Massachusetts Burn Injury Reporting System

2011 Annual Report

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Massachusetts Burn Injury Reporting System

2011 Annual Report

26 Years

Helping Prevent Burn Injuries

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Executive Summary

In 2011, the twenty-sixth full year of the Massachusetts Burn Injury Reporting System (M-BIRS), 44 acute care hospitals and other health care facilities reported 430 victims of burns. Forty-three (43) of these 430 victims received care at two Massachusetts hospitals and were reported to the system twice. M-BIRS was established in the Department of Public Safety in 1984 as a tool to help fire service and law enforcement personnel identify arsonists that may have been burned while setting fires. M-BIRS, along with the Office of the State Fire Marshal, was carried over to the Department of Fire Services in 1996. It remains a joint program of the Department of Fire Services and the Massachusetts Department of Public Health (DPH). The "Burn Registry" also provides valuable data on the nature of the burn problem in the Commonwealth.

Massachusetts is renowned for its medical institutions and in particular for the advanced treatment available for burn and trauma victims. Many advances in treatment that have lead to increased ability for victims to survive serious burn injuries took place in Massachusetts. Those advances started in the desperate days after the deadly 1942 nightclub fire at Boston's Cocoanut Grove and continue today.

Statutory Authority for M-BIRS in MGL 112, Section 12A
According to Massachusetts General Law (MGL) Chapter 112, Section 12A, the treatment of all burn injuries extending over 5% or more of a person's body surface area must be reported immediately to the State Fire Marshal.

M-BIRS Has Two Main Purposes — Identifying Arsonists and Burn Prevention
Data collected by the Massachusetts Burn Injury Reporting System is used in several ways. Investigators use the data to determine if an arsonist was treated for a burn that resulted from an attempt to illegally burn a building or vehicle. If these burns are not reported promptly, arsonists may continue to light fires that threaten life and property.

Our data has also been used to identify problems that need to be addressed by public education, regulation or development of appropriate intervention strategies. We need to know what type of activity injures whom, if the injuries are seasonal and how old the victims are to develop and implement effective prevention programs. We appreciate the efforts of the many dedicated doctors, nurses and clerical personnel who report the burn injuries promptly and completely. They make the program work.

Painful, disfiguring and expensive burn injuries exact a tremendous toll from their victims, their families and society. The statistics in this report illustrate the need for more burn prevention education and indicate to whom specific safety messages should be targeted.

State Fire Marshal Stephen D. Coan invites fire, health and medical professionals, classroom and community educators, day care teachers and elder service workers to join with him in making the Commonwealth safer from burn injuries.

DPH Alerts OSHA to Severe Burn Injuries in the Workplace
DPH notifies one of the three Occupational Safety and Health Administration (OSHA) area offices about those companies in which an employee was burned as a result of explosions, chemical exposures, electrocutions, or those that appeared to indicate likely violations of OSHA standards. Thirteen (13) burn injuries were referred to OSHA in 2011 for cases that met the criteria.

Scalds Caused 46% of Reported Burn Injuries
Scalds have been the leading cause of burn injuries for the past 26 years. In 2011, scalds caused 179, or 46%, of the burn injuries reported to M-BIRS. Cooking liquids caused the majority of scald burns. Hot beverages, hot tap water, and hot foods also caused significant numbers of scald burns.

Keep Hot Liquids Away from Babies and Preschoolers
In 2011, young children were the most frequent victims of scald burns. Fifty-three percent (53%) of the 115 scald victims were under five years old, and most were less than one year old. Children under five years of age were over five times more likely to be scalded. Hot beverages posed the greatest risk to these young children; parents and caregivers of young children must remember that it is dangerous to drink coffee or tea while holding a baby.

Set Hot Water Heaters at 125°F or Lower
Hot tap water is also a danger to very young children. It takes only one second of exposure to water at 155°F to cause a third degree burn. Hot water heaters should be set to temperatures of 125°F or lower. Massachusetts state law states that the temperature must be set between 110°F and 130°F. Caregivers should never leave a baby or toddler alone in a bath. Young children like to turn knobs and use levers and they may turn on the hot water when a parent is distracted.

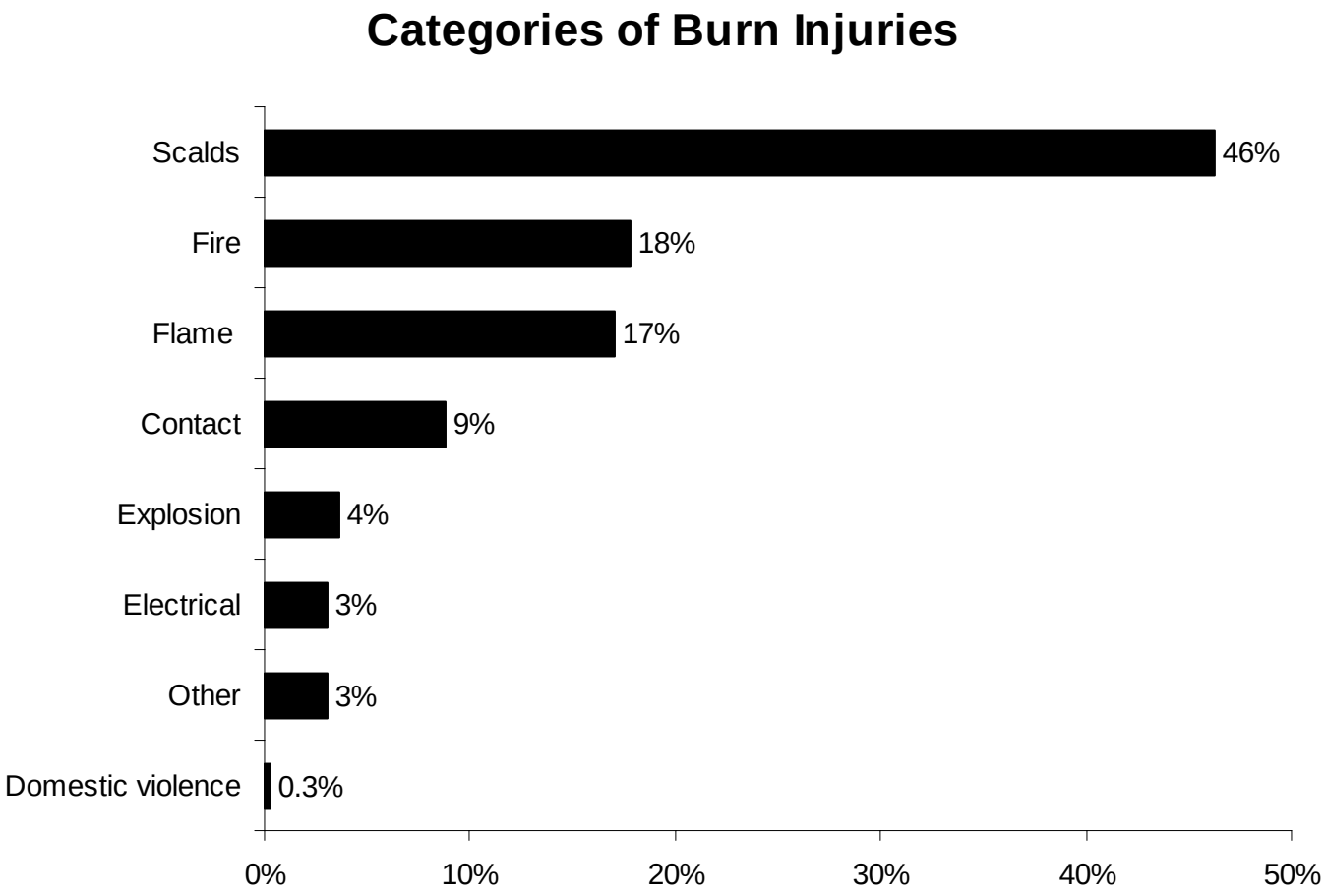
Kitchen Is a Dangerous Place
A significant number of the burn injuries occur in the kitchen each year. Flame burns such as sleeves igniting while cooking, scald burns from grease splatters and hot liquids while cooking, many hot coffee and tea spills, contact burns from touching hot stoves, take place in the kitchen. Since we must cook every day, we must learn to do so safely. Young children should also be kept in a safe area such as a high chair or playpen while cooking is taking place. The Department of Fire Services is developing a public awareness campaign focused on cooking fire safety as it is the leading cause of home fires and injuries.

Burns from Fires Cause the 2nd Most Burns
Burn injuries from fires were the second highest cause of burn injuries in 2011 accounting for 18% of the burn injuries. Camp or bon fires caused almost half, or 49%, of these burn injuries. Flame burn injuries caused 17% of the 2011 burn injuries. Cooking caused 35% of flame burns in 2011.

Almost 2/3 of Burns Occurred in the Victim's Home
Of the 387 burn injuries reported to M-BIRS in 2011, 248, or 64%, occurred in the victim's home or surrounding yard. Over half, 55%, of these burn injuries were scalds. Three (3), or 1%, of the home-related burn injuries resulted in the victim succumbing to his or her injuries.

