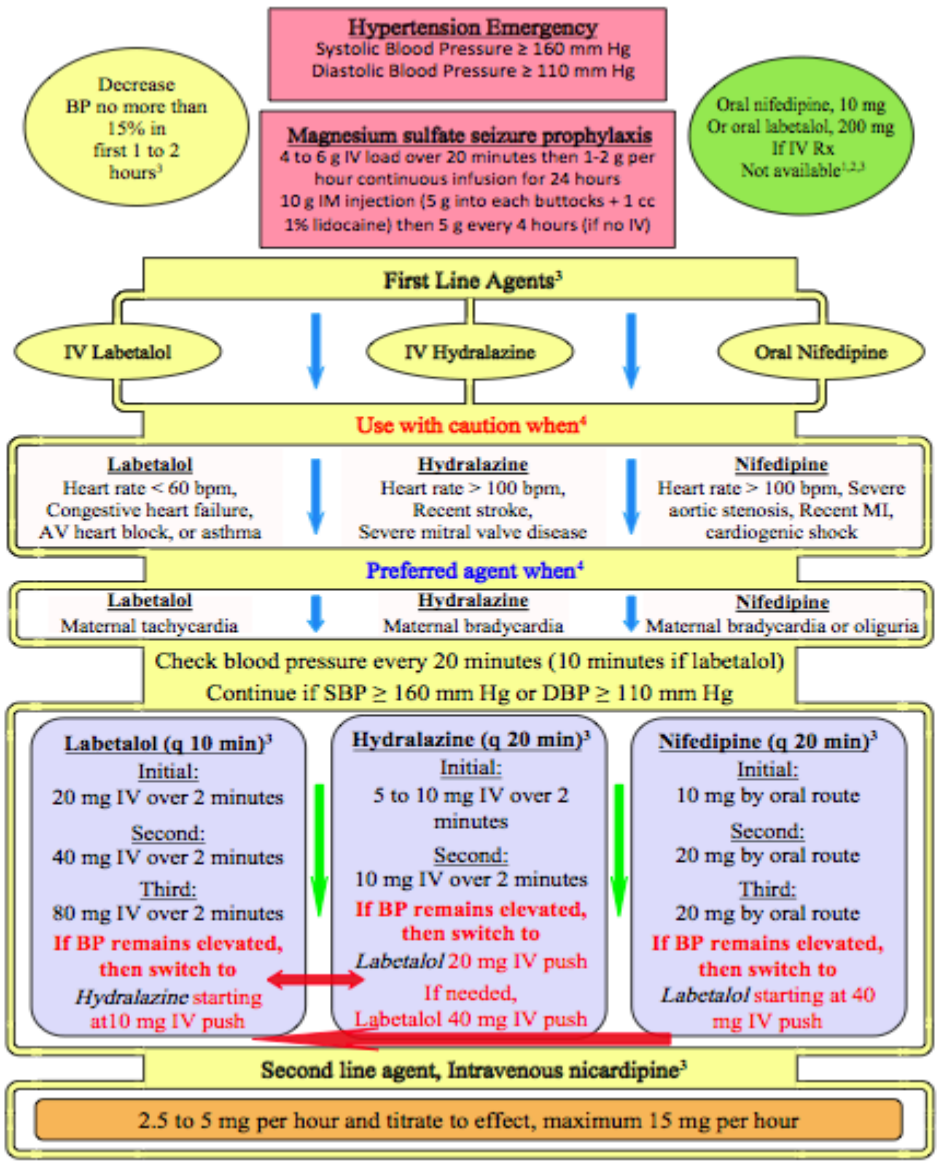
Algorithm



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Readiness

- Process for timely triage of pregnant and postpartum women with hypertension including ED and outpatient areas

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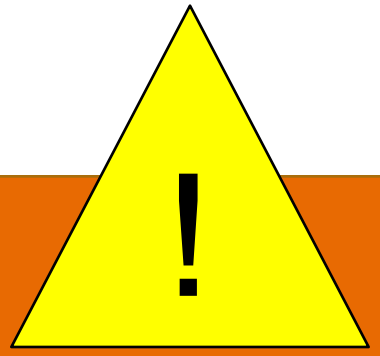
Postpartum presentation to ED

All emergency departments should have an initial screening question of:



Are you pregnant?

Or have you recently given birth?

