

Fire



Each year more than 4000 Americans die and more than 25,000 are injured in fires, many of which could be prevented. Direct property loss due to fires is estimated at \$8.6 billion annually.

To protect yourself, it's important to understand the basic characteristics of fire. Fire spreads quickly; there is no time to gather valuables or make a phone call. In just two minutes a fire can become life threatening. In five minutes a residence can be engulfed in flames.

Heat and smoke from fire can be more dangerous than the flames. Inhaling the super-hot air can sear your lungs. Fire produces poisonous gases that make you disoriented and drowsy. Instead of being awakened by a fire, you may fall into a deeper sleep. Asphyxiation is the leading cause of fire deaths, exceeding burns, by a three-to-one ratio.

Working smoke alarms decrease your chances of dying in fire by half.

What to do before fire strikes

1. Install smoke alarms. Working smoke alarms decrease your chances of dying in a fire by half.
 - Place smoke alarms on every level of your residence: outside bedrooms on the ceiling or high on the wall, at the top of open stairways or at the bottom of enclosed stairs and near (but not in) the kitchen.
 - Test and clean smoke alarms once a month and replace batteries at least once a year. Replace smoke alarms once every 10 years.
2. With your household, plan two escape routes from every room in the residence. Practice with your household escaping from each room.
 - Make sure windows are not nailed or painted shut. Make sure security gratings on windows have a fire safety-opening feature so that they can be easily opened from the inside.
 - Consider escape ladders if your home has more than one level and ensure that burglar bars and other antitheft mechanisms that block outside window entry are easily opened from inside.
 - Teach household members to stay low to the floor (where the air is safer in a fire) when escaping from a fire.
 - Pick a place outside your home for the household to meet after escaping from a fire.
3. Clean out storage areas. Don't let trash such as old newspapers and magazines accumulate.
4. Check the electrical wiring in your home.
 - Inspect extension cords for frayed or

- exposed wires or loose plugs.
- Outlets should have cover plates and no exposed wiring.
 - Make sure wiring does not run under rugs, over nails, or across high traffic areas.
 - Do not overload extension cords or outlets. If you need to plug in two or three appliances, get a UL-approved unit with built-in circuit breakers to prevent sparks and short circuits.
 - Make sure home insulation does not touch electrical wiring.
 - Have an electrician check the electrical wiring in your home.
5. Never use gasoline, benzene, naphtha or similar liquids indoors.
- Store flammable liquids in approved containers in well-ventilated storage areas.
 - Never smoke near flammable liquids.
 - After use, safely discard all rags or materials soaked in flammable material.
6. Check heating sources. Many home fires are started by faulty furnaces or stoves, cracked or rusted furnace parts and chimneys with creosote build-up. Have chimneys, wood stoves and all home heating systems inspected and cleaned annually by a certified specialist.
7. Insulate chimneys and place spark arresters on top. The chimney should be at least three feet higher than the roof. Remove branches hanging above and around the chimney.
8. Be careful when using alternative heating sources, such as wood, coal and kerosene heaters and electrical space heaters.
- Check with your local fire department on the legality of using kerosene heaters in your community. Be sure to fill kerosene heaters outside after they have cooled.
 - Place heaters at least three feet away from flammable materials. Make sure the floor and nearby walls are properly insulated.
 - Use only the type of fuel designated for your unit and follow manufacturer's instructions.
 - Store ashes in a metal container outside and away from the residence.
 - Keep open flames away from walls, furniture, drapery and flammable items. Keep a screen in front of the fireplace.
 - Have chimneys and wood stoves inspected annually and cleaned if necessary.
 - Use portable heaters only in well-ventilated rooms.
9. Keep matches and lighters up high, away from children, and if possible, in a locked cabinet.
10. Do not smoke in bed, or when drowsy or medicated. Provide smokers with deep, sturdy ashtrays. Douse cigarette and cigar butts with water before disposal.
11. Safety experts recommend that you sleep with your door closed.
12. Know the locations of the gas valve and electric fuse or circuit breaker box and how to turn them off in an emergency. If you shut off your main gas line for

