



Home Fire Safety

Home Economics • Cooperative Extension Service • Oklahoma State University

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According to the U.S. Consumer Product Safety Commission in the United States every year approximately 6,000 persons die and several thousand more suffer injuries due to residential fires. In 1984, property damage due to these fires rose to almost 3.5 billion dollars.

Many lost lives and ruined possessions could have been prevented with safe fire habits. This fact sheet will help call attention to some of your home's fire hazards, and provide information to help you make changes for a safer home.

Home Fire Prevention

Most fires are caused by thoughtless acts such as tossing away lighted matches or smoldering cigarettes, letting rubbish pile up, overloading electric circuits, leaving matches where small children can get to them or leaving a range on when out of the house.

The familiar expression "an ounce of prevention is worth a pound of cure" is true and particularly applicable in the case of fire. The steps and precautions necessary to prevent most home fires are relatively simple. The person who fails to avail himself of this knowledge is not only showing poor judgment but actually endangering his life and well-being as well as those of his family.

There are five major causes of home fires: careless smoking, improper use of electricity and appliances, accumulation of rubbish, improper use and storage of flammable liquids and faulty heating and cooking equipment. Here are some suggestions for making your home a "safer home."

Smoking and Matches

Careless smoking and the careless use of matches are chief among fire hazards. Yet a few simple precautions will prevent many of the fires caused by them.

If smoking is allowed in your home, set down hard and fast rules for smokers, family and guests to follow.

- * Require that careful smoking habits be practiced by all smokers.
- * Have ample ash trays available wherever smoking is permitted.
- * Never empty ash trays into a waste paper basket.
- * Do not put bits of waste paper into ashtrays.
- * Dispose of ash tray contents, preferably after dousing with water, in a closed metal container.
- * After a party, empty ash trays and check overstuffed furniture for smoldering cigarettes.
- * Never leave a room when a cigarette, cigar or pipe is burning in an ash tray.
- * Never smoke in bed or when drowsy.
- * Keep matches and lighters out of the reach of small children.
- * Use safety matches and strike away from you.
- * Use a long-handled match when it is difficult to reach the materials to be burned.
- * Always strike a match before turning on the gas when lighting a gas appliance.
- * Be certain a match has stopped smoking and is out before discarding it.
- * Remove matches from the pockets of stored clothing.

Electricity and Appliances

Many fires are caused by defective wiring and appliances as well as misuse of electricity. In

terms of money lost, property damage from electrical fires ranks high.

A common cause of fire in older homes is inadequate wiring for the number of electrical appliances being used. Additional circuits may need to be added. Overloaded circuits, defective wiring or switches, poor insulation and improper use of appliances help cause home fires from electrical sources.

Numerous hazardous conditions are caused by "do-it-yourself" electrical installations. Other hazards result from failure to keep electrical equipment and wiring in repair.

The following will help prevent fires.

- * Replace frayed electrical cords and broken plugs.
- * Never string electrical cords under rugs.
- * Avoid doubling or tripling up on outlets.
- * Always detach electrical cords from the outlet rather than the appliance.
- * Always be certain all appliances are turned off when you leave the house.
- * Provide adequate ventilation for a TV set.

Flammable Liquids

There are three different categories for flammable liquids established by the Federal Substances Act. Those categories are: extremely flammable, flammable and combustible. The following is a description of each group.

- * Extremely flammable liquids produce ignitable vapors at room temperature, and even when relatively cold (below 20°F). Gasoline, white gas (often used in camping stoves and lanterns), contact adhesives and some wood stains are in this category.
- * Flammable liquids produce ignitable vapors, but they do so at higher temperatures. Among these liquids are paint thinners, some paints, and automotive products such as brake fluid.
- * Combustible liquids are those that burn once ignited, but are less likely to catch fire than those liquids with more ignitable vapors. Combustible liquids often include furniture polishes, oil-based paints, fuel oil, diesel oil and kerosene.

