Caring for OB Patients

For ED & EMS Providers

IOWA Maternal Quality Care Collaborative

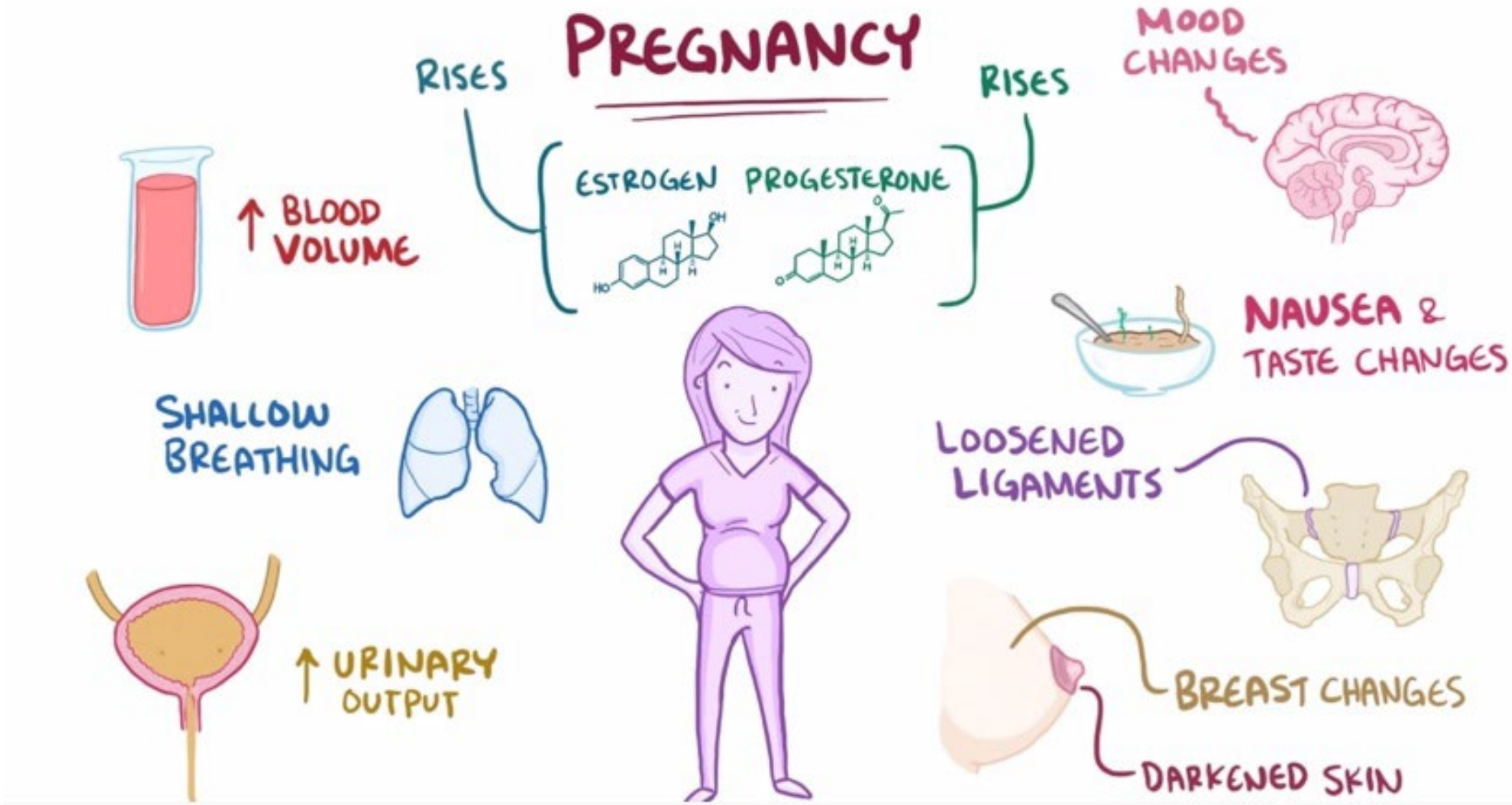
STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

AIM ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

Support acknowledgement:
HRSA State Maternal Health Innovation Program &
ACOG Alliance for Innovation on Maternal Health Program

This presentation was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS). The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS or the U.S. Government.

The AIM program is supported by a cooperative agreement with the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UC4MC28042, Alliance for Innovation on Maternal Health. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.


PREGNANCY
RISES
ESTROGEN
PROGESTERONE
RISES
↑ BLOOD VOLUME
MOOD CHANGES
NAUSEA & TASTE CHANGES
SHALLOW BREATHING
LOOSENED LIGAMENTS
↑ URINARY OUTPUT
BREAST CHANGES
DARKENED SKIN

IMQCC

Triage of Women of Childbearing age (10-60)

We want every woman of childbearing age to be asked:

- Are you pregnant?
- Could you be pregnant?
- Have you been pregnant in the last 6 weeks?
  - Postpartum Preeclampsia
- Have you been pregnant in the last year?
  - Postpartum Cardiomyopathy

Asking LMP may not get you enough information.

IMQCC

Questions to Ask

- What is your due date?
- How many babies have you had before?
- Are you having 1 baby?
- Have you had prenatal care?
- Any health concerns for you?
  - Asthma, hypertension, diabetes, cardiac
- Any placental issues?
- Any health concerns for baby?
- Are you leaking fluid?
  - Color, odor, time the leak started
- How often are you contracting?
- Any vaginal or rectal pressure with contractions?
- Is baby active/moving?

