American Burn Association

FIRE AND BURN SAFETY FOR OLDER ADULTS
Educator's Guide

A Community Fire and Burn Prevention Program Supported by the
United States Fire Administration Federal Emergency Management Agency

General Background Information on Burn Safety and Older Adults

- Demographics
- Risk Factors
- Statistics
- Working with the Older Adult Population

Fact Sheets for Community Distribution

- Be prepared for fire
- Kitchen fire hazards
- Kitchen scald injury hazards
- Heating safely
- Electrical fire safety
- Preventing chemical burns
- Smoking and candle fire safety
- Home oxygen therapy
- Special care: nursing homes and home health care

Getting the Message to the Media

- Sample Public Service Announcements

References/Resources

PowerPoint Slide Presentation with Instructor Comments

Evaluation Form

General Background Information

Demographics

Increasingly, the average American can expect to grow old. Advances in health care, economic prosperity and injury prevention all are contributing to a longer life span. The majority of citizens born today will reach age 65, and at age 65, the average life expectancy is currently another 16 years.

Over two million people celebrated their 65th birthday in 2005, while only 1.7 million over the age of 65 died, an increase of 300,000 in the older adult population in only one year. Between now and 2050, this population is expected to double, reaching 80 million, or 20 percent of the population. Most of this growth will occur between 2010 and 2030, when the Baby Boom generation reaches 65. This group of 75 million people born between 1946 and 1964 currently constitutes nearly one-quarter of the entire U. S. population.

The age group above 85 is growing the most rapidly. Between 1960 and 2000, their numbers rose by close to 300 percent. In contrast, the older adult population in general rose by 100 percent, and the entire U.S. population grew by only 50 percent. By 2050, the oldest old (those over 85) will number 19 million, or 24 percent of those over 65 and 5 percent of the total U.S. population.

Risk Factors

- ***Physical changes***. Older adults experience a myriad of physical and cognitive changes associated with the aging process that make them more vulnerable to fire and burn injury.

  First, there are significant changes in sensory perception. The ability to see, hear and feel potential fire and burn dangers diminishes proportionally as one gets older. With diminished eyesight, an older adult may not realize that a stove burner remains on. With diminished hearing, they may not hear a smoke alarm. The decreased sense of touch due to peripheral neuropathy, a common symptom of diabetes, may lead to a significant burn injury in an older adult, without their even realizing it. Since older adults also have thinner skin, they may experience a much deeper burn than a younger person, when exposed to the same amount of flame or other burn injury source.

  Older adults with reduced mobility are less able to escape a fire. Because of the normal aging process, paralysis from a stroke, or a degenerative disease such as arthritis or osteoporosis, older adults may move more slowly and have a more difficult time escaping a burning building. They may have stuffed a lifetime of possessions into a small apartment or single room, creating a cluttered environment which both adds to fire risk and makes escape more difficult. In a fast-moving fire, the older adult may be overcome by smoke and succumb before reaching a safe area.

  Older adults are less able to recognize danger. Cognitive changes that may be the result of a stroke, organic causes, medications (prescribed or over the counter), or

alcohol impairment may interfere with their ability to recognize or react to the dangers of a fire or burn. In sum, complications associated with aging increase the likelihood that an elderly person will accidentally start a fire and at the same time reduce his or her chances of surviving it.

- ***Poverty.*** Approximately 20 percent of the older adult population live at or below the poverty line, compared with 10 percent of the population aged 18 to 64. Poverty has long been associated with an increase in fire risk. Individuals living below the poverty line are less likely to receive and comply with fire safety messages for a variety of reasons.

  Low household income significantly limits the extent to which a home is equipped with fire protective measures. Housing available to low-income tenants is less likely to have adequate smoke alarms. Even when these devices are provided, they are less likely to be properly maintained. If they are homeowners, they are also less likely to be able to afford to install and maintain safe heating systems or to replace or repair malfunctioning equipment.

  As a result, many indigent persons rely solely on space heaters or even open flame. Such housing may be more cramped and cluttered, leaving occupants more vulnerable to faults in electrical wiring and other systems that may be unsafe or fall short of code standards.

  Finally, fire and burn safety hazards may not rank high on a risk of concerns for low-income older adults preoccupied with meeting basic needs for food, shelter, health care and personal security.

Fire and Burn Death and Injury Statistics

More than 1,200 Americans aged 65 and older die each year as a result of fire. More than 25% percent of all fire deaths and one-third of all residential fire deaths occur in this population. Older adults between ages 65 and 75 years have twice the fire death rate of the national average. Those between 75 and 85 years have three times the national average and the rate for those above 85 is four times the national average. One fifth of individuals greater than 65 years of age that die in fires are bedridden or challenged by some other physical disability. Two thirds (2/3) of older persons that died in fires were in the rooms where the fire originated. This is usually associated with smoking materials, which injure or kill their victims by igniting their clothing, bedding or upholstery. While the leading cause of death is careless smoking, the leading cause of injuries is cooking related. Scalds, electrical and chemical injuries also result in serious injuries to older adults.

Table 1 – Senior Injury Facts

- Fires and burns are a leading cause of deaths from unintentional injuries among older adults.
- Approximately 3000 older adults are injured during residential fires each year.
- Cooking fires are the leading cause of injuries due to fires.
- Older adults living alone have a 30% or greater risk of unintentional injury.
- 2/3 of burn injuries to the elderly occur when the victim is sleeping or trying to escape **a** fire

(Source: "Fire Risks for the Older Adult". U.S. Fire Administration. Federal Emergency Management Agency, 1999

The potentially lethal impact of severe burn injury on older adults is underscored in data on patients admitted to the nation's 125 specialized burn care facilities. According to the most recent National Burn Repository report (2005) of the American Burn Association, one-third of the deaths occurring after fire and burn injury patients are referred to these facilities are suffered by patients aged 70 or older. The death rate for this age group is 27.6%, but for those with burns over at least 20% of their body, the death rate for these older patients is 91%. By contrast, the death rate for all burn facility patients under 60 is only 3%. For those under 60 burned over 20% the death rate is still only 13%. Age is the most important variable in the survival of fire and burn victims treated in burn centers.

