

Essentials for Healthy Homes Practitioners



Keep it Safe

There are many possible ways to be injured in a house. Falls, poisonings, fires, and drowning are just a few examples of common causes of home injuries. Just as people are not born knowing that they must brush their teeth to prevent decay, people must learn steps that they can take to reduce hazards in their homes.

This module will first discuss the differences between injuries and accidents, and then provide information on the most common home injury causes, ways to identify related hazards, and steps intended to prevent injury occurring.

Are Injuries Accidents?

Accidents are events that happen completely by chance, with no planning or deliberate intent. Injuries are preventable: they do not occur at random.

Accidents are things like being hit by a meteor—you cannot plan for such an event. Injuries are a very human experience. We all take chances based on our past experiences. For example, we believe that we will not be injured when using a chair instead of a stepstool or ladder because we were not the last time. Unsafe acts that result in injuries are not accidents. Being more aware helps prevent actions that lead to injuries.



Injury is the leading cause of death and disability among children and young adults.

Injuries are preventable!

-  **Start with People**
-  **House as a System**
-  **Keep It:**
 -  1. Dry
 -  2. Clean
 -  3. Pest-Free
 -  4. Ventilated
 -  5. Safe
 -  6. Contaminant-Free
 -  7. Maintained
-  **Making it Work**

Learning Objective for this Module

- Explain the difference between an injury and an accident.
- Name the three most common home injury related causes of death.
- Name five locations to look for safety hazards in the home.
- Name five ways to prevent home injuries.

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Safety-Related Housing Issues

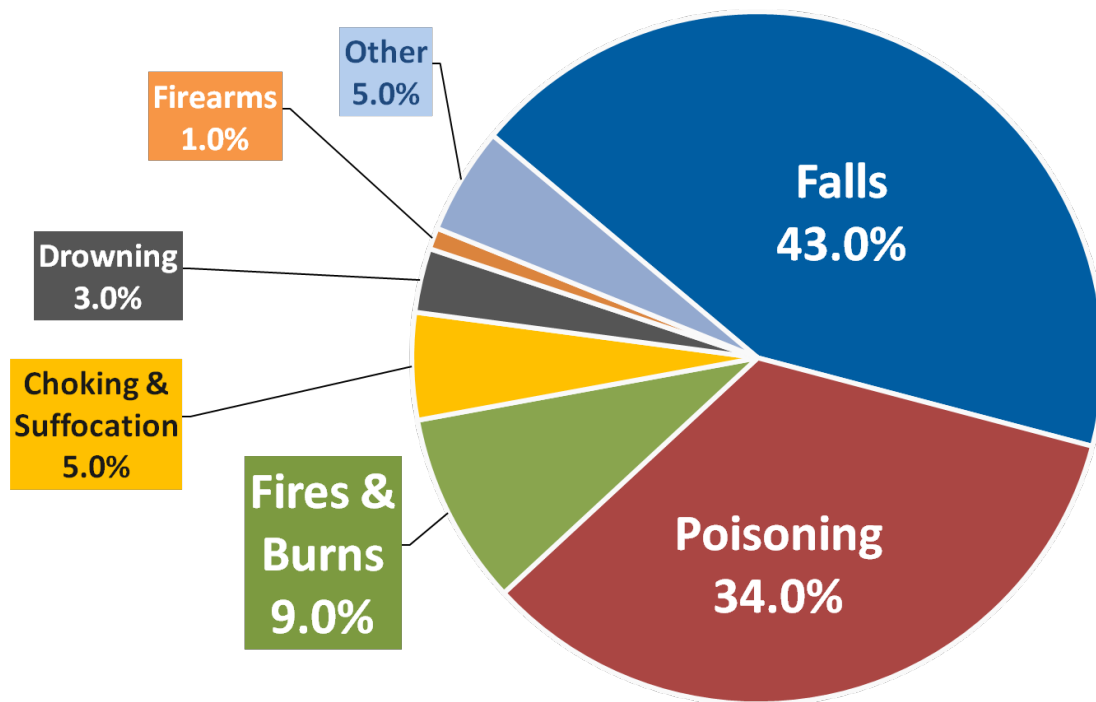
The following are some basic statistics related to examples of safety related housing deficiencies:

