

# Burn Safety and Protection

## Did you know?

- One person is either burned or scalded every 25 seconds in the USA.
- Ninety percent of household burns to women occur in the kitchen, two-thirds involve hands and arms.
- Up to 1 million burns occur in households annually, approximately 500,000 are scalds resulting from spilled food and beverages.
- Most people associate burns with flame. In fact, liquids cause burns more often than flames.
- 200,000 children are burned by contact with hot substances and objects, with 100,000 children scalded from spilled food and beverages.
- The two highest risk groups are children under the age of 5 and adults over 65; scalds are the number one cause of burn injury to children under 4 years old.
- Coffee, tea, soup and hot tap water can be hot enough to cause serious burn injury.

## What is a burn?

A burn is damage to the skin and underlying tissue caused by heat, chemicals or electricity. Burns damage or destroy the skin cells. Deeper burns may involve the fat, muscle or bone. Scalds result from the destruction of one or more layers of the skin due to contact with hot liquids or steam.

The temperature to which the skin is exposed and the length of time the skin is exposed to the burning substance determine the depth of injury. Burns range in severity – superficial or first degree, partial or second degree and full thickness or third degree.

How hot is too hot?

WATER TEMP	TIME REQUIRED FOR 3RD DEGREE BURN
155°F	1 SECOND
148°F	2 SECONDS
140°F	5 SECONDS
133°F	15 SECONDS
127°F	1 MINUTE
124°F	3 MINUTES
120°F	5 MINUTES
100°F	SAFE TEMPERATURE

What can I do?

- Set water heater thermostat at low. Adjust the thermostat setting on your water heater to produce a water temperature of 120-125 degrees or less. The lower the temperature, the lower the risk.
- Do not bathe at temperatures above 110 degrees, and 100 degrees is the safest.
- Check your tap water temperature by letting it run for three to five minutes. Test the temperature with candy, meat or a water thermometer. If it is too hot, adjust your thermostat and wait a full day to allow the water temperature to change. Re-test and re-adjust the thermostat again, if necessary.

- Before placing a child into the bath or before getting into the tub yourself, test the temperature of the water by moving your hand rapidly through the water for several seconds. The temperature should not exceed 100°F/39°C. A child's delicate skin will burn more quickly than an adult's.
- Never leave a young child unattended in the bathroom or tub.
- Use extreme caution if bathing small children in the sink. Many sinks have single-lever faucets that are easy for young children to turn on.
- Consider installing "anti-scald" devices on tub faucets and showerheads to prevent accidental scalds.
- As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of an accident.

#### **SOURCES:**

Information was taken from the following studies and organizations:

- National Health Interview Survey (NHIS) and data from three additional federal surveys, including the National Ambulatory Medical Care Survey, The National Hospital Ambulatory Medical Care Survey and the National Medical Expenditure Survey.
- Moritz, A. R., HERRIQUES, F. C. Jr. Studies of thermal injuries: The relative importance of time and surface temperature in the causation of coetaneous burn. *Am J Pathol*, 1947; 23:695-720
- Burn Foundation, Philadelphia, PA. ([www.burnfoundation.org](http://www.burnfoundation.org))
- American Burn Association, Chicago, IL. ([www.Ameriburn.org](http://www.Ameriburn.org))

Neither the Burn Foundation or the American Burn Association endorses commercial products. The organizations have given permission to use information in the interest of furthering their mission of public education.

# Checklist for indoors

## In the Kitchen:

- √ Avoid wearing loose-fitting long-sleeved clothing when cooking.
- √ Have good lighting in the kitchen and work areas.
- √ Always keep pot handles turned inward, toward the back of the stove. Cook on rear burners whenever possible.
- √ Keep a large lid within reach when frying to extinguish grease fires, if necessary.
- √ Use large potholders or oven mitts.
- √ Avoid leaving food to cook unattended.
- √ Use a "fill-through-the-spout" teapot, the kind without a lid and with a whistle in the spout, to prevent "spilled water" scalds.
- √ Avoid using area rugs in the kitchen, especially near the stove. They can cause falls and scalds.
- √ Purchase appliances with short cords, and keep all cords from dangling over the edge of counters, as they can be pulled down. Cords may also become caught in cabinet doors, causing hot food and liquids to spill onto you or others. The grease in deep fat fryers and cookers can reach temperatures higher than 400 degrees and cause serious burns in less than 1 second.
- √ Periodically check all handles on appliances and cooking utensils to ensure the handles are tightly fastened and will afford proper heat protection.
- √ When removing lids from hot foods, remember that steam may have accumulated. Lift the cover or lid away from your face and arm.
- √ Steam reaches temperatures greater than 200 degrees when using a microwave, and builds rapidly in covered containers, which can result in burns to the face, arms and hands. Puncture plastic wrap or use vented containers to allow steam to escape while cooking. Or wait at least one minute before removing the cover. When removing covers, lift the corner farthest from you and away from your face or arm.