Working with the Older Adult Population

With 12.5% of the population (36 million) aged 65 and older, there is a need to assess and address injury risks affecting them as they age. As a result of progressive degeneration in physical, cognitive, and emotional capabilities, older adults present unique challenges in the fields of fire protection, prevention, and safety. The needs which must be met include assistance with daily living, a more protected living environment and a stronger focus on educating older adults themselves. The growing population of old and very old Americans has placed greater demands upon families, the marketplace, voluntary services and government agencies at all levels. As the nations' older population grows, fire death tolls will likely rise in proportion to that growth unless these needs are met.

The Need for Education

The fire and life safety community bears a special responsibility for addressing the fire safety needs of older adults with appropriately designed educational programs. Such safety education is complicated by the fact that older persons, besides being more numerous than ever, are also the most heterogeneous segment of the population.

With accurate and adequate education of potential victims, many fire and burn deaths among older adults could be prevented. One study for example found that nearly 30% of elderly fire victims were involved with the ignition of the fires that caused their deaths.[7] Having knowledge is insufficient; these data make it apparent that the message of fire and burn prevention should be carried to the elderly population in such a manner that they will be motivated to take action on their own behalf.

Many fire and burn safety programs implemented by local, state and national organizations have focused on the use of smoke alarms as an early warning device to prevent burn injury. Studies have shown deaths and serious injuries can be reduced by a ratio of 2.5:1 through the use of working smoke alarms.

Designing an Effective Prevention Program for Older Adults

The first step in designing an effective fire and burn safety program for older adults is to understand the physical, psychological and social conditions in which they live. Any educational program should take into consideration critical elements in the learning profile of the elderly. Ostwald and Williams (1986) identified several factors used to facilitate the learning process in older adults and called it the "ADPIE Model".

The ADPIE Model is based on a review of the educational and health literature. It involves five elements: (a) **A**ssessing factors in older adults which affect their ability to learn, (b) **D**iagnosing special barriers to learning, (c) **P**lanning modification in learning conditions, (d) **I**mplementing new learning, and (e) **E**valuating educational outcomes of learning. This model is useful for educators who will increasingly encounter older learners in college classrooms, community education classes, senior centers and long-term care facilities. Key elements include: morning sessions when energy levels are expected to be highest; the establishment of a warm, accepting atmosphere; sessions which are conducted in one hour or less; a classroom setting that is easily accessible in an area familiar to the participants.

Attention should be given to room temperature and ventilation, with no smoking allowed. Visual aids should be located for the convenience those with vision limits. Typed materials printed on mimeo non-glare paper with large print (12 font or greater) should also be used.

The vocabulary of the presenter should be understood by the audience, and the speaker's pace should be slow, and spoken in a moderately loud voice. Older adults with hearing problems impairments but may be embarrassed to admit that they cannot hear the presenter. If necessary, arrange for a public address system. When presenting to people who may be visually impaired, use lots of demonstration and description. When presenting to people who are hearing impaired, hand out the key points of the presentation ahead of time. Consider the use of a certified sign language interpreter if the group includes people who know sign language.

Questions and Answers for Fire Educators

1. **What predisposing beliefs about fire do older adults exhibit that place them at higher risk for injury and death?**
   - "It won't happen to me."
   - "I've lived a long time. I can tell you a thing or two about fire."
   - "My home is my safe haven, it's safe!"
   - "It takes a lot of money to make your home fire safe, I'm on a fixed income."
   - "I have a dog that would wake me if there was a fire in my house."
   - "I would smell the smoke if there were a fire in my house."
   - "I'd have at least 10 minutes to get out if there were a fire in my house."
   - "We have the best fire department in town. They'll save me…"

- "That's why I have insurance. They'll cover the damages…"
- "If is happens, it happens."
- "My family (caregivers) will save me if our house was on fire."

2. **What are some of the risky behaviors that older adults exhibit that may place them at higher risk for fire injury and death?**
   - Not believing that assistance is needed.
   - Medication and alcohol use/misuse – falling asleep/dozing
   - Poor attention to: cooking; placement, use and maintenance of portable heating equipment; smoking behaviors.
   - Inadequate residential fire protection – Do they have a working smoke alarm? Can they hear the smoke alarm? Do they test it? Do they maintain it?
   - Overloading electrical outlets
   - Physically, emotionally or cognitively challenged older adults living in inadequate housing (due to poverty, crime, bars on windows, overcrowded residence, assisted living needs, etc.)
   - Returning to a burning building for pets, valuables, medications, etc.
   - Lack of an organized support systems and resources, resulting in social isolation
   - Continuing use of small, old appliances in disrepair

3. **What are some potential challenges in reducing fire and burn injury to older adults?**
   - Getting support for environmental and engineering initiatives
   - Predisposing belief systems
   - Poor motivation to take action on an issue, lack of usefulness in society's eyes
   - Physical and social isolation, issues of loss
   - Resentment regarding stereotyping of their population
   - Lack of follow through on behavioral change
   - Poor understanding, selective hearing, or decreased speed of actions, loss of physical strength
   - Refusal of services, resistance to change, fierce independence, familiarity and fear of losing existing living environment
   - Varying attitudes and definitions by social status, finances, country of origin, culture, age, sex, occupation, etc. Older adults may accept certain living conditions and outcomes as natural or inevitable.

4. **What locations provide opportunities to interact informally or deliver burn prevention presentations to the older adult population?**
   - Organized older adult communities and complexes
   - Personal contact at their places of residence
   - Neighborhood associations
   - Malls and grocery stores
   - Health care centers and pharmacies
   - Doctors offices and hospital family waiting areas – bulletin boards
   - Restaurants (small group gatherings)
   - Service-oriented or church groups
   - Family gatherings

- Through home service delivery people (Visiting Nurse Programs, Meals-On-Wheels, Little Brothers of the Poor, Church Groups, Fire Department Home Inspection and Smoke Alarm Installation Programs, etc.)