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- any reason, allow only a gas company representative to turn it on again.
13. Install A-B-C type fire extinguishers in the home and teach household members how to use them (*Type A*—wood or papers fires only; *Type B*—flammable liquid or grease fires; *Type C*—electrical fires; *Type A-B-C*—rated for all fires and recommended for the home).
 14. Consider installing an automatic fire sprinkler system in your home.
 15. Ask your local fire department to inspect your residence for fire safety and prevention.
 16. Teach children how to report a fire and when to use 911.
 17. To support insurance claims in case you do have a fire, conduct an inventory of your property and possessions and keep the list in a separate location. Photographs are also helpful.
 18. See the “Emergency Planning and Disaster Supplies” chapter for additional information.
3. Smother oil and grease fires in the kitchen with baking soda or salt, or put a lid over the flame if it is burning in a pan. Do not attempt to take the pan outside.
 4. If your clothes catch on fire, **stop, drop and roll** until the fire is extinguished. Running only makes the fire burn faster.
 5. If you are escaping through a closed door, use the back of your hand to feel the top of the door, the doorknob, and the crack between the door and door frame before you open it. **Never** use the palm of your hand or fingers to test for heat—burning those areas could impair your ability to escape a fire (i.e., ladders and crawling).
 - If the door is cool, open slowly and ensure fire and/or smoke is not blocking your escape route. If your escape route is blocked, shut the door immediately and use an alternate escape route, such as a window. If clear, leave immediately through the door. Be prepared to crawl. Smoke and heat rise. The air is clearer and cooler near the floor.
 - If the door is warm or hot, do not open. Escape through a window. If you cannot escape, hang a white or light-colored sheet outside the window, alerting fire fighters to your presence.
 6. If you must exit through smoke, crawl low under the smoke to your exit— heavy smoke and poisonous gases collect first along the ceiling.
 7. Close doors behind you as you escape to delay the spread of the fire.

If your clothes are on fire, stop, drop, and roll until the fire is extinguished.

What to do during a fire

1. Use water or a fire extinguisher to put out small fires. Do not try to put out a fire that is getting out of control. If you're not sure if you can control it, get everyone out of the residence and call the fire department from a neighbor's residence.
2. Never use water on an electrical fire. Use only a fire extinguisher approved for electrical fires.

8. Once you are safely out, stay out. Call 911.

What to do after a fire

1. Give first aid where needed. After calling 911 or your local emergency number, cool and cover burns to reduce chance of further injury or infection.
2. Do not enter a fire-damaged building unless authorities say it is okay.
3. If you must enter a fire-damaged building, be alert for heat and smoke. If you detect either, evacuate immediately.
4. Have an electrician check your household wiring before the current is turned on.
5. Do not attempt to reconnect any utilities yourself. Leave this to the fire department and other authorities.
6. Beware of structural damage. Roofs and floors may be weakened and need repair.
7. Contact your local disaster relief service, such as the American Red Cross or Salvation Army, if you need housing, food, or a place to stay.
8. Call your insurance agent.
 - Make a list of damage and losses. Pictures are helpful.
 - Keep records of clean-up and repair costs. Receipts are important for both insurance and income tax claims.
 - Do not throw away any damaged goods until an official inventory has been taken. Your insurance company takes all damages into consideration.
9. If you are a tenant, contact the landlord. It's the property owner's responsibility to prevent further loss or damage to the site.
10. Secure personal belongings or move them to another location.
11. Discard food, beverages and medicines that have been exposed to heat, smoke or soot. Refrigerators and freezers left closed hold their temperature for a short time. Do not attempt to refreeze food that has thawed.
12. If you have a safe or strong box, do not try to open it. It can hold intense heat for several hours. If the door is opened before the box has cooled, the contents could burst into flames.
13. If a building inspector says the building is unsafe and you must leave your home:
 - Ask local police to watch the property during your absence.
 - Pack identification, medicines, glasses, jewelry, credit cards, checkbooks, insurance policies and financial records if you can reach them safely.
 - Notify friends, relatives, police and fire departments, your insurance agent, the mortgage company, utility companies, delivery services, employers, schools and the post office of your whereabouts.
14. See the "Shelter" and "Recovering From Disaster" chapters for more information.

Wildland fires



If you live on a remote hillside, or in a valley, prairie or forest where flammable vegetation is abundant, your residence could be vulnerable to wildland fire. These fires are usually triggered by lightning or accidents.