Carelessness with any type of flammable liquid is the least excusable fire hazard in the

house. Store and use flammable liquids as recommended. When using flammable liquids, take the following precautions:

- * Store in tightly closed metal containers (never glass) in a cool, well ventilated place away from other materials that might easily catch fire.
- * Never store gasoline or other extremely flammable liquids in the house.
- * Do not use flammable cleaning fluids.
- * Because they usually give off explosive fumes, use flammable liquids only in a well-ventilated place far away from open flames, sparks or lighted tobacco.
- * Keep these liquids out of children's reach. They are usually poisonous as well as fire hazards.
- * Never use flammable liquids to start fires.
- * Never refuel gas-powered equipment, such as lawn mowers and chainsaws without first turning them off and waiting for them to cool. Never refuel inside the home.

Heating Equipment

Many home fires can be traced to defective or improperly operated or installed heating equipment. In 1984, heating equipment was associated with the highest proportion of all residential fires. Inspections and proper use can help reduce the likelihood of fires caused by heating equipment.

- * Check the furnace annually for proper working order. Unless you are qualified, have a professional check and repair your equipment.
- * Check chimneys regularly and clean if necessary. If you have a fireplace equipped with an ash pit, empty the pit every few weeks. Loose chimney bricks or cracked walls are danger signals. Make repairs promptly.
- * Keep flues reasonably soot free. Heavy accumulation of soot will reduce the passage where smoke and gases escape. Soot can also ignite, leading to dangerous chimney fires.
- * To keep the fire sparks from flying into the room, always use a fireplace screen made of wire or special glass.

- * Make sure you adjust your damper so there is enough of a draft to remove smoke and gases from the room, but not open so much that the fire gets out of control.
- * Never leave a fire place fire unattended. Make sure the fire is out before you go to bed.
- * Avoid using portable heaters that can be tipped over easily. Be sure all heaters have plenty of air circulation; keep curtains, paper, furniture, clothing and anything else that can burn away from them. Don't block potential fire exits (doors, stairways, windows) with portable heaters. Use only the proper fuel, if fueled; don't spill it. Above all, never refuel when the heater is operating.

Cooking Equipment

Fire hazards in the kitchen are largely associated with either cooking or negligence in upkeep or use of the kitchen range. Despite the frequency of kitchen fires, a few simple precautions will help avoid trouble.

- * Instruct your children to keep away from the range.
- * Keep the range clean and free of grease.
- * Keep clothes, curtains, paper and other combustibles away from the range.
- * Turn the handles of cooking utensils toward the center of the range.
- * Be prepared to deal with grease fires, a common kitchen fire hazard. If grease ignites in the oven, turn the oven off and close the door. If this doesn't smother the fire, use a carbon dioxide or dry chemical extinguisher on the flame. Use baking soda if an extinguisher is not available. If grease ignites in a pan on top of the range, turn the burner off and cover pan with tight fitting lid. Call the fire department immediately if these efforts fail to put the fire out.

Clothing

Clothing related fires are often started by a sleeve, hem, or other loose fitting garment coming into contact with a fire source.

Adult sleepwear, including nightgowns, pajamas, and bathrobes are reported to be involved in a large number of fires and deaths.

The Flammable Fabrics Act Standards requires all children's sleepwear (up to size 14) to be flame resistant. Even so, it is still wise to keep all fabrics away from fire sources.

Many people receive fatal burns when their clothing accidentally catches fire. Children and elderly people are most often victims of this disaster. In order to avoid this danger, use the following precautions:

- * Do not wear loose clothing while cooking or working around candles and space heaters.
- * Follow the washing instructions for flame-resistant clothing carefully. Some have special washing requirements.
- * Remove garments immediately if splashed by flammable liquids.
- * Avoid wearing loose fitting garments and fabrics.

Rubbish

Good housekeeping habits can help keep your home safe from fire.

