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For more information about this research, kindly visit [WWW.MOTHERSANDOTHERSFORCLEANAIR.ORG](http://WWW.MOTHERSANDOTHERSFORCLEANAIR.ORG)
THE PROBLEM

Many stoves, especially gas and wood burning stoves, will put combustion products in the air. This means as they burn fuel and get hotter, they release chemical compounds into the air.

Illness resulting from exposure to cook stoves, open fires, and furnaces mostly affects women and children.

Globally, cook stove exposure causes about 4 million early deaths each year. The major air pollutants from gas stoves are Carbon Monoxide, Nitrogen Dioxide, and Particulates.

CARBON MONOXIDE (CO)

Carbon Monoxide (CO) is a gas released from gas stoves that has no smell or color. High exposure of carbon monoxide can cause severe symptoms including dizziness, headaches, nausea, vomiting, chest pain and heart disease, and even death. However, consistent exposure to even low amounts of carbon monoxide can cause heart disease, low birth weight and flu-like symptoms.

Improperly adjusted gas stoves can cause your home to have over three times the safe levels of carbon monoxide (California air standards limit CO to 9 ppm for 8 hours of exposure, while badly adjusted stoves can result in 30 ppm).
Nitrogen Dioxide is a gas released from gas stoves which is irritating to the eyes, nose, and throat. Consistent low exposure to nitrogen dioxide may increase the risk of lung disease, respiratory infection, asthma, and can damage lung growth in teens. High levels of exposure results in dizziness or shortness of breath.

Exposure to Nitrogen Dioxide is extra harmful to children already suffering from asthma and other respiratory diseases. It is also connected to reduced cognitive performance, especially in children.

The EPA has no indoor pollution standards for nitrogen dioxide (the World Health Organization standard is 106 ppb), so being extra cautious and opening windows while you cook is important to avoid harmful levels of Nitrogen Dioxide.
PARTICULATES

**Particulates** are released when the fuel is incompletely burned and from cooking itself. The particles emitted into the air contribute to indoor air pollution. These tiny particles (called PM2.5) can be inhaled into the lungs and damage lung tissue. Because gas stoves burn fuel to cook, they release twice as much PM2.5 as electric stoves.

PM2.5 is linked to serious and potentially fatal heart and lung problems, strokes, dementia, preterm birth, and low birth weight. A number of carcinogenic compounds such as benzo[a]pyrene or radon breakdown compounds can attach themselves to particulates and use the particulates as a way to travel into your lungs.
Having chronic exposure to pollutants released from gas and wood burning stoves can lead to...

- Nausea
- Heart Disease
- Vomiting
- Chest Pain
- Asthma / Asthma Attacks
- Headaches
- Dizziness
- Itchy eyes, ear, nose, throat
- Fatigue
- Cancer
- Respiratory Infection
- Lung Disease
- Difficulty Breathing
WHAT TO DO

OPEN WINDOWS, INSTALL EXHAUST FAN

Whether your home cook stove is electric, gas, wood, or induction, make sure there is an exhaust fan installed above it.

Installing exhaust fans helps to pull the gasses and particulates out of the air as soon as they are released. If you use a gas or wood stove, try opening windows while you are cooking to allow for some of the pollutants to escape your home.

MAKE SURE YOUR FLAME TIP IS BLUE

While using a gas stove, ask your gas company to adjust the burner so that your flame tip is blue. A yellow-tipped flame indicates an improperly adjusted stove, and releases increased pollutants into the air. If you purchase a new gas stove, purchase one with pilotless ignition. A continuously burning pilot light release more pollutants into the air.
IF BURNING WOOD, DO IT RIGHT

If you use a wood burning stove, make sure that the doors of the stove fit tightly. **Only burn aged or dried wood.** Other woods can be chemically treated. Pressurized or chemically treated woods should never be burned indoors.

Be careful when replacing gaskets in old wood stoves. **Some older gaskets contain asbestos.** Refer to proper asbestos disposal by the EPA. Try to keep wood stove use to a minimum and only use wood stoves if they meet current EPA emission standards.

**CHECK HERE IF YOUR WOOD STOVES CURRENTLY MEET EPA EMISSION STANDARDS:**
https://www.epa.gov/residential-wood-heaters/compliance-requirements-residential-wood-heaters

ELECTRIC AND INDUCTION STOVES ARE PREFERABLE

If you are in a position where replacing your stove is an option, replace your gas or wood burning stove with an **electric or induction cooktop.** If you are not able to replace the entire appliance, small portable induction cooktops are available. These stoves release fewer pollutants and are better for the environment.