- *Within the past six weeks*
- *Within the past six months?*

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Postpartum presentation to ED

- **Postpartum** patients presenting to the ED with hypertension, preeclampsia or eclampsia should either be assessed by **or admitted to an obstetrical service**

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Empowering staff

- Knowledge is power!
- Empower nurses with an arsenal of learning opportunities:
  - Unit education on P&P's
  - Drills /Simulations

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Readiness

- Rapid access to medications used for severe hypertension/eclampsia
  - Medications stocked and readily available on L&D and other areas
  - Should include a brief guide for administration and dosage

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One hospital's journey

RN's and MD's Embrace the Collaborative:

- Education was the first step.
- The collaborative's flowchart for Labetalol administration was placed in every labor room and triage room.
- Collaboration began with our Inpatient Pharmacy to improve medication availability.
- Previously, Labetalol came in a multi-dose vial. Dosing and documenting were problematic.
- Instead, we stocked our Pyxis with 8 syringes of 10 mg Labetalol. This has really streamlined the process.
- The ability to diagnose and treat a hypertensive crisis went from 0% at the beginning of the collaborative to >90% in 4 months! (see graph)

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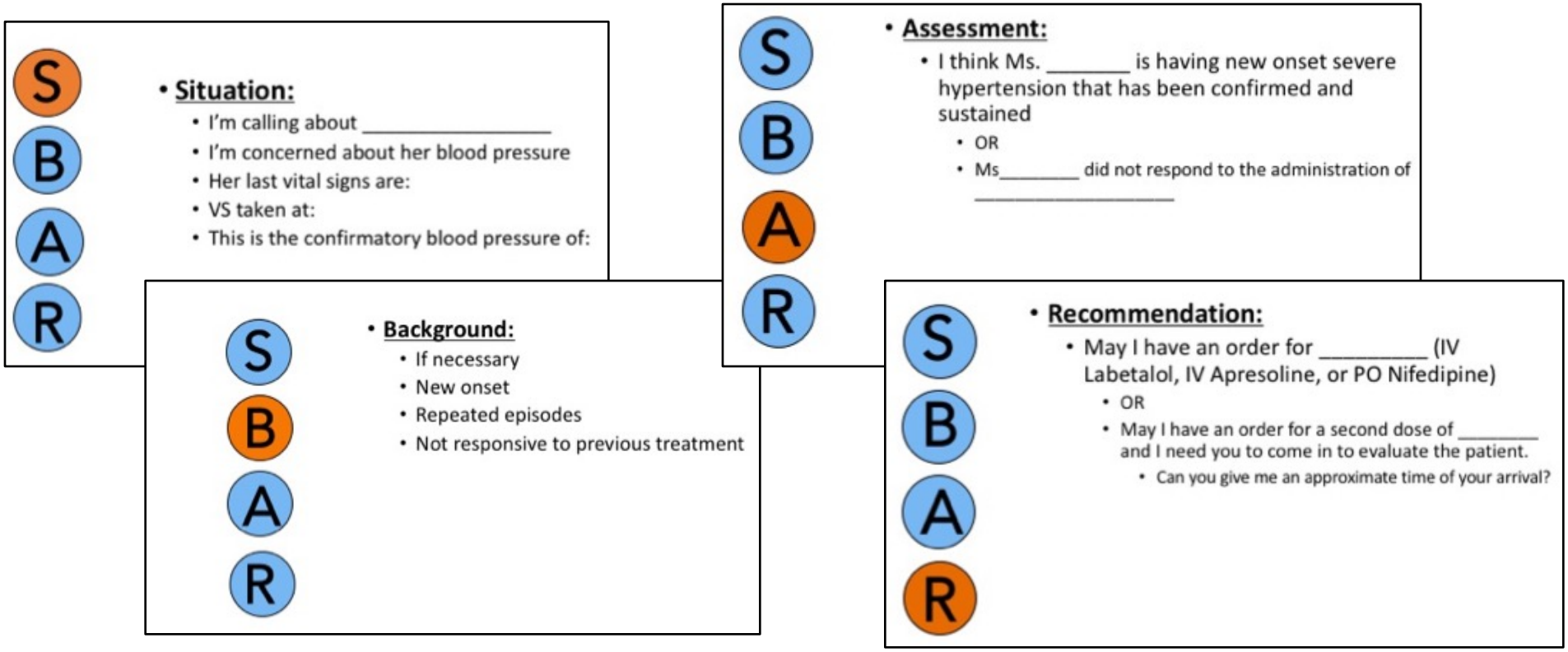
Communication simulation



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Recognition

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Recognition

- Adopt a standard process for the measurement and assessment of BP for all pregnant and postpartum women

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What are some responses you have heard or said that may be barriers to timely treatment?

