



**Low Dose Aspirin (LDA) to
Prevent Preeclampsia:
We Can Collaborate
to Save Lives**

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Key Points

- LDA starting at 12 weeks gestation is an effective and safe intervention to prevent preeclampsia
- LDA is underutilized and we need your help with this
- California Maternal Quality Care Collaborative LDA campaign has resources and opportunities for collaboration

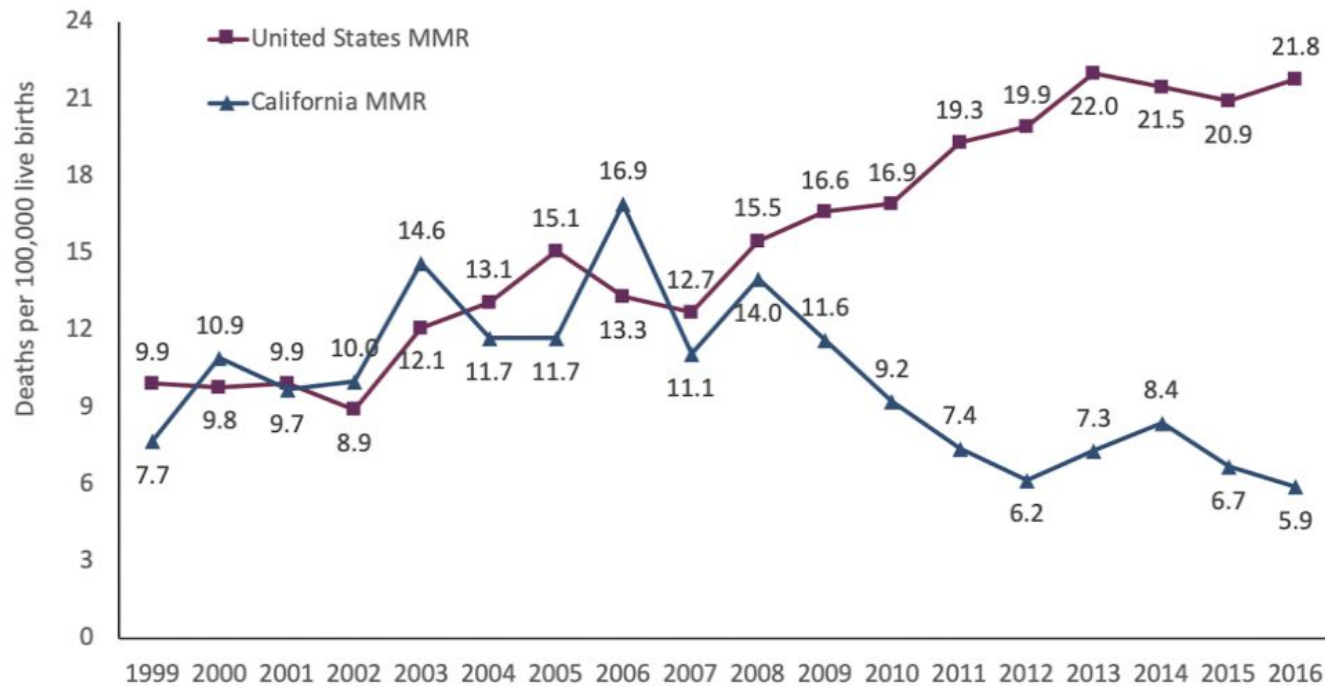
California Maternal Quality Care Collaborative (CMQCC)

Mission: End preventable morbidity, mortality and racial disparities in maternity care

Created in 2006 in response to crisis and disparities in maternal mortality

Current project: LDA to prevent preeclampsia

Figure 1: Maternal Mortality Ratio in U.S. and California, 1999-2016



Maternal mortality ratio (MMR) = Number of maternal deaths per 100,000 live births, up to 42 days after the end of pregnancy. Maternal deaths in California were identified using ICD-10 cause of death classification for obstetric deaths (codes A34, O00-O95, O98-O99) from the California death certificate data (1999-2013) and the California pregnancy status errata file (2014-2016). Data on U.S. maternal deaths are published by the National Center for Health Statistics and found in the CDC WONDER Database for years 2008 or later (accessed at <http://wonder.cdc.gov> on February 25, 2020).

SOURCE: CA-PMSS Surveillance Report: Pregnancy-Related Deaths in California, 2008-2016. Sacramento: California Department of Public Health, Maternal, Child and Adolescent Health Division. 2021.

What is Preeclampsia?

- Multi-system **vascular and inflammatory** disorder involving new or worsening hypertension in pregnancy.
- Often accompanied by **multi-organ injury**, including the kidney, liver, heart, brain, and placenta.
- Can lead to severe **maternal complications** such as seizure, stroke, and death, as well as **lifelong elevated cardiovascular risk**.
- Often associated with preterm delivery and other health **consequences for newborn including future cardiovascular disease**

LDA given to those at risk for preeclampsia

Reduces:

- Preeclampsia by 15%
- Preterm birth by 20%
- Fetal growth restriction by almost 20%
- Perinatal mortality by more than 20%

This translates to healthier moms and healthier babies

Clinical Review & Education

2014 and re-Endorsed in 2021

JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT

Aspirin Use to Prevent Preeclampsia and Related Morbidity and Mortality US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force



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



Society for
Maternal-Fetal
Medicine
High-risk pregnancy experts

ACOG COMMITTEE OPINION

Number 743

Committee on Obstetric Practice
Society for Maternal-Fetal Medicine

This Committee Opinion was developed by the Committee on Obstetric Practice in collaboration with committee member T. Flint Porter, MD, and the Society for Maternal-Fetal Medicine in collaboration with members Cynthia Gyamfi-Bannerman, MD, MS, and Tracy Manuck, MD.