Causes of Burn Injuries

In this report, we look at burn injuries in two different ways. In the first section, we look at the type of incident that caused the burn. Was the burn caused by a fire, a flame[3], a scald or something else? In the second section we look at burns by age, gender, work-related burns, burns in the home, burns reported by individual hospitals, and burn injuries by month.



Almost 1/2 of All Burn Victims Never Come Near a Flame

Scalds from cooking liquids and grease, hot liquids, tap water food and steam caused 46% of the 387 burn injuries reported in 2011. Eighteen percent (18%) were caused by fires. Flames from burning clothing, bedding or similar objects caused 17% of the burns. Eight percent (8%) were caused by contact with hot objects; explosions and flasburns[4] caused 4% of these burns; while electrical incidents such as electrocutions caused 3% of the burns. Three percent (3%) of the

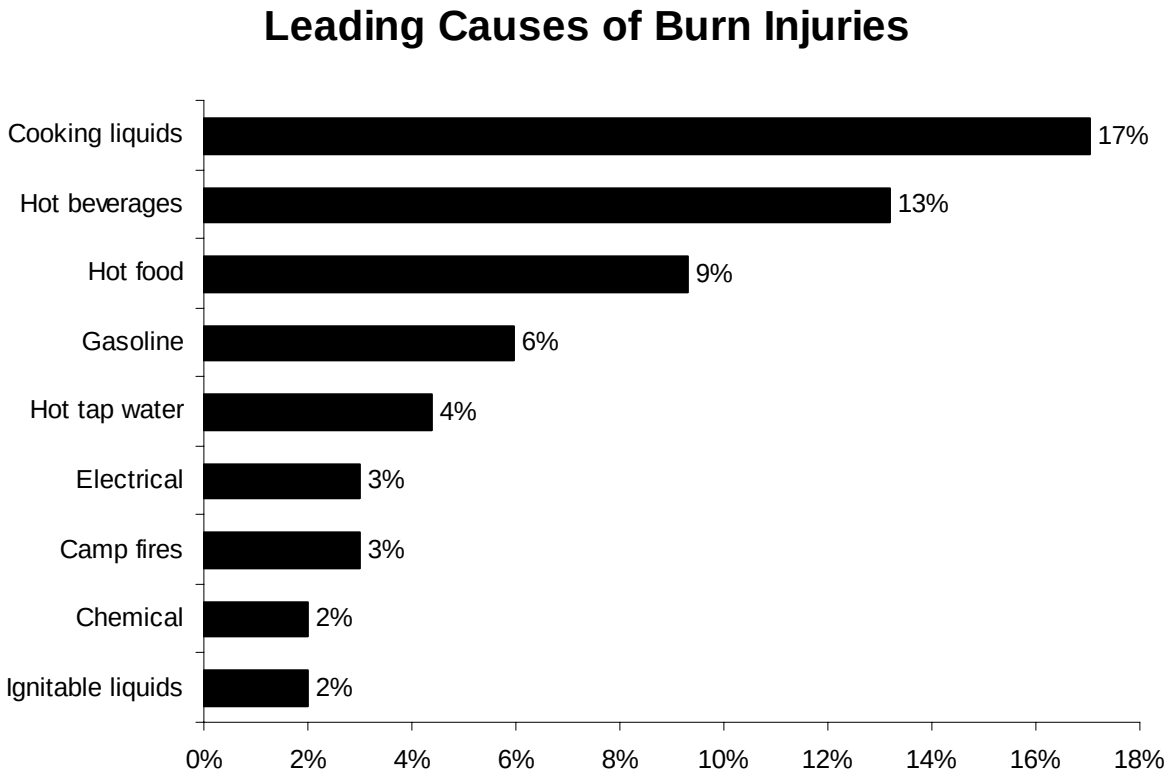
[3] A burn is said to result from a flame when the fire is confined to the victim or the victim's clothing. When a wider area burns, the injury is considered to result from fire.

[4] A flashburn is a burn caused by short-term exposure to super-heated air, there is no direct contact with flame.

reported burns in 2011 had other causes, such as chemical burns or sunburns; and less than 1% of the burns was caused by an incidence of domestic violence.

Type of Incidents Causing Burn Injuries

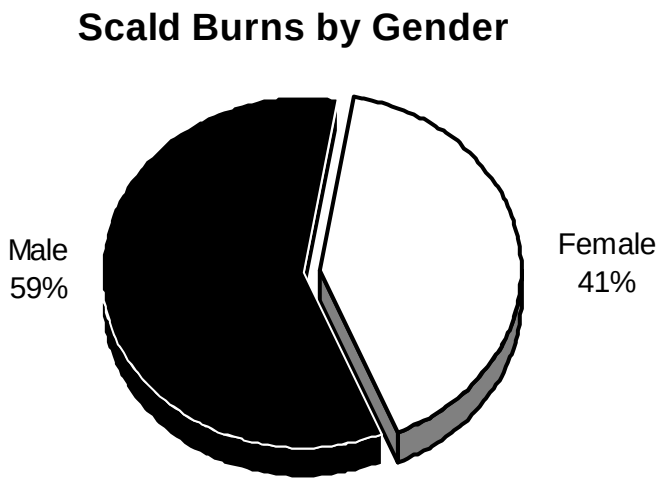
Look at Specific Causes and Equipment to Develop Prevention Strategies
To develop effective burn prevention policies and programs, we must first look at the specific items or behaviors that caused the burns. Seventeen percent (17%) of the 387 burn injuries reported in 2011 were scalds from cooking liquids. Thirteen percent (13%) of the burns were caused by hot beverages. Hot food caused 9% and gasoline use by adults involved in 6% of the burn injuries in 2011. Hot tap water caused 4% of total burns. Electrical burns and camp fires each caused 3%. Chemicals and ignitable liquids other than gasoline, each caused 2% of the total burn injuries in Massachusetts in 2011. For more information, please refer to the table *Specific Causes of Burn Injuries* in the Appendix.



Burn Injuries Caused by Scalds

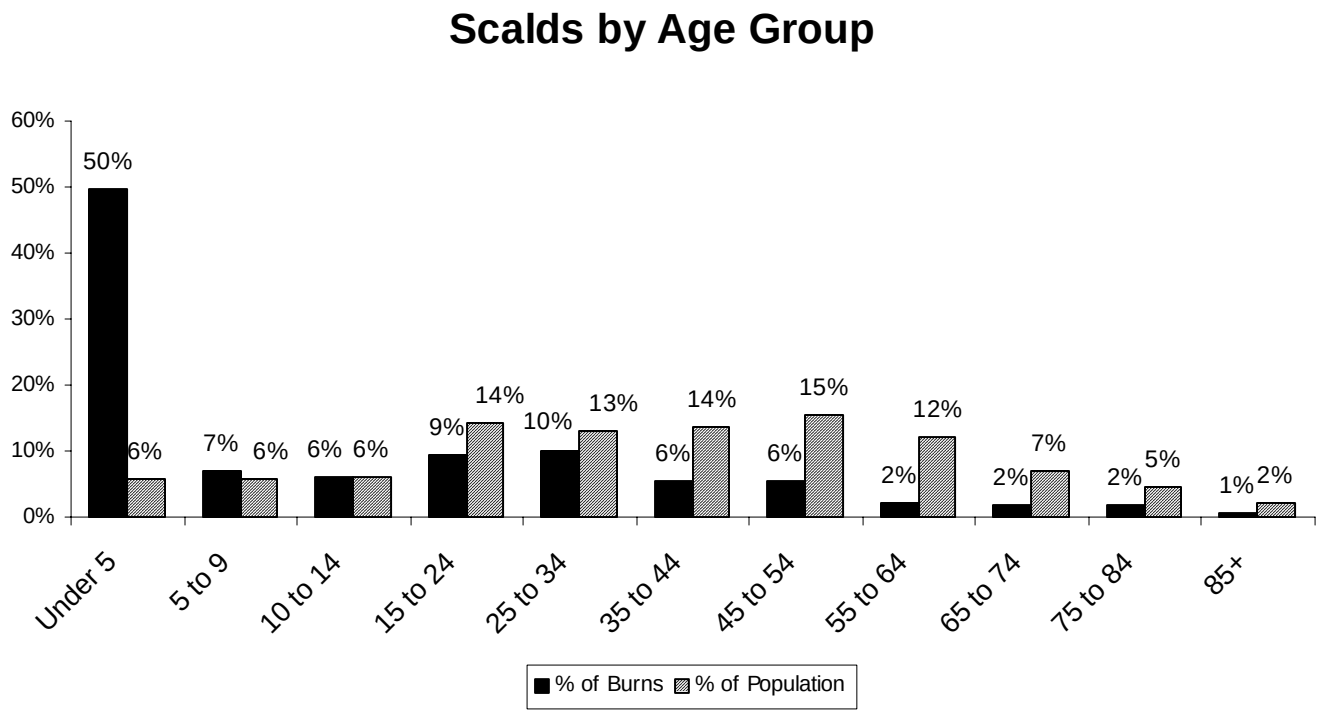
Scalds Have Been the Leading Cause of Burn Injuries Every Year
Scalds have been the leading cause of burn injuries every year since the inception of M-BIRS. The percentage of total burns has ranged from a high of 46% this year and also in 2009 to a low of 35% in 2005. The 10-year average from 2002 through 2011 is 40%[5] of total annual reported burns.