A. She has always been an anxious person
B. Just turn her on her left side and recheck it
C. We don't want to bottom her blood pressure out
D. Start magnesium sulfate for the blood pressure
E. More than one of the above

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Monitoring our patients

Monitoring forms the cornerstone of timely diagnosis and treatment

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Recognition

- Adopt a standard process to maternal early warning signs including listening to and appropriately investigating patient symptoms and assessment of labs.

Preeclampsia Early Recognition Tool (PERT)

ASSESS	NORMAL (GREEN)	WORRISOME (YELLOW)	SEVERE (RED)
Awareness	Alert/oriented	•Agitated/confused •Drowsy •Difficulty speaking	•Unresponsive
Headache	None	•Mild headache •Nausea, vomiting	•Unrelieved headache
Vision	None	•Blurred or impaired	•Temporary blindness
Systolic BP (mm HG)	100-139	140-159	≥160
Diastolic BP (mm HG)	50-89	90-105	≥105
HR	61-110	111-129	≥130
Respiration	11-24	25-30	<10 or >30
SOB	Absent	Present	Present
O2 Sat (%)	≥95	91-94	≤90
Pain: Abdomen or Chest	None	•Nausea, vomiting •Chest pain •Abdominal pain	•Nausea, vomiting •Chest pain •Abdominal pain
Fetal Signs	•Category I •Reactive NST	•Category II •IUGR •Non-reactive NST	•Category III
Urine Output (ml/hr)	≥50	30-49	≤30 (in 2 hrs)
Proteinuria (Level of proteinuria is not an accurate predictor of pregnancy outcome)	Trace	•≥ +1** •≥300mg/24 hours	
Platelets	>100	50-100	<50
AST/ALT	<70	>70	>70
Creatinine	≤0.8	0.9-1.1	≥1.2
Magnesium Sulfate Toxicity	•DTR +1 •Respiration 16-20	•Depression of patellar reflexes	•Respiration <12

GREEN = NORMAL
Proceed with protocol

YELLOW = WORRISOME
Increase assessment frequency

# Triggers	TO DO
1	•Notify provider
≥2	•Notify charge RN •In-person evaluation •Order labs/tests •Anesthesia consult •Consider magnesium sulfate •Supplemental oxygen

**Physician should be made aware of worsening or new-onset proteinuria

RED = SEVERE

Trigger: 1 of any type listed below	TO DO
1 of any type	• Immediate evaluation • Transfer to higher acuity level • 1:1 staff ratio
Awareness Headache Visual	• Consider Neurology consult • CT Scan • R/O SAH/intracranial hemorrhage
BP	• Labetalol/hydralazine in 30 min • In-person evaluation • Magnesium sulfate loading or maintenance infusion
Chest Pain	• Consider CT angiogram
Respiration SOB O2 SAT	• O2 at 10 L per rebreather mask • R/O pulmonary edema • Chest x-ray

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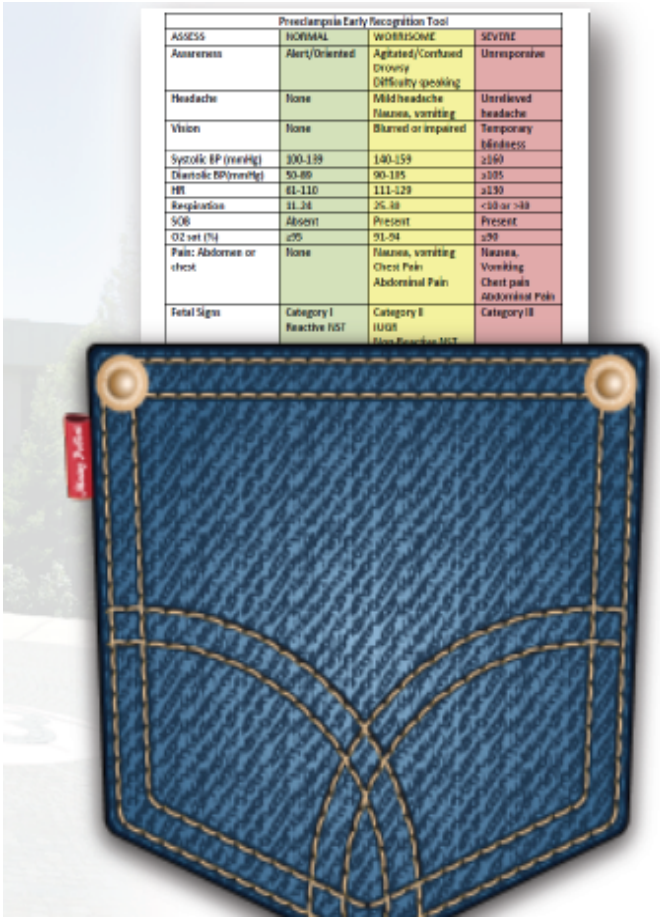