OLDER ADULTS FACT SHEETS
FOR COMMUNITY DISTRIBUTION

- Be prepared for fire
- Kitchen fire hazards
- Kitchen scald injury hazards
- Heating safely
- Electrical fire safety
- Preventing chemical burns
- Smoking and candle fire safety
- Home oxygen therapy
- Special care: nursing homes and home health care

BE PREPARED FOR FIRE

Plan ahead

- Install smoke alarms on each level of your house and outside each sleeping area.
- Test them regularly each month by pushing the "test button" (use a broom handle or stick to test alarms that are too high – or ask someone to assist you in doing this).
- If the alarm has batteries, replace the batteries at least twice a year. If the alarm is "chirping" the battery is low and needs changing.
- Clean alarms with a vacuum cleaner without removing the cover from the alarm.
- Never remove an alarm battery because it sounds off while you're cooking. Get assistance in placing the alarm in a different location.
- If a battery operated smoke alarm is more than ten years old replace the unit.
- Develop an escape plan with two ways out of every room and practice the plan.
- Keep all exits clear.
- Keep glasses, medicines, a telephone, flashlight and walking aids close to your bed.
- Have a visible address on your residence.
- Know your emergency contact phone number (911 or other)

If a FIRE occurs…

- STAY CALM and use your escape plan.
- If the door is hot to touch, don't open it. Use your alternate exit.
- When escaping through smoke, crawl low to the floor or ground, if possible, where it's easier to breathe. Smoke rises in a fire and contains deadly gases. Even one breath can render you unconscious.
- If in a multi-story building when fire occurs, use the stairs. Don't use the elevator.
- Call or be sure that someone has called your emergency number (911 or another) from a neighbor's house, cell or cordless phone once outside the building. Listen and give the information needed (name, address, location of fire, etc.) as calmly as possible.

"What if I can't get out?"

- If the door is hot to touch, DON'T OPEN IT!
- Use your second way out if possible.
- If smoke is present, stay low under the smoke.
- If your window is your second way out and you cannot get through it, signal by waving a cloth or light to attract attention, especially if you're not on the ground floor. Keep calm and wait for firefighters. DO NOT JUMP or smash glass that could be more dangerous than the fire!

"What if my clothes catch fire?"

STOP (don't run)
DROP to the ground
ROLL over and over to smother the flames.

- If you can't Stop, Drop and Roll, SMOTHER the flames with a towel or blanket.
- Remove clothing over burns, if possible.
- Call for medical help immediately.
- Immerse or run cool water over burns for 10-15 minutes.
- Cover any burned areas with clean dry cloth.

KITCHEN FIRE HAZARDS

- To avoid clothing fires in the kitchen, wear snug fitting or short sleeves while cooking. If necessary roll up long sleeves while around the stove and open flame. Use oven mitts to protect hands and arms from burns and to prevent scald injury. Turn off the burner before picking up a pot.

- Stay in the kitchen while cooking, especially if you are frying foods. If you must leave, take a timer or pot holder to remind you that you need to turn a burner off.

- When frying foods, keep an appropriate sized lid nearby for the frying pan in case a grease fire occurs. If a fire occurs, stay calm, turn off the burner, slide the lid onto the frying pan and the fire will go out. NEVER CARRY A FLAMING PAN TO THE SINK OR OUTSIDE. Your clothing could catch fire and exposed skin could be burned.

- Oven fires – close the door and turn off the heat.

- Microwave Oven fires – keep the door closed and unplug the microwave. Do not use this appliance again until serviced.

- Pay attention to your cooking! Don't cook if:
    - you are sleepy
    - you are impaired from alcohol
    - you've taken medication that makes you drowsy.

- Keep clutter (dish towels, food wrap, paper towels, etc.) and curtains, or anything that burns, away from the stove where burners can ignite them.

- Clean your oven and any other appliance or tools that can build up grease and cause a fire according to manufacturer recommended procedures.

- Small appliances – replace cracked or frayed appliance cords
    - if an appliance overheats or smells strange, have it repaired or replaced
    - use only one heat producing appliance on the same electrical circuit at a time

- Use good lighting while cooking in the kitchen.

- Wear short sleeves and tight-fitting clothing while cooking.

KITCHEN SCALD INJURY HAZARDS

Scald injuries frequently occur in the kitchen when hot liquids are spilled from either cooking pots or serving utensils. Although these injuries may be smaller in size than tap water scalds, they may be deeper because of hotter temperatures and may require skin grafting to heal. Those at the highest risk for these injuries are young children, older adults and persons with disabilities.

- If you have young children in your house while you are cooking meals, offer them an activity away from the cooking area.
- Cook on back burners when possible.
- Keep all pot handles turned back, away from the stove edge. All appliance cords need to be kept coiled and away from counter edges. Cords may become caught in cabinet doors causing hot food and liquids to spill onto you or others.
- When cooking with grease, such as that in deep fat fryers, use extreme caution. Temperatures can exceed 400°F and cause serious burns in less than 1 second.
- Place a rubber mat in front of your stove to prevent slipping and falling.
- Use potholders, not towels, to carry hot cooking utensils. The heat may pass through a towel to your hands and cause you to spill the contents or drop the utensil.
- When removing lids from hot foods, remember that steam may have accumulated. Lift the cover or lid away from your face and arm.
- Consider the weight of pots and pans. Attempt to move only those items that you can easily handle.
- If you are in a wheelchair: When moving hot liquids, place a large, sturdy tray with a solid lip in your lap to decrease the risk of lap burns.
- Use a serving cart to transfer food from stove to table top instead of carrying it.
- Consider placing alternate cooking equipment (slow cookers, toaster ovens or microwaves) on lower counters or tables if the stove or oven is too high to reach safely. Be aware: this may create a burn hazard if young children are present.