Scalds Caused 41% of All Burns
One hundred seventy-nine (179), or 46%, of the 387 reported burns were hot scalds. Eighteen (18), or 10%, of the 179 scalds occurred while the victim was working. One hundred and six (106), or 59%, of the 179 scald victims were male and 73, or 41%, were female.



Children Under 5 Years Old Were Most at Risk for Scald Burns
Young children were the most frequent victims of scald burns. According to the 2010 U.S. Census, children under the age of five comprised 6% of the Massachusetts population. However that same age group accounted for half, 50% of all scald burns in 2011. Sixty-two (62), or 35%, were infants one year old or younger. Children aged five to nine accounted for 7% of scald burn injuries, while children aged 10 to 14 accounted for 6% of these injuries.

[5] In 2003, scalds represented 36% of all the burns reported to M-BIRS. However if not for The Station nightclub fire victims that were treated in Massachusetts, scalds would have represented 38% which would still be the second lowest in the past 10 years.



Pre-schoolers Almost 9 Times More Likely to Suffer Scald Burns

Many adults also suffered burns from scalds. Nine percent (9%) of scald burn victims were between 15 and 24 years old; 10% were between 25 and 34; 6% were between 35 and 44 years of age; another 6% were between 45 and 54; 2% were between 55 and 64; another 2% were between 65 and 74; 2% were between 75 and 84; and 1% were over the age of 84. A one-month old boy was the youngest scald burn victim, while the oldest victim was a 93-year old woman. When the black shaded bar of the graph representing the percent of scald burns is higher than the black and white shaded bar representing percent of population, higher than expected risk at this type of injury exists. Only pre-schoolers were scalded at a disproportionate rate; they were almost nine times more likely to suffer a scald burn.

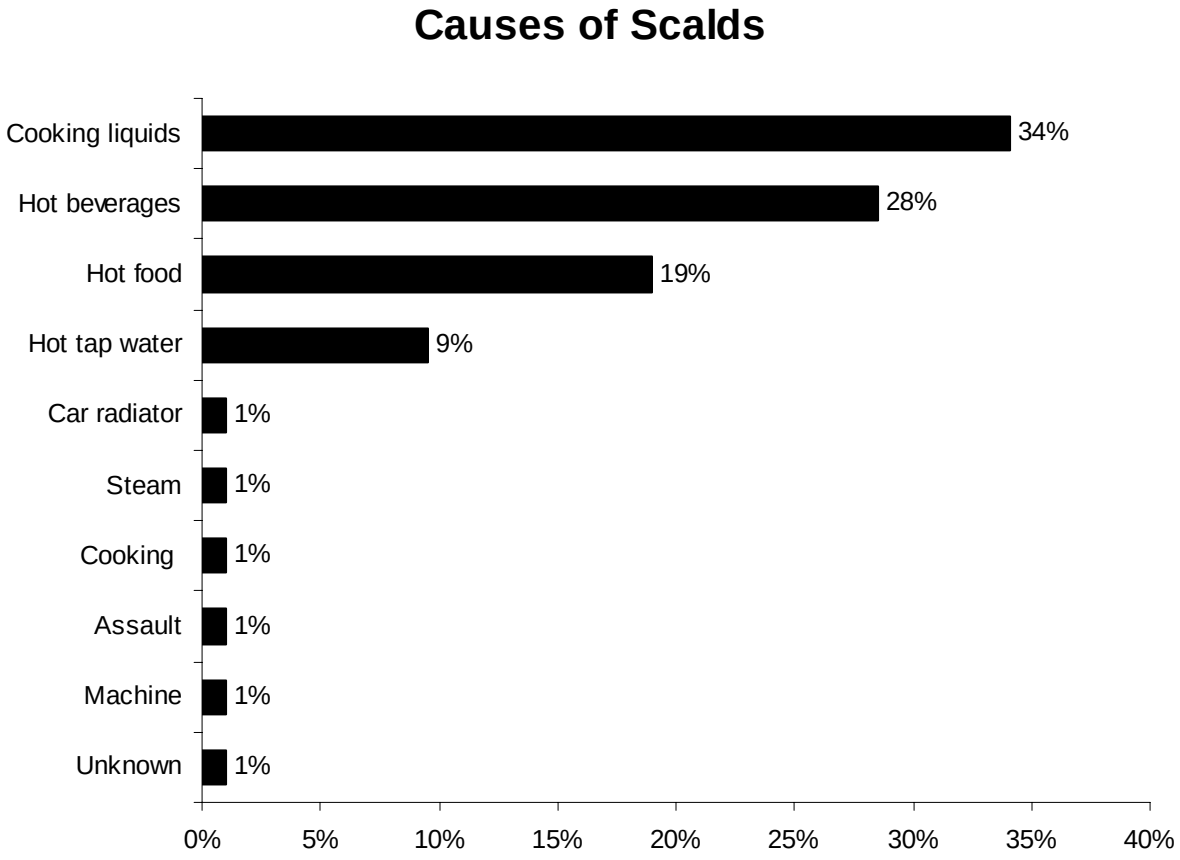
Cooking Liquids Caused Over 1/3 of All Scald Burns

Cooking liquids were the leading cause of scald burns, accounting for 34% of all scald burns in 2011. Scald burns from hot beverages were the second leading cause of scald burns, causing 28%, of the 179 scald burns. Nineteen percent (19%) were caused by hot food. Nine percent (9%) were caused by hot tap water. Car radiators, steam, unspecified cooking acts, assaults, a machine and an unknown burn each caused 1% of these scald burn injuries in 2011.

Since the beginning of M-BIRS in 1984, hot beverages had been the leading cause of scalds, however, this was not the case in 1999 or from 2005 through 2008[6]. [1] Recently cooking liquids and hot beverages have been jockeying back and forth as the leading cause of scalds. In 1999

In 1999, and from 2005 – 2008 and 2010 - 2011, cooking liquids were the leading cause of scald burns. From 1984 – 1998, 2000 – 2004 and in 2009, hot beverage scalds were the leading cause.

scald burns from cooking liquids were one percentage point higher than scald burns from hot beverages.



25-Year Old Man Scalded by Food in an Assault
On October 19, 2011, a 25-year old man received scald burns to 10% of his body surface area when he was assaulted by someone tossing hot cooking liquids on him.

25-Year Old Woman Receives Scald from Car Radiator
On August 1, 2011, a 25-year old woman received scald burns to 25% of her body surface area when she opened her car radiator and anti-freeze exploded on her.

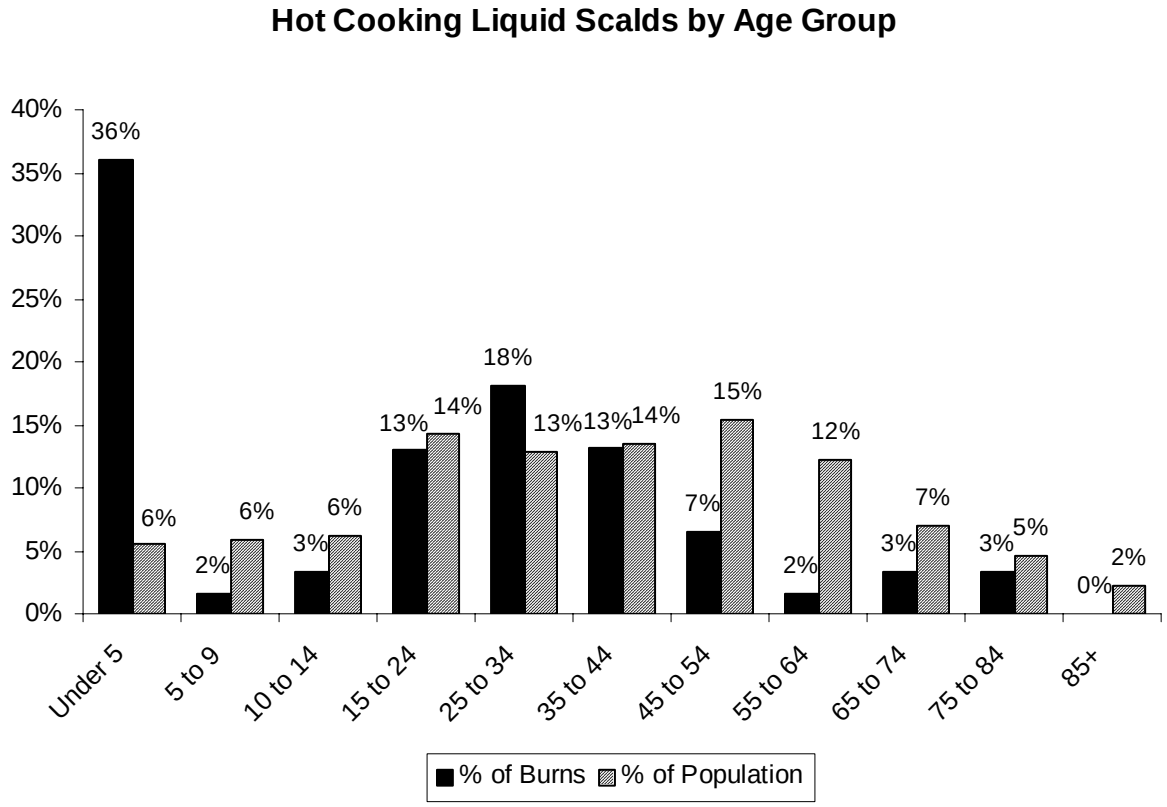
Hot Cooking Liquids

Hot Cooking Liquids Caused 34% of Scalds, 16% of All Burns
Scald burns from hot cooking liquids were the leading cause of all burn injuries. Hot cooking liquids which includes boiling water, grease and oil, caused 61, or 34%, of the 179 scald burns and 16% of the 387 total burn injuries reported in 2011. Sixty-seven percent (67%) of the victims

were male and 33% were female. Hot cooking liquids scalded 10 people while they were at work, eight were men and two victims were women.