1. Fire facts about rural living:
 - Once a fire starts outdoors in a rural area, it is often hard to control. Wildland firefighters are trained to protect natural resources, not homes and buildings.
 - Many homes are located far from fire stations. The result is longer emergency response times. Within a matter of minutes, an entire home may be destroyed by fire.
 - Limited water supply in rural areas can make fire suppression difficult.
 - Homes may be secluded and surrounded by woods, dense brush and combustible vegetation that fuel fires.
2. Ask fire authorities for information about wildland fires in your area. Request that they inspect your residence and property for hazards.
3. Be prepared and have a fire safety and evacuation plan:
 - Practice fire escape and evacuation plans.
 - Mark the entrance to your property with address signs that are clearly visible from the road.
 - Know which local emergency services are available and have those numbers posted near telephones.
 - Provide emergency vehicle access through roads and driveways at least 12 feet wide with adequate turn-around space.
4. Tips for making your property fire resistant:
 - Keep lawns trimmed, leaves raked, and the roof and rain-gutters free from debris such as dead limbs and leaves.
 - Stack firewood at least 30 feet away from your home.
 - Store flammable materials, liquids and solvents in metal containers outside the home at least 30 feet away from structures and wooden fences.
 - Create defensible space by thinning trees and brush within 30 feet around your home. Beyond 30 feet, remove dead wood, debris and low tree branches.
 - Landscape your property with fire resistant plants and vegetation to prevent fire from spreading quickly. For example, hardwood trees are more fire-resistant than pine, evergreen, eucalyptus, or fir trees.
 - Make sure water sources, such as hydrants, ponds, swimming pools and wells, are accessible to the fire department.
5. Protect your home:
 - Use fire resistant, protective roofing and materials like stone, brick and metal to protect your home. Avoid using wood materials. They offer the

least fire protection.

- Cover all exterior vents, attics and eaves with metal mesh screens no larger than 6 millimeters or 1/4 inch to prevent debris from collecting and to help keep sparks out.
- Install multi-pane windows, tempered safety glass or fireproof shutters to protect large windows from radiant heat.
- Use fire-resistant draperies for added window protection.
- Have chimneys, wood stoves and all home heating systems inspected and cleaned annually by a certified specialist.
- Insulate chimneys and place spark arresters on top. Chimney should be at least three feet above the roof.
- Remove branches hanging above and around the chimney.

6. Follow local burning laws:

- Do not burn trash or other debris without proper knowledge of local burning laws, techniques and the safest times of day and year to burn.
- Before burning debris in a wooded area, make sure you notify local authorities and obtain a burning permit.
- Use an approved incinerator with a safety lid or covering with holes no larger than 3/4 inches.
- Create at least a 10-foot clearing around the incinerator before burning debris.
- Have a fire extinguisher or garden hose on hand when burning debris.

7. If wildfire threatens your home and time permits, consider the following:

Inside

- Shut off gas at the meter. Turn off pilot lights.
- Open fireplace damper. Close fireplace screens.
- Close windows, vents, doors, blinds

or noncombustible window coverings, and heavy drapes. Remove flammable drapes and curtains.

- Move flammable furniture into the center of the home away from windows and sliding-glass doors.
- Close all interior doors and windows to prevent drafts.
- Place valuables that will not be damaged by water in a pool or pond.
- Gather pets into one room. Make plans to care for your pets if you must evacuate.
- Back your car into the garage or park it in an open space facing the direction of escape. Shut doors and roll up windows. Leave the key in the ignition and the car doors unlocked. Close garage windows and doors, but leave them unlocked. Disconnect automatic garage door openers.

Outside

- Seal attic and ground vents with pre-cut plywood or commercial seals.
 - Turn off propane tanks.
 - Place combustible patio furniture inside.
 - Connect garden hose to outside taps. Place lawn sprinklers on the roof and near above-ground fuel tanks. Wet the roof.
 - Wet or remove shrubs within 15 feet of the home.
 - Gather fire tools such as a rake, axe, handsaw or chainsaw, bucket, and shovel.
8. If advised to evacuate, do so immediately. Choose a route away from the fire hazard. Watch for changes in the speed and direction of fire and smoke.
9. See the “Evacuation” chapter for detailed information about evacuation preparedness. Also see the “Recovering from Disaster” and “Shelters” chapters for additional information.