IMQCC

Delivery

- Obtain equipment
  - Blanket or towel
  - Gloves
  - Delivery kit
- Encourage patient to breath and gently bear down
- Support the perineum to reduce risk of laceration
- Delivery of head
  - Check for nuchal cord
- Slight **downward** pressure to aid in delivery **anterior** (top) shoulder
- Slight **upward** pressure to aid in delivery of **posterior** (bottom) shoulder

IMQCC

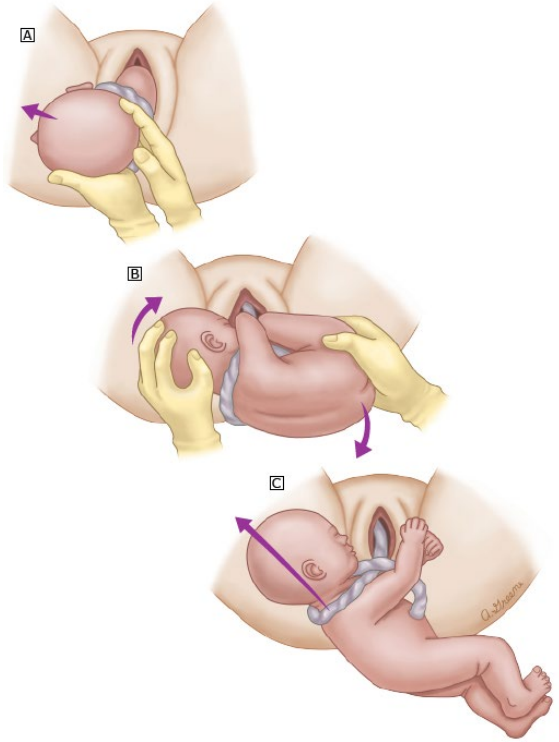
Delivery

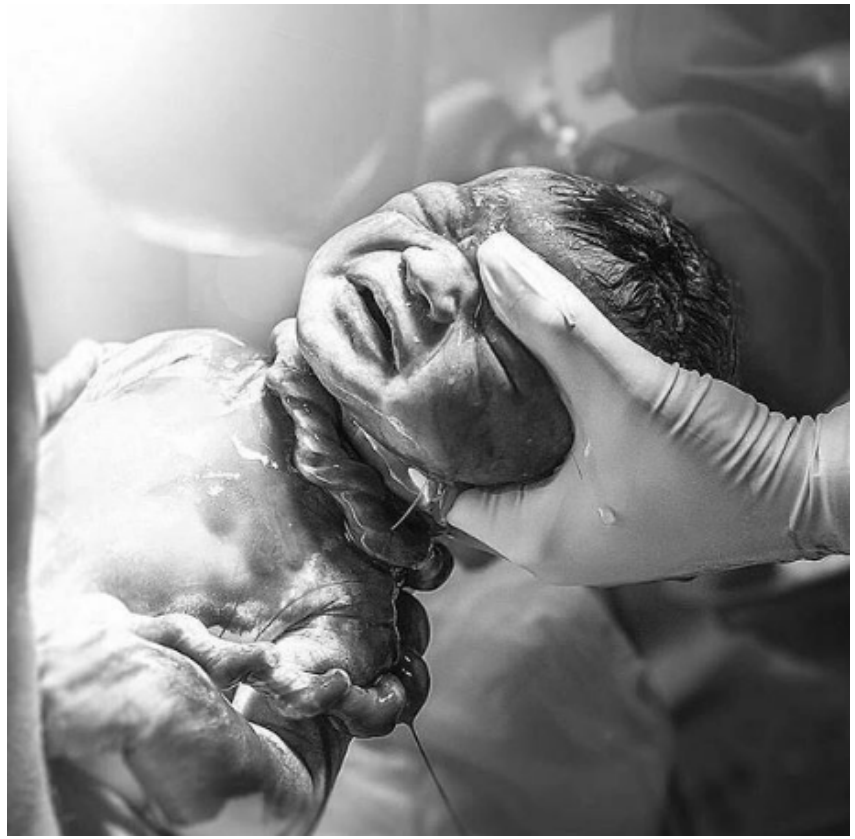
- Delivery of baby
- Place baby on maternal abdomen
- Dry and stimulate newborn
  - Get rid of wet linen
  - Keep baby skin to skin on mother
- After 1 minute, put two clamps on umbilical cord (at least a fist from the belly button), then cut in between the clamps.
- Apply slight traction on umbilical cord and wait for release from uterus.

IMQCC

Nuchal Cord

- After delivery of the head:
  - Check for Nuchal cord
    - (cord around the newborn neck)
  - If loose nuchal cord(s) slip over the head
  - If too tight to reduce over the head
    - Can clamp and cut
    - Somersault Maneuver



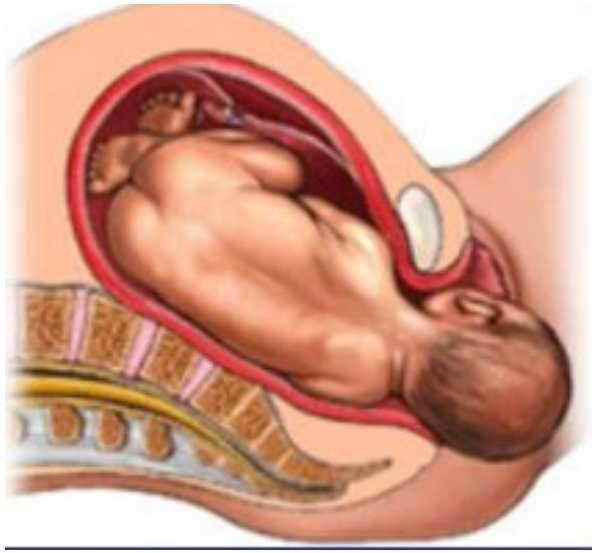


Bumpbirthandbeyond

IMQCC

Shoulder Dystocia

- Occurs when one or both of the baby's shoulders become stuck inside the pelvis.
- Risk Factors:
  - Large baby
  - Diabetes in mother
  - Small pelvis; small stature
  - Fetus in wrong position
  - Older than 35
  - Postdates