HEATING SAFETY

Space Heaters

- If you use space heaters to keep your home or living area warm, be sure to leave 36" (3 ft) of clear air space on each side of the heater…SPACE HEATERS NEED SPACE!
- Keep room heaters clean and in good working condition.
- Use the proper fuel for the type of heater and store the fuel outside.
- Don't use fuel-burning appliances if they are not vented to the outside. (Burning fuel such as kerosene, coal, or propane indoors can create concentrations of toxic fumes).
- Use only equipment tested and approved by an independent laboratory.
- Never use portable electric heaters in the bathroom or touch them when you're wet.
- Be sure wiring is adequate for electric heaters. Don't overload circuits or rely on extension cords.
- Don't store or dry objects on or near heaters or open flame on cooking stoves, near fireplaces, etc.
- Provide fire screens for fireplaces. Sparks from burning logs or papers could ignite nearby combustibles.
- Heating systems should be serviced professionally annually.

Heating Pads

- Use a timer switch so it will automatically shut off or choose a product with a built-in sensor and automatic shot-off feature.
- If you have an older heating pad, set a timer to remind you to turn off the pad. Never lay on top of a heating pad; heat can build up and will not dissipate. People have been burned in this manner even when the heating pad was on a low setting.

Electric Blankets

- Check electric blankets for cracks or breaks in wiring, plugs and connectors.
- Look for charred spots on both sides of blanket surfaces.
- When covered by other blankets or comforters, an electric blanket could overheat. Do not allow or place anything on top of an electric blanket when in use.
- Folded back electric blankets may overheat.
- Tuck in electric blankets according to manufacturers' directions so that heating coils are not bent around corners.

ELECTRICAL FIRE SAFETY

Each year electrical fires claim hundreds of lives and cause over $760 million in property damage. Some of these fires are caused by electrical system failures and appliance defects, many more were caused by misuse and poor maintenance of electrical appliances, incorrectly installed wiring, and overloaded outlets and extension cords.

- Just like people, electrical appliances need regular check-ups to keep them in good working order. Take time to tour your home with electrical safety in mind. Do your wall outlets (plugs) have any cracks or are they loose? Do they feel warm to the touch? Check older appliances or those used frequently for cracked, frayed, split cords and loose or damaged plugs. Have appliances with damaged cords or plugs rewired and repaired by a qualified electrician.

- Frayed wires can cause fires. Twenty percent of home electrical wiring fires can be traced to the misuse of electric cords, such as overloading sockets, poor maintenance and running cords under rugs.

- To avoid overloading electrical outlets, use only the number of plugs designed for each outlet. Appliances that produce "controlled heat" use more electricity; avoid using them in the same outlet with other heat-producing appliances.

- Have a qualified electrician install ground fault circuit interrupters (GFCIs) in kitchen, bathroom and outdoor receptacles, wherever electrical products can come in contact with water. These devices constantly monitor electricity flowing into a circuit. If they detect a problem when a plug is placed in an outlet, they immediately trip the circuit to prevent possible injury.

- Don't let electricity in the bathroom shock you. Keep electrical appliances away from wet floors and counters.

- Use lightbulbs that are the appropriate wattage for the size of the fixture. This is especially important in ceiling fixtures and in hooded lamps that will trap heat. If you don't know the correct wattage, use a bulb not larger than 60 watts.

- Check cords on lighting, TV/audio equipment, and extension cords for breaks, cracks, frayed wires and damaged plugs. Have appliances and lamps rewired by a qualified electrician. Purchase and use only extension cords that are clearly labeled as to how much wattage they can carry. an appliance has a three-prong plug, use it only in a three-slot outlet.

- Overheating can occur when cords are tightly coiled. Cord damage can result when cords are nailed or stapled to walls or baseboards. Extension cords are not as safe as permanent wiring and should only be used on a temporary basis.

PREVENTING CHEMICAL BURNS

Household chemicals make our lives easier. When stored or used incorrectly, however, many common and familiar household products can cause serious burn injuries.

To avoid serious injury:

- Read carefully the directions on all household cleaning products, garden products, insecticides and other chemicals ***before*** using and ***follow manufacturer's precautions***.

- Keep all household cleaning products, garden products, insecticides, other chemicals and flammable liquids in their original containers. Store up and out of the reach of children, grandchildren and pets.

- Don't mix household cleaning products; hazardous fumes may be produced that are dangerous when inhaled.

- Protect hands with heavy rubber gloves and other exposed body areas before using harsh cleaning or other chemical products such as garden products, insecticides, etc.

- Store flammable liquids such as gasoline, kerosene and paint thinner in containers specially designed for them. Do not store or use flammable liquids near furnaces and hot water heaters. Pilot lights, electric sparks or open flames can easily ignite the vapors from these gases and liquids.

SMOKING AND CANDLE SAFETY

- Don't smoke or allow smoking in your residence. Misuse of smoking materials is the number one cause of fatal home fires for older adults.
- If you cannot observe or enforce this rule, make large, deep, non-tip ashtrays available.
- Wet down cigarette/cigar butts and ashes before emptying ashtrays in a safe place, such as a metal can.
- Check upholstered furniture and carpet for dropped cigarettes and ashes before going to bed or leaving home.
- Never smoke near an oxygen source.
- Never smoke where you sleep. Dozing while smoking can be fatal.
- Keep smoking materials out of reach of young children. Lighters and matches should be placed up high, preferably in a locked container or cabinet.
- For personal safety make it a rule never to smoke if you take medications that make you drowsy, you have been drinking alcohol, while in bed or when sleepy.
- Several states have adopted legislation requiring cigarettes to meet a fire safety standard, and such a standard may be adopted at the national level. While cigarettes complying with such a standard will have a reduced likelihood of starting a fire, that risk will not be completely eliminated, and the above safety guidelines should still be observed by smokers and those live with them or host them at social gatherings.
- Use candleholders that are heavy, sturdy and large enough to hold candles.
- Keep combustibles away from lit candles.
- Never leave candles burning unattended; when you leave a room extinguish all candles.
- Use battery-operated votive and holiday candles instead of those with live flame.

