

Gestational Hypertension

Blood pressure 140/90 or higher after 20 weeks of pregnancy with no protein in the urine and no organ damage.

THE STORY IN ONE SENTENCE

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“High blood pressure that starts after 20 weeks of pregnancy without protein spilling into the urine.”

Normal anatomy — the body's job

In a healthy pregnancy, blood vessels all over the body—especially in the uterus and placenta—relax and widen so more blood can reach the baby. Blood pressure normally drops in the first half of pregnancy (because vessels are more relaxed) and then climbs back up near term as blood volume peaks. The endothelium (the smooth lining inside every blood vessel) releases nitric oxide (a gas that tells vessel walls to relax) and balances clotting signals so blood flows freely without clots forming.

BODY'S JOB

The placenta is the baby's lifeline—it swaps oxygen and food from mom's blood for carbon dioxide and waste from the baby. To do that job, tiny spiral arteries in the uterus must remodel: their muscular walls break down and widen into low-pressure, high-flow channels. The endothelium (vessel lining) releases nitric oxide to keep vessels open, prostacyclin (a signal that stops platelets from clumping), and balances angiotensin (a hormone that tightens vessels) so pressure stays steady. This remodeling happens between 8 and 18 weeks and sets the stage for the rest of pregnancy.

1. Placenta implants in the uterine wall around 6–8 weeks.
2. Trophoblast cells (the outer layer of the early placenta) burrow into the spiral arteries and signal them to remodel.
3. The muscular walls of the spiral arteries break down and the vessels widen into floppy, low-resistance pipes.

4. Blood flow to the placenta triples, and oxygen delivery to the baby stays high.
5. The endothelium releases nitric oxide to relax vessels, prostacyclin to prevent clots, and balances angiotensin to keep pressure from spiking.
6. Blood pressure dips in the first half (lower resistance everywhere) and climbs back near the end (higher blood volume, but vessels still relaxed enough to handle it).

What breaks

The spiral arteries in the uterus don't remodel properly—they stay narrow and muscular instead of widening into floppy, high-flow pipes. The endothelium (the smooth lining of blood vessels) doesn't release enough nitric oxide to relax vessel walls, and it may release extra endothelin-1 (a chemical that squeezes vessels tight). Blood flow to the placenta drops, oxygen delivery to the baby falls, and the placenta responds by dumping inflammatory signals and clotting factors into mom's blood. The result: vessels all over the body stiffen, and blood pressure climbs to force blood through the narrow pipes.

CLINICAL TERM

Incomplete remodeling of the spiral arteries and endothelial dysfunction. The downstream signal you see at the bedside is systolic blood pressure ≥ 140 mmHg or diastolic ≥ 90 mmHg on two occasions at least four hours apart after 20 weeks, with no proteinuria (urine protein < 300 mg/24 hours or protein:creatinine ratio < 0.3) and no evidence of end-organ damage (normal platelets, liver enzymes, creatinine, and no cerebral or visual symptoms). Read the findings backward: high pressure with no protein or organ damage points to stiff vessels that haven't leaked or failed yet, but are one step away from doing so.

How the body compensates

The body raises blood pressure to force enough blood through stiff, narrow vessels and keep oxygen flowing to the baby. Vital signs can look stable for weeks while the underlying vessel damage quietly gets worse. The danger is missing the tipping point—once proteinuria appears, platelets drop, or liver enzymes climb, the window to prevent seizures or placental abruption closes fast.

1. {'step': 'The kidneys release renin, which triggers angiotensin II (a hormone that squeezes vessels tight) and aldosterone (a hormone that tells the kidneys to hold onto salt and water).', 'why': 'Higher blood volume and tighter vessels raise pressure to push blood through the narrow spiral arteries and keep the placenta fed.'}

