## Smoking and secondhand smoke risks during pregnancy

### Why tobacco smoke is uniquely concerning in pregnancy

Tobacco smoke is a complex mixture of gases and particles. Nicotine causes vasoconstriction and can affect fetal neurodevelopmental pathways; carbon monoxide binds hemoglobin with high affinity, reducing oxygen transport; and many combustion byproducts contribute oxidative stress and inflammation. In pregnancy, these effects intersect with the placenta, the organ responsible for oxygen, nutrient transfer, endocrine signaling, and waste removal.

When a pregnant person smokes, fetal oxygen delivery may be compromised through several mechanisms: reduced maternal blood oxygen capacity from carbon monoxide, altered uteroplacental blood flow from nicotine-mediated vascular effects, and placental structural or functional changes. These mechanisms help explain why smoking is associated with fetal growth restriction and low birth weight. A baby’s birth weight is not simply a number on a chart; it is a marker associated with short- and long-term vulnerability, including feeding difficulties, temperature instability, respiratory problems, and later cardiometabolic risk.

It is also important to separate dependence from character. Nicotine dependence is a biological condition with behavioral, emotional, and social components.

Many people smoke to manage stress, trauma, nausea, appetite changes, or withdrawal. Compassionate care works better than shame: honest conversations with obstetric, midwifery, family medicine, or addiction-trained clinicians can help identify realistic next steps.

**Risks linked with smoking during pregnancy**

Medically reviewed public health sources consistently identify smoking in pregnancy as a preventable risk factor for several adverse outcomes. Not every person who smokes will experience a complication, and many complications occur in people who never smoked. Still, smoking increases population-level risk in ways that are clinically meaningful.

Miscarriage: Smoking is associated with a higher risk of pregnancy loss. The mechanisms are likely multifactorial, including vascular, inflammatory, and genetic toxicity pathways.
Preterm birth: Birth before 37 weeks can lead to neonatal intensive care needs, respiratory distress, feeding immaturity, infection risk, and longer-term developmental concerns.
Low birth weight: Smoking is strongly associated with babies being born smaller, reflecting impaired fetal growth or shortened gestation, or both.
Placental problems: Smoking is linked with complications involving placental attachment and function. Placental conditions can endanger both the pregnant person and fetus and may require urgent obstetric evaluation.
Sudden infant death syndrome: Smoking during pregnancy and smoke exposure after birth increase the risk of sudden infant death syndrome, making cessation and smoke-free infant environments essential.

These risks are dose-related in many studies, meaning heavier exposure often carries greater risk. However, "cutting down" is not the same as eliminating exposure, and some people compensate by inhaling more deeply or smoking more of each cigarette. If cutting down is the first achievable step, it can still be useful, but it is best done with a plan toward cessation and clinical support.

**Secondhand smoke: not smoking yourself does not mean no exposure**

Secondhand smoke is the combination of smoke from burning tobacco products and smoke exhaled by a person who is smoking. It contains many toxic chemicals,

including substances known to cause cancer. The American Cancer Society emphasizes that there is no safe level of secondhand smoke exposure. For pregnancy, this matters because exposure can occur in homes, cars, shared housing, workplaces, social settings, and outdoor areas where smoke drifts and lingers.

The CDC notes that secondhand smoke harms the heart and blood vessels and can cause coronary heart disease and stroke in adults. It also identifies reproductive health effects in women, including low birth weight. During pregnancy, the concern is not only maternal cardiovascular stress but also fetal exposure to the chemicals that enter the pregnant person’s bloodstream.

Secondhand smoke can be difficult to control when a partner, relative, roommate, coworker, or neighbor smokes. A supportive script can help: "My clinician has advised me to avoid tobacco smoke because it can affect the placenta and the baby’s growth. I’m asking for a smoke-free home and car, not judging anyone." If a household member is not ready to quit, smoking outside and away from doors, windows, and vents is better than smoking indoors, but it does not completely remove exposure.

**Thirdhand smoke and why smoke-free homes and cars matter**

Thirdhand smoke refers to residual nicotine and other chemicals that settle on surfaces, dust, fabrics, carpets, furniture, car interiors, hair, and clothing after tobacco smoke has cleared. These residues can persist and may be re-released into the air or transferred by touch. While the evidence base is still evolving, the concept is clinically useful because it explains why a room or car can remain contaminated even when no one is actively smoking.