- * Check from cellar to attic, inside and outside buildings, for rubbish and remove it promptly. Rubbish is a double fire hazard; it may ignite spontaneously, or it may serve as quick fuel for a stray spark.
- * Oily rags, like rubbish, may ignite spontaneously. Dispose of them if practical; otherwise store them in closed metal containers.

Other Fire Hazards

In addition to everyday hazards, there are others which deserve your attention.

Holidays

Special holidays mean **seasonal decorations** and fun, but often they bring additional fire hazards. Jack-O'-Lanterns, fireworks, Christmas trees and holiday candles can be fire dangers around your home. Make sure an adult supervises any children's activities that involve fire hazards.

Christmas trees can be one of the biggest fire hazards in the home during the holiday season.

- * Select the freshest tree possible.

- * Cut the end off diagonally at least one inch above the original cut. Stand the tree in fresh water, wet dirt or sand as soon as possible and add additional water daily.
- * Assign someone to check the tree daily for dryness.
- * Do not place the tree near radiators, fireplace, doorways or paths of exit.
- * Never use candles on the tree.
- * Check all electric cords with lights and extension cords for frays.
- * Purchase light and cord sets that carry a UL marker.
- * Turn off lights when you leave the house or go to sleep.
- * Do not overload circuits by having too many plugs in one outlet.
- * Keep candles away from combustible materials.
- * Keep paper or cloth displays away from electric bulbs, fireplaces, candles, or other sources of heat.
- * Use non-combustible materials for decorations (metal, glass, wire).
- * Select paper decorations or costumes labeled fireproof or fire-resistant.
- * When the holiday is over, dispose of the tree, gift wrappings and decorations.

Fire Extinguishers

You should consider fighting a fire yourself with a fire extinguisher only after getting all the people out of the house, calling the fire department and if your own escape route is clear.

There are several types of fire extinguishers to fight the three classes of home fires: **Class A** fires consist of ordinary combustible materials such as paper or cloth; **Class B** are fires of flammable liquids; and **Class C** are fires of electrical equipment and appliances. In addition, extinguishers are also rated by numbers in front of the letters indicating the approximate size of the fire they can put out. The higher the number, the greater the extinguisher's ability is to fight fires.

If you have extinguishers in your home, see that they are put where they will be readily accessible if a fire should start. Be sure that all members of the family know how to use them. Extinguishers should be recharged after each use.

Early Warning Devices

An extremely valuable and inexpensive early warning device is the smoke detector. Some detectors are valuable because they sense smoke produced by a fire and sound an alarm before the smoke becomes dangerously thick and the fire is too extreme.

There are two types of smoke detectors available for purchase.

- * Ionization chamber detectors use a radioactive source to produce electrically charged molecules (ions) in the air. This sets up an electric current within the detector chamber. When smoke enters the chamber, it attaches itself to the ions and reduces the flow of electric current, thus setting off an alarm.
- * Photoelectric detectors activate when the smoke is dense enough to deflect a beam of light.

Both types of smoke detectors can be operated either on household electric current or battery power.

To be certain of working condition, smoke detectors should be tested at least once a month. To test your detector light a candle and place it six inches below the unit. For a photoelectric unit, put out the candle and allow the smoke from the extinguished flame to drift into the detector. If working properly, the alarm will sound within 20 seconds. To silence the alarm, fan the smoke away.

For an ionization detector, repeat the process, except do not extinguish the candle's flame.

Some of the newer smoke detectors have more advanced built in testing systems which simulate smoke; therefore, they do not need to be tested with real smoke. Check the operating guide to see if your unit has this feature.

If you should find that the batteries in your unit are weak or dead (they should last approximately one year), replace them immediately. Lamps for photoelectric detectors should also be kept on hand for immediate replacement.

Always Remember

- * **Get out quickly.** Fire spreads fast. Don't stop for anything except to help someone.