2. {'step': "The sympathetic nervous system (the body's fight-or-flight wiring) ramps up and releases norepinephrine (a chemical that speeds the heart and tightens vessels).", 'why': 'Heart rate and force of contraction rise to maintain blood flow against higher resistance.'}
3. {'step': 'Blood pressure climbs to 140–159 systolic or 90–109 diastolic (mild range), and the endothelium holds together just enough to keep protein inside the kidneys and organs working normally.', 'why': "The body is buying time—pressure is high, but the lining hasn't cracked yet, so there's no proteinuria or end-organ damage."}
4. {'step': 'The placenta may release extra sFlt-1 to try to stop runaway vessel growth, but this backfires and worsens endothelial health.', 'why': "The body's attempt to stabilize the system accelerates the underlying problem."}
5. {'step': 'Watch for the tipping point: blood pressure $\geq 160/110$ (severe range), new headache or vision changes (cerebral swelling (edema) or vasospasm), right upper quadrant pain (liver swelling), protein appearing in urine (glomerular leak), platelets dropping $< 100,000$ (consumptive impaired blood clotting (coagulopathy)), creatinine rising (kidney injury), or fetal growth restriction on ultrasound (chronic placental insufficiency).', 'why': 'Any of these signals that compensation has failed and the condition is progressing to preeclampsia with severe features or eclampsia—delivery becomes urgent.'}
6. {'step': 'Track trends, not snapshots: blood pressure climbing week to week, urine protein rising, or fetal growth velocity slowing all mean the system is losing ground.', 'why': "A stable number today on a worsening trend is not truly stable—it's the quiet before the crash."}

Domino effect

1. Spiral arteries in the uterus fail to remodel fully between 8 and 18 weeks—they stay narrow and muscular instead of widening into floppy, high-flow pipes. — Trophoblast invasion (the process where placenta cells burrow into vessel walls) stops early or stays shallow, so the arteries never lose their muscle layer and never open wide enough for high-volume flow.
2. Blood flow to the placenta drops, and the placenta becomes blood-starved (ischemic) (starved for oxygen). — Narrow spiral arteries can't deliver the volume of blood the growing baby needs, so oxygen levels in placental tissue fall.
3. The blood-starved (ischemic) placenta releases inflammatory cytokines (alarm proteins like TNF- α and IL-6), extra sFlt-1 (a protein that blocks vessel-growth signals), and clotting factors into mom's bloodstream. — The placenta is signaling distress and trying to recruit more blood flow, but these signals damage the endothelium (vessel lining) all over the body.
4. The endothelium everywhere—not just in the uterus—stops releasing enough nitric oxide (the gas that relaxes vessels) and may release extra endothelin-1 (a peptide that squeezes vessels tight). — The inflammatory signals and low PlGF (placental growth factor) injure the endothelium, so it loses its ability to keep vessels open.

5. Systemic vascular resistance (how hard it is to push blood through all the body's vessels) rises, and blood pressure climbs to $\geq 140/90$ after 20 weeks. — The heart has to generate more pressure to force blood through stiff, narrow vessels and maintain flow to the placenta and other organs.
6. The kidneys' glomeruli (the tiny filters) are stressed but still intact, so no protein leaks into the urine (urine protein < 300 mg/24 hours), and creatinine stays normal. — The endothelial damage hasn't progressed far enough to crack the glomerular filter or kill kidney cells—yet.
7. Platelets, liver enzymes, and neurologic exam remain normal—no headache, visual changes, or right upper quadrant pain. — The endothelial injury and inflammatory cascade haven't reached the threshold to trigger consumptive impaired blood clotting (coagulopathy), liver capsule swelling, or cerebral swelling (edema)—this is the key difference from preeclampsia with severe features.
8. The condition can stay stable (chronic gestational high blood pressure (hypertension)) or progress: 15–25% will develop proteinuria and become preeclampsia, and some babies will show fetal growth restriction if placental blood flow stays low. — The underlying spiral-artery and endothelial problem may worsen over time (more sFlt-1, more inflammation, more injury) or plateau if the placenta adapts and the baby's oxygen needs stay met.

Symptoms · what the patient feels, and why

- Blood pressure 140/90 mmHg or higher on two separate readings at least 4 hours apart after 20 weeks of pregnancy: The placenta (the organ that feeds the baby) releases signals that make the mother's blood vessels squeeze tighter than normal, pushing blood pressure up. We don't fully know why this happens in some pregnancies, but the body treats the placenta like a foreign visitor and the blood vessels overreact.
- No protein in the urine (proteinuria is absent): This is what separates gestational high blood pressure (hypertension) from preeclampsia. The kidneys are not leaking protein because the filter units (glomeruli) are not damaged yet — only the blood pressure is high. If protein starts appearing, the diagnosis changes to preeclampsia.
- Headache (usually in the front or back of the head): High blood pressure stretches the walls of blood vessels in the brain, irritating pain sensors. The brain itself has no pain receptors, but the vessels around it do, so when they are stretched or squeezed, you feel a throbbing or steady ache.
- Vision changes (blurry vision, seeing spots or flashing lights, or temporary vision loss): High blood pressure can make the blood vessels in the retina (the light-sensing layer at the back of the eye) swell or leak fluid. It can also cause spasm (sudden tight squeezing) of these vessels, which interrupts the picture your eye sends to your brain.