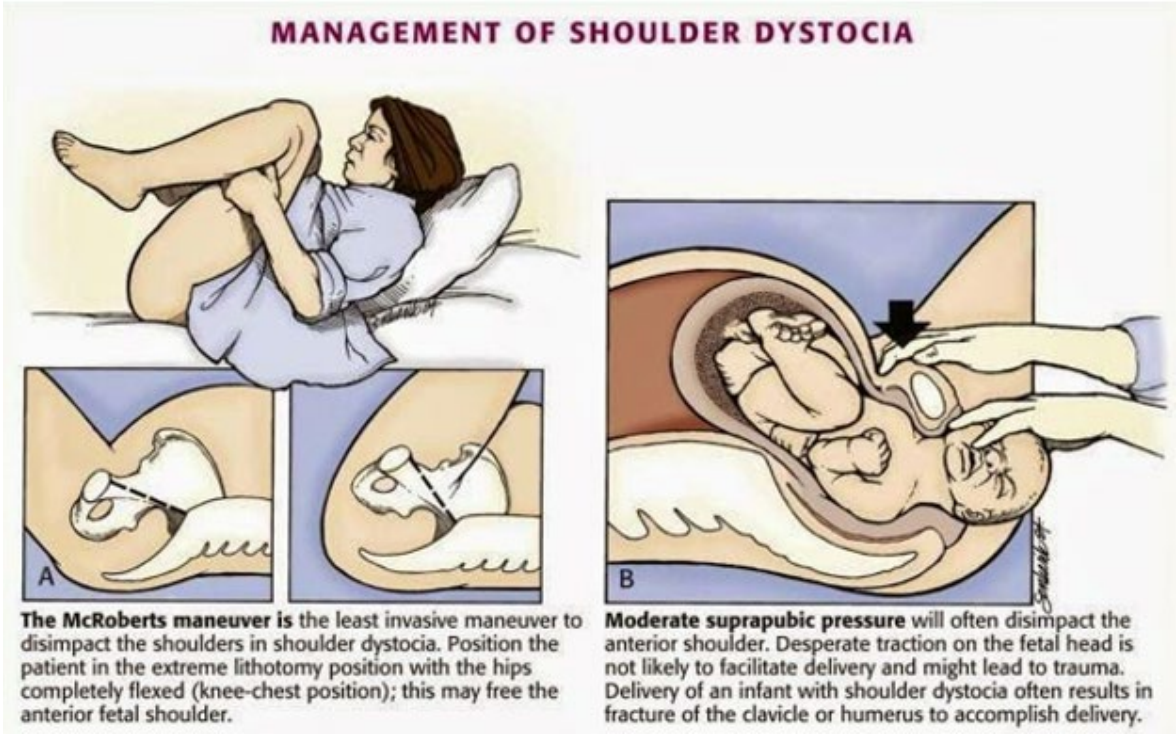


Cleveland Clinic, 2023. Shoulder Dystocia.

IMQCC

Shoulder Dystocia

- HELPERR
  - H: Call for help
  - E: Evaluate for episiotomy
  - L: Legs placed in McRoberts maneuver
    - Legs straight back to chest
  - P: Pressure (Suprapubic)
    - Pressure above pubic bone to depress the shoulder
  - E: Enter Maneuvers: Internal rotation
  - R: Remove Posterior Shoulder
  - R: Roll the patient (Gaskin)
    - Hands and Knees



IMQCC

Placenta

- Contractions should begin again within 5 to 30 minutes after birth to help the placenta separate from the uterus.
- Perform **gentle** traction on the umbilical cord.
  - When the umbilical cord lengthens, this is generally the sign the placenta has detached.
  - Patient can push to expel the placenta.
  - Put placenta in biohazard bag and send with patient to hospital.
- **After placenta is delivered**, assess the fundus (top of the uterus).
  - Fundus should feel firm.
  - If uterus is boggy, perform fundal massage.
- If the fundus is not firm, we expect excessive bleeding.