- Holes big enough to trip on
 - 1.0% of homes have holes in floors
 - 2.1% for residents below poverty level
- Electrical Wiring
 - 1.6% have exposed wiring
 - 0.8% have rooms without electric outlets
 - 9.4% have blown fuses or breakers in last 3 months
- Alarms
 - 54.9% of homes don't have working CO alarm
 - 5.3% of homes don't have working smoke alarm

Source: American Housing Survey – 2011

Common Causes of Home Injury Deaths

What are the most common causes of home injury deaths? Below is a pie chart showing the most common causes of home injury deaths. As you can see, falls, poisonings and fires/burns, are the top three causes of home injury deaths. Falls account for 43% of all deaths, poisoning 34%, and fires 9%.¹



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Children and older adults (70 and above) tend to be the most susceptible groups for home injuries.

For infants, the highest rate of injury death is from choking and suffocation. The highest rate of home injury death for 1–14 year olds is from fires and burns.

Adults 80+ years of age are at 20 times higher risk of death due to injury (e.g. falls) than younger individuals. When the elderly do survive a fall, they take longer to recover and often do not fully recover.²

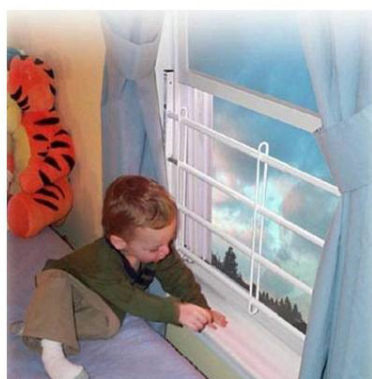
Falls

Falls are a leading cause of nonfatal home injury for children from birth through 14 and for the older population. Areas of concern inside of and around the home include stairs, transitions from one level to another, windows and balconies, thresholds, ladders, and play areas.

Windows

Window falls account for approximately 8 deaths and 3,300 injuries among children ages 5 and under annually.³ Window guards are easy to install but are window width specific. They are typically installed with four screws that are long enough to get into the framing studs of the window opening.

To prevent other window related injuries, decals or stickers can be positioned on sliding doors to remind persons of glass windows.



Window Safety Guard



Safety Glass?

WHICH AGE GROUPS ARE MOST SUSCEPTIBLE?

Age Group	Susceptibility
Infants	Choking/suffocation is the highest rate of injury death
Birth – age 14	Nonfatal falls at home
1-14 years old	Highest rate of home injury death is fires and burns
Older adults	Nonfatal falls at home
Adults 80+ years	20 times higher risk for death from injury than younger individuals

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Grab Bars and Handrails

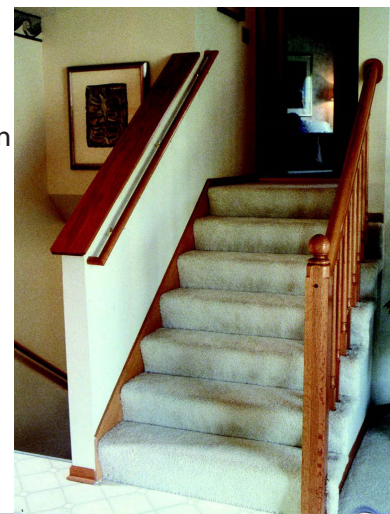
Do the pictures on the right show handrails and grab bars where needed?

Grab bars are important safety aids in tubs and near toilets, especially for the elderly. In addition to home use, grab bars are becoming increasingly common in hotels. Also of particular concern in bathrooms, residents should avoid using electrical appliances and components in areas with water, unless rated for that use.

Stairs should have secure handrails on both sides as well as good lighting at the top and bottom to help residents see the first step and subsequent ones.

Accessibility ramps are also important.

Healthy homes activities also include improving homes for “vulnerable” populations, like persons with disabilities.



Where Do Kids Play?

There are many potential injury hazards to young children both inside and outside of the home.

An open dug well is an attractive nuisance for children. Let’s remember the case of “Baby Jessica.” Jessica McClure Morales (born March 26, 1986) became famous at the age of 18 months after falling into an unguarded open well in the backyard of a home in Midland, Texas, on October 14, 1987. Between that day and October 16, rescuers worked for 58 hours to free “Baby Jessica” from the eight-inch-wide well casing 22 feet (6.7 metres)

below the ground. The story gained worldwide attention (leading to some criticism as a media circus), and later became the subject of a 1989 ABC TV movie.