Over 1/3 of Cooking Liquid Scald Victims Were Between Under 5

Those most likely to be under foot in the kitchen were most at risk to be burned by hot liquids on the stovetop. In 2011, 36% of the cooking liquid scald victims were under five years old. They were almost six and a half times more likely to be victims of a hot cooking liquid scald. This risk is most likely attributed to children getting in the way of adults as they prepare meals. Establishing a "No Zone" in the kitchen and putting toddlers safely in high chairs or playpens during meal preparation can reduce these injuries.



Two percent (2%) were children between the ages of five and nine. Three (3%) of the victims were within the age group between 10 and 14; members of the age group between 15 and 24 accounted for 13%, this is most likely due to young adults working for the first time especially in fast food restaurants and also cooking for themselves for the first time. Eighteen percent (18%) were between 25 and 34, this is one of only two age groups that were more likely to get a scald burn. Thirteen percent (13%) were between 35 and 44; 7% were between 45 and 54; 2% were between 55 and 64; 3% were between 65 and 74; and another 3% were between 75 and 84. No one over the age of 80 received a scald burn injury from hot cooking liquids. The youngest hot cooking liquid scald burn victim was a six-month old boy, while the oldest person to have one of these burns was an 80-year old woman.

11-Month Old Scalded by Cooking Liquids
On June 15, 2011, an 11-month old girl bumped into her mother and she was splashed with boiling water. She received scald burns to multiple parts of her body.

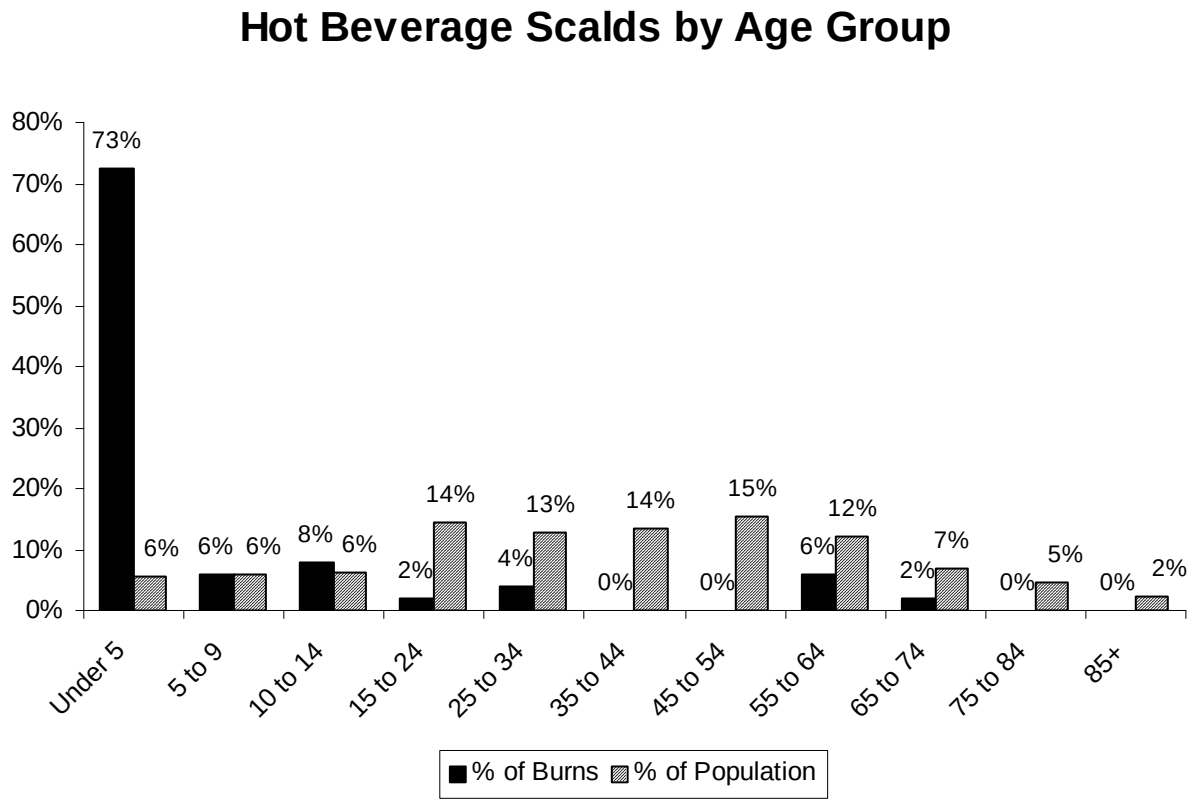
41-Year Old Man Scalded by Cooking Liquids at Work
On October 4, 2011, a 41-year old Allston man was burned by hot cooking oil while at work. He received scald burns to approximately 25% of his body surface area.

Hot Beverages

Hot Beverages Caused Over 1/4 of All Scalds
Fifty-one (51), or 28%, of the 179 scald burns were caused by hot beverages. They account for 13% of the 387 total burn injuries. In 2010, hot beverages accounted for 53 burns, or 11% of the 476 burn injuries reported. Since the inception of M-BIRS in 1984, hot beverages have historically been the leading cause of scald burns except for 1999, 2005 to 2008.

Fifty-one percent (51%) of the 53 hot beverage scald victims were female and 49% were male. In 2011, only one woman was reported to have received a hot beverage scald while working.

73% of the Hot Beverage Scald Victims Were Under 5
Seventy-three percent (73%) of the 53 hot beverage scald victims were less than five years of age. Children under five years old were 13 times more likely to be scalded by a hot beverage.



Twenty-nine (29), or 57%, of the victims who were scalded were one-year old or younger. Another seven, or 14%, were two-year old toddlers. Last year, 53% of the victims of hot beverage scalds were also less than five years old.

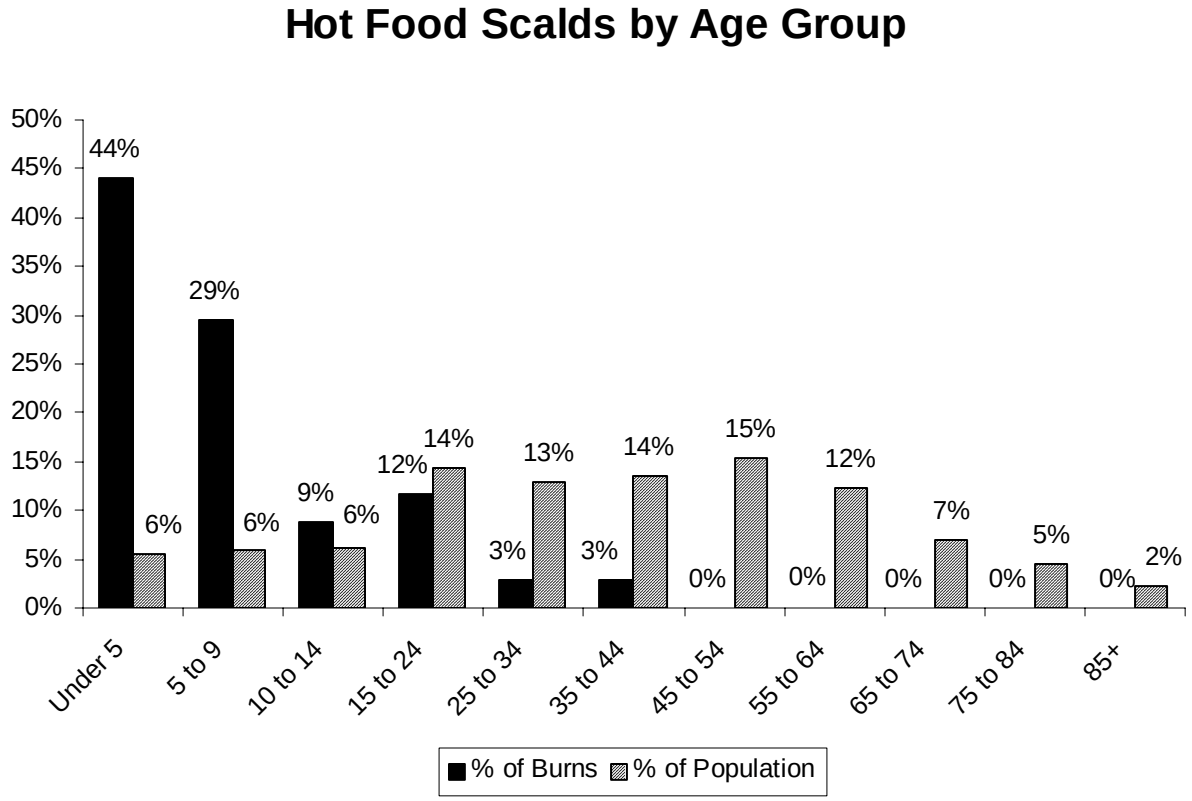
Six percent (6%) of the hot beverage scald victims were between five and nine years old; 8% were between the ages of 10 and 14; 2% were between the ages of 15 and 24; 4% were between 25 and 34; no one between 35 and 54 was reported to receive a scald from a hot beverage; 6% of these victims were between 55 and 64 years old; and 2% were between the ages of 65 and 74. No one over the age of 72 was reported to have received a scald burn from a hot beverage in 2011. A five-month old boy was the youngest person to be scalded by a hot beverage in 2011, while the oldest person was a 72-year old woman.