- Swelling (edema) in the face, hands, or feet: High blood pressure pushes extra fluid out of blood vessels into the surrounding tissue, like water leaking from a hose under too much pressure. This shows up as puffiness, especially in the hands, face, and ankles. Some swelling is normal in pregnancy, but sudden or severe swelling is a warning sign.
- Upper belly pain (especially under the ribs on the right side): The liver sits under the right ribs and can swell when blood pressure is very high, stretching its capsule (the thin cover around it) and causing a sharp or aching pain. This may mean the condition is starting to affect organs beyond just blood pressure.
- Sudden weight gain (more than 2 pounds in a week or 6 pounds in a month): Fluid is building up in the body's tissues faster than normal because high blood pressure is pushing it out of the blood vessels. This extra water weight shows up quickly on the scale before you even see obvious swelling.
- Nausea or vomiting (especially new or worsening in the second half of pregnancy): High blood pressure can irritate the liver and stomach, and the brain's nausea center (the area postrema in the brainstem) becomes more sensitive when blood pressure spikes. This is different from normal early-pregnancy morning sickness, which usually goes away by the second trimester.

Focused exam

- Blood pressure $\geq 140/90$ mmHg on two separate visits, at least 4 hours apart, after 20 weeks of pregnancy: This is the core sign of gestational high blood pressure (hypertension). Two readings confirm it is real, not just one anxious moment. The timing after 20 weeks matters because before that, high blood pressure is usually a problem the mother already had.
- Urine dipstick shows NO protein (negative or trace $< 1+$): If significant protein shows up ($\geq 1+$ or ≥ 300 mg in 24 hours), the condition has crossed into preeclampsia, meaning the lining of blood vessels is starting to leak and fail. No protein means gestational high blood pressure (hypertension) is still the simpler problem.
- No swelling (edema) of hands or face beyond normal pregnancy puffiness: Sudden swelling, especially in hands and face, can signal that fluid is leaking out of vessels because the lining is damaged—a sign preeclampsia may be starting. Gestational high blood pressure (hypertension) should not cause this.
- No severe headache, vision changes (blurry vision, spots, flashing lights), or upper belly (epigastric) pain: These are red-flag symptoms that preeclampsia is taking over and threatening the brain, eyes, or liver. Their absence means gestational high blood pressure (hypertension) has not yet caused organ damage.

- Fetal growth on ultrasound is normal; no intrauterine growth restriction (IUGR): High blood pressure can squeeze placental vessels and starve the baby of oxygen and nutrients. Normal growth means the placenta is still delivering enough blood, at least for now.
- Deep tendon reflexes (knee jerks) are normal, not hyperactive or rhythmic muscle jerking (clonus) (repeated bouncing): Jumpy, overactive reflexes or rhythmic muscle jerking (clonus) signal the nervous system is irritable from preeclampsia, raising seizure risk. Normal reflexes mean gestational high blood pressure (hypertension) has not crossed that line.

Diagnostics · every test answers a question

- 24-hour urine protein collection or urine protein-to-creatinine ratio (UPCR) → Is there significant protein leaking into the urine, meaning blood vessel linings are damaged?
- Complete blood count (CBC) with platelet count → Are platelets dropping, signaling that the blood is clotting in tiny vessels and using up platelets?
- Serum creatinine and blood urea nitrogen (BUN) → Are the kidneys filtering properly, or are they being damaged by high pressure and poor blood flow?
- Liver function tests: AST and ALT → Is the liver being damaged by poor blood flow or tiny clots forming in its vessels?
- Serum uric acid → Is uric acid rising because the kidneys cannot clear it well, a sign of worsening blood vessel function?
- Fetal ultrasound with biophysical profile and umbilical artery Doppler → Is the baby growing normally, and is blood flowing well through the umbilical cord to the placenta?

Treatment logic

- Measure blood pressure twice, at least 4 hours apart, at rest; confirm $\geq 140/90$ mmHg after 20 weeks; check urine for protein with dipstick or 24-hour collection → Establishes the diagnosis of gestational high blood pressure (hypertension) by confirming persistent elevated pressure without protein in urine (which would mean preeclampsia). Tells you which problem you are dealing with and how to manage it.
- Start low-dose aspirin 81 mg daily, ideally between 12–28 weeks (preferably before 16 weeks), if the patient has risk factors for preeclampsia (history of preeclampsia, chronic high blood pressure (hypertension), diabetes, kidney disease, autoimmune disease, multiple gestation) → Reduces inflammation in blood vessel linings and improves how the placenta's arteries open and relax, cutting the risk that gestational high blood pressure (hypertension) worsens into preeclampsia by about 15–20%.

