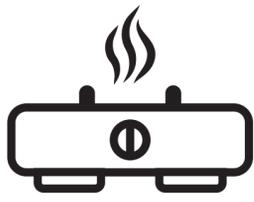


Gas Stove Pollution



Summary:

Gas stoves release dangerous air pollutants, including nitrogen dioxide (NO₂), carbon monoxide (CO) and Particulate Matter (both PM_{2.5} and PM_{0.1}).¹ Unventilated gas stove use produces concentrations of these pollutants that exceed EPA ambient air standards.² Children are among the most vulnerable to these health effects due to their higher lung to body ratio and developing immune & respiratory systems.³ Additionally, Black, Latine, and low-income communities bear a disproportionately larger burden of gas stove pollution.^{4,5,6,7,8,9} Below are the specific health effects of each primary gas stove pollutant and the strategies & solutions you can review with your patients to help them reduce their risk of exposure.

Pollutants and Health Effects

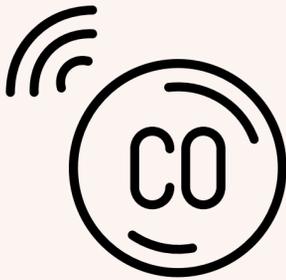
Nitrogen particulate (NO₂):¹⁰

- Contributes to the development of:
 - Asthma
 - Aggravated Asthma
 - Increased susceptibility to respiratory infections
- Associated with negative general cognitive functioning



Carbon Monoxide (CO):¹¹

- Neurological effects such as:
 - Fatigue
 - Impaired Vision
 - Reduced brain function
 - Dizziness
 - Confusion
 - Nausea
 - Coma
- Chest pain in people with heart disease
- Death



Particulate Matter (PM_{2.5} and PM_{0.1}):¹²

- Aggravates asthma & stunts lung development
- Heart attacks, arrhythmias, congestive heart failure
- Ischemic stroke, development delays

Pacemakers, Insulin Pumps, & Induction Stoves:

How Induction Stoves Work:

Induction stoves work through magnetism. The burners emit small electromagnetic fields (EMFs) that cause charged particles in the pot or pan to move, and the resistance to this movement is what generates the heat needed for cooking. This is also why only the pot or pan gets hot when using an induction stove. This type of EMF is similar to that of a compact fluorescent lightbulb, and is not harmful to most people.¹³

However, there are a few special considerations for patients with pacemakers and insulin pumps:

Pacemakers: The available data on the effects of induction stoves on pacemakers is unfortunately few and far between. According to a 2006 study, individuals with unipolar and left-sided pacemakers are at risk of EMF interference,¹⁴ while a 2013 study claims that induction stoves should not impact the devices.¹⁵

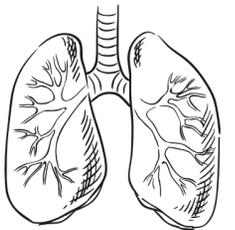
The most common recommendation is to leave at least **two feet of space** between the pacemaker and the stove top,¹⁶ and even a distance of two to 4 inches can help reduce risk of EMF exposure.¹⁷

Insulin Pumps: Induction stovetops are NOT recommended for patients with insulin pumps, as the EMF may damage the device's motor, causing overdosing and hypoglycemia.¹⁸

Strategies/Solutions

At-Risk Populations:

- Children
- Elderly
- People with diabetes
- Low SES
- Obesity
- Preexisting heart & lung conditions



Vulnerable Population: Children



Risk Management

- Open a window while using the gas stove
- Cook on the back burners
- Install & maintain a carbon monoxide detector
- Use an exhaust hood, if available
- Use electric appliances like a toaster oven or kettle
- Try a plug-in induction burner
- Switch to an electric, induction stove

Install & maintain a CO detector

If available, run your exhaust hood while cooking

Open a window while cooking

Cook on the back burners



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