1-Year Old Scalded by Beverage
On November 14, 2011 a one-year old boy was accidentally burned when someone spilled a cup of hot coffee on him. He received scald burns to approximately 10% of his body surface area.

Hot Food

Hot Food Caused 19% of Scalds, 9% of All Burns
Hot food caused 34, or 19%, of the 179 scald burns and 9% of the 387 total burn injuries reported in 2011. Fifty percent (50%) of the victims were male and 50% were male. There were two work-related hot food scalds reported in 2011, both were men.

63% of Hot Food Scald Victims Were Under 10
Of the 34 reported scald victims from hot food in 2011, 25, or 63%, were under the age of ten. Fifteen (15), or 44%, were under five years old; ten victims, or 29%, were between five and nine; three victims, or 9%, was between the age of 10 and 14; four victims, or 12%, was between 15 and 24; one victim, or 3%, was between 25 and 34; and another victim, or 3%, was between 35 and 44 years old. No one over the age of 50 was reported to have received a scald burn injury from hot food in 2011. The youngest hot food scald burn victim was a four-month old boy, while the oldest person to have one of these burns was a 50-year old man.



2-Year Old Girl Receives Scald Burns from Food
On July 11, 2011, a two-year old Lynn girl received scald burns to her chest, abdomen and both thighs when a bowl of hot soup accidentally spilled on her.

Hot Tap Water

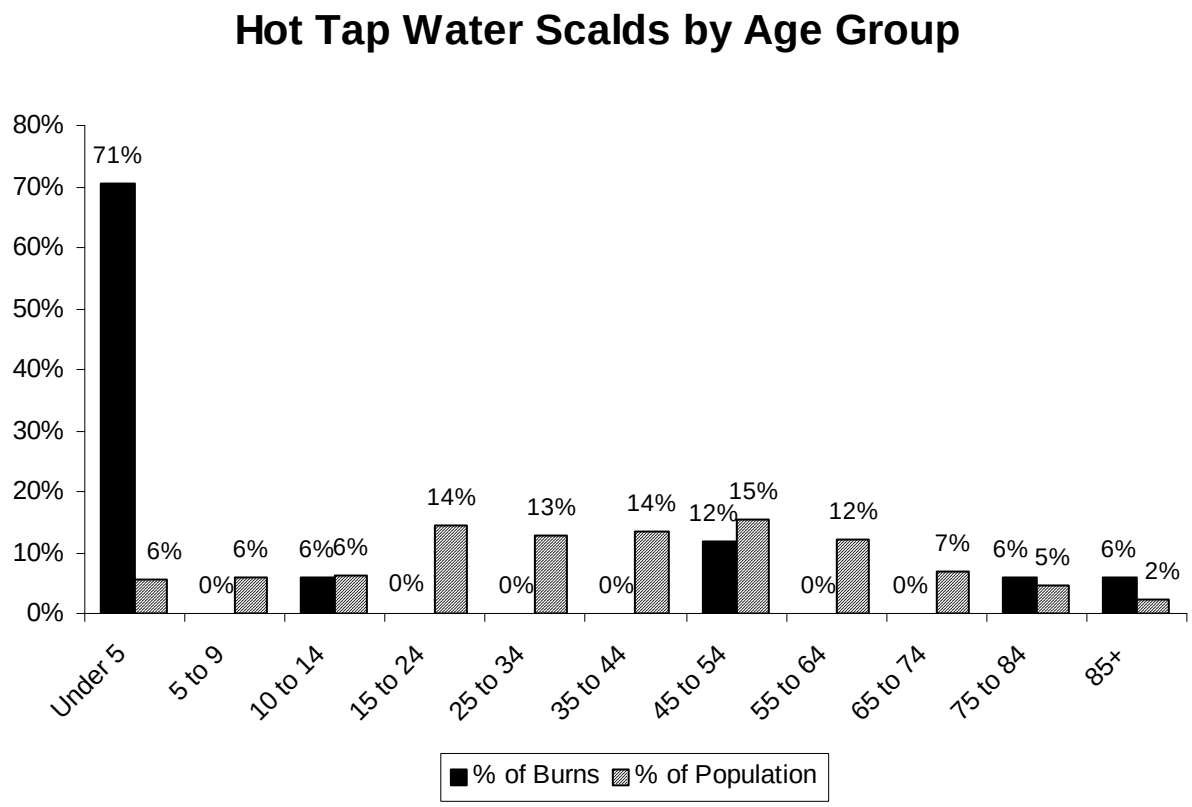
Hot Tap Water Caused 9% of All Scalds
Excessively hot tap water caused 17, or 9%, of the 179 scald burns and 4% of the 387 total burn injuries reported to M-BIRS in 2011. Hot water heaters should be set to temperatures of 125º Fahrenheit or less. Massachusetts law states that the temperature must be set between 110º and 130º F and most dishwashers have coils to boost their internal water temperature. It is important for homeowners to make sure their own water heaters are set in the appropriate range. At 155º F it takes only one second to sustain a third degree burn. At 130º F it takes thirty seconds. At 120º F it can take a full five minutes to sustain a third degree burn.[2] Adults may prepare a safe bath, but a child may turn on the hot water if left alone for a moment or two. Experts recommend placing a child in the tub facing away from the faucet.

[2] Source: Knapp Burn Foundation

In 2011, 82% of the victims were male while the other 18% were female. One (1), or 6%, of the 17 victims were scalded during work-related activities.

71% of Tap Water Scald Victims Were Under the Age of 5
Seventy-one percent (71%), or 12 of the 17 hot tap water scald victims were less than five years old. Some were very young infants placed in water that was too hot for their sensitive skin. Other children were interested in exploring their environment and turned on faucets. Last year in 2010, 27, or 73%, of the hot tap water scald burn victims were under the age of five.

There were no reported hot tap water scald burn victims between the ages of five and nine years old. Six percent (6%) were between 10 and 14 years of age; there were no reported burns between 15 and 44 years of age; 12% were between the ages of 45 and 54; no one between 55 and 64 years was reported to have been scalded by tap water; 3% were between the ages of 65 and 74; 6% were between 75 and 84 years old; and another 6% were over the age of 85 in 2011. The youngest hot tap water scald burn victim was a one-month old boy, while the oldest person to have one of these burns was a 93-year old woman.

