



Public Health
Maternal, Child, and Adolescent Health

Low-dose Aspirin and Preeclampsia

Linda Griffith, PHN, MSN, CNS

Amy Trinh, MPH, CHES

dph.sbcounty.gov/programs/fhs/mcah



By the end of this presentation, participants will be able to:

- Highlight the 4 common hypertensive disorders of pregnancy, with preeclampsia being the most prevalent.
- Explain what preeclampsia is, including its signs, symptoms, and potential complications.
- Discuss the evidence for risk reduction in preeclampsia, preterm birth, poor fetal growth, and perinatal loss.
- Define low-dose aspirin and describe how it works in pregnancy.
- Describe when low-dose aspirin should be initiated and key safety considerations.
- Identify which patients may benefit from low-dose aspirin based on risk factors.
- Apply clear counseling points to support safe and effective patient education.



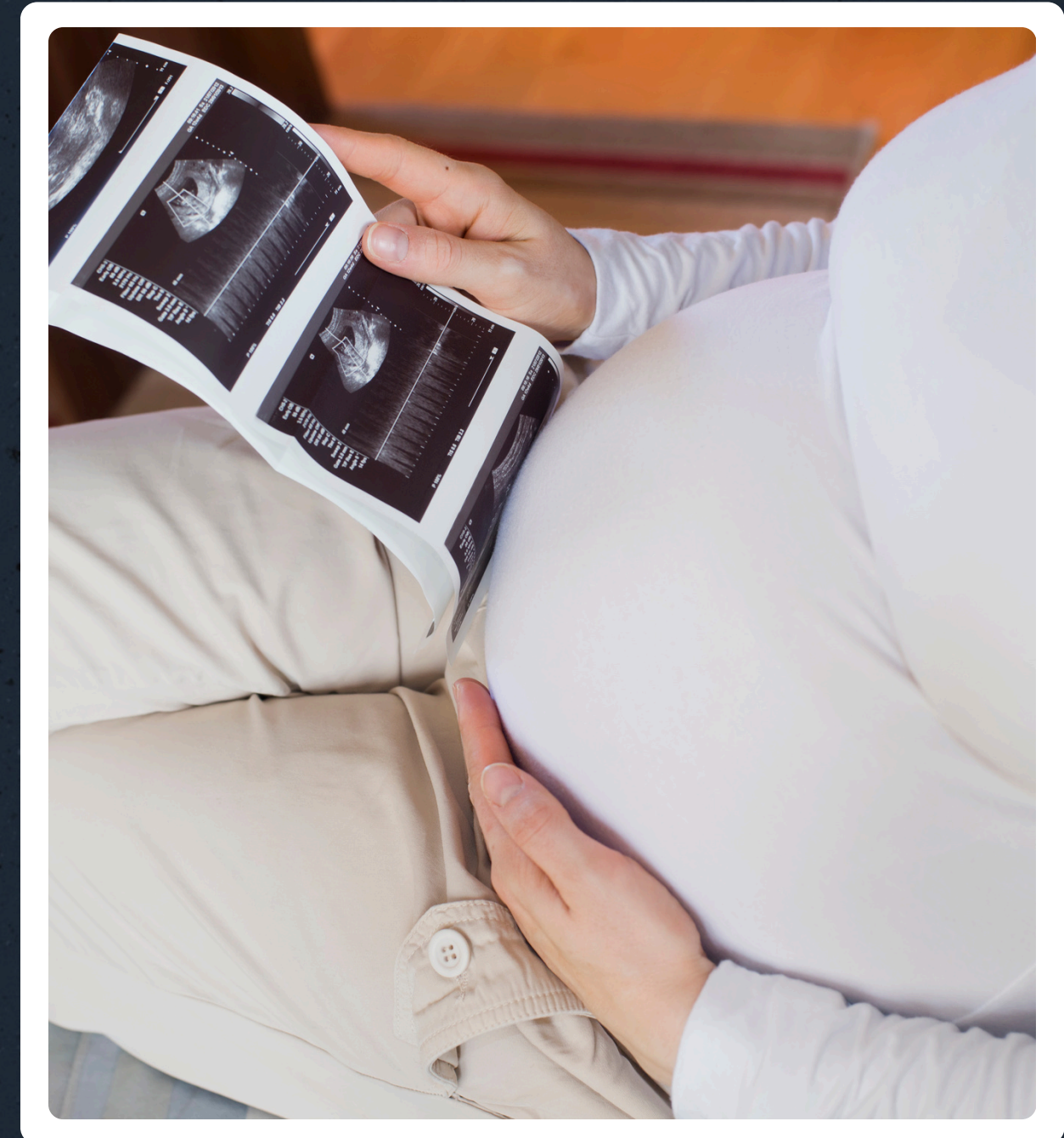


What is High Blood Pressure (Hypertension)?