- Start antihypertensive medication (labetalol, nifedipine extended-release, or methyldopa) if blood pressure stays $\geq 140/90$ mmHg; AVOID ACE inhibitors, ARBs, atenolol, and diuretics → Relaxes blood vessel walls or slows the heart to lower pressure safely without harming the baby. Protects mother from stroke and heart strain. Target blood pressure is 120–160/80–105 mmHg.
- If blood pressure reaches $\geq 160/110$ mmHg (hypertensive emergency), give IV labetalol (20 mg initial bolus) or IV hydralazine (5–10 mg) within 30–60 minutes → Rapidly lowers dangerously high pressure to prevent stroke, seizure (eclampsia), heart failure, or placental separation (abruption) in the mother and sudden loss of oxygen to the baby.
- Monitor weekly or twice-weekly for signs of preeclampsia: check blood pressure, urine protein, symptoms (headache, vision changes, upper belly pain), and labs (CBC, creatinine, liver enzymes); schedule fetal ultrasound and non-stress tests → Catches progression to preeclampsia early, when intervention (medication adjustment, closer monitoring, or delivery) can prevent seizures, organ failure, or fetal death.
- Plan delivery at 37 weeks (full term) if gestational high blood pressure (hypertension) is stable and uncomplicated; deliver earlier (34–37 weeks) if blood pressure is uncontrolled despite medication, preeclampsia develops, or fetal growth restriction appears → Removes the baby from the stressful, high-pressure environment before it causes lasting harm. Delivery is the only cure for gestational high blood pressure (hypertension) and preeclampsia—it stops the placenta from triggering the problem.

Medications

Labetalol · Alpha and beta blocker (blocks two types of adrenaline signals)

Labetalol tells the heart to beat more gently and tells blood vessels to relax and widen. It blocks adrenaline's push on the heart (beta-block) and also loosens the squeeze on vessel walls (alpha-block). This lowers the pressure flowing through the pipes without cutting off the baby's blood supply. Safe during pregnancy because it does not tighten the vessels feeding the placenta or harm the baby's development.

1. Blood pressure rises because vessels squeeze too tight and the heart pumps too hard.
2. Labetalol blocks adrenaline (epinephrine and norepinephrine) from landing on heart and vessel receptors.
3. Heart beats slower and less forcefully → less volume pushed per beat.
4. Vessel walls relax → pipes widen → resistance drops.
5. Lower force $\times$ lower resistance = lower blood pressure, protecting mom's brain, kidneys, and liver from damage.

SAFETY WATCH

Can make heart rate drop too low (bradycardia)—check pulse regularly. · May mask low blood sugar warning signs (shaking, fast heart) in women with diabetes—monitor glucose closely. · Can cause dizziness or fainting if pressure drops too fast—stand up slowly. · Safe for baby; does NOT cause birth defects or placenta problems at standard doses.

Nifedipine (immediate-release or extended-release) · Calcium channel blocker

Nifedipine stops calcium from rushing into the muscle cells that wrap around blood vessels. Without calcium, those muscle rings cannot squeeze tight. The vessels stay open and relaxed, so pressure falls. Safe in pregnancy because it does not cross the placenta in harmful amounts and does not hurt the baby's heart or growth.

1. High blood pressure happens because vessel walls squeeze too hard.
2. Nifedipine blocks the door (L-type calcium channel) that lets calcium into muscle cells.
3. Without calcium inside, the muscle cannot contract and stays loose.
4. Vessels widen → resistance drops → pressure falls.
5. Blood flows more easily to organs (brain, kidneys, liver) and to the baby through the placenta.

SAFETY WATCH

Can cause flushing (red, warm face), headache, or swollen ankles from vessel widening. · May drop pressure too fast—monitor closely, especially with the first dose. · Do NOT use the under-the-tongue (sublingual) short-acting capsule for emergencies—it can cause dangerous sudden drops; use oral immediate-release or extended-release tablets as prescribed. · Safe during pregnancy and breastfeeding at guideline doses.