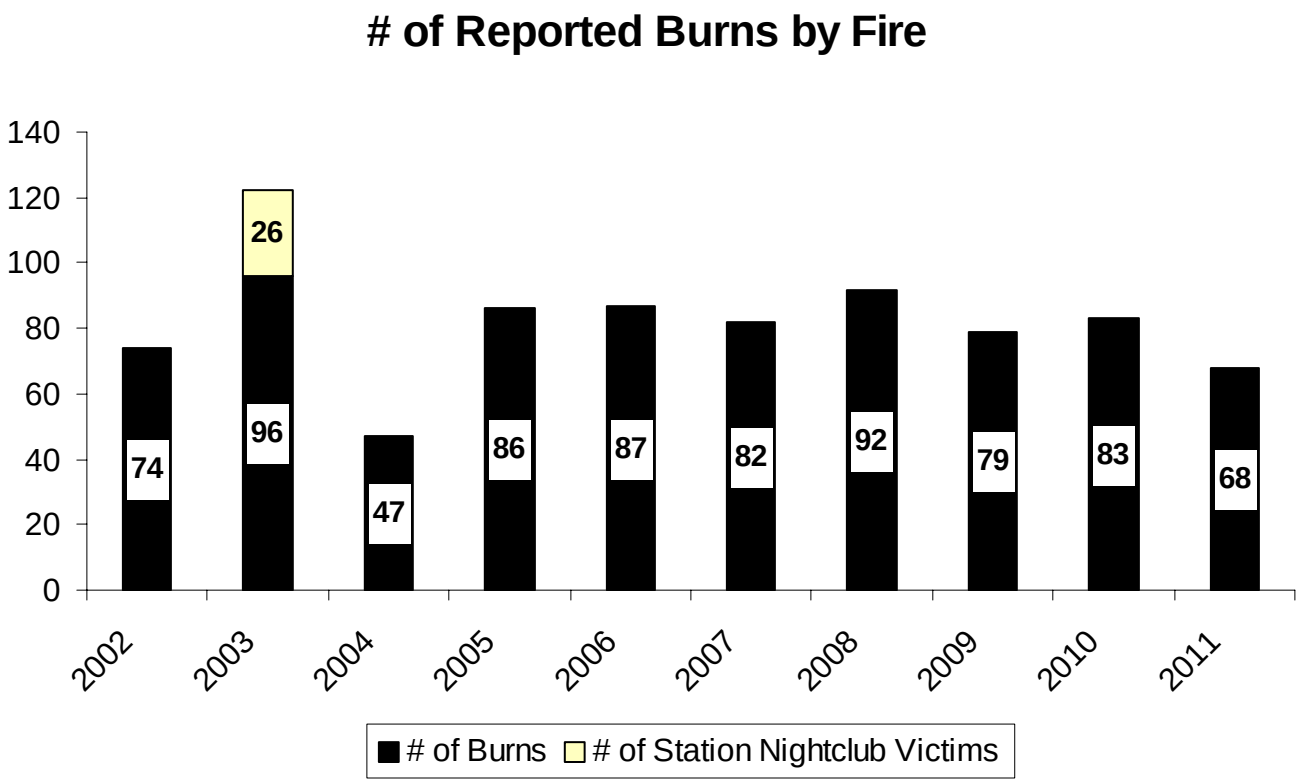


1-Month Old Scalded While Taking a Bath
On December 24, 2011, a 1-month old Weymouth boy was scalded while taking a bath. His parents were washing him in the kitchen sink and using the vegetable sprayer to rinse him off. He received scald burns to his thighs and genital area.

46-Year Old Scalded While Taking a Bath
On December 12, 2011, a 46-year old Lynn man was washing dishes. He had a seizure and his hands and arms remained in the hot water for an extended period of time. He received scald burns to approximately 10% of his body surface area.

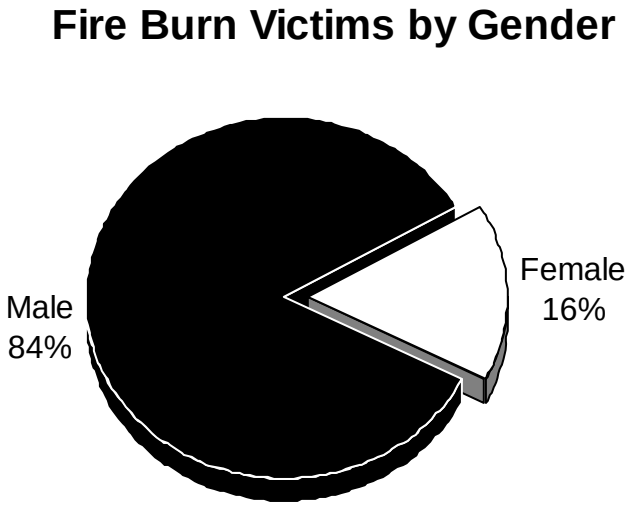
Burn Injuries Caused by Fires

Fires Caused 18% of All Burn Injuries
Sixty-nine (69), or 18% of the 387 burn injuries reported in 2011 were caused by fires. This is a 17% decrease from the 83 fire burns reported the previous year. The highest number of burn injuries from a fire were the 96 burn injuries in 2003, excluding the 26 burn victims from the Station nightclub fire that were treated in Massachusetts. The following graph shows the number of burns from fire reported to M-BIRS from 2002 through 2011.



Eighty-four percent (84%) of the 69 victims were male and 16% were female. Analysis of data from the Massachusetts Fire Incident Reporting System found that the majority of fire injuries

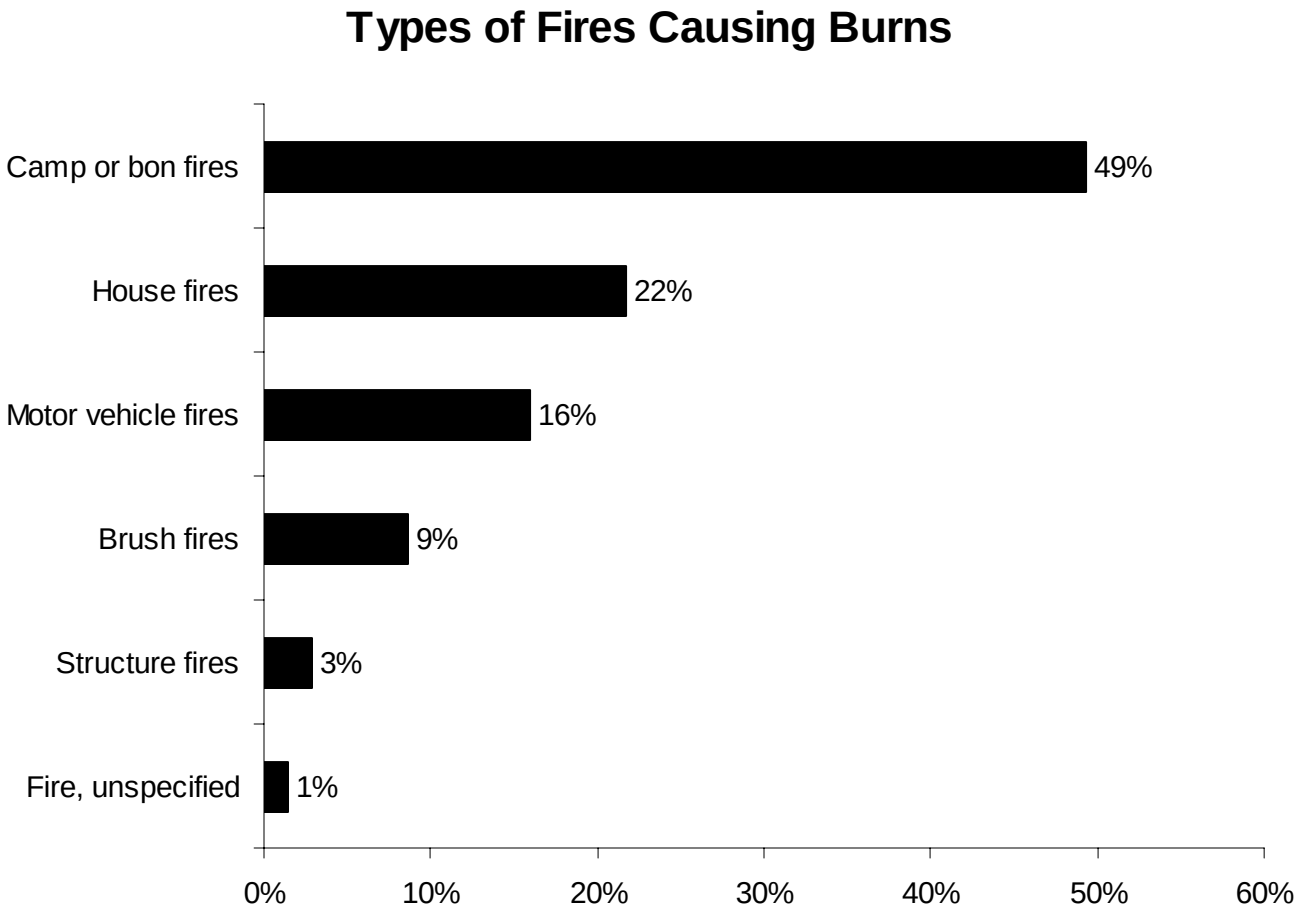
occurred while the victim was escaping or attempting to control the fire and that men are more likely than women to attempt to control the fire and become injured[7].



49% of Fire Burn Injuries Occurred at Camp or Bon Fires

Camp or bon fires caused 34, or 49% of the 69 fire burn injuries reported in 2011. House fires caused 15, or 22%. Eleven (11), or 16%, were due to motor vehicle fires; six, or 9%, of the victims received their burns at brush fires; two victims, or 3%, were burned in non-residential structure fires; and one victim, or 2%, of fire burn injuries occurred in an unclassified fire.

