

Smoke and Byproducts of Burning – Reproductive Health

[Español \(Spanish\)](#)

Smoke and Byproducts of Burning

Smoke from fires, engines, or from spending a lot of time frying or grilling results in exposure to carbon monoxide and other chemicals, which could increase your chances of pregnancy problems. Here, you can learn more about smoke and what you can do to reduce your exposure for a healthier pregnancy. (Learn more about [tobacco smoke and secondhand smoke](#))

What are byproducts of burning?

Smoke contains several hazardous chemicals, including:

- Gases, including [carbon monoxide](#) (also called CO), a gas that is especially toxic and dangerous for a developing baby.
- Solid chemicals or mixtures of chemicals in very fine particles (particulates).
- Chemicals called [polycyclic aromatic hydrocarbons](#) (PAHs). Several types of PAHs have been linked to tumors and birth defects in animal studies.

What do we know about exposure to byproducts of burning?

- We know that very high levels of carbon monoxide in a pregnant woman can result in problems with a baby's nervous system or can result in miscarriage or birth defects. This happens at high levels in which a pregnant woman may lose consciousness. Levels this high are unlikely to happen in most workplaces.
- We do not know whether lower levels of exposure, such as those you experience in your workplace, will affect a developing baby.
- We also do not know whether keeping carbon monoxide exposures under the limits set by OSHA and other agencies is enough to protect a developing baby. These limits were not set specifically for pregnant women, but for healthy adult workers.
- You can be exposed to smoke byproducts by breathing smoke in.
- Grilling or frying in a commercial kitchen, such as a restaurant, involves much higher exposure to burning byproducts than cooking at home. Cooking at home is generally not harmful to your pregnancy. Increasing ventilation by opening a window or using a fan while cooking at home will help keep your home healthy.

Who is exposed to byproducts of burning?

- Fire fighters
- Pottery studio employees
- Automobile service workers
- Some manufacturing process workers
- Toll booth operators
- Restaurant or bar workers

What can I do to reduce or eliminate exposure?

- If you are pregnant, talk with your employer to see if it's possible to increase ventilation in your workplace or avoid exposure to byproducts of burning on a temporary basis during pregnancy.
- If you work with smoke in a small indoor space, you may need [respiratory protection](#). Respirators are sometimes worn to reduce the amount of certain chemicals that workers breathe. To be effective, respirators must be used correctly. If you are pregnant and using a respirator, there are some things you should consider. Learn more about [respirators and pregnancy](#), and talk to your doctor and your employer if you think you might need respiratory protection.

- Make sure that you are not bringing chemicals home on your work clothing or shoes. Change clothes and shoes before leaving work and wash these clothes separately if your company does not offer a work clothing laundry service. Learn more about [take home exposures](#).

Where can I get more information?

- Learn more about [carbon monoxide](#)
- Learn more about [personal protective equipment in pregnancy](#)
- Learn more about [take-home exposures](#)