



Weekly Safety Tip

Causes of Home Fires



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An SCNWO Off-the-Job Safety Tip: A Review of the Causes of Home Fires



In 2020, the rate of deaths per 1,000 home fires remained about the same as it was in 1980, even though the number of fires in the U.S. has dropped by around 50 percent since then.

Let's review the common causes of home fires, along with some, perhaps, surprising ones.

Cooking is the No.1 reason, causing 49% of reported home fires in the U.S. from 2015 to 2019, according to the National Fire Protection Association (NFPA). Most cooking fires are caused by people walking away from the stove while food is still cooking. Food can light up in a second, then you have a window of about **30 to 45 seconds before the fire is beyond your control**, so you need to **stay in the kitchen while cooking on the stove**.

Heating equipment is the second-leading cause of home fires. Space heaters account for 4 out of 5 home heating fire deaths. The NFPA advises you to **turn portable heaters off when you leave the room or go to bed**. Also, **keep space heaters at least 3 feet away from combustible materials**, such as furniture, bedding, and curtains.

The overuse or misuse of extension cords or power strips is a common fire cause that may surprise you. Cords or plugs are involved in only 1% of home fires, but 7 percent of the deaths, with extension cords responsible for many of them, according to the NFPA.

Many people don't realize that **appliances that cool or heat**, (refrigerators, air conditioners, space heaters, microwaves, and toaster ovens), **should be plugged directly into a wall outlet**. If you run them on an extension cord, you risk overloading the cord's electrical capacity and causing it to overheat, which could lead to a fire. **An extension cord is for temporary use only** and is better suited for low-voltage tasks like charging your phone or plugging in your TV or running a fan.

In recent years, **lithium-ion batteries in electric bikes and electric scooters** have become a fire cause that has grown in numbers. A defective lithium-ion battery can overheat and trigger a chemical reaction leading to a fire. To prevent a fire from one of these batteries: 1) **Use the charger that came with the device**, and 2) **Don't charge overnight**, because you risk over-charging and over-heating the battery. If possible, charge your electric bike or scooter outdoors.

A failure to clean heating equipment, such as **fireplaces or woodstoves**, is a leading cause of home heating fires. (Also, don't forget to have your chimney inspected and cleaned annually.)

Here are some **Safety Tips** on important fire safety habits you may not realize you're doing wrong:

If you smoke, it's best to submerge cigarette butts in a jar or can of water and let them sit a bit.

Don't leave candles unattended. **On average, 20 home candle fires are reported every day**. **Blow out candles when you go to sleep or leave the room**, and **don't light candles in the bedroom or in areas where you might fall asleep**.

Remember that **you may only have 3 minutes or less to escape once a fire starts in your home**.

Finally, make sure you have **working smoke detectors** in your home, because almost **3 out of 5 home fire deaths occur in homes without a working smoke detector**, so **check smoke detectors monthly and change them every 8-10 years**, per the manufacturer's instructions.

How do you know that the home furnace filter you are buying and using is really doing its job?



SAFETY SHARE



OFF-THE-JOB HEALTH SHARE

Dave Varwig
for **SCNWO**

How do you know that the home furnace filter you are buying and using is really doing its job? (i.e., cleaning the air of unhealthy dust, pollen, smoke, bacteria, viruses)



It's a small, often inexpensive part—the air filter—that keeps home heating & cooling (HVAC) systems humming along . . . Every forced-air heating and cooling system uses at least one filter, so homeowners should know how and when to replace those filters. The good news is that fresh HVAC filters can be budget-friendly and are usually simple to replace.

Background Review: Forced-air heating, ventilating, and cooling (HVAC) systems work on a loop. They “inhale” through return vents in your living space, pulling air through ductwork and across your heating or cooling source (either a furnace’s burners, or an AC or heat pump’s coil). Then, they then “exhale” through supply ducts and vents, delivering warm or cool air to your living space.

Inevitably, some of the hair, dust, and other debris in your home gets sucked into that loop as air circulates around your house. It is an HVAC air filter's job to catch that debris. In doing so, it first and foremost protects your heating and cooling equipment from damage. As a bonus, it can improve your indoor air quality. In fact, many of today's filters are claimed to capture allergens, microbes, and other particles while they're doing their primary job of keeping your system gunk-free.

There are several HVAC filter designs: Basic models are made from strands of fiberglass (for disposable filters) or metal mesh (for reusable filters), and can stop big debris.

Higher-end filters are made from material more like a surgical mask's, arranged into pleats, and can capture particles as tiny as smoke, bacteria, and sometimes even viruses before they can recirculate.

Before you buy, check the MERV rating on the filter unit. MERV rating are from 1 to 16, with a higher number indicating more and better filtration, up to about 13 for home use; anything higher and you may not get enough air flow through your furnace and the house causing real problems.

Consumer Reports has long done testing of home heating & air condition filters, focusing on:

1. **Air Flow Resistance (high):** dust, pollen, smoke removal is how well a filter cleared the air of fine clay dust and cigarette smoke when operated at its highest speed. A filter that scores well for dust removal should perform comparably for pollen.
2. **Air Flow Resistance (low):** dust, pollen, smoke removal is how well a filter cleared the air of fine clay dust and cigarette smoke when operated at its lowest speed. A filter that scores well for dust removal should perform comparably for pollen.
3. **Airflow Resistance:** airflow resistance reflects how freely air passed through the filter.

Expect to replace your filter every three to 12 months of use, depending on the size of the filter. For 1-inch-thick filters, three months is the usual recommendation. For 4-inch and thicker filters, 12 months is common. However, if you have furry pets or you live in an area with a lot of air pollution, you may need to replace the filter more frequently. When filters get dirty and clogged with debris, air can't flow freely through your ducts, which makes your home less comfortable and can eventually break HVAC equipment.

Closing Note on MERV vs HEPA: MERV standard is used mainly to measure the performance of filters for forced-air HVAC systems. HEPA (**high-efficiency particulate air**) is a much stricter standard. Because HEPA filters have such tight filtration, they tend to restrict airflow so much that they're impractical for most residential forced-air systems. Instead, HEPA filters are typically used in air purifiers and vacuum cleaners.



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