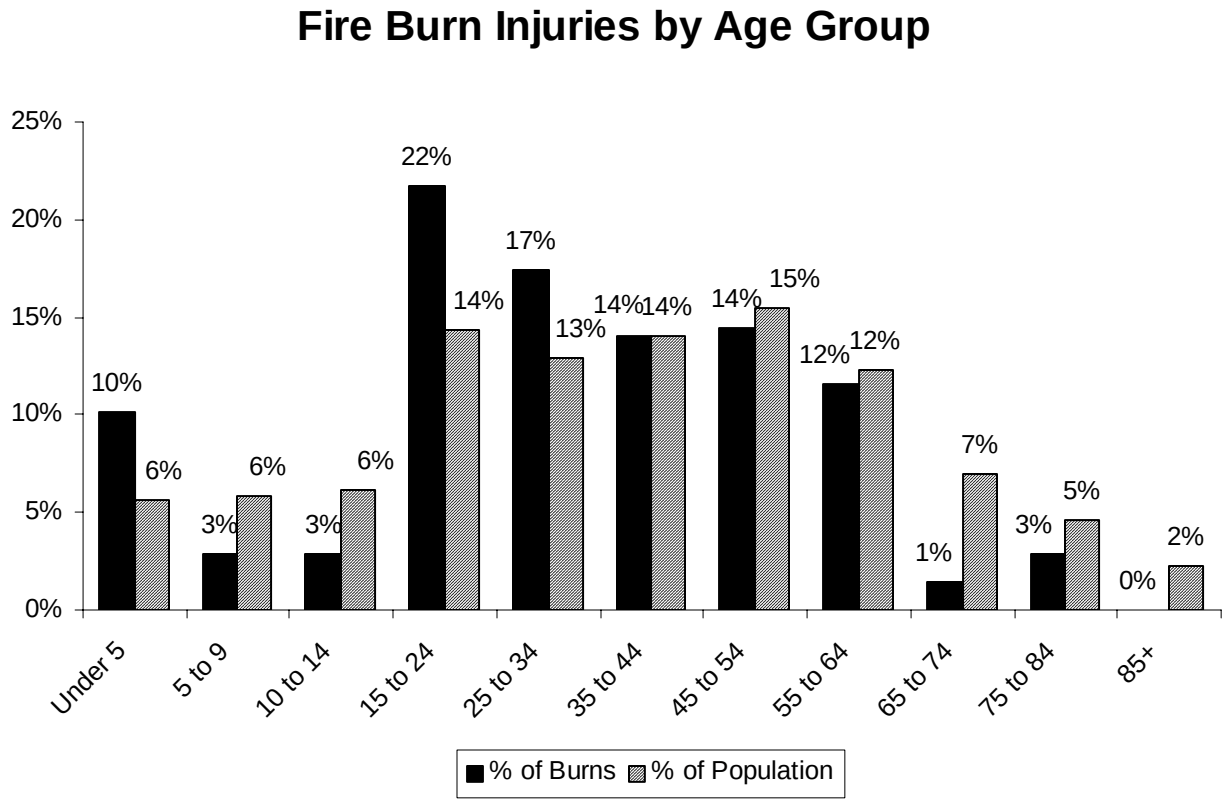
[7] 2010 Annual Report of the Massachusetts Fire Incident Reporting System, MA Dept. of Fire Services, pg. 111.



Young Adults Most Likely to Be Burned in Fires
Seven (7), or 10%, of the victims burned in fire incidents were under five years old; two, or 3%, were between five and nine years of age; another two, or 3%, were between 10 and 14; 15, or 22%, were between 15 and 24; 12, or 17%, were between 25 and 34; 10, or 14%, were between 35 and 44; another 10, or 14%, were between the ages of 45 and 54; eight, or 12%, were between the ages of 55 and 64; one, or 1%, was between the ages of 65 and 74; and two victims, or 2%, were between the ages of 75 and 84; no one was over the age of 85 was reported to have received a burn injury from a fire in 2011. Young adults between the ages of 15 and 24 were the most likely, one and a half times, to be burned in fires.

Historically young adults between the ages of 15 and 24 are the most likely to be burned in a fire as is the case again this year.

The following chart illustrates the data mentioned in the above paragraph.



Reported Burns Are a Fraction of Injuries From Fires

Only burn injuries that extend to 5% or more of the body surface area and are treated by a medical professional are reported to the *Massachusetts Burn Injury Reporting System*. Consequently, the human cost of fires is under-reported in this analysis. Smoke inhalation, cuts, fractures and less severe burns incurred while fighting or fleeing the fire are not recorded here. Most fire deaths are not recorded in M-BIRS; only the severely burned who survive for some time first and die later in a hospital. Properly maintained smoke detectors and quick-response residential sprinklers could prevent many of the injuries caused by fires. Detectors sound an early warning to leave the area and quick-response sprinklers can control or possibly extinguish a fire in its earliest stages preventing injuries.

Refer to MFIRS Annual Report for More Information about Fires

For more information about the causes of fires and fire-related casualties, please refer to the *Massachusetts Fire Incident Reporting System – Annual Reports*. Using data collected by the Massachusetts Fire Incident Reporting System (MFIRS), these reports examine the causes of fires, fire deaths and fire injuries. Information is provided on fires in different occupancies and on special topics such as children and fire, fires caused by smoking, electrical fires, cooking fires and heating equipment fires.

3 Fire Deaths Recorded in M-BIRS

Three (3) of the victims that were reported to have received their burn injuries from fires died as a result of their injuries. All three of these victims were Massachusetts residents. Of these

victims, one victim died in a residential fire of undetermined cause, one person died in a motor vehicle accident with ensuing fire; and the other person died in a camp fire fueled by gasoline.

20-Year Old Man Pushed in to Fire
One March 17, 2011, a 20-year old Ashland man was pushed into a camp fire. He received severe burns to his hands, lower back and buttocks.

23-Year Old Man Injured in Brush Fire
On April 17, 2011, a 23-year old Duxbury man received burns to 12% of his body surface area when he was using gasoline to burn brush in his fire pit.

34-Year Old Man Injured at Camp Fire
On May 24, 2011, a 34-year old Yarmouth man received burns to 32% of his body surface area when someone spread gasoline on to a camp fire.

58-Year Old Man Dies in Motor Vehicle Fire
On October 15, 2011, a 58-year old Marblehead man received burn injuries when he was involved with a motor vehicle crash and ensuing fire. The victim received burns to his face, torso, and lower extremities. He was transported to a local hospital where he later died.

83-Year-Old Man Dies in Outside Fire
On March 31, 2011, an 83-year old Beverly man was working burning brush and debris in his backyard and accidentally set his clothes on fire. He received third degree burns to approximately 60% of his body. He was transported to a Boston hospital where he later succumbed to his injuries.

84-Year Old Woman Dies in House Fire
On October 31, 2011, an 84-year old Hyannis woman received burns to approximately 80% of her body surface area in a house fire. She was transported to a local hospital and because of the severity of her injuries, transferred to a hospital in Boston where she succumbed days later.

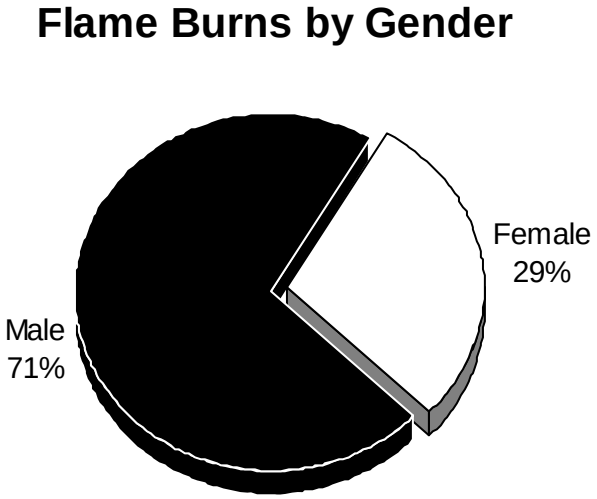
44-Year Old Man Burned in Demolition Derby
On August 20, 2011, a 44-year old man driving in a demolition derby received life-threatening burns to approximately 60% of his body surface area when his car was rear-ended causing the gas tank to rupture and the gasoline to ignite.

Flame Burn Injuries

Flames Caused 17% of Reported Burn Injuries
There were 66 reported flame burn injuries. These 66 injuries accounted for 17% of the 387 burn injuries reported in 2011. A burn is said to result from flame when the fire is confined to the victim or the victim's clothing. When a wider area burns, the cause of the injury is considered a

fire. Burns caused by self-immolation, smoking in bed or burning clothing usually result from flames.

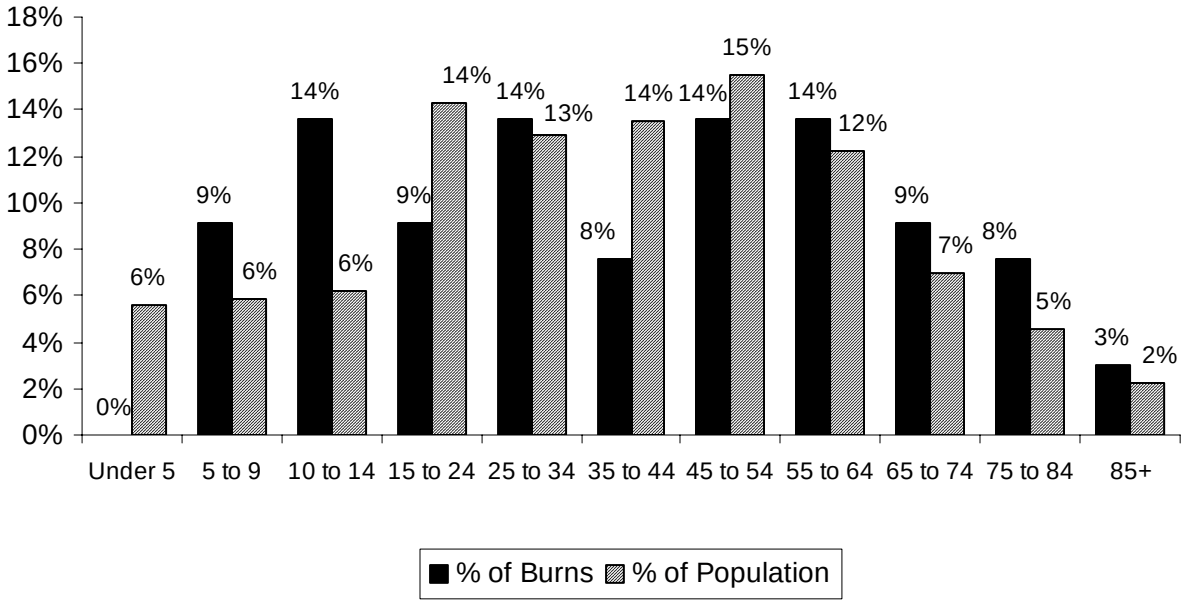
Seventy-one percent (71%) of the flame burn casualties were male and 29% were female. Ten (10), or 15%, of the 66 flame burns occurred during work-related activities; nine were men and one was a woman.