HOME OXYGEN THERAPY

More people with lung and heart conditions are able to remain living in their own homes due in part to the availability of home oxygen therapy. When such oxygen is needed a physician prescribes the flow rate (amount of oxygen needed per minute) to be provided by one of the following devices.

Compressed Gas oxygen is stored under pressure in a cylinder equipped with a regulator that controls the flow rate. Because the flow of oxygen from the cylinder is constant, an oxygen-conserving device may be attached to the system, which releases the gas only when inhaled and shuts it off when one exhales.

Liquid Oxygen is stored as a very cold liquid in a vessel similar to a Thermos. When released, the liquid converts to a gas and is inhaled like the compressed gas described above. This storage method takes up less space than the compressed gas cylinder and permits transfer of the liquid to a small, portable vessel at home. Liquid oxygen is more expensive than compressed gas and the vessel vents when not in use.

An **Oxygen Concentrator** is an electrically powered device that separates the oxygen out of the air, concentrates it, and stores it. This system does not have to be resupplied and it is not as expensive as liquid oxygen. Extra tubing permits the user to move around with minimal difficulty. Small, portable systems have been developed that afford even greater mobility. A cylinder of oxygen is necessary as a backup in the event of a power failure. Extension cords should not be used with concentrators. The electric power company should be advised of the use of this machine to receive priority service in case of a power failure. If high flow oxygen is needed, the concentrator will not provide a high enough flow and one of the other methods of delivering oxygen will be necessary.

Oxygen is normally delivered to the patient through a nasal cannula, which consists of plastic tubing with prongs that are inserted into the nostrils. If an individual requires a high flow rate of oxygen, a mask may be used that is attached to plastic tubing. Specialized equipment that provides humidity is needed by oxygen-dependent patients with tracheotomies. Humidification can be added to any oxygen system, but is more common with delivery systems that go directly into the trachea.

Home Oxygen Therapy Safety Tips

Concentrated oxygen such as used in home oxygen therapy is a fire hazard. It will cause a flame and a fire to spread rapidly if it comes into contact with an ignition source.

- Clearly identify that oxygen is in use by placing a sign on the front door.
- If oxygen is used, do not smoke. Stay at least five feet away from flame sources such as gas stoves, candles, lighted fireplaces, etc. Do not use flammable products like cleaning fluid, paint thinner or aerosol sprays while using oxygen.
- Make sure oxygen cylinders are secured to some fixed object or stored in a stand.
- Make sure liquid oxygen containers are stored securely in an upright position. Spills can cause injury. Keep equipment in good working condition. When cleaning a concentrator, make sure it is unplugged.

SPECIAL CARE: NURSING HOME AND HOME HEALTH CARE

Nursing Homes

Currently, over two million Americans reside in over 17,000 nursing homes and other long-term care settings. Since the majority of residents in these facilities are older adults or others with limited ability to escape fires or recognize and avoid other burn injury hazards, administrators of these facilities must consider fire safety and burn prevention as a part of their plan of care.

Although state and federal authorities mandate compliance with minimum guidelines, education of nursing home employees, clients and families about the most common causes of burns and ways to prevent these injuries are frequently not a part of such guidelines. Those planning to move into a long-term care facility and friends and relatives who assisting them should inquire as to what training is provided to make sure that all employees are familiar with these guidelines and how the facility assures compliance in its daily operations.

Home Health Care

Many older adults are living independently or living with a caregiver who is also an older adult. Risks for burns and scalds can pose a threat to their independence and quality of life. Most burn injuries among older adults occur at home while the person is cooking, bathing or smoking. Common factors such as changes in vision, hearing, sense of smell, changes in skin sensation, decreased mobility and dexterity, medications, and some medical conditions can put these individuals at risk for burns and scalds. Keeping a safe home environment can promote independence, dignity, and safety.

More than 10 million persons of all ages need some type of assistance with their daily living activities in order to remain in their own homes or in other community-based settings. About 45% of persons requiring home and community-based care are between the ages of 18 and 65. Over 50% are over 65.[1] In addition, one in every four US households is involved in caring for a spouse, relative, or other person older than age 50 who needs assistance. These people may need help with a wide range of living skills from their family members and/or from professionals, including fire and burn prevention educators.

Home Health Agencies can improve the quality of care of their clients by seeing to it that they live in a safe environment. Educating nurses, aides, family members and the clients themselves about the basic fire/burn prevention strategies provided in this manual can greatly assist this goal.

1. Administration on Aging (1997). *Home and Community-Based Care*. Retrieved August 12, 2002, from Administration on Aging web site: http://www.aoa.gov/may97/hcbc.html.
2. Administration on Aging (2000). *Nursing Homes*. Retrieved August 12, 2002, from Administration on Aging web site: http://www.aoa.gov/NAIC/Notes/nursinghomes.html
3. American Association of Retired Persons (2000). *Caregiving and Long-Term Care*. Retrieved August 12, 2002, from AARP web site: http://www.aarp.org

FIRE AND BURN PREVENTION SUMMARY FOR OLDER ADULTS LIVING INDEPENDENTLY

Many older adults are living independently or living with a caregiver who is also an older adult. Risks for burns and scalds can pose a threat to their independence and quality of life. Most burn injuries among older adults occur at home while the person is cooking or bathing or has been smoking. Common factors such as changes in vision, hearing, sense of smell, changes in skin sensation, decreased mobility and dexterity, and some medical conditions can put older adults who live independently at risk for burns and scalds at home. Keeping a safe home environment can promote independence, dignity and safety.