So many children are injured on trampolines that many school districts can no longer get insurance for them. In the picture to the right there are a number of potential problems: the trampoline is too close to the building and to the sidewalk and there are too many children on at one time. On a positive note, by covering the springs, the children on this trampoline are protected from injuries related to falls in which limbs become caught in the springs



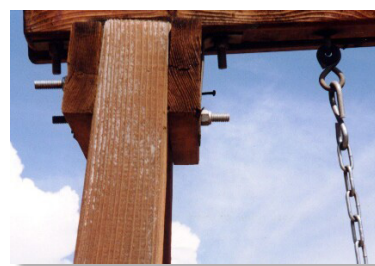
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In this yard, a wheelbarrow is a tempting, easily tipped, unofficial jungle gym. The lumber piled near the wall presents trip, splinter and nail puncture hazards.

If there is water in the wheelbarrow, this could be a drowning hazard or habitat for mosquitoes. What are better storage options for the wheelbarrow and wood?

Sharp-edged bolts are protruding from the swing set in this photo to the right. Protruding hardware pieces are cut hazards and can also catch in clothing, resulting in falls or strangulation. Exposed concrete reinforcing bar and barbed wire are other common puncture and cut hazards found in outdoor play areas.



There may also be chemical hazards in older treated wood with arsenic, chromium, and copper. Newer treated wood is treated with quaternary ammonia compounds.

What Do They Land On?

Soft materials should be present under playground equipment. The photo to the right displays a proper material in use under the playground equipment. However, note the potential for moisture and rodent problems with the soft materials so close to the exterior wall. Also, note the sharpened tips of the surrounding fence. Further, the plastic toys may not be entirely stable and may tip. There also may be lead in the plastic which will be released as it degrades in the heat and ultraviolet rays of the sun.



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Poisoning

82% of households keep medicines in unlocked drawers or cabinets

69% of homes with young children store household chemicals in unlocked areas

Source: *The State of Home Safety in America™, Facts About Unintentional Injuries in the Home, Second Edition, 2004*

Preventing Poisonings: Secure Storage

General purpose cleaners, bleaches, and drain cleaners are among materials commonly used in kitchens that are acutely toxic if ingested or, in the case of chlorine bleach, if mixed with the wrong chemicals.

In the picture to the right, many hazardous products are stored on open shelving, low enough for children to reach. Combining some of these products, like chlorine bleach and window cleaner, produces chlorine gas.

The photos below show better options for the storage of hazardous products and cleaning supplies: guarded cabinets and drawers with over-the-counter medications, prescription medications, vitamins supplements, and tobacco products.



Additional measures include getting rid of unused medicines. In some areas, community drug take-back programs allow the public to bring unused drugs to a central location for proper disposal. If a take-back program is not available in your area, or disposal instructions are not given on the drug label, throw the drugs into the household trash, but first, take them out of their original containers and mix them with an undesirable substance, such as used coffee grounds or kitty litter. The medication will then be less appealing to children and pets, and unrecognizable to people who may intentionally go through trash. Then put them into a sealable bag, empty can, or other container to prevent the medication from leaking or breaking out of the garbage bag.



The poison control number (1-800-222-1222) should be put on or near every phone.

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Labels

Three agencies regulate labels for consumer products that may contain hazardous substances: The Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), and the Consumer Products Safety Commission (CPSC).

- Foods, drugs, dietary supplements and cosmetics – regulated by FDA
- Pesticides (fungicide, insecticides, herbicides, rodenticides, etc.) – regulated by EPA
- Consumer products – regulated by CPSC

The Federal Hazardous Substances Act regulates all remaining consumer products. See www.cpsc.gov/BUSINFO/regsumfhhsa.pdf and www.cpsc.gov/BUSINFO/pppa/pppa09.pdf

Materials Safety Data Sheets

Materials Safety Data Sheets (MSDSs) are not labels. They are separate documents describing the potential hazards to workers. They are required by the Occupational Safety and Health Administration (OSHA) for hazardous chemicals. Some consumer product manufacturers make MSDSs available to the public.