High blood pressure is when the pressure in the arteries is higher than it should be.

Types of Hypertension:

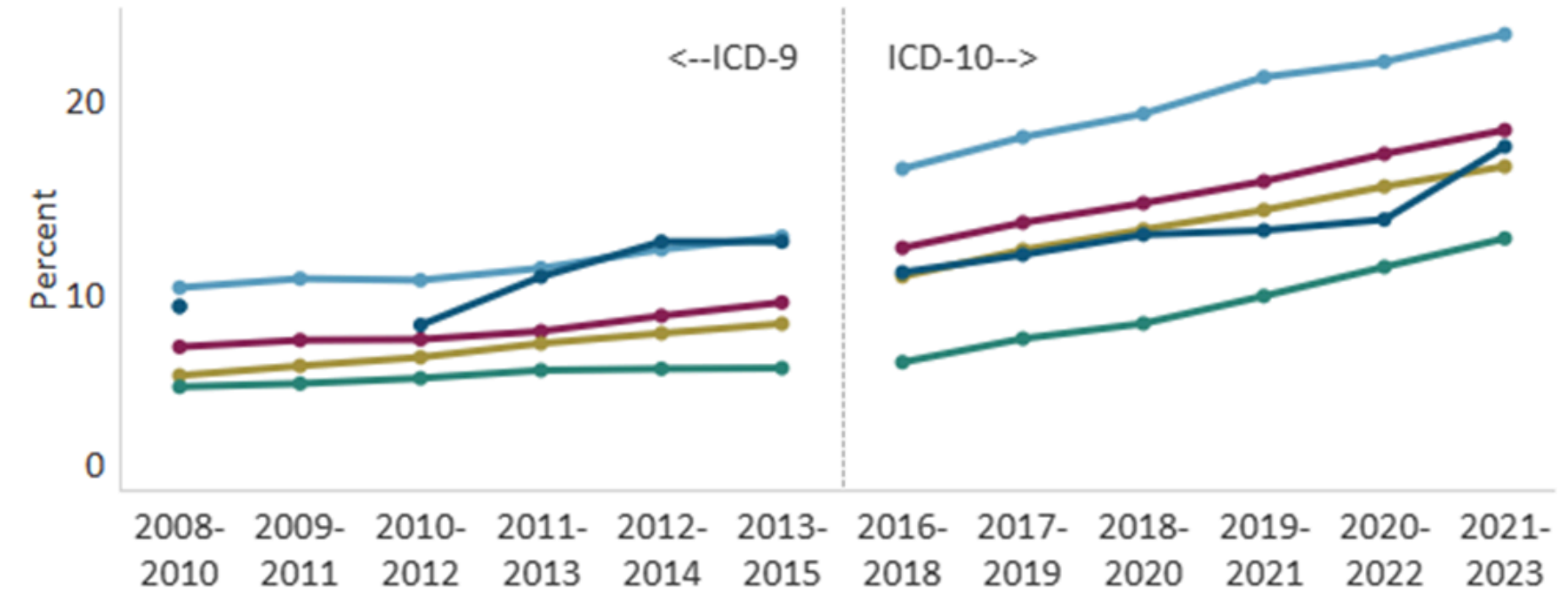
- Primary/Essential: genetically predisposed, age, lifestyle behaviors; no obvious cause
- Secondary: identifiable cause or underlying condition
- Situational: “white coat syndrome” (masked, sustained, nocturnal)



(Cleveland Clinic, 2025)



Any Hypertension at Delivery by Race/Ethnicity, San Bernardino County, 2021-2023



- Over 2% of pregnant women in the U.S. have chronic hypertension (long-term high blood pressure).
- Chronic hypertension raises the risk of pregnancy complications.
- These complications can include maternal and perinatal death.
- It increases the risk of preeclampsia, placental abruption, preterm birth, low birth weight, and perinatal death by three to five times.
- It also raises the risk of serious maternal conditions by five to 10 times, including:
 - Maternal death
 - Heart failure
 - Stroke
 - Pulmonary edema (fluid in the lungs)
 - Acute kidney injury.