IMQCC

Uterine Massage

Uterus Assessment

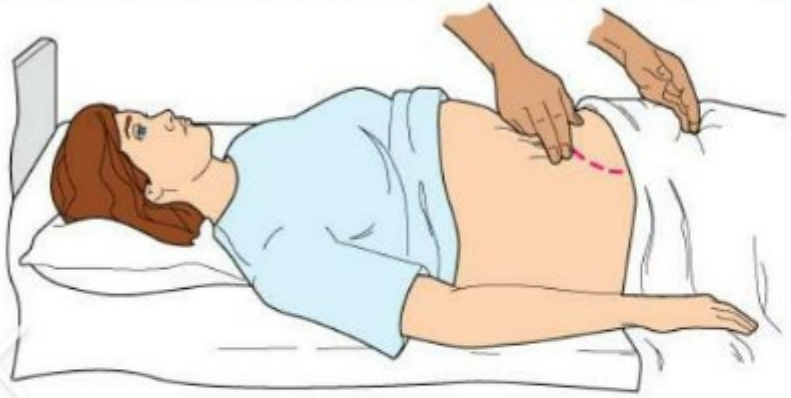
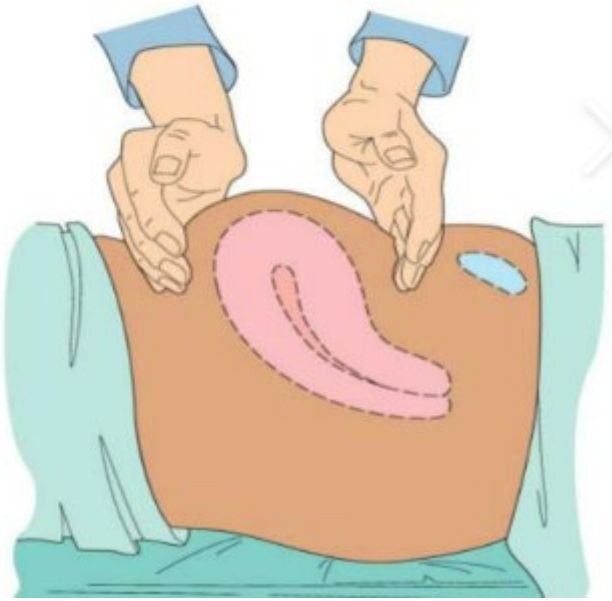


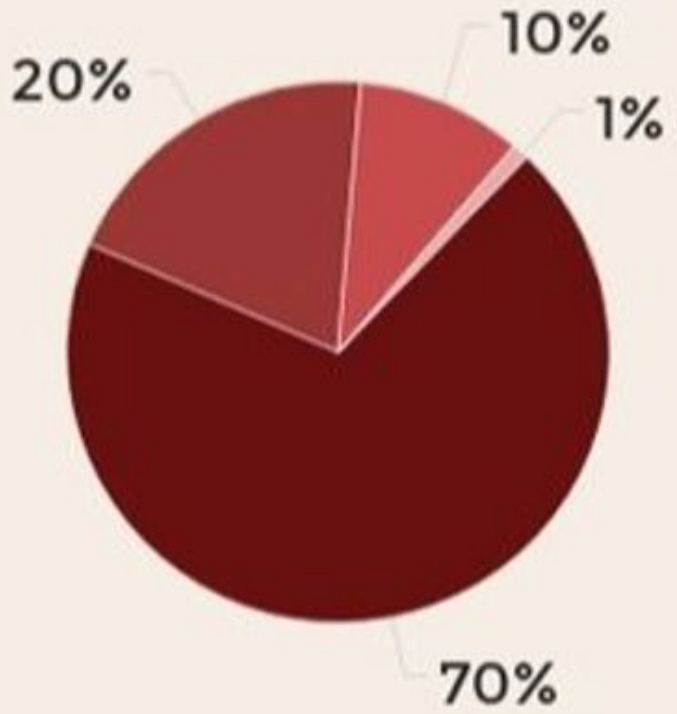
FIGURE 23–6 Measurement of descent of fundus for the woman with vaginal birth. The fundus is located two finger-breadths below the umbilicus.

Always support the bottom of the uterus

during any assessment of the fundus.



Four T's of PostPartum Hemorrhage:



- TONE (Uterine Atony) 70%
- TRAUMA (Lacerations/Rupture) 20%
- TISSUE (Retained Products) 10%
- THROMBIN (Coagulopathy) 1%

Above: Chart showing the percentage of postpartum hemorrhages responsible from each causative factor

IOWA HHS

IMQCC

Postpartum Hemorrhage

- Defined as greater than **1000mL** blood loss in the first 24 hours following delivery, regardless of mode of delivery.
- **500mL** blood loss is considered *excessive* for vaginal deliveries.
  - Are there any good ways to visually estimate blood loss?
- Postpartum hemorrhage causes approximately 11% of maternal deaths in the United States and is considered the ***most preventable*** cause of maternal death.
- Pitocin given prophylactically as soon as possible after delivery.
  - 10 units Pitocin IM
  - May mix 30 units/500mL IV bag run at 300mL/hr for first hour, then 100mL/hr.

If you don't have Pitocin, what medication do you have to help control bleeding?

IMQCC

Tranexamic Acid (TXA)

- Antifibrinolytic agent
- Obstetrical dose is 1g IV given within 3 hours of delivery
- Decrease in mortality from hemorrhage (1.5% vs 1.9%)
- No increase in thromboembolic events
- **Recommend administering for any hemorrhage**
- Current evidence does not support prophylactic use

IOWA HHS IMQCC

Pay attention to your patient

- Increased heart rate > 110
- Increased respiratory rate > 24
- SpO2 less than 95%
  - Give oxygen
- Dizziness
- Weakness
- Pale or clammy skin
- Loss of consciousness
- Confusion or agitation
- **Blood pressure may be the last vital sign to change**

Obstetrical Hemorrhagic Shock

Blood volume loss	Blood pressure	Symptoms & signs	Degree of shock
10-15% (500-1000ml)	Normal	Palpitations, dizziness, tachycardia	Compensated
15-25% (1000-1500ml)	Slight fall	Weakness, sweating, tachycardia	Mild
25-35% (1500-2000ml)	70-80mmHg	Restlessness, pallor, oliguria	Moderate
35-45% (2000-3000ml)	50-70mmHg	Collapse, air hunger, anuria	Severe

IOWA HHS

IMQCC

What can ED/EMS providers do?