Young Adults 10 to 14 & Older Adults 75 to 84 Faced Highest Risk of Flame Burns
Seven (7) groups were at a higher risk for burns from flames. Children between the ages of five and nine were 1.5 times more likely to receive a flame burn injury. Young adults between the ages of 10 and 14 were 2.2 times as likely to receive a flame burn injury. Adults between 25 and 34 were 1.1 times and adults 55 and 64 were 1.1 times more likely to receive a flame burn injury. Adults between the ages of 65 and 75 were 1.3 times and older adults between the ages of 75 and 84 were 1.6 times more likely to receive a flame burn injury. Older adults over the age of 85 were 1.4 times as likely to receive a flame burn injury in 2011.

There were no reported flame burn victims to children under the age of five. Nine percent (9%) were between the ages of five and nine; 14% were between 10 and 14; 9% were victims with ages 15 to 24; 14% were between 25 and 34; 8% were between 35 and 44; 14% were between 45 and 54; 9% were between 55 and 64; 9% were between the ages of 65 and 74; 8% were between 75 and 84; and 3% were over the age of 85. The youngest person to receive a flame burn injury was a six-year old boy, while the oldest was an 87-year old woman.

Flame Burn Injuries by Age Group



Cooking Was the Leading Cause of Flame Burns
Cooking was the leading cause of flame burn injuries in 2011. Twenty-one (21), or 32%, of all flame burn victims received their injuries while cooking. Eight (8) clothing ignitions while cooking accounted for 12% of the total flame burn injuries. Five (5), or 8%, received their flame burn injuries from ignitions of hot cooking liquids, generally grease or oil. Five percent (5%) of the victims, were burned while barbequing; one while cooking on a gas grill. Flaming food, a stove, and an oven were each involved in one, or 2%, of the cooking-related flame burns.

Ignitable Liquids Caused 18% of Flame Burn Injuries
In 2011, ignitable liquids caused 12, or 18%, of flame burn injuries. Gasoline caused seven, or 11%; and ignitable liquids other than gasoline caused five, or 7%, of the flame burns.

Children Misusing Items Caused 9% of Flame Burns
Six (6) children were burned while misusing various items causing 9% of all 2011 flame burn injuries. In five instances, or 8%, the child was misusing lighter, in two of these instances the child ignited their clothing. A child using gasoline accounted for 1% of these burns.

Smoking Caused of 8% of Flame Burn Injuries
Smoking accounted for five, or 8%, of all flame burn injuries in 2011. Two (2) flame burns, or 3%, were from smoking while on oxygen. Another two burn injuries, or 3% were from clothing ignitions while smoking, and another person, or 2%, was burned in an unspecified smoking act.

Aerosol Ignitions & Clothing Ignitions Each Caused 6% of Flame Burns
Aerosol can ignitions and unspecified clothing ignitions were each responsible for four, or 6%, of the flame burn injuries in 2011.

Candles Caused 5% of Flame Burns
Candles were involved in three, or 5%, of flame burn injuries in 2011. Two (2), or 3%, were clothing ignitions from candles; and one, or 2%, was a burn directly from a candle.

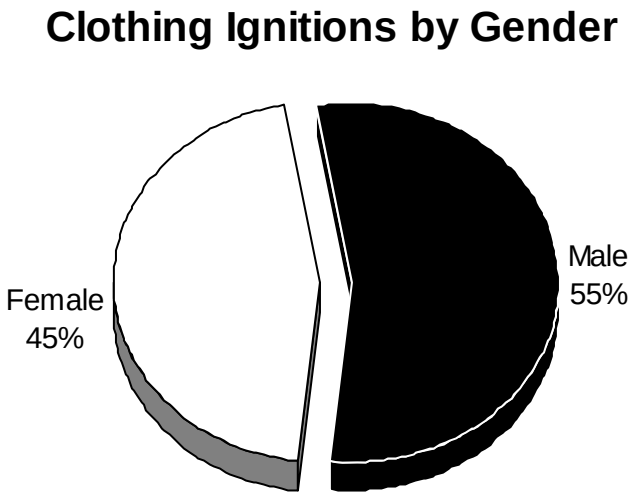
Propane Caused 3% of Flame Burns
Flame burn injuries from propane accounted for two, or 3%, of all 2011 flame burns.

Heating Equipment Caused 3% of Flame Burns
Heating equipment was involved in two, or 3%, of flame burn injuries in 2011. One (1), or 2%, was a burn injury from a woodstove; and the other, or 2%, was from a fireplace.

Multiple Single Causes
An assault, a chemical, an unspecified electrical flame burn, fireworks, a flashburn, flaming metal and an unsuccessful attempt at self-immolation were each the cause of one, or 2%, of these flame burn injuries.

Clothing Ignitions

Clothing Ignitions Account for 1/3 of Flame Burn Injuries
There were 22 clothing ignitions resulting in flame burn injuries accounting for 33% of all flame burn injuries. Clothing ignitions while cooking caused eight, or 12%, of these injuries. Four (4), or 6%, were caused by children misusing fire, and in all four cases the child was misusing a lighter. Two (2) victims, or 3%, of flame burn clothing ignitions involved candles. Two (2) victim's clothing ignited after coming into contact with smoking materials, accounting for 3% of all flame burn injuries in 2011. One (1) victim's clothing ignitions involved gasoline accounting for 2% of all flame burn ignitions. Flames fueled by propane caused one, or 2%, of flame burn injuries. There was also one unspecified clothing ignition accounting for 2% of all 2011 flame burn injuries.



Over 1/2 Clothing Flame Burn Injuries Were Men
Twelve (12), or 55%, of clothing ignition victims were men and 10, or 45% were women.

14% of Flame Burn Injury Victims Due to Clothing Ignitions Were 5 - 9
No children under the age of five received a flame burn due to a clothing ignition. Three (3) children between the ages of five and nine, or 14%, also received these burns. Another three children between the ages of 10 and 14, or 14%, received one of these injuries. Two (2) victims, or 9%, were in the age group 15 to 24. One (1) victim, or 5% was in the age group 25 to 34 years old. The age group 35 to 44 had one victim accounting for 5% of the clothing ignition flame burn injuries in 2011. Three (3) victims, or 14% of flame burn injuries due to clothing ignitions, were between 45 and 54 years old. Two (2) victims, or 9% were between 55 and 64 years old. There were three victims between 65 and 74 years old, accounting for 14% of these burns. Three (3) victims, or 14%, were between the ages of 75 and 84, and one victim, or 5%, of clothing burn injuries, was in the age group over 85 years old. The youngest person to receive a flame burn injury from a clothing ignition was a six-year old boy whose clothing was ignited by cooking; and the oldest victim of a clothing ignition flame burn injury was an 86-year old man who clothes were also ignited by cooking.

58-Year Old Woman Injured in While Cooking
On January 4, 2011, a 58-year old Boston woman was burned when her bathrobe ignited while cooking. She received severe burns to approximately 70% of her body.

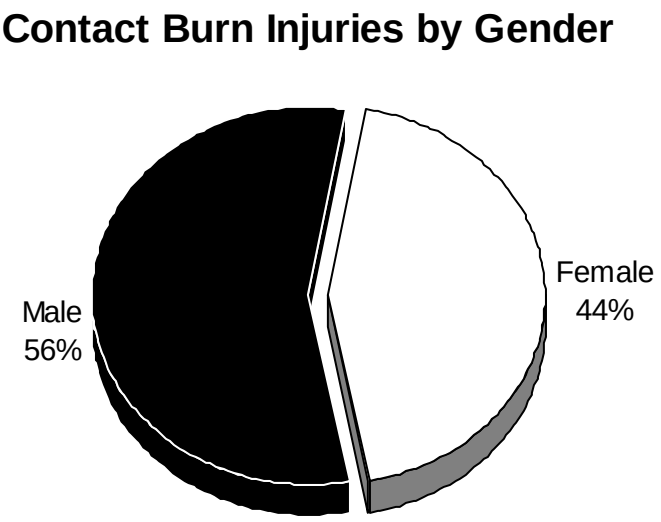
12-Year Old Boy Burned Playing with a Lighter
On September 17, 2011, a 12-year old Monson boy was at a friend's house. He and his friend were lighting nail polish remover attempting to recreate what they saw on the internet. The victim's shirt ignited giving him burns to approximately 16% of his body surface area.

ALWAYS REMEMBER TO:

STOP DROP & ROLL

Contact Burn Injuries

Contact with Hot Objects Caused 9% of Reported Burn Injuries
Thirty-four (34), or 9%, of the 387 burn injuries reported in 2011 were caused by contact with hot objects. Fifty-six percent (56%) of the burn victims were male and 44% were female. There were no reports of contact burns that occurred at work in 2011.