(Echols, 2022)



4 Common Hypertensive Disorders of Pregnancy

Hypertensive Disorders of Pregnancy



Chronic HTN

Preexisting HTN or BP>140/90 mm Hg before 20 wks of gestation, or persist >12 wks post partum



Gestational HTN

New HTN (BP>140/90 mm Hg) after 20 wks of gestation
No end organ dysfunction



Preeclampsia

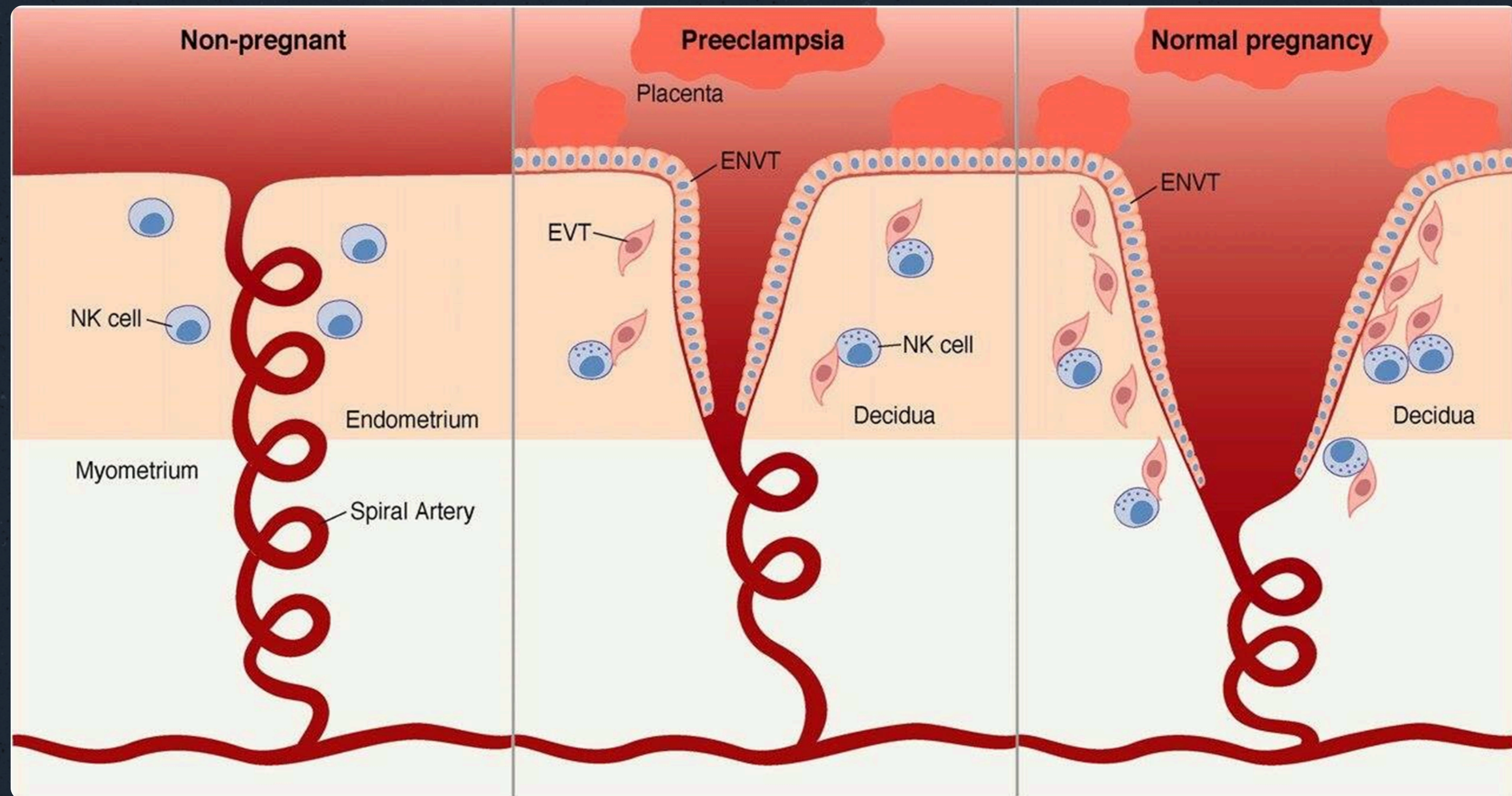
Gestational HTN + Proteinuria.
Low platelets, High LFTs, Pulm edema, visual disturbances



Eclampsia

Preeclampsia + seizures during pregnancy or within 10 days post partum

(Khedagi & Bello, 2021)



(Wang, 2017).