## In the Dining Area:

- √ During mealtime, place hot items in the center of the table, at least 10 inches away from the table edge.
- √ Use non-slip placemats instead of tablecloths if toddlers are present. Young children may use the tablecloth to pull themselves up, causing hot food to spill down onto them. Tablecloths can also become entangled in crutches, walkers or wheelchairs, causing hot liquids to spill.
- √ As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of an accident.

# Checklist for outdoors

## Grilling in the back yard:

- √ Follow manufacturers' directions when using grills
- √ Use only commercial starting fluid to light charcoals. Never use gasoline or other flammable liquids.
- √ Never add starter fluid to hot coals. They could catch fire and explode.
- √ Thoroughly extinguish hot coals before disposal.
- √ Supervise children at all times when grills are in use.
- √ Establish a three-foot "Keep Away Zone" for children around grills.
- √ Do not wear loose-fitting clothing. Tie or pin up long hair.
- √ As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of an accident.

## When Camping:

- √ When camping out and a fireplace is not available, build campfires in a cleared area.
- √ Adult supervision is especially important when children toast foods over the fire.
- √ Flaming marshmallows could ignite hair or clothing.
- √ Keep a supply of water or an extinguisher within easy reach.
- √ Store firewood at a safe distance.
- √ Do not leave burning campfire unattended.
- √ Make sure coals are thoroughly extinguished before disposal.
- √ As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of an accident.

## When using Gas-Powered Mowers and Tools:

- √ Fuel mowers and tools outdoors.
- √ Move mower or tool away from fueling area before starting engine.
- √ Let engine cool before refueling.
- √ Don't add fuel near an open flame.
- √ Don't smoke while adding fuel.
- √ Keep children away when fueling or using gas-powered equipment.
- √ Store gasoline only in a tightly closed UL-approved can, out of reach of children.
- √ Don't store gasoline inside your home, even in a safety can.
- √ Supervise children when they use gas-powered mowers or tools.
- √ To help prevent shocks, all electric mowers and trimmers should use three-wire cords connected to ground fault interrupter-protected (GFIP) circuits.
- √ Keep cords clear of cutting edges on tools.
- √ Never use electrical tools or appliances in or around water.
- √ As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of an accident.

# Checklist for children

## In the Kitchen:

- √ Keep children out of the kitchen when preparing hot meals.
- √ If young children want to help with meal preparation, give them something cool to mix in a location away from the cooking. Do not allow a child to stand on a chair or sit on the counter next to the stove.
- √ Place young children in high chairs or play yards a safe distance from counter or stove tops, hot liquids, hot surfaces or other cooking hazards while preparing or serving food.
- √ Child walkers are extremely dangerous and should never be allowed in kitchens or bathrooms. Infants in child walkers have increased mobility and height and can more easily come in contact with dangling cords and pot handles.
- √ Cook on back burners when children are present.
- √ Never hold a child while drinking a hot liquid.
- √ Children should not be allowed to use cooking appliances until they are tall enough to reach cooking surfaces safely. As children get older and taller and assume more cooking responsibilities, teach them safe cooking practices.
- √ Children under age 7 should not operate the microwave unless they are closely supervised. Instruct and supervise older children.
- √ Keep children out of the "traffic path" and check for their location before moving any hot liquids in the kitchen.
- √ Be sure to inform baby sitters about kitchen and appliance safety and teach them to prevent burn injuries when preparing meals.
- √ As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of accident.

## In the Dining Room:

- √ During mealtime, place hot items in the center of the table, at least 10 inches from the table edge.
- √ Use non-slip placemats instead of tablecloths if toddlers are present. Young children may use the tablecloth to pull themselves up, causing hot foods to spill down on them.