- * **Smoke kills.** Most fire victims do not die from burns, but from inhalation of smoke and toxic gases.
- * **Don't be a hero.** Leave fire fighting to the experts--the local firefighters. Any attempt you make to fight a large blaze will be useless and dangerous.
- * **Plan an escape route.**
- * **Plan an alternate escape route** from every room in your home--for example, through windows onto rooftops or use of emergency ladders. The most common means of escaping--stairways, hallways, etc.--are often blocked by smoke and fire.
- * **Get everybody in the habit of sleeping with bedroom doors closed.** This will hold back flame and smoke for a few extra minutes. If parents are concerned about closing bedroom doors to children's rooms, an intercom monitor for the youngster's room can be purchased rather inexpensively.
- * **Pre-arrange an alarm signal** to rouse sleepers if fire is suspected--bang on wall, blow bedside whistle.
- * **Call your fire department** from a neighbor's telephone or from a street alarm box. Never stay inside a burning house to make a call.

If Fire Breaks Out

- * **Pretest any closed door** by carefully touching the door near the top. If it is warm to the touch, **do not open it!** Hot air and gases can rush in and overcome you in seconds.
- * **Be suspicious of every door**, even if it is not warm. If you must open it, brace yourself and place one hip against the door. Place one hand against the door above your head. Open the door with your other hand, but only an inch or two. If you feel a hot draft, slam the door shut and don't open it again.
- * **If your way is clear, head for safety.** Don't stop to dress or to gather valuables.
- * **If you must stay in a room, stay near a slightly opened window.** Place towels or clothes in the cracks.
- * **If you smell smoke stay low, crawl or crouch**, with your head as close to the floor as possible. Cover your mouth or nose with a wet towel, blanket or pillow.

- * **Meet outside at a prearranged spot** and count heads. Always observe the rule, "Once Out, Stay Out!"
- * **If fire blocks your normal exit**, use the alternate you have planned. Planning here prevents panic.
- * If you must exit by a window, you may not be able to open the window. Smash it with a chair, drawer, lamp or a hand wrapped in a towel or blanket. Use a shoe or chair rung to clear the sill of jagged glass.
- * The roof can be a good, safe temporary refuge--much better than trying to exit through smoke and flames.
- * If you must leave the roof, **drop--don't jump.** Back over the edge, carefully lower yourself into a hanging position, flex your knees, then drop and roll when you land. Untrained persons can survive drops as high as 20 feet.
- * An emergency ladder is the best way to exit upper stories. Many are available, including knotted ropes, rope ladders or chain and wood models that attach permanently to windows.

Reporting a Fire

Reporting a fire promptly and accurately is extremely important. Post the fire department telephone number along with your street address or fire number on or near every phone in the house. Or use the emergency number, 911, if available in your location. Always remember to give your address or exact location of the fire. It is helpful to the fire department if your address is visible from the street.

When reporting the fire, talk in a distinct and calm voice. Describe what is on fire, such as a house, car or grass. Do not hang up until the fire dispatcher confirms your message. Children in the home should also be instructed in the proper procedure for reporting a fire.

If reporting a fire by a fire alarm box, open the door to expose the hook, pull the hook down once and let go. Remain at the alarm box until the firefighters arrive as you must give the firefighters the exact location of the fire.

A Final Word

There is a great deal you can and should do to protect your life and the lives of your family

members, and to safeguard your property against fire.

Your role is to practice sound safety rules at all times. Checking your home for possible fire hazards will decrease the chances that fire will strike your home. If it does, early warning and prompt escape are essential. Once a fire has started, your main responsibility is to get out as quickly and as safely as possible.

More About Fire Safety

For more information on home fire safety, call, write or visit your OSU Extension Center.

Ask for--

Fire Detectors in the Home, Family Living Topic - T-4410

A Family Fire Escape Plan, Family Living Topic - T-4401

Major revision of earlier publication by Dorothy Blackwell.

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