What is Preeclampsia?

Preeclampsia is a condition in pregnancy that occurs after the 20th week of pregnancy and is characterized by high blood pressure, excess protein in the urine, and swelling in the hands, legs, and feet.

Signs & Symptoms

- Gaining more than 5 pounds in a week
- Swelling in your face and hands
- Stomach pain
- Severe headaches
- Feeling nauseous, throwing up
- Vision changes, such as seeing spots, like flashing lights, floaters, or blurry vision

([Preeclampsia Foundation](#), 2025)



Arterial Changes in Pregnancy

Normal Pregnancy

- Spiral artery remodeling: larger in diameter
- Low-resistance, high blood-flow
- Invade into the myometrium
- Sufficient O₂ & nutrients delivered to the fetus
- Optimum placental perfusion

Preeclampsia

- Spiral artery remodeling: narrower (constricted) in diameter
- High-resistance, low blood-flow
- Does not properly invade into the myometrium in the 2nd trimester
- Insufficient O₂ and nutrients delivered to the fetus
- Poor placental perfusion/placental insufficiency

(Christensen, Bert, Nadakarni, 2025)
(Wei et al., 2022).



Preeclampsia Risk Factors

Moderate Risk Factors

- First pregnancy with current partner
- Obesity
- Family history of preeclampsia
- Maternal age of 35 or older
- Complications in a previous pregnancy
- More than 10 years since previous pregnancy

High Risk Factors

- History of preeclampsia
- Carrying more than one baby (twins, triplets, or more)
- Chronic hypertension
- Kidney disease
- Diabetes
- Autoimmune conditions such as lupus

(ACOG, 2021)



You are **STILL AT RISK** **after** your baby is born!

Postpartum Preeclampsia

What is it?

Postpartum preeclampsia is a serious disease related to high blood pressure. It can happen to anyone who has just had a baby **up to 6 weeks after the baby is born.**

Risks to You

- Seizures
- Organ damage
- Stroke
- Death

Warning Signs



Stomach pain



Severe headaches



Feeling
nauseous or
throwing up



Seeing spots
(or other
vision changes)



Swelling in your
hands and face



Shortness
of breath

What can you do?

- Ask if you should follow up with your doctor within one week of discharge.
- Keep all follow-up appointments.
- Trust your instincts.

- Watch for warning signs. If you notice any, call your doctor. If you can't reach your doctor, call 911 or go directly to an emergency room and report you have been pregnant.



For more information, go to www.stillatrisk.org



Copyright ©2018-2021 Preeclampsia Foundation. All Rights Reserved. Printed 7/21.

([Preeclampsia Foundation](https://www.preeclampsiafoundation.org/), 2021)



What Should You Do?

Call Your Provider Immediately

Risks to Mother

- Seizures
- Stroke
- Organ damage
- Death



Risks to Baby

- Premature birth
- Low birth weight
- Intrauterine growth restriction (IUGR)
- Stillbirth

([John Hopkins, n.d.](#))



Low-Dose Aspirin Use During Pregnancy



What Is Low-Dose Aspirin?

Low-dose aspirin, often called “baby aspirin” (81 mg), is a medication that can help reduce inflammation and improve blood flow. During pregnancy, it is sometimes recommended to help lower the risk of certain complications.

It is most commonly used to help prevent or delay preeclampsia, a pregnancy-related condition that involves high blood pressure and can affect the health of both the pregnant person and the baby.

([ACOG, 2021](#))



Who Might Be Recommended Low-Dose Aspirin?

Low-dose aspirin may be recommended for individuals at high risk of preeclampsia or those with multiple moderate risk factors. Risk factors include:

- History of preeclampsia in a previous pregnancy
- Chronic hypertension (high blood pressure before pregnancy)
- Type 1 or type 2 diabetes
- Autoimmune conditions such as lupus
- Kidney disease or other serious medical conditions

Healthcare providers will consider a person's medical history, risk profile, and pregnancy details to make an individualized recommendation.



(ACOG, 2021)
(U.S. Preventive Services Task Force, 2021)



When Is It Started?