- Obtain accurate history if possible
- Vigorous fundal massage
- Monitor vital signs
- Establish IV access
  - Ideally two sites with 18g IV
  - Start IV fluids
- Give TXA
- Keep patient warm
- Transport as soon as possible
  - Call L&D unit directly to give report.
  - What does your policy state regarding transport of mom and baby?

IOWA HHS IMQCC

Hypertension in Pregnancy and Postpartum

IOWA Maternal Quality Care Collaborative

AIM ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

STOP

Tell us if you
ARE PREGNANT *or*
HAVE BEEN PREGNANT
within the past 6 weeks

Come to the front of the line if you have:

- Persistent headache
- Visual change (floaters, spots)
- History of preeclampsia
- Shortness of breath
- History of high blood pressure
- Chest pain
- Heavy bleeding
- Weakness
- Severe abdominal pain
- Confusion
- Seizures
- Fevers or chills
- Swelling in hands or face

IMQCC

SAVE YOUR LIFE:

Get Care for These POST-BIRTH Warning Signs

Most women and postpartum people who give birth recover without problems. **But anyone can have a complication for up to one year after birth.** Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life.

Trust your instincts.
ALWAYS get medical care if you are not feeling well or have questions or concerns.

Call 911 if you have:	❑ **P**ain in chest ❑ **O**bstructed breathing or shortness of breath ❑ **S**eizures ❑ **T**houghts of hurting yourself or someone else
Call your healthcare provider if you have: (you only need one sign) (If you can't reach your healthcare provider, call 911 or go to an emergency room)	❑ **B**leeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger ❑ **I**ncision that is not healing ❑ **R**ed or swollen leg, that is painful or warm to touch ❑ **T**emperature of 100.4°F or higher or 96.8°F or lower ❑ **H**eadache that does not get better, even after taking medicine, or bad headache with vision changes

IMQCC

Hypertension Disorders in Pregnancy (HDP)

- Chronic Hypertension
- Gestational Hypertension
- Preeclampsia
  - with and without Severe Features
- HELLP Syndrome
- Eclampsia

Hypertension in Pregnancy

- Chronic Hypertension
  - Diagnosis:
    - Elevated blood pressure **≥140/90** on two occasions at least 4-hours apart prior to 20 weeks gestation (or prior to pregnancy)

- Gestational Hypertension
  - Diagnosis:
    - Previously normal blood pressures
    - Elevated blood pressure **≥140/90** on two occasions at least 4 hours apart after 20 weeks of gestation
    - No proteinuria or other criteria to diagnose preeclampsia

Patient in Emergency Room: Consult OB

IMQCC

Preeclampsia: Diagnosis

Elevated blood pressure on two occasions at least four hours apart

AND

Proteinuria
300mg in 24h urine
Protein/Creatinine ratio 0.3
2+ on dipstick

OR

New Severe Feature
Thrombocytopenia (platelets <100,000)
Creatinine 1.1 or double baseline
AST and ALT double normal range
Pulmonary edema
New-onset unrelenting headache not explained by another diagnosis or with visual changes

Patient in Emergency Room: Consult OB

IMQCC

Preeclampsia Management

- Severe features:
  - Severely elevated blood pressure: **Systolic ≥ 160 or Diastolic ≥ 110**
  - **OR the features listed on the previous slide**
- Treat the blood pressure → Prevent stroke
- Magnesium Sulfate → Prevent seizures

- Increasing numbers of patients with preeclampsia in the postpartum period- why??

Emergency room: Consult OB

IMQCC

HELLP Syndrome

Hemolysis, **E**levated **L**iver enzymes, **L**ow **P**latelet count syndrome

- HELLP is a severe variant of preeclampsia
- Diagnosis by labs:
  - Lactate dehydrogenase (LDH) >600
  - AST and ALT double the normal range
  - Platelets <100,000
- 15% of patients with HELLP syndrome lack elevated blood pressure or proteinuria.
- Common presenting symptoms: nausea, vomiting, RUQ or epigastric pain
  - May mimic severe GERD or gallstones
- Delivery: shortly after clinical stabilization

If you suspect HELLP: Consult OB immediately

IMQCC

Aspirin may help to prevent the occurrence of and/or the severity of preeclampsia.

HEALTH ACTION SHEET

Low-dose aspirin to prevent preeclampsia and premature birth

For some women, taking low-dose aspirin during pregnancy may help reduce your risk for serious problems for you and your baby, like preeclampsia and premature birth.

Preeclampsia is when you have high blood pressure and signs that some of your organs, like your kidneys and liver, may not be working right. Preeclampsia can happen after the 20th week of pregnancy or right after pregnancy.

If not treated, preeclampsia can cause serious problems for you and your baby, including premature birth (before 37 weeks of pregnancy). Babies born early may have more health problems than babies born on time.

If you're at risk for preeclampsia, your provider may recommend you take low-dose aspirin.

- ✓ If your provider says it's OK, take low-dose aspirin each day. You can buy it over-the-counter, or your provider can give you a prescription for it. It's also called baby aspirin or 81-mg aspirin.
- ✓ Take the aspirin exactly as your provider tells you to.
- ✓ Go to all your prenatal care checkups, even if you're feeling fine. You can have preeclampsia and not know it.
- ✓ If you have signs or symptoms of preeclampsia (like severe headaches, blurred vision or swelling in the hands or face) during or after pregnancy, call your provider right way.