July 2018

Low-Dose Aspirin Use During Pregnancy



Recommended by national medical and patient organizations:
Daily use of Low-Dose Aspirin starting between 12-16 weeks of gestation has substantial benefits for both mother and infant.

...but these recommendations have been slow to become widely used!

- Multiple studies find that less than 25% of eligible women are offered or take LDA.
- Women with chronic hypertension are the highest utilizing group but among them only ~50% take LDA.
- Among Black pregnant people who are eligible, only 10% received LDA.

Beyond Prescribing: Barriers to Adherence (Spoiler: seeing the OB is not enough)

- Information overload, confusion about preeclampsia
- Difficulty obtaining prescription
- Perception of mixed messages among health care providers about aspirin safety
- Perception of stigma about risk categories eg obesity
- Difficulty with pill-taking (“pregnancy fog”, health and personal challenges)
- Fear of medication in pregnancy

Food for thought: Interesting quotes illustrating barriers to taking LDA

- *Mixed messages: “I just went to the GP’s and told them that I had ran out and asked them if I could have some more on a repeat prescription and they told us I couldn’t because I was pregnant [...] No, cos I kind of knew that you weren’t (supposed to take it) cos it’s written on the box. So, I knew you weren’t allowed to take it.”*
- *Feeling stigmatized by criteria: “I wouldn’t say it’s got anything to do with your weight personally cos it can happen to anyone like the thinnest of people can have really high blood pressure and have blood clots. So, I think they put the stigma on people that are overweight.”*

Is Low-Dose Aspirin Safe in Pregnancy?

- Yes, LDA is safe!
- LDA: No higher rates of maternal harms
 - Abruption, hemorrhage not increased
- LDA: No higher rates of fetal harms
 - Congenital malformations, premature ductal closure, bleeding not increased
- The concerns for aspirin in pregnancy are related to full adult doses (2 x 325mg or 650mg) which have different biochemical effects. Even these effects are modest.
- Recommended to start between 12 and 28 weeks gestation,(ideally 12-16 weeks). Some evidence best taken at night.

Risk factors for preeclampsia

Those with one high-risk factor should receive LDA:

- Preeclampsia in a prior pregnancy
- Multifetal gestation (twins plus)
- Chronic hypertension
- Pregestational type 1 or 2 diabetes mellitus
- Kidney disease
- Autoimmune disease (lupus, etc.)
- Combinations of multiple moderate-risk factors

Risk factors for preeclampsia

Those with two or more moderate-risk factors should receive LDA:

- Nulliparity (first birth)
- Obesity (BMI > 30 kg/m²)
- Mother or sister with history of preeclampsia
- Black race (as a proxy for underlying racism)
- Financial hardship
- 35+ years old
- The patient was born with a low birth weight
- Previous adverse pregnancy outcome
- In-vitro conception
- 10+ years since last delivery



An example of a self-administered Checklist for Eligibility for Low-Dose Aspirin

Am J Obstet Gynecol. 2020 Sep;223(3):B7-B11.

Preeclampsia Risk Factors

What is your height _____? Usual weight before pregnancy _____?

Have you been told you have or had any of the following:

- yes no Preeclampsia ("toxemia") in a previous pregnancy
- yes no Twins or triplets in the current pregnancy
- yes no Hypertension (high blood pressure)
- yes no Diabetes mellitus (type 1 or type 2)
- yes no Kidney disease
- yes no Autoimmune disorder (lupus, rheumatoid arthritis, etc.)
- yes no Antiphospholipid or anticardiolipin syndrome

- yes no Did your mother or sister have preeclampsia ("toxemia") during a pregnancy?
- yes no Are you 35 years old or older?
- yes no Did you weigh less than 5 1/2 pounds (2.5 kg) at birth?
- yes no Are you of African or Afro-Caribbean ancestry?
- yes no Are you taking low-dose aspirin (81 mg daily)?
- yes no Will this be your first child?

If you have previous children:

- yes no Is your youngest child 10 years old or older?
- yes no Any previous child weighing less than 5 1/2 pounds (2.5 kg) at birth?

Signed by Patient _____ Date: _____

Office Use Only:

BMI _____ (Initials _____) GA _____ wks

Recommend low-dose aspirin

No recommendation

Already on low-dose aspirin

Version August 5, 2020

Take Aways

- LDA in pregnancy is safe and effective
 - can substantially reduce harms to pregnant people and babies from preeclampsia...and contribute to a decreased burden of cardiovascular disease
- LDA is underutilized
 - collaboration across specialties and disciplines is needed to streamline messages, address patient fears, and support prescribing and adherence
- Please help spread the word to patients and colleagues!
- More info and resources (patient handouts, slides to share):
<https://www.cmqcc.org/qi-initiatives/low-dose-aspirin-prevent-preeclampsia>
- Thank you!! sjohnson@laclinica.org
<https://www.linkedin.com/in/dr-sara-johnson/>