CPSC Principal Display Panel

The Consumer Product Safety Commission (CPSC) requires consumer products containing hazardous substances to have:^{5,6}

Principal Display Panel containing:

- Signal word – CAUTION is least dangerous, POISON is most dangerous
- Affirmative Statement of Principal Hazard
- If all labeling is not on the principal display panel, then other cautions must be located on another panel.

Other Label Requirements:

- Name and place of business of the manufacturer, packer, distributor or seller
- Common or usual name or chemical name
- Precautionary measures to follow
- Instructions for first aid treatment when appropriate
- Instructions for handling and storage
- “Keep out of the reach of children” or its practical equivalent
- Special labeling for certain chemicals
 - Charcoal
 - Art materials
 - Additional items (fireworks, etc.)

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What's Under the Sink?

Do all cleaning product labels have hazard warnings? No, not unless they involve a potential specific hazard. All products are governed by the Federal Hazardous Substances Act that was passed in 1960. This covers household cleaning products that are expected to be stored in the home or garage, but specifically excludes food, drugs and pesticides. These are covered by other legislation.

The signal words *Caution*, *Warning*, *Danger* must appear on the main panel of the label with the specific hazard following.⁴ Additional information such as “*Keep out of Reach of Children*” is also required.



- What products typically have the “*Caution*” label? Most automatic dishwashing and laundry detergents.
 - Common warnings are: *Eye Irritant*, *Skin Irritant*, *Harmful if Swallowed*. These generally are not expected to cause permanent damage, but an inflammation of the affected area might occur. ***Caution*** or ***Warning*** also appears on products that are flammable or apt to explode if heated.
- What products are likely to have *Danger* or *Poison* on the label? Oven cleaners, rust cleaners, clogged-drain openers, or highly flammable products.
 - *Poison* is rarely used, but household lye, antifreeze and some car-care products stored around the house may have this label.
 - The *Danger* signal word is required if the product is highly toxic, corrosive or extremely flammable.

Consumers should avoid products labeled ***Danger***. They should prefer products labeled ***Caution***.

Understanding Corrosive v. Irritant

Corrosive and irritant are two important words to know. Corrosives cause irreversible (permanent) damage. Irritants cause reversible damage. That does not mean irritants are completely safe. Most products will cause irritation to the eye if put in the eye as a liquid.

Often consumers can find a product that is labeled irritant instead of corrosive that works equally well. Consumers should avoid corrosives.

- Corrosive: Destroys living tissue such as skin or eyes by chemical action.
- Irritant: Not corrosive and causes a substantial injury to the area of the body that it comes in contact with. Irritation can occur after immediate, prolonged, or repeated contact.

Understanding Flammable v. Combustible

Flammables start fires. Combustibles feed fires once started. If you need to choose, pick a combustibile. Flash points are measured by putting a spark or a flame above a liquid as the liquid is warmed. At the flash point, the liquid will release enough vapors that it can support the flame. The lower the flash point, the greater the risk.

An extremely flammable liquid can start a fire under most conditions. Gasoline is extremely flammable. It has a flash point of about -20 degrees F. Flammables require higher temperatures to support combustion but can catch fire on a hot day.

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In contrast, combustibles need more than a hot day to catch fire. They need to heat to about 100 F or they need to be sprayed into the air. A spray will increase the surface area of the liquid releasing more vapor. This makes it burn at lower temperatures. As a general rule, flammables start fires and combustible feed fires. Avoid flammables.

- Flash Point: Temperature where liquid will support a flame
- Extremely Flammable: Flash Point is 20°F or less
- Flammable: Flash point between 20°F and 100°F
- Combustible: Flash point between 100°F and 150°F

EPA Pesticide Product Labels

You may remember the information about EPA Pesticide labels from *Keep It Pest-Free*. EPA approves the language and layout for the label on every pesticide. Copies of all labels are available on-line at www.epa.gov/pesticides/pestlabels/. For labeling requirements, see www.epa.gov/oppfead1/labeling/lrm/.