Methyldopa · Central alpha-2 agonist (turns on calming signals in the brain)

Methyldopa travels to the brainstem (the control tower at the base of the brain that sets the body's resting 'tone') and flips on alpha-2 receptors there. This tells the brain to send fewer 'squeeze!' signals down the nerves to blood vessels and the heart. The whole system calms down: vessels relax, heart rate drops a bit, and pressure falls. Oldest and most-studied blood pressure drug in pregnancy—decades of safety data.

1. The brainstem sends constant 'tighten up!' signals through sympathetic nerves to vessels and heart.
2. Methyldopa gets converted inside nerve cells to alpha-methylnorepinephrine, a fake messenger.
3. This fake messenger activates alpha-2 receptors in the brainstem.

4. Alpha-2 activation tells the brain to turn DOWN the outgoing squeeze signals.
5. Vessels relax, heart slows slightly, and pressure drops gently over hours.

SAFETY WATCH

Can cause drowsiness, dry mouth, or feeling tired—usually fades after a few days. · Rarely causes a positive Coombs test (a lab finding; almost never causes actual anemia)—check blood count if very tired or pale. · May cause mild liver enzyme rise—check liver tests if nausea or yellow skin appears. · Very safe for baby; no birth defects or growth problems in large studies.

Hydralazine (IV for emergencies) · Direct arterial vasodilator (relaxes vessel walls directly)

Hydralazine works right on the muscle layer of artery walls, triggering a chemical cascade that makes the muscle let go and the vessel open wide. Used IV (into the vein) when blood pressure is dangerously high (≥ 160 systolic or ≥ 110 diastolic) because it works within 10–20 minutes. Lowers pressure fast to protect the brain from stroke and the placenta from tearing away (abruption).

1. Severe high blood pressure ($\geq 160/110$) can burst small vessels in the brain or cause placental abruption within hours.
2. Hydralazine is given IV (5–10 mg every 15–20 min) to act quickly.
3. Drug opens potassium channels in vessel muscle cells → potassium flows out → muscle relaxes.
4. May also boost nitric oxide (a natural vessel-opening signal) in the artery wall.
5. Arteries widen → resistance drops → pressure falls within 10–30 minutes, buying time and safety.

SAFETY WATCH

Can cause flushing, headache, fast heart rate (reflex a fast heart rate (tachycardia)) as the body tries to compensate. · May drop pressure too much or unevenly—monitor every 5–15 minutes after each dose. · Rarely causes lupus-like syndrome with very long-term use (not an issue in short pregnancy use). · Safe for baby when used short-term; no known birth defects.

Low-dose aspirin (81 mg daily, started at 12–16 weeks) · Antiplatelet agent (stops tiny clotting cells from sticking together)

Aspirin blocks an enzyme (cyclooxygenase, or COX) inside platelets (tiny clotting cells). This stops platelets from making thromboxane A₂, a chemical that makes vessels squeeze and clots

form. In early pregnancy, abnormal placenta development triggers inflammation and clotting in tiny spiral arteries feeding the placenta. Low-dose aspirin tips the balance toward prostacyclin (a vessel-opening, clot-preventing signal from the vessel lining), improving blood flow to the placenta and lowering the risk of preeclampsia by about 10–15% if started before 16 weeks.

1. In women at risk, the placenta implants abnormally and spiral arteries stay narrow and prone to clotting.
2. Aspirin permanently blocks COX-1 in platelets → platelets cannot make thromboxane A₂.
3. Without thromboxane, platelets stick together less and vessels relax more.
4. Vessel lining (endothelium) still makes prostacyclin (a natural opener and anti-clot signal).
5. Balance shifts: less clotting, better flow to placenta → lower chance of preeclampsia developing.

SAFETY WATCH

Very safe at 81 mg/day; no increase in bleeding during delivery or birth defects. · Do NOT use higher doses (>150 mg/day)—no extra benefit and higher bleeding risk. · Stop if severe allergic reaction (very rare). · ACOG and USPSTF recommend for women with one high-risk factor (prior preeclampsia, chronic high blood pressure (hypertension), diabetes, kidney disease, autoimmune disease) or two or more moderate-risk factors (first baby, age ≥35, BMI ≥30, family history, Black race, low income).

Magnesium sulfate (IV, for seizure prevention in severe cases) · Membrane stabilizer and NMDA receptor antagonist

Magnesium sulfate protects the brain from seizures (eclampsia) when blood pressure is very high or preeclampsia features appear. Magnesium floods into nerve cells and blocks NMDA receptors (doorways that let too much calcium rush in during a seizure). It also competes with calcium at muscle and nerve junctions, calming overexcited circuits. Does NOT lower blood pressure much by itself—used alongside labetalol or hydralazine to prevent the most dangerous complication: seizures that can harm or kill mother and baby.