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Maternal Early Warning Criteria

The Maternal Early Warning Criteria	
Measure	Value
Systolic Blood Pressure (mm Hg)	<90 or >160
Diastolic Blood Pressure (mm Hg)	>100
Heart rate (beats per minute)	<50 or >120
Respiratory rate (breaths per min)	<10 or >30
Oxygen saturation on room air, at sea level %	<95
Oliguria, mL/hr for ≥2 hrs	<35
Maternal agitation, confusion, or unresponsiveness	
Woman with preeclampsia reporting a non-remitting headache or shortness of breath	

Co published by JOGNN and the Green journal in 2014

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Existing Joint Commission requirements:

- Have a process for recognizing and responding as soon as a patient's condition appears to be worsening.
- Develop written criteria describing early warning signs of a change or deterioration in a patient's condition and when to seek further assistance.
- Based on the hospital's early warning criteria, have staff seek additional assistance when they have concerns about a patient's condition.

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Key Clinical Pearl

An organized tool to identify "clinical signs" of high concern or triggers can aid clinicians to recognize and respond in a more timely manner to avoid delays in diagnosis and treatment.

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Recognition

- Facility-wide standards for educating prenatal and postpartum women on signs and symptoms of preeclampsia and severe hypertension

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Preeclampsia Foundation tools

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What to teach?

- When to return
- What symptoms to report
- Modifiable factors
  - Breastfeeding
  - Regular exercise/diet
  - Weight loss
- Future CVD risk

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Response

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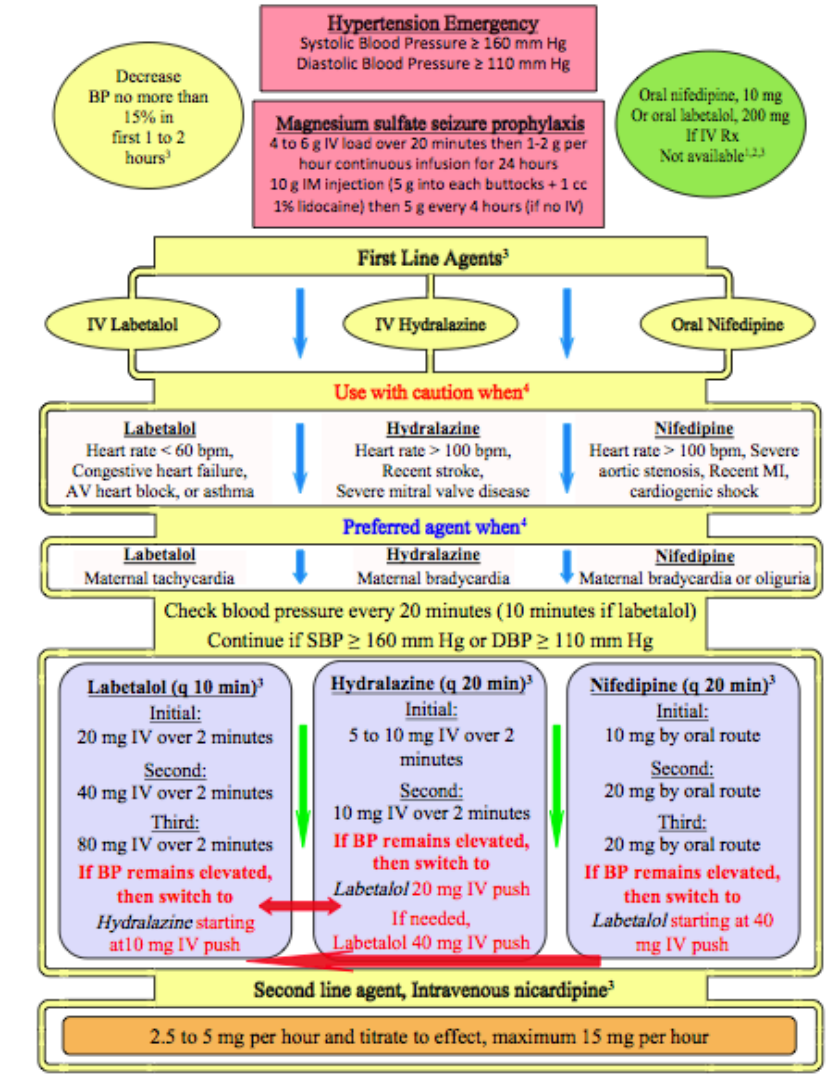
Response