EPA Pesticide product labels must have the following information identified on the front panel:

- Product Name
- Ingredients
 - Active
 - Inert / Other
- “Keep Out of Reach of Children”
- Signal Word: Poison / Danger / Warning / Caution
- First Aid
- If Poison, then skull and crossbones
- Net contents

Active ingredient Boric Acid.....	40%
Inert Ingredients.....	60%
Total	100%
ORIGINAL FORMULA WITH ADDED LURE	
KILLS ROACHES WATERBUGS, AND SILVERFISH!	
CAUTION KEEP OUT OF REACH OF CHILDREN. SEE SIDE / BACK PANEL FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS	
NET WT. 2OZ. (56g)	

The back panel typically includes:

- EPA Registration Number - identifies the manufacturer/formulator and the product.
- Company Name and Address
- Precautionary Statements
 - Hazards to Humans and Domestic Animals
 - First Aid
 - Environmental Hazards
 - Physical or Chemical Hazards
- Directions for Use
- Storage and Disposal
- Warranty Statement (voluntary)
- Worker Protection Labeling

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Storing Hazardous Materials

Anything kept in a bottle should be correctly labeled and easy to identify. Hazardous materials should be kept in secure locations.

In 1971, Mr. Yuk was created by the Pittsburgh Poison Center at Children's Hospital of Pittsburgh. Since then, Mr. Yuk has been used to educate children and adults about poison prevention and to promote poison center awareness. In addition, Mr. Yuk has raised awareness that poison centers are available 24 hours-a-day, every day of the year to assist in the management of poisoning emergencies.



What about bug spray?

When applying insect repellents to children, read all directions first. Do not apply over cuts, wounds, or irritated skin. Do not apply to eyes, mouth, hands, or directly on the face. Also, use just enough to cover exposed skin or clothing, but do not use under clothing.



Vegetation

Many plants are poisonous and should not be found in houses or yards with small children. Occupants should learn which of their outdoor and indoor plants are poisonous and teach children to not put plants in their mouths.

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Art Materials

Many art materials contain hazardous materials. For a given need, there are often nontoxic alternatives that accomplish the same purpose. Products bearing the labels “AP approved product” or “CP certified product” have been reviewed by a special program of the Arts and Crafts Materials Institute and do not present toxicity concerns.



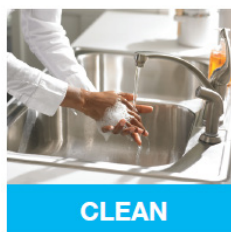
Food Safety

To safely preserve food, keep refrigerators at 40 degrees F. The only way to know is to measure the temperature. Don't measure the temperature after you've just filled it with food because the food will temporarily warm the refrigerator.

Remember to:

- Wash your hands!
- Keep raw & cooked foods separate
- Cook foods using a thermometer
- Store food properly:
 - Fridge: < 41°F
 - Freezer: < 0°F

For more information, go to: <http://foodsafety.adcouncil.org/Downloadable-Materials/>



CLEAN



SEPARATE



COOK



CHILL

Fire⁷

- A residential fire claims a life every three hours.
- Fires are the 3rd leading cause of fatal home injury in the US.
- An estimated 365,500 residential building fires are reported to U.S. fire departments each year and cause an estimated 2,560 deaths, 13,000 injuries, and \$7.4 billion in property loss.
- Cooking is the leading cause of residential building fires (45 percent). Nearly all residential building cooking fires are small, confined fires (94 percent).
- Residential building fires occur most frequently in the early evening hours, peaking during the dinner hours from 5 to 8 p.m., when cooking fires are high.

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- Forty-seven percent of non-confined residential building fires extend beyond the room of origin. The leading causes of these larger fires are electrical malfunctions (16 percent), unintentional or careless actions (16 percent), intentional (12 percent), and open flame (11 percent).
- Smoke alarms were not present in 22 percent of the larger, non-confined fires in occupied residential buildings.

Fire prevention tips⁸

- Never leave food unattended on a stove.
- Keep cooking areas free of flammable objects.
- Avoid wearing clothes with long, loose-fitting sleeves when cooking.
- Never smoke in bed or leave burning cigarettes unattended.
- Do not empty smoldering ashes in a trash can. Keep ashtrays away from upholstered furniture and curtains.
- Never place portable space heaters near flammable materials.
- Keep all matches and lighters out of reach of children.
- Install smoke alarms on every floor of the home.
- Use long-life smoke alarms with lithium-powered batteries. If long-life alarms are not available, use regular alarms, and replace the batteries annually.
- Test all smoke alarms every month to ensure they work properly.
- Devise a family fire escape plan and practice it every six months.
- If possible, install or retrofit fire sprinklers into home.