Guidelines generally advise starting low-dose aspirin after the first trimester, typically between 12 and 28 weeks of gestation (optimally before 16 weeks), if recommended by a healthcare provider.

Medication should continue daily until delivery.



Is It Safe?

Research indicates that low-dose aspirin is generally safe in pregnancy when used under medical supervision. Side effects are uncommon but may include minor stomach upset or mild bleeding. It is not recommended to start aspirin on your own during pregnancy.



(ACOG, 2021)
(U.S. Preventive Services Task Force, 2021)



Reduced Risks for Mother and Baby



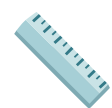
Preeclampsia



15% fewer cases



1–6 fewer per 100 pregnancies



Poor baby growth



18% fewer growth problems



Early birth (before 37 weeks)



20% fewer preterm births



Baby death (stillbirth or newborn death)



20% fewer losses

(ACOG, 2021)

(U.S. Preventive Services Task Force, 2021)



Important Reminders

- Use lay terms: use high blood pressure rather than “hypertension.”
- Be clear: make sure the patient knows the symptoms and what to do.
- Assess the patient’s understanding.
- Do not start aspirin during pregnancy without talking to a healthcare provider.
- Remind patients to always follow the dose and timing recommended by their provider.
- Low-dose aspirin is a preventive tool, not a treatment for active diseases.



References

American College of Obstetricians and Gynecologists. (2021). *Low-Dose Aspirin Use for the Prevention of Preeclampsia and Related Morbidity and Mortality*. Retrieved from [acog.org/clinical/clinical-guidance/practice-advisory/articles/2021/12/low-dose-aspirin-use-for-the-prevention-of-preeclampsia-and-related-morbidity-and-mortality](https://www.acog.org/clinical/clinical-guidance/practice-advisory/articles/2021/12/low-dose-aspirin-use-for-the-prevention-of-preeclampsia-and-related-morbidity-and-mortality).

Christensen, A. P., Bert, S., & Nadkarni, S. (2025). Immune Mechanisms of Vascular Disease in Preeclampsia. *Arteriosclerosis, thrombosis, and vascular biology*, 45(10), 1715–1723. <https://doi.org/10.1161/ATVBAHA.124.321670>

Cleveland Clinic. (2025). *Hypertension*. Retrieved from my.clevelandclinic.org/health/diseases/4314-hypertension-high-blood-pressure

Echols, Hanna. (2022, April 2). *Study shows treating preexisting high blood pressure in pregnancy improves maternal and fetal outcomes*. University of Alabama. <https://www.uab.edu/news/health/item/12744-study-shows-treating-preexisting-high-blood-pressure-in-pregnancy-improves-maternal-and-fetal-outcomes>

John Hopkins Medicine. (n.d.) *Preeclampsia*. Retrieved from hopkinsmedicine.org/health/conditions-and-diseases/preeclampsia

Khedagi, A. M., & Bello, N. A. (2021). Hypertensive Disorders of Pregnancy. *Cardiology clinics*, 39(1), 77–90. <https://doi.org/10.1016/j.ccl.2020.09.005>.

Preeclampsia Foundation. (2025). *Postpartum Preeclampsia*. Retrieved from preeclampsia.org/signs-and-symptoms.

Preeclampsia Foundation. (2025). *Signs and Symptoms*. Retrieved from preeclampsia.org/postpartum-preeclampsia

U.S. Preventive Services Task Force. (2021). *Aspirin Use to Prevent Preeclampsia and Related Morbidity and Mortality: Prevention Medication*. Retrieved from uspreventiveservicestaskforce.org/uspstf/recommendation/low-dose-aspirin-use-for-the-prevention-of-morbidity-and-mortality-from-preeclampsia-preventive-medication?utm_source=chatgpt.com#bootstrap-panel--4

Wang, B. (2017). *Preeclampsia and Eclampsia*. Retrieved from coreem.net/core/preeclampsia-and-eclampsia/

Wei, X. W., Zhang, Y. C., Wu, F., Tian, F. J., & Lin, Y. (2022). The role of extravillous trophoblasts and uterine NK cells in vascular remodeling during pregnancy. *Frontiers in immunology*, 13, 951482. <https://doi.org/10.3389/fimmu.2022.951482>



Contact



(909) 383-3023



dph.sbcounty.gov/programs/fhs/mcah



askMCAH@SBCounty.gov