- Facility wide standard process with checklists for management and treatment of:
  - Hypertensive emergencies
  - Eclampsia



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Response

- Support plan for patients, families and staff for ICU admissions and serious complications of severe hypertension

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Reporting & Systems Learning

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"If we don't know where we are, it is hard to know where we are going"

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Where to begin…

- Compare your hospital with the bundle elements
  - Gap analysis
  - Focus on areas that may be easiest to implement (get an easy win)
  - Identify potential barriers and honestly address
    - Communication, Response & Reliable Processes

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Reporting & Systems Learning

- High risk huddles and debriefing

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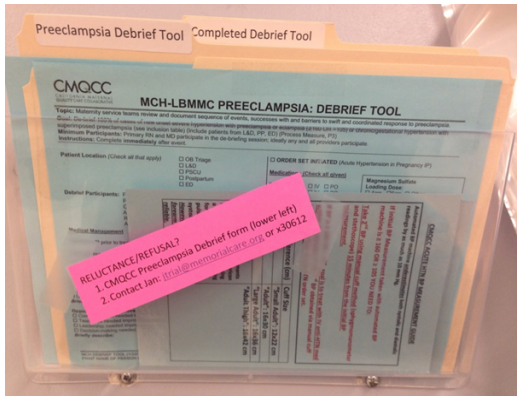
Debriefing pearls

- Simple debrief- timely and easy to do
- Should provoke awareness and ideas



- Identifies problem areas, confirms best practices
- Plan for follow-up and reporting back to staff

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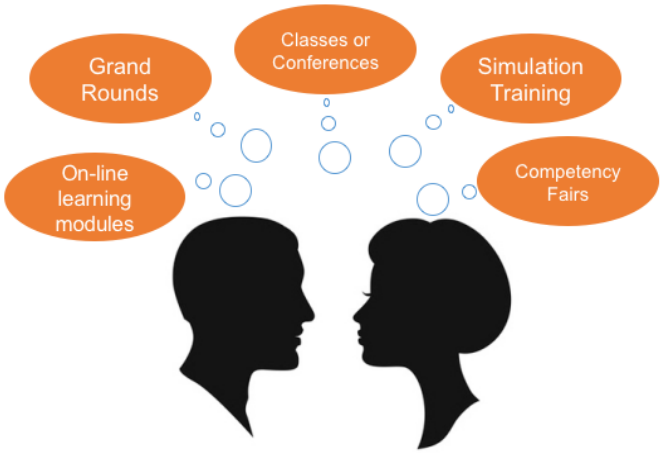
Post the process

- Unit bulletin boards
- Pocket cards
- Newsletters



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Make it easy to do the "right thing"

- Identify potential barriers
- Remove barriers
- Documentation

Have Fun, Be Creative and Celebrate your Successes !!!

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Food & Networking

MemorialCare Center for Women
Long Beach Memorial
Miller Children's Hospital Long Beach

3 Five Minute Presentations:

1. Preeclampsia Collaborative
2. Results of the Educational Module
3. Value & Ease of Debriefing

THEN:

30 minutes case based exercise

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Teamwork = Shared Mental Model

- Ensure that team members know what to expect
- Helps synchronize care
- Ensures that everyone is "on the same page"
- Enables members to predict and anticipate one another's needs

AHRQ, 2014

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Thank You!

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