KITCHEN

- Plan ahead, take your time when cooking.
- Do not drink alcohol while cooking.
- Use oven mitts. They provide the best protection from heat. When removing items from the oven, they provide protection to the back of the hands and wrists. Dish clothes or tea towels offer little protection and can cause a steam burn if they are used when wet or damp. Fringe on dishtowels can ignite easily when in contact with flame or hot burners.
- Remove pans of cooking fats or oils from the stove when not in use.
- To avoid accidentally bumping a pan and causing a scald, turn pot handles inward toward the back of the stove.
- Keep the stove and oven clean. Built up grease can catch on fire.
- Never pick up a pan that is on fire. Use a large pot lid to smother the fire, and turn off the stove. Leave the lid and pan in place until the hot oil or fat cools. Do not attempt to move the pan. Disturbing the lid and exposing the hot oil/grease to air will re-ignite the fire.
- To put out a grease fire in a pan, place a lid over the pan and smother the fire. Never use water to put out a grease fire – it can spread the fire.
- Keep curtains, dishtowels, aprons and any flammable objects or materials away from the stove.
- Always wear short or tight-sleeved garments while cooking. Garments of tightly woven fabrics that fit snugly are less likely to ignite. Loose clothing and long floppy sleeves can catch fire easily.
- All kitchen electrical outlets on the counter should be equipped with ground fault circuit interrupters (GFCI's). GFCI's can prevent many electrocutions especially in areas where the risk of electric shock is high.
- Unplug electrical appliances such as kettles, fry pans, can openers, toasters and toaster ovens when not in use.
- Make sure appliance cords do not come in contact with hot surfaces. Pay particular attention to cords around toasters, ovens and ranges.
- Never leave cooking unattended. If you must leave the kitchen while cooking:
  Turn off the stove,
  Set a timer,
  Take a potholder or wooden spoon with you to remind of cooking food.

MICROWAVE OVENS

- Never microwave uncracked eggs. To prevent egg explosions, pierce the yolk before cooking it.
- To prevent scalds, let microwave cooked foods stand for 1-2 minutes before removing plastic wrap or lids, lift the corner farthest away from you.
- Foods heat unevenly in microwaves. Stir foods thoroughly and test temperature before eating or serving. Be aware that jelly or cream in such foods as doughnuts will get much hotter than the outside of the doughnut.

BATHROOM

- Test the temperature of your hot tap water. Let the hot water tap run for a minute or two until the water gets hot. Test the water with a candy, meat or water thermometer. Repeat the test at two-hour intervals until the temperature remains below 120° F (49° C), especially if you have used a lot of hot water in the past hour. If the temperature is above that level, your water is too hot.

Hot water causes third degree burns . . .

Hot water at	Can cause a third degree burn in
133° F	**15 seconds**
140° F	**5 seconds**
149° F	**2 seconds**
156° F	**1 second**

Here are some options to lower your water temperature:

- If you live in a house, lower the thermostat on your water heater. It may take a few days and several adjustments to decrease hot water temperature. Test the water temperature until it is 120°F (49°C).
- Hire a licensed plumber to install tempering valves – pressure-balanced mixing valves or thermostatic mixing valves. These valves mix hot and cold water to deliver warm water at a constant outlet temperature.
- Install anti-scald devices on showerheads and faucets. These devices have a heat-sensitive instrument that stops or interrupts the flow of scalding hot water.

Safety precautions in the bathroom:

- Always check the water temperature before entering a bath/shower or putting someone in a bath/shower. To test the water, use a bath thermometer or test water on the sensitive part of your wrist.
- When taking a bath, fill a tub to the desired level, mix the water thoroughly and test the temperature first before getting in or putting someone in the bath.
- Avoid flushing toilets, running water or using dish- or clothes washers when someone is taking a shower.
- Install grab bars, non-skid mats and shower seats in tub or shower, to prevent slipping and falling.

People with long term or serious illnesses may have increased risk for Legionnaire's disease if the hot water temperature is lowered. According to the Center for Disease Control (CDC), the Legionnaire's Disease bacteria can remain alive in water under 135° F. Use tempering valves or anti-scald devices to control the flow of scalding hot water instead.

- A major electrical hazard in the bathroom is the potential combination of electricity with water. All outlets should have ground fault circuit interrupters (GFCI's) installed.
- When not in use, unplug all small appliances such as hair dryers, curling irons, razors and electric curlers.

BASEMENT

- Do not store or use flammable gases and liquids (e.g. some cleaning fluids, gasoline, propane, kerosene, paint thinner) near furnaces and hot water heaters. Pilot lights, electrical sparks or open flames can easily ignite the vapors from these gases and liquids.
- Keep cleaning agents in their original containers. Keep them up and out of the reach of children and pets.
- Do not mix cleaning agents.
- Follow manufacturer's directions and precautions when using these products.

IF YOU SMOKE…

- Install smoke detectors in rooms used most often by smokers.
- Smoke only when alert and awake and sitting in an upright position.
- Do not smoke when you are fatigued, tired, sleepy, taking medication that makes you drowsy or using alcohol.
- Never smoke in bed. Many fires are caused by ignited bedding from smokers who fall asleep while smoking.
- Safe ashtrays are large with stable bases that will not tip over easily; have an island in the center to hold cigarettes or cigars; have no notches on the outside edges to hold cigarettes; are made from material that will not burn.
- Wet cigarette butts and ashes before emptying ashtrays.
- Never smoke when on oxygen therapy. Never allow anyone to smoke in a home where oxygen is being used. Place warning signs on the doors of homes where the oxygen-dependent live, as reminders not to smoke.

GETTING THE MESSAGE TO THE MEDIA

- Sample Public Service Announcements

Sample Public Service Announcements

Subject ***(Choose one of each length for a media release focusing on any one of the five following areas)***

Contact Person:
Organization:
Phone:
Start Date:
Stop Date:

a. General Fire and Burn Safety for Older Adult
b. Scalds
c. Cooking
d. Smoking
e. Mobility

Reading Time: 10 Seconds

a. Learn how you can protect older adults, our most cherished natural resource, from fire and burn injury. For safety tips call *(insert local ID)*.
b. Scalds are one of the leading causes of burns in older adults. Learn more about why. Call *(insert local ID)* for free older adult prevention tips.
c. Cooking fires are one of the leading causes of burn injuries to older adults. Learn more about how to prevent burn and injury by contacting *(insert local ID)*.
d. One of the leading causes of fire deaths to older adults is smoking. Learn more about how these deaths can be prevented by contacting *(insert local ID)*.
e. As older adults become less mobile, their risk of fire death and injury increases. Call *(insert local ID*) at *(phone #)* for more information.