Fires from Smoking⁹

- An estimated 7,600 smoking-related fires in residential buildings occur each year in the United States.
- While smoking-related fires accounted for only 2 percent of all residential building fires, they were a leading cause of civilian fire deaths, accounting for 14 percent of fire deaths in residential buildings.
- Sixty-seven percent of the non-confined residential building smoking-related fires occurred because of abandoned or discarded smoking materials or products, primarily cigarettes.
- The bedroom was the leading area of fire origin for non-confined residential building smoking-related fires at 24 percent.
- Residential building smoking-related fires occurred most often from noon to 8 p.m., peaking from 2 to 3 p.m. at six percent.

Placing and Maintaining a Smoke and Fire Detector

Smoke and fire alarms are needed to sound an alarm. Place them where hot air from a potential fire will collect so they will sound the alarm at the beginning of a fire, when moments are precious.



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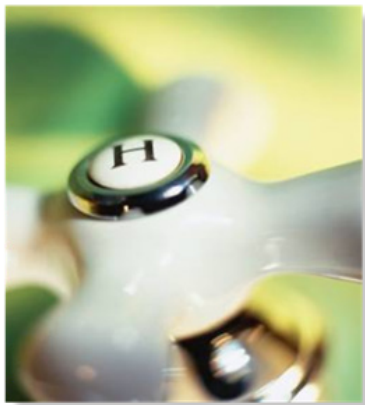
In the photo on the preceding page, a smoke and fire alarm is placed next to a CO alarm in the hallway outside of a frequently occupied bedroom. The alarm is probably being placed too close to a corner where there may not be good airflow. They need to follow manufacturer's instructions.

Regulations vary on whether the alarms must be hard-wired, battery powered or both. These devices should be tested by pressing the TEST button. A common cause of failure is weak or missing batteries, which should be replaced routinely.

Scalding

Burns⁷

- 75% of households did not know the temperature setting on their water heaters.
- 91% were unaware of the temperature of hot tap water.

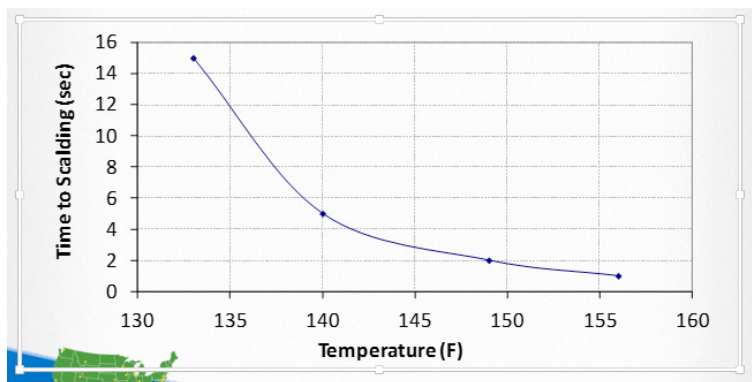


Hot water must be warm enough to make soaps effective and kill most environmental bacteria, like Legionella. However, to avoid scalding, hot water should be less than 120°F.

A study published in 2003 concluded that washing clothing and bedding in cold or warm water with detergent or detergent plus bleach removed most allergens and a significant ($P < .05$) portion of live mites. Repeated washing is required to further reduce mite levels.

If water is above 120 degrees Fahrenheit, it can cause scalds and burns especially in a bathtub where a child could have longer exposures. The 2006 International Residential Code requires the use of water mixing devices on showers and bathtubs. These devices blend hot and cold water to keep the temperature less

than 120 degrees F.