Opening a window, using a fan, spraying air freshener, or smoking in a separate room does not make an indoor space safe. Ventilation may reduce odor, but it does not reliably remove fine particles and chemical residues. Cars are particularly high-risk microenvironments because smoke becomes concentrated in a small space and clings to upholstery and ventilation systems.

For pregnancy and newborn care, the safest rule is simple: no smoking inside the home or car, ever. If someone smokes, they should do so outdoors, away from openings, and ideally change outer clothing and wash hands before holding a

newborn. This may feel strict, but newborns breathe rapidly, have developing lungs, and spend time close to fabrics and caregivers' clothing.

**Quitting: what helps and why timing still matters**

Quitting before pregnancy is ideal, but many pregnancies are unplanned, and many people discover they are pregnant after weeks of smoking. If that is your situation, it is not too late. Stopping as early as possible provides the greatest benefit, yet quitting at any point can reduce ongoing exposure to carbon monoxide, nicotine, and other toxic chemicals.

Evidence-based cessation support often combines behavioral strategies, social support, and, when appropriate, medication discussions. Pregnant people should not start nicotine replacement therapy or other cessation medications without consulting a healthcare professional, because recommendations depend on smoking intensity, prior quit attempts, gestational age, coexisting conditions, and the balance of risks and benefits. For some people, the risks of continued smoking may be greater than carefully supervised pharmacologic support; for others, non-medication approaches may be preferred initially.

Helpful non-prescribing strategies include identifying smoking triggers, removing cigarettes and ashtrays from the home, setting a quit date, asking household members not to smoke nearby, using brief delay techniques during cravings, and planning alternatives for stress. Cravings often rise and fall like waves; having a prepared response, such as drinking water, walking for five minutes, breathing exercises, or texting a support person, can make the urge more manageable.

**Vaping, nicotine pouches, hookah, and cannabis smoke**

Some people switch from cigarettes to vaping or other nicotine products because they believe these options are safer. Pregnancy-specific decisions should be discussed with a clinician. Nicotine itself is biologically active, and inhaled products may contain ultrafine particles, flavoring chemicals, solvents, heavy metals, or other contaminants depending on the product and device. "Smoke-free" does not always mean "risk-free."

Hookah or waterpipe smoking is sometimes perceived as less harmful because

smoke passes through water, but it still exposes users to nicotine, carbon monoxide, and toxic combustion products. Cannabis smoke also contains combustion-related chemicals and particulates; pregnancy guidance about cannabis should be individualized with a healthcare professional, especially if it is being used for nausea, anxiety, sleep, or pain.

If you are using any nicotine or inhaled substance, it is useful to tell your clinician exactly what, how often, and how much you use. The goal is not punishment; the goal is accurate risk assessment and practical support.

**Reducing exposure in real life: home, work, travel, and family**

Risk reduction works best when it is specific and visible. A general request such as "please smoke less around me" is harder to enforce than clear household rules. Consider putting the rule in practical terms: no smoking in the home, no smoking in the car, no smoking near doors or windows, and no smoking while walking next to the pregnant person.

At home: Create a smoke-free indoor policy for everyone, including visitors. Remove ashtrays from indoor spaces and wash smoke-exposed fabrics when possible.
In cars: Do not allow smoking in the vehicle, even when the pregnant person is not present. Residue can remain in upholstery and dust.
At work: If smoke exposure occurs, ask about occupational accommodations, smoke-free entrances, ventilation policies, or alternate break areas. This may fit naturally with broader conversations about working during pregnancy and office safety.
With family: Use medical framing: "This is a pregnancy safety recommendation." Partners and relatives may be more receptive when they understand the risks include low birth weight and infant sleep-related death.
In shared housing: Speak with property management if smoke enters your unit through vents, hallways, balconies, or neighboring apartments. Document when and where exposure occurs.

Environmental risk reduction is often part of a wider pregnancy safety plan, alongside topics such as environmental toxins and preconception health, high-risk foods during pregnancy, and infection prevention. You do not have to solve every exposure at once; start with the changes that reduce the most frequent or intense smoke contact.