## CHECKLIST FOR CHILDREN/ADD ONE

### In the Bathroom:

- √ Before placing a child into the bath or before getting into the tub yourself, test the temperature of the water by moving your hand rapidly through the water for several seconds. The temperature should not exceed 100°F/39°C. A child's delicate skin will burn more quickly than an adult's.
- √ Never leave a young child unattended in the bathroom or tub.
- √ Use extreme caution if bathing small children in the sink. Many sinks have single-lever faucets that are easy for young children to turn on.
- √ Adjust the thermostat setting on your water heater to produce a water temperature of 120-125 degrees or less. The lower the temperature, the lower the risk.
- √ Consider installing "anti-scald" devices on tub faucets and showerheads to prevent accidental scalds.
- √ As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of an accident.

### Remember.....

- 100,000 children are burned annually from scalds from spilled food and beverages.
- The two highest risk groups are children under the age of 5 and adults over 65.
- Scalds are the number-one cause of burn injury to children under 4 years old.

### SOURCES:

Burn Foundation, Philadelphia, PA ([www.burnfoundation.org](http://www.burnfoundation.org))

American Burn Association, Chicago, IL ([www.Ameriburn.org](http://www.Ameriburn.org))

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# **“Don’t trust your safety to guesswork!”**

Older adults have thinner skin, so hot liquids cause deeper burns with even brief exposure. Their ability to feel heat may be decreased due to certain medical conditions or medications. Older adults may also have conditions that make them more prone to falls in the bathtub or shower or while carrying hot liquids.

## **In the Kitchen**

- Never leave cooking unattended. If you must leave the kitchen, take a wooden spoon or a potholder as a reminder that you have left something unattended on the stove.
- Keep pot handles pointing to the back.
- Do not attempt to lift or carry heavy pots of hot liquid or food.
- Keep kitchen appliances clean and in good condition. Turn them off and disconnect them when not in use.
- Do not overload kitchen electrical outlets, and don’t use appliances with frayed or cracked wires.
- Don’t store items on the stovetop, as they could catch fire.
- Never pour water on a grease fire. This may spread the fire or cause a flash back into your face. Turn off the stove and cover the pan with a lid, or close the oven door. Leave for at least one hour until cool before attempting to move.
- Be sure your stove is not located under a window in which curtains are hanging.
- Clean the exhaust hood and duct over the stove regularly, and wipe up spilled grease as soon as the surface of the stove is cool.
- Operate your microwave only when there is food in it.
- Do not use cooking stove for heating purposes or drying clothes.
- Always set a kitchen timer as a reminder to turn off burners and oven.
- Never leave heat-producing appliances, like the coffee maker, toasters or irons plugged in continuously. Just brushing against one could burn you or, if hot enough, could set your clothes on fire.
- Always wear clothing with tight-fitting sleeves, so they do not accidentally drag in the fire.
- As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of an accident.

## **With Children and Grandchildren**

- Keep lighters and matches out of the reach of children.
- Never leave children unattended with fire or space heaters.
- Do not cuddle or hold children when drinking hot drinks - this could prevent burn injury to both of you.

### **When handling Furnace/Space Heaters**

- Used improperly, a space heater can be the most dangerous appliance in your house.
- Install and maintain heating equipment correctly. Have your furnace inspected by a professional prior to the start of every heating season.
- Don't store newspapers, rags or other combustible materials near a furnace, hot water heater or space heater.
- Don't leave space heaters operating when you are not in the room.
- Keep space heaters at least three feet away from anything that might burn, including the wall.
- Don't use extension cords with electrical space heaters. The high amount of current they require could melt the cord and start a fire.
- When lighting a gas space heater, strike your match first, then turn on the gas.

### **Using the Fireplace**

- Use a fireplace screen to prevent sparks from flying.
- Don't store newspapers, kindling or matches near the fireplace or have an exposed rug or wooden floor right in front of the fireplace.
- Have your chimney inspected by a professional prior to the start of every heating season and cleaned to remove combustible creosote build-up if necessary.
- Install a chimney spark arrester to prevent roof fires.
- When lighting a gas fireplace, strike the match first, then turn on the gas.

### **Using the Clothes Dryer**

- Under some circumstances, dangerous heat can build up in a dryer.
- Never leave home with the clothes dryer running.
- Dryers must be vented to the outside, not into a wall or attic.
- Clean the lint screen frequently, to keep the airway clear.
- Never put in synthetic fabrics, plastic, rubber or foam because they retain heat.
- As a safety precaution, keep Water-Jel and/or Burn-Jel products nearby in case of an accident.

#### **SOURCES:**

Article edited by Michael J. Sheehan, The Senior Corner, <http://seniors.tcnet.org>  
The Hook and Ladder Foundation  
Georgia Firefighters Burn Foundation