Reading Time: 20 seconds

a. Give older adults the safety they deserve. Learn to protect those who are vulnerable to burn injury through information and awareness. Contact (insert local ID) for information at (phone #).
b. Decreased sensation in older adults can result in serious scald injury. Make sure the temperature of their hot water remains below 120 degrees. Contact (insert local ID) for information at (phone #).
c. Older adults are at high risk for cooking-related burn injuries. The American Burn Association (or local organization) has compiled cooking safety tips to reduce the risk of such injuries. Call (insert local ID, phone #)
d. The growing use of portable oxygen therapy has allowed many older adults to live more productive and comfortable lives, but smoking around oxygen is extremely hazardous. Call (local ID) at (phone #) for more information.

Reading Time: 30 seconds

a. Older adults experience more life-threatening fire and burn injuries than any other age group. During Burn Awareness Week (first full week in February) the

American Burn Association (local fire department/ burn center/burn support organization) take this opportunity to reduce the injury risks older adults face everyday in hazardous areas such as kitchens and bathrooms. Contact (insert local ID), at (local phone #) for more information.

b. Older adults have specific challenges that put them at greater risk for scald injury. Changes in eyesight, mobility and decreased sensation can make them vulnerable to the hazards involved in cooking and bathing. During Burn Awareness Week (the first full week in February) learn more about how to protect older adults from scald injury. Contact (insert ID and phone number) for further information.
c. Ordinary cooking activities can be especially dangerous for older adults. During Burn Awareness Week (the first full week in February) your (insert local ID: fire department, burn center or burn support organization) reminds you their risk of burn injury can be significantly reduced. Place rubber mats on the kitchen floor to prevent slipping, use oven mitts, not pads, and be aware of the weight of pots and pans…..are they manageable for the older adult to lift safely? For more safety tips, please contact (repeat local ID; add phone #).
d. The American Burn Association recognizes that the senior adult population has slowed to enjoy life during their retirement. However, a slower pace, and use of assistive devices make getting away from fire, difficult and dangerous. For more information on what you can do to prevent serious burns and injuries to our older adults, contact (insert local ID) at (phone #).
e. More then 1,200 Americans over 65 years of age die each year as a result of fire. Adults between 65 and 75 have twice the death rate of the national average, while those between 75 and 85 have 3 times the rate. Above 85, the rate is even higher. Please consider the need to protect our most senior adults from fire and burn injury. Call (insert local ID) at (phone#) to learn how to prevent fire and burn deaths and injuries to older adults.

REFERENCES/RESOURCES

Organizations

Administration on Aging – Department of Health and Human Services
330 Independence Avenue SW, Washington, DC 20201
(202) 401-4541, (800) 677-1116
www.aoa.dhhs.gov

Alzheimer's Association
919 North Michigan Avenue, Suite 1000,
Chicago, IL 60611
(312) 335-8700
www.alz.org

American Association of Retired Persons
601 E Street NW, Washington, DC 20049
(202) 434-2277
www.aarp.org

American Burn Association
625 N Michigan Ave, Ste 2550
Chicago, IL 60611
1-312-642-9260
www.ameriburn.org

American Red Cross
430 17th Street NW, Washington, DC 20006
(202) 737-8300
www.corpweb.redcross.org

American Society on Aging
833 Market Street, Suite 511, San Francisco, CA 94103
(415) 974-9600
www.asa.org

Association of State and Territorial Health Offices
1275 K Street NW, Suite 800, Washington, DC 20005
(202) 371-9090
www.astho.org

Canadian Association of Fire Chiefs
1066 Somerset Street, Suite 301, Ottawa,
Ontario, Canada K1Y 4T3
(800) 668-2955, (613) 728-6976
www.cafc.ca

Canadian Association of Retired Persons
1304-27 Queen Street East, Toronto, Ontario,
Canada M5C 2M6
(416) 363-8748

Canadian Council of Fire Marshals & Fire Commissioners
#601, 10808-99 Avenue, Edmonton, Alberta,
Canada T5K 0G5
(403) 415-0550
e-mail, makey@lab.gov.ab.ca

Centers for Disease Control and Prevention (CDC)
National Center for Injury Prevention and Control, Division of Unintentional Injury
4770 Buford Highway, N.E., Mailstop K63,
Atlanta, GA 30341-3724

Congressional Fire Services Institute
900 2nd Street NE, Suite 303, Washington, DC 20002
(202) 371-1277
www.cfsi.org

Fire Marshal's Public Fire Safety Council
5775 Yonge Street, 7th Floor, North York,
Ontario, Canada M2M 4J1
(416) 325-3100 / (416) 325-3162

Fire Prevention Canada
1066 Somerset Street, Suite 301, Ottawa,
Ontario, Canada K1Y 4T3
(800) 668-2955 / (613) 728-6976

IABFF – International Association of Black Professional Fire Fighters
8700 Central Avenue, Suite 306, Landover, MD 20785
(301) 808-0804
www.iabpff.org

IAFC – International Association of Fire Chiefs
4025 Fair Ridge Drive, Fairfax, VA 22033
(703) 273-0911
www.iafc.org

IAFF – International Association of Fire Fighters
1750 New York Avenue NW, 3rd Floor,
Washington, DC 20006
(202) 737-8484
www.iaff.org

NAHF – National Association of Hispanic Firefighters
8204 Elmbrook Drive, Suite 255, Dallas, TX 75247
(214) 631-0025
www.nahf.org

NASFM – National Association of State Fire Marshals' Association
1319 F Street NW, Suite 301, Washington, DC 20004
(202) 737-1226
www.firemarshals.org

National Association for Home Care
228 7th Street SE, Washington, DC 20003
(202) 547-7424
www.nahc.org

National Association of Area Agencies on Aging
927 15th Street, 6th Floor, Washington, DC 20005
(202) 296-8130
www.n4a.org