1. Severe high blood pressure and endothelial damage cause the brain to swell slightly and neurons to become hyperexcitable.
2. Magnesium is given IV (loading dose 4–6 g over 15–20 min, then 1–2 g/hr infusion).
3. Magnesium blocks NMDA receptors so calcium cannot flood into neurons and trigger a seizure cascade.
4. Magnesium also reduces acetylcholine release at nerve-muscle junctions → muscles and nerves calm down.
5. Brain stays stable, seizure risk drops by ~50–60% compared to no magnesium.

SAFETY WATCH

Monitor deep tendon reflexes (knee-jerk)—if reflexes disappear, magnesium level may be too high. · Check respiratory rate every hour—if <12 breaths/min, stop infusion (magnesium can depress breathing). · Monitor urine output—magnesium is cleared by kidneys; if kidneys fail, level climbs dangerously. · Keep calcium gluconate at bedside as antidote for magnesium toxicity (respiratory arrest, heart block). · Baby may be a bit floppy and sleepy at birth but recovers quickly; no long-term harm.

Red flags

- Blood pressure 160/110 mmHg or higher (severe high blood pressure (hypertension)) — the mother or baby can be hurt quickly
- New severe headache that does not go away with rest or medicine
- Vision changes: blurry sight, flashing lights, spots, or losing vision for a few seconds
- Pain under the ribs on the right side or in the upper belly
- Signs the baby is in trouble: fewer kicks than usual, or the baby is not growing as expected on ultrasound

Nursing priorities

1. Measure blood pressure with the patient sitting after 5 minutes of rest, using the correct cuff size on the upper arm at heart level, and repeat in 4 hours to confirm 140/90 or higher — Gestational high blood pressure (hypertension) diagnosis requires two high readings; wrong cuff size or position gives false readings, and stress or movement raises pressure temporarily, so rest and correct technique prevent overtreatment.
2. Check a clean-catch urine sample with a dipstick for protein, and send a protein-to-creatinine ratio lab if dipstick shows 1+ or more protein — Protein in urine means the condition has progressed to preeclampsia with kidney damage (the kidneys leak protein when blood vessels are injured), changing treatment to closer monitoring and possible early delivery.
3. If blood pressure reaches 160/110 or higher, notify the provider immediately and prepare IV labetalol or IV hydralazine to give within one hour — Severe high blood pressure (hypertension) (blood pressure 160/110 or higher) can cause stroke (brain bleeding) in the mother within hours; rapid treatment within 60 minutes protects the brain from rupturing blood vessels.

4. Ask about headache, vision changes, right upper belly pain, nausea, and decreased baby movement at every visit, and escalate immediately if any are present — These symptoms mean progression to preeclampsia with organ damage (brain swelling causes headache and vision changes, liver swelling causes belly pain, placenta problems reduce baby movement), requiring urgent labs and possible delivery.
5. Teach the patient to check blood pressure at home twice daily and call if readings are 140/90 or higher, or if severe symptoms appear — Gestational high blood pressure (hypertension) can worsen quickly between office visits; home monitoring catches rising pressures early before stroke risk develops, and symptom education prevents delays in seeking emergency care.
6. Schedule weekly or twice-weekly office visits for blood pressure checks and non-stress tests (fetal heart monitoring) starting at 32 weeks — High blood pressure reduces placenta blood flow, which can slow baby growth or cause distress; frequent monitoring detects placenta problems early enough to deliver the baby before injury occurs.
7. Give aspirin 81 mg daily if the patient is high-risk and has not started it by 12 weeks, and continue until delivery — Aspirin prevents platelets (clotting cells) from sticking and improves placenta blood vessel function, reducing preeclampsia risk by 10 to 15 percent in high-risk women when started early.
8. Review the medication list and stop ACE inhibitors, ARBs, and atenolol immediately if found, then contact the provider for safe alternatives like labetalol, nifedipine, or methyldopa — ACE inhibitors and ARBs cause kidney failure and skull defects in the baby; atenolol reduces placenta blood flow and slows baby growth; switching to safe medicines protects fetal development.

Sources

- ACOG Practice Bulletin No. 222: Gestational Hypertension and Preeclampsia (2020)
- American Heart Association / American College of Cardiology Hypertension in Pregnancy Guideline
- CDC Pregnancy Complications: High Blood Pressure
- U.S. Preventive Services Task Force (USPSTF) Preeclampsia Screening Recommendation

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