TAKE ACTION

Ask your provider about low-dose aspirin.

Tell your provider if you have **even one** of these risks for preeclampsia:

- ☐ You've had preeclampsia before.
- ☐ You're pregnant with multiples.
- ☐ You have high blood pressure, diabetes, kidney disease or an autoimmune disease like lupus.

Tell your provider if you have **more than one** of these risks:

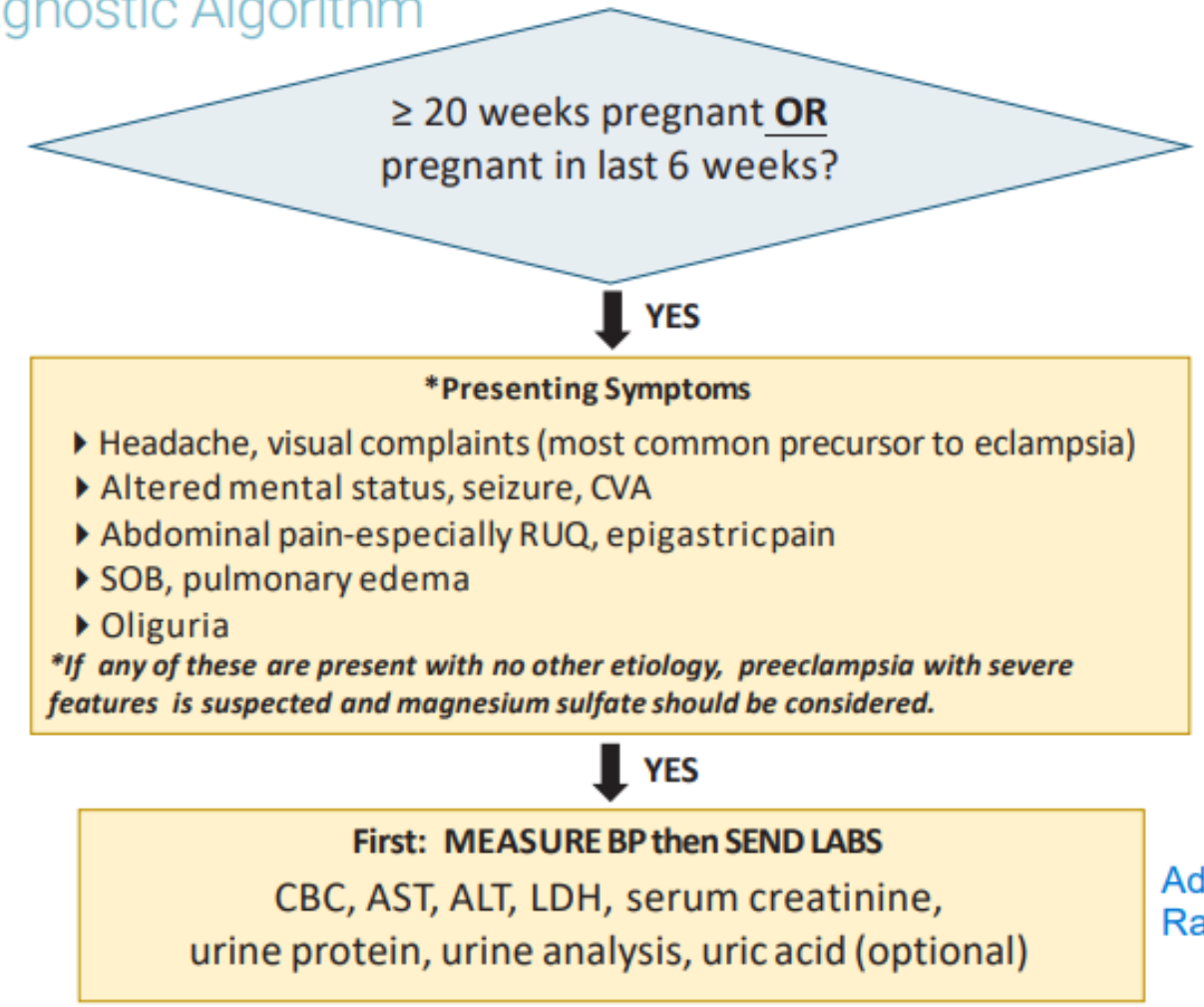
- ☐ You've never had a baby before, or it's been more than 10 years since you had a baby.
- ☐ You're obese.
- ☐ Your sister or mother has had preeclampsia.
- ☐ You had complications in a previous pregnancy, like your baby had low birthweight.
- ☐ You're 35 or older.
- ☐ You're African-American. African-American women are more likely than other women to have preeclampsia.