National Association of County and City Health Departments
1100 17th Street NW, 2nd Floor, Washington, DC 20036
(202) 783-5550
www.nacchd.org

National Center on Aging and Injury
University Center on Aging, San Diego State University
5500 Campanile Drive, San Diego, CA 92182-1872
(619) 594-6765

National Council on Aging, Inc.
409 3rd Street SW, Washington, DC 20024
(202) 479-1200
www.ncoa.org

National Fire Protection Association
Center for High-Risk Outreach
1 Batterymarch Park, Quincy, MA 02269
www.nfpa.org

National Institute on Aging - Public Information Office
Building 31, Room 5C27, 31 Center Drive MSC 2292, Bethesda, MD 20892
(800) 222-2225, (800) 222-4224 (TTY)
www.nih.gov/nia

National Osteoporosis Foundation
1150 17th Street NW, Suite 500, Washington, DC 20036
(202) 223-2226
www.nof.org

One Voice Canadian Seniors Network
La Voix le réseau canadien des aîne(e)s
350 Sparks Street, Suite 1005, Ottawa, Ontario, Canada K1R 7S8
(613) 238-7624

U.S. Consumer Product Safety Commission - Office of Information and Public Affairs
4330 East West Highway, Bethesda, MD 20814
(301) 504-0580, (800) 638-2772, (800) 638-8270 (TTY)
www.cpsc.gov

U.S. Fire Administration
16825 South Seton Avenue, Emmitsburg, MD 21727
(301) 447-1018
www.usfa.fema.gov

Visiting Nurse Associations of America
390 Grant Street, Denver, CO 80203
(303) 744-6363
www.vnacolorado.org

Women in the Fire Service
PO Box 5446, Madison, WI, 53705
(608) 233-4768
www.wfsi.org

Fire/Burn Risk Home Inspection Instrument

Smoking

__ No one in the home smokes.

The rest of this block is for homes of smokers.
__ Smoking cessation material given to client.
__ Only large, deep, non-tip ashtrays present.
__ Metal container for ash disposal present.
__ Client reminded of the following tips:
- __ It's never too late to quit smoking
- __ No smoking in the bed
- __ No smoking while lying down
- __ No smoking when sleepy
- __ No smoking while using gasoline
- __ No smoking when oxygen is in use
- __ Wet all butts before discarding them
- __ Medication that makes you sleepy or alcohol

Heaters

__ Nothing is within 3 feet of a heater, furnace, stove or fireplace.
__ Heating system has been inspected within the last year.
__ No wood stove or fireplace is in use without an adequate fire screen.
__ No combustibles stored near heaters or fireplace.
__ No electrical heaters without auto-shutoff for tipping or over-heating.
__ No gas or kerosene space heaters without appropriate ventilation.
__ Phone numbers of gas company and heating service company added to client's frequently-used phone list.
__ Client reminded of the following tips:
- __ Never use gasoline or other flammable liquid to start a fire in the stove/fireplace.
- __ Always turn off portable heaters when one leaves home or goes to bed
- __ Leave the building and call the gas company if you smell gas
- __ Kerosene in clearly identified container

Electrical

__ No electrical cords placed under rugs or carpet.
__ No cords running across doorways.
__ No cracked or frayed electrical cords.
__ No "permanent" extension cords.
__ All electrical appliances have UL labels.
__ No electrical outlets are overloaded.
__ Switch plates are on all switches and outlets.
__ No heating pads in poor condition.
__ No electric blankets in poor condition.
__ No electrical appliances near tubs or sinks.

Kitchen

__ Kitchen area is well lighted.
__ Kitchen area is uncluttered.
__ Stove, oven, and appliances are in good working condition.
__ Pot holders or oven mitts easily accessible.
__ Handles of pots, pans and dishes are in good condition.
__ Remind client of the following tips:
- __ Never leave the kitchen while you are cooking.
- __ Always have lids near the stove to cover a fire in a pan.
- __ Always wear short-sleeves or tight-fitting clothing while cooking.
- __ Always turn pot handles away from the edge of the stove.

Other Safety Issues

__ Water heater set at 120^{O} F or "Warm".
__ Working smoking alarms near bedrooms.
__ Walkways, escape routes are free of clutter.
__ Emergency numbers are near all phones.
__ Client has a realistic fire escape plan written in large print.

Burn Treatment Education

__ Client reminded of the following tips:
- __ If clothing catches fire, then stop, drop and roll.
- __ If smoke alarm sounds, get out of the house immediately.
- __ Cool all burns with cool water for a few minutes, then cover with clean cloth or bandage.
- __ Do not put butter or ice on a burn—just cool water.
- __ For serious burns call 911 or your emergency number

Outdoors

__ Gasoline is stored outside the home.
__ No leaves or brush piled near the house.
__ Client reminded of the following tips:
- __ Never use gasoline for cleaning
- __ Never use gasoline for lighting fires
- __ Never use gasoline for killing weeds or pests

Recommendations for repairs or home improvements:

Date:
Client:

Inspected by:

EVALUATION FORM

BURN SAFETY FOR OLDER ADULTS

We appreciate any suggestions and recommendations for future improvements in the community fire and burn prevention education programs. Please take a moment to print and complete this form; return it to the American Burn Association, 625 N. Michigan Ave., Suite 2550, Chicago, IL 60611 (Fax – 312-642-9130). Thank you.

Name (optional) _____ Date: _____

Affiliation: Hospital _____ Fire Service ___ Burn Support Organization _____
Other (describe) _____

1. Did the content covered in the campaign kit meet your learning needs?
   Yes No

2. If you answered no, please tell us what we should add, or subtract?

3. Did the length of the topic coverage provide what you needed?
   Yes No

4. Were the fact sheets helpful?
   Yes No

5. What did you like most about this campaign?

6. What did you like least about this campaign?

7. What pieces of this campaign did you use? Please check all that apply.

   ___Statistics
   ___Fact Sheets
   ___Press release
   ____PSAs
   ____PowerPoint Presentation