Choking and Suffocation

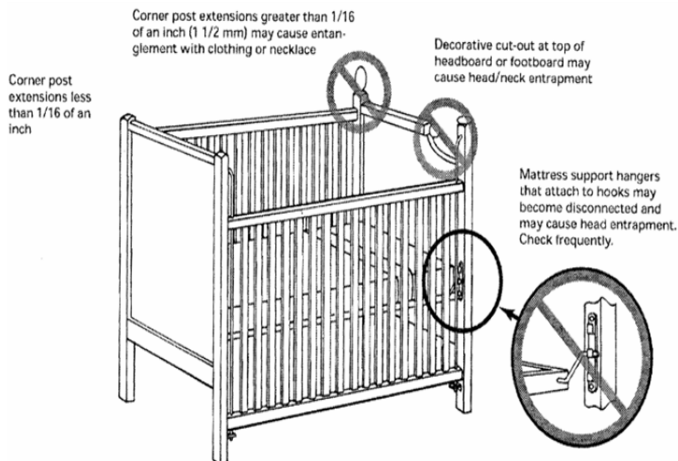
To prevent falls, uprights on railings should be close enough to prevent a six inch diameter sphere from passing through. The uprights on this railing are close enough together to prevent child's head fitting through. However, the railing with horizontal bars has one opening wide enough to crawl through and another that is both wide enough to get a head through and narrow enough to create a choke hazard. Children should be properly supervised while in outdoor play areas. Stair and balcony slats should be checked as well.



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Crib Safety

The CPSC issued new crib standards in 2011. Some of the new mandatory rules for cribs include: (1) stopping the manufacture and sale of dangerous, traditional drop-side cribs (2) strengthening mattress supports and crib slats (3) requiring crib hardware to be more durable; and (4) making safety testing more rigorous.



To prevent suffocation, never place pillows or thick quilts in a baby's sleep environment. Also, there should be no gaps larger than two fingers between the sides of the crib and the mattress.

Proper assembly of cribs is paramount—follow the instructions provided and make sure that every part is installed correctly. If you are not sure, call the manufacturer for assistance.

Do not use broken or modified cribs. Infants can strangle to death if their bodies pass through gaps between loose components or broken slats while their heads remain entrapped.

Set up play yards properly according to manufacturer directions. Use only the mattress pad provided with the play yard; do not add extra padding. Never place a crib near a window with blind, curtain cords or baby monitor cords; babies can strangle on cords.

Loose Cords for Blinds

In general, cords for blinds should be kept out of reach of small children. A dangling cord attracts the curiosity of a toddler who can become tangled and is not sure enough on his or her feet to escape. Many additional objects can pose choking or suffocation hazards to small children as well. They should be kept out of reach.

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Electric Shock

Electrical outlets should be covered. Brightly colored outlets, or worse yet, those with images of popular cartoon figures, draw children to them. Transparent, uninteresting covers are the safest. Outlets should be checked to be certain that the hot, neutral and ground wires are not mixed up.



Drowning



Drowning hazards found in yards and other outdoor areas include swimming and wading pools, wells, streams, and ponds. Even a bucket of water inside or outside is a drowning hazard to a toddler, who can tip into the bucket, but may not be able to get out.

According to the U.S. Consumer Product Safety Commission (CPSC), drowning is the leading cause of unintentional death among children ages one- to four- years- old and it takes only a few inches of water for a young child to drown.

Overall, pools are the leading location where children drown. Pools should have four-sided isolation fencing with a self-latching and self-closing gate. Swimmers should always be supervised by a responsible adult.



After pools, bathtubs are the second leading location where young children drown. A 2012 CPSC report on in home drownings and non-fatal submersions in products such as bathtubs, buckets, bath seats, toilets, and landscaping features indicates that from 2006 to 2010, there were 684 incidents (434 fatalities) involving children younger than five years of age. Eighty-two percent of the victims were younger than the age of two and 81 percent of the incidents involved bathtubs or bath-related products.

Firearms

Firearms should be unloaded, locked, and stored in a secure location. Trigger locks are inexpensive and easy to use. Ammunition should be kept in separate locked storage.



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Safety Strategies

As you can see, there are many possible ways to be injured in a house. The following list provides twelve safety strategies:

1. Safety gates at the top and bottom of stairs help prevent falls on stairs and keep children away from dangerous areas. Place smoke detectors on every level of the home and near bedrooms to alert occupants to fires.
2. Safety latches and locks for cabinets and drawers in kitchens, bathrooms, and other areas help prevent poisonings and other injuries. Window guards and safety netting help prevent falls from windows, balconies, decks, and landings.
3. Door knob covers and door locks help prevent children from entering rooms and other areas with possible dangers.
4. Anti-scald devices for faucets and shower heads prevent burns, as does setting the water heater temperature to 120 degrees. Corner and edge bumpers help prevent injuries from falls against sharp edges of furniture and fireplaces.
5. Place smoke detectors on every level of the home and near bedrooms to alert occupants to fires. Outlet covers and outlet plates help prevent electrocution.
6. Window guards and safety netting help prevent falls from windows, balconies, decks, and landings. Carbon monoxide (CO) alarms outside bedrooms help prevent CO poisoning.
7. Corner and edge bumpers help prevent injuries from falls against sharp edges of furniture and fireplaces.
8. Outlet covers and outlet plates help prevent electrocution.
9. Carbon monoxide (CO) alarms outside bedrooms help prevent CO poisoning.
10. Cutting window blind cords and using safety tassels and inner cord stops help prevent children from strangling in blind cord loops.
11. Door stops and door holders help prevent injuries to fingers and hands.
12. Cordless phones make it easier to continuously watch young children, especially when they're in bathtubs, swimming pools, or other potentially dangerous areas.

Code Requirements Related to Safety

304.10 Stairways, decks, porches and balconies. Every exterior stairway, deck, porch and balcony, and all appurtenances attached thereto, shall be maintained structurally sound, in good repair, with proper anchorage and capable of supporting the imposed loads.

304.13 Window, skylight and door frames. Every window, skylight, door and frame shall be kept in sound condition, good repair and weather tight.

304.18 Building security. Doors, windows or hatchways for dwelling units, room units or housekeeping units shall be provided with devices designed to provide security for the occupants and property within.

304.18.2 Windows. Operable windows located in whole or in part within 6 feet (1828 mm) above ground level or a walking surface below that provide access to a dwelling unit, rooming unit or housekeeping unit that is rented, leased or let shall be equipped with window sash locking devices.

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305.2 Structural members. All structural members shall be maintained structurally sound, and be capable of supporting the imposed loads.

305.4 Stairs and walking surfaces. Every stair, ramp, landing, balcony, porch, deck or other walking surface shall be maintained in sound condition and good repair.

305.5 Handrails and guards. Every handrail and guard shall be firmly fastened and capable of supporting normally imposed loads and shall be maintained in good condition.

306.1 General. Every exterior and interior flight of stairs having more than four risers shall have a handrail on one side of the stair and every open portion of a stair, landing, balcony, porch, deck, ramp or other walking surface which is more than 30 inches above the floor or grade below shall have guards. Handrails shall not be less than 30 inches high or more than 42 inches high measured vertically above the nosing of the tread or above the finished floor of the landing or walking surfaces. Guards shall not be less than 30 inches high above the floor of the landing, balcony, porch, deck, or ramp or other walking surface.

402.2 Common halls and stairways. Every common hall and stairway in residential occupancies, other than in one- and two family dwellings, shall be lighted at all times with at least a 60-watt standard incandescent light bulb for each 200 square feet of floor area or equivalent illumination, provided that the spacing between lights shall not be greater than 30 feet.

604.2 Service. The size and usage of appliances and equipment shall serve as a basis for determining the need for additional facilities in accordance with the ICC Electrical Code. Dwelling units shall be served by a three-wire, 120/240 volt, singlephase electrical service having a rating of not less than 60 amperes.

604.3 Electrical system hazards. Where it is found that the electrical system in a structure constitutes a hazard to the occupants or the structure by reason of inadequate service, improper fusing, insufficient receptacle and lighting outlets, improper wiring or installation, deterioration or damage, or for similar reasons, the code official shall require the defects to be corrected to eliminate the hazard.

605.2 Receptacles. Every habitable space in a dwelling shall contain at least two separate and remote receptacle outlets. Every laundry area shall contain at least one grounded-type receptacle or a receptacle with a ground fault circuit interrupter. Every bathroom shall contain at least one receptacle. Any new bathroom receptacle outlet shall have ground fault circuit interrupter protection.

605.3 Lighting fixtures. Every public hall, interior stairway, toilet room, kitchen, bathroom, laundry room, boiler room and furnace room shall contain at least one electric lighting fixture.

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Key Messages

- Injuries are not accidents. They are preventable.
- There are many simple and inexpensive ways to prevent home injuries.
- Children and older adults are more at risk for injuries in the home.
- Falls, poisoning, and fires/burns are the most common causes of injury deaths.

Learning Objectives

- Explain the difference between an injury and an accident.
- Name the 3 most common home injury related causes of death.
- Name five locations to look for safety hazards in the home.
- Name five ways to prevent home injuries.