Certain stresses in your life, like having low income or little education or health care, can increase your risk for preeclampsia. **Talk to your provider about all your risks for preeclampsia to see if low-dose aspirin is right for you.**

IMQCC

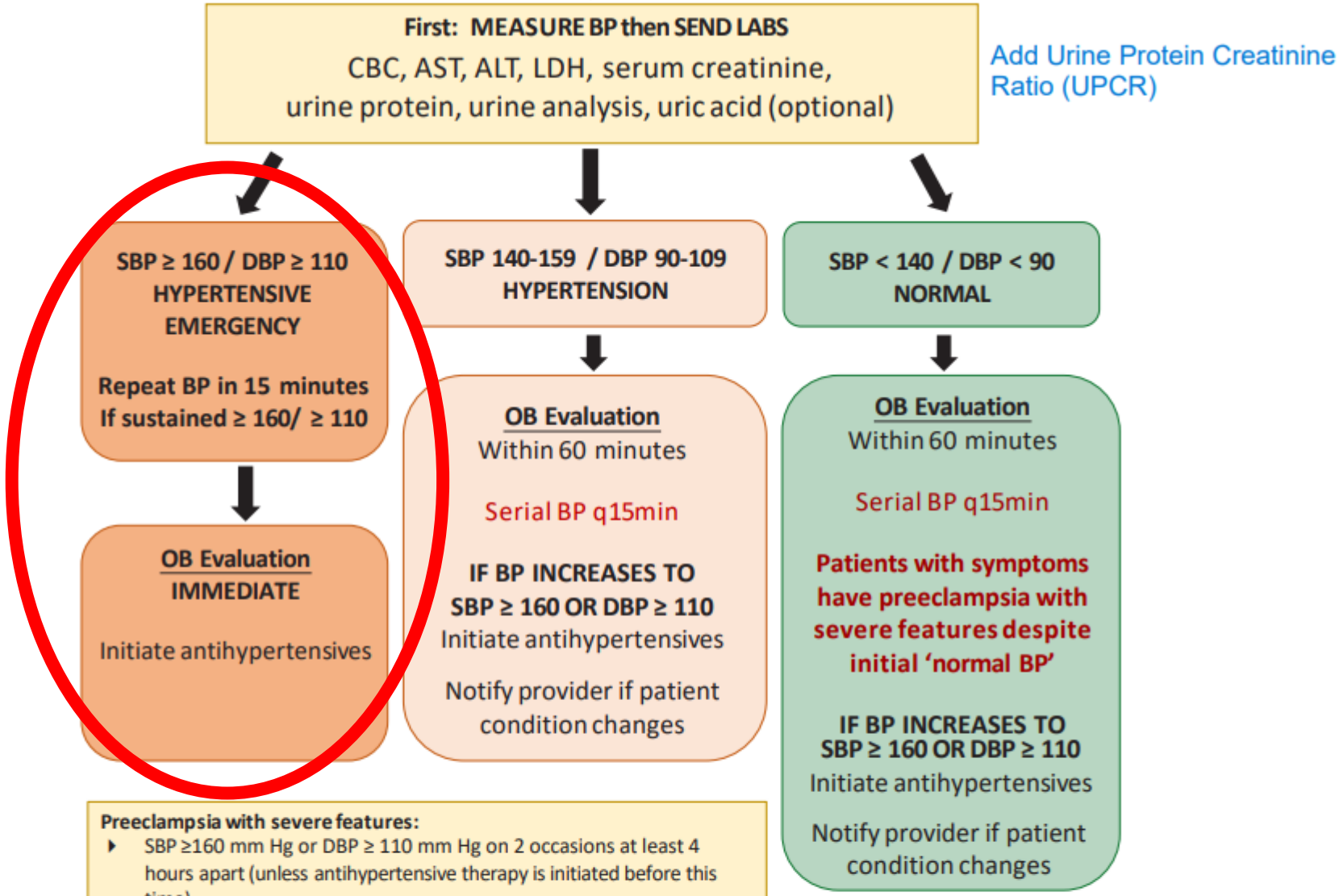
Appendix E: Acute Treatment Algorithm

Part 1: Diagnostic Algorithm



Add Urine Protein Creatinine Ratio (UPCR)

