

Smoke Alarms: Clearing the Smoke of Information

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Smoke alarms have been around since the 60's. When a fire breaks out, the smoke alarm, functions as an early warning system thus reducing the risk of dying by nearly 50 percent. Alarms are most people's first line of defense against fire. Just as dangerous as having no smoke alarms, is having ones that don't work because of lack of maintenance, no power or from being too old.

What Kind Should I Buy?

There are two types of smoke alarms available today: photoelectric and ionization.

Photoelectric:

- When smoke enters a photoelectric alarm, light from a pulsating light source is reflected off the smoke particles onto a light sensor, triggering the alarm.
- Photoelectric smoke alarms generally respond faster to smoldering smoke conditions

Ionization:

- When smoke enters an ionization alarm, ionized air molecules attach to the smoke particles and reduce the ionizing current, triggering the alarm.
- Ionization smoke alarms generally respond faster to flaming fire conditions

Both types provide adequate protection against fire. Both consistently provide time for occupants to escape from most residential fires, yet often the escape time is short. Fire researchers believe our time to escape from fires since 30 years ago is shortened. This can be related to faster fire development with today's products that provide the main fuel sources for fire, such as upholstered furniture and mattresses.

How Many Smoke Alarms Do I Need and In What Rooms?

The number depends on two things, the number of levels in the home and the number of bedrooms. Areas to install smoke alarms:

- In the bedroom to warn of a fire while sleeping (bedroom door should be closed to act as a fire barrier).
- In the hallway outside the bedroom areas to alert sleeping occupants on that level.
- Each level of the home.

Where In the Room Do I Install Them?

Since smoke and deadly gases rise, alarms should be placed on the ceiling at least 4 inches from the nearest wall, or high on a wall, 4-12 inches from the ceiling. This 4 inch minimum is important to keep alarms out of possible "dead air" spaces, because hot air is turbulent and may bounce so much it misses spots near a surface. Installing alarms near a window, door or fireplace is not recommended because drafts could detour smoke away from the unit. In rooms where the ceiling has an extremely high point, such as in vaulted ceilings, mount the alarm near the ceiling's highest point. In all cases, smoke alarms should be installed in accordance with the manufacturer's instructions.

Where Shouldn't I Install Smoke Alarms?

Smoke alarms are not designed to work in extreme heat or cold or in areas where smoke, humidity or dust are common. Thus, they are not recommended for unheated attics. Smoke alarms should not be installed in garages because of the extreme temperature changes and the fumes from engines causing nuisance alarms. Another great area of concern is the kitchen. There are invisible particles of combustion that are emitted from normal cooking (Food doesn't even have to burn!) that may result in nuisance alarms. The National Fire Protection Association recommends that if you are going to put a smoke alarm within 20ft of cooking, it should either be photoelectric or have a silencing button. Putting an alarm near the bathroom where steam can enter the chamber can also cause unwanted alarms. If someone is smoking cigarettes in a room, normally the alarm will not respond unless there are many smokers in the room.

When Do I Need to Change and Test My Batteries?

There are two main ways that smoke alarms get their energy; by battery or electricity. Many of the new alarms have both. If they are "hardwired (electrical)" and the electricity is lost in the home, the battery will take over. For battery operated alarms, the easiest way to remember is to *change the batteries when you change your clocks* in the spring and fall. When the battery is almost out of energy, it begins to "chirp". This is warning the battery is almost dead. It is recommended to test your smoke alarms once a month to make sure they are operating. Test the alarm by pushing the test button for 5 seconds and listening for the alarm. Do not use fire or real smoke to test them. This action can cause an unwanted fire or affect the sensor over time.

How Often Should I Replace My Smoke Alarm?

Smoke alarms, hardwired and battery that are **10 years** old are near the end of their service life and should be replaced. When a smoke alarm reaches 10 years of use, the potential of failing to detect a fire increases substantially.

Other Than New Batteries, How Do I Maintain My Smoke Alarm?

Periodic cleaning is very important. Smoke alarms have small screens around the sensing chamber to keep small bugs and dust particles out. These can accumulate on the screen and slow air movement through the screens. Cleaning is easy; just vacuum around the outside of the alarm at least once a year.

How Do I Respond to a Nuisance Alarm?

When you know there is no problem and the alarm is going off, wave something like a magazine past the alarm chamber to silence it. If this a continuous problem, there are a couple of things to consider. You can:

- Move the unit to a place out of the air current of the problem
- Replace it with a different type of alarm
- Buy an alarm with a "hush" button.

Children and Smoke Alarms

Meri-K Appy, president of the Home Safety Council, states: "Fire is one of the leading causes of unintentional injury or death in young children. New research shows that

children are not waking up to the sound of smoke alarms, so parents need to be extra vigilant about having more than one alarm in the house to be sure the adults awaken and get kids to safety. There are ways to interconnect several fire alarms in the home."

Remember, working smoke alarms alert people to fire and give them time to escape a situation where minutes can mean the difference between life and death.

Still Too Complicated?

If you would like a firefighter to come to your home and assist you with assessing your smoke alarms, or to install battery smoke alarms, call the **Spring Lake Park-Blaine-Mounds View Fire Department at 763-786-4223 Ext. 104**. We are happy to help!