IMQCC



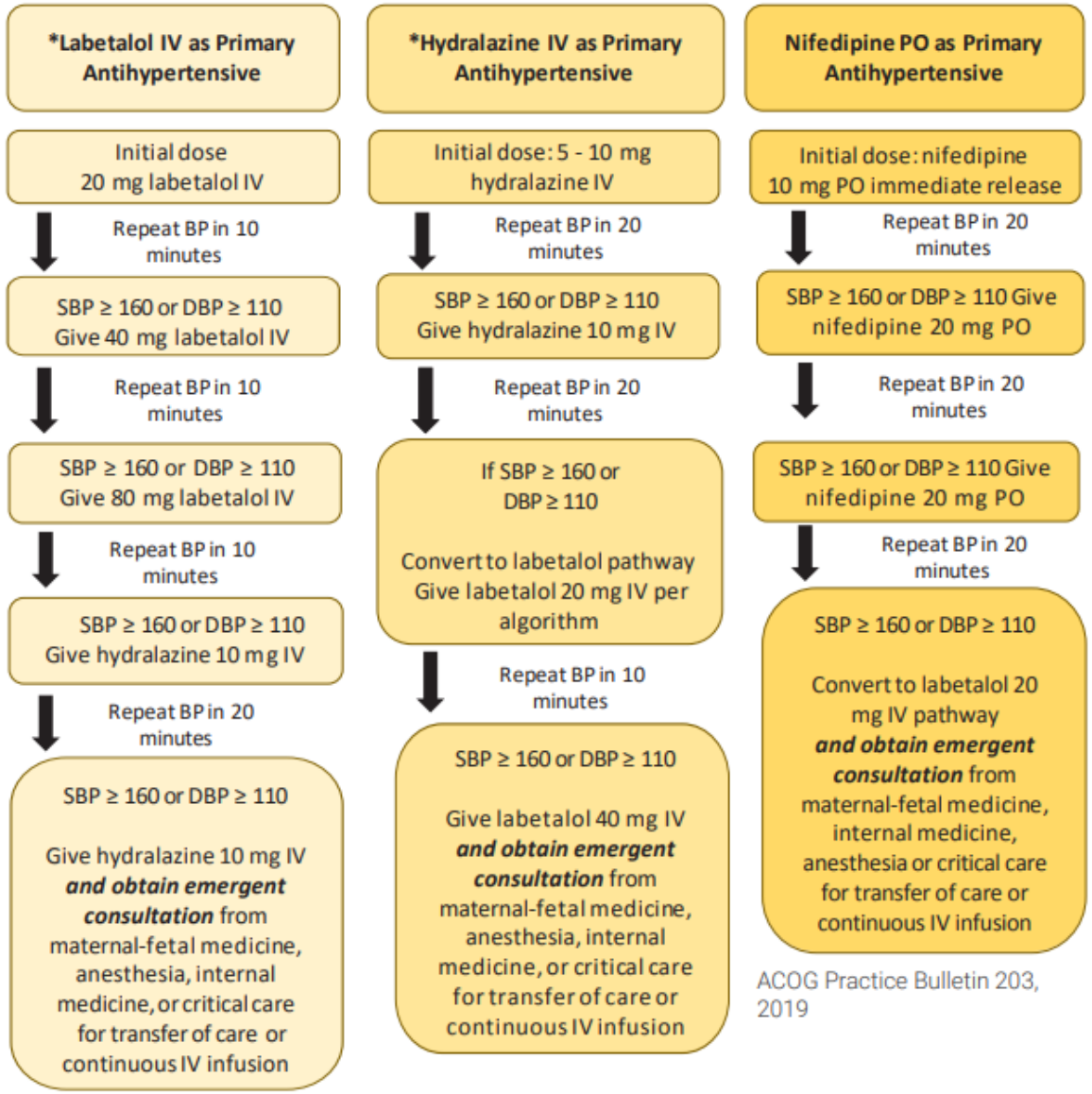
ACOG Practice Bulletin 222, 2020

This figure was adapted from the Improving Health Care Response to Preeclampsia: A California Quality Improvement Toolkit, funded by the California Department of Public Health, 2014; supported by Title V funds.

IMQCC

Treatment Recommendations for Sustained Systolic BP ≥ 160 mm Hg or Diastolic BP ≥ 110 mm Hg

*Antihypertensive treatment and magnesium sulfate should be administered simultaneously. If concurrent administration is not possible, antihypertensive treatment should be 1st priority.



ACOG Practice Bulletin 203, 2019

Target BP: 130-150/80-100 mm Hg

Once BP threshold is achieved:

- Q10 min for 1 hr
- Q15 min for 1 hr
- Q30 min for 1 hr
- Q1hr for 4 hrs

*Intravenous hydralazine or labetalol should be given over 2 minutes. In the presence of sinus bradycardia or a history of asthma, hydralazine or nifedipine are preferred as initial agents. If maternal HR > 110, labetalol is preferred.

This figure was adapted from the Improving Health Care Response to Preeclampsia: A California Quality Improvement Toolkit, funded by the California Department of Public Health, 2014; supported by Title V funds.

IMQCC

Magnesium Sulfate

- Loading dose: **4-6 grams over 20-30 minutes**
  - 6 grams for BMI greater than 35
  - 6 grams if DTRs are hyper reflexive and + clonus present
- Maintenance dose: **1-2 grams per hour for 24-48 hours after delivery**
- Normal Magnesium Levels 1.8-2.2 mg/dL
  - Target for OB: 5-8 mg/dL

IMQCC

Magnesium Sulfate- Intake & Output

- Limit total fluid intake to less than **125 mL per hour** or per provider order (after initial Mag bolus).
  - Includes all IV infusions and oral intake
  - Should be NPO and on bedrest if still pregnant
  - Remember Foley for accurate I&O

IMQCC

Eclamptic Seizure

- Head of bed down, position patient on her side, prevent maternal injury, secure airway, and maintain oxygenation
- If Mag Sulfate IV is going, continue with bolus/infusion
  - May give up to 6 grams bolus total
- If infusion is not started, may consider 10 grams via IM route
  - 5 grams in each buttocks (At least 2 injections in each buttocks)

IMQCC

Magnesium Toxicity

- Frequent assessments eliminate need for recurrent lab mag levels.
- Close observation for signs of toxicity:
  - Disappearance of deep tendon reflexes
  - Decreased respiratory rate
  - Decreased urine output (Minimum of 30-50mL/hr)
  - Shortness of breath
  - Heart block
  - Chest pain
  - Pulmonary edema
- Calcium gluconate should be readily available for treatment.

IMQCC

Magnesium Toxicity

- Frequent assessments eliminate need for recurrent lab mag levels.
- Close observation for signs of toxicity:
  - Disappearance of deep tendon reflexes
  - Decreased respiratory rate
  - Decreased urine output (Minimum of 30-50mL/hr)
  - Shortness of breath
  - Heart block
  - Chest pain
  - Pulmonary edema
- Calcium gluconate should be readily available for treatment.

IMQCC

Resources

- Stay up to date on your EMS guidelines:
  - National-Model-EMS-Clinical-Guidelines_2022.pdf (nasemso.org)
    - Obstetrics on pages 165-177
- ACOG's Identifying and Managing Obstetric Emergencies in Non-Obstetric Settings: EMS Guidelines Coming Soon!
  - Obstetric Emergencies in Nonobstetric Settings | ACOG
- California Maternal Quality Care Collaborative
  - www.CMQCC.org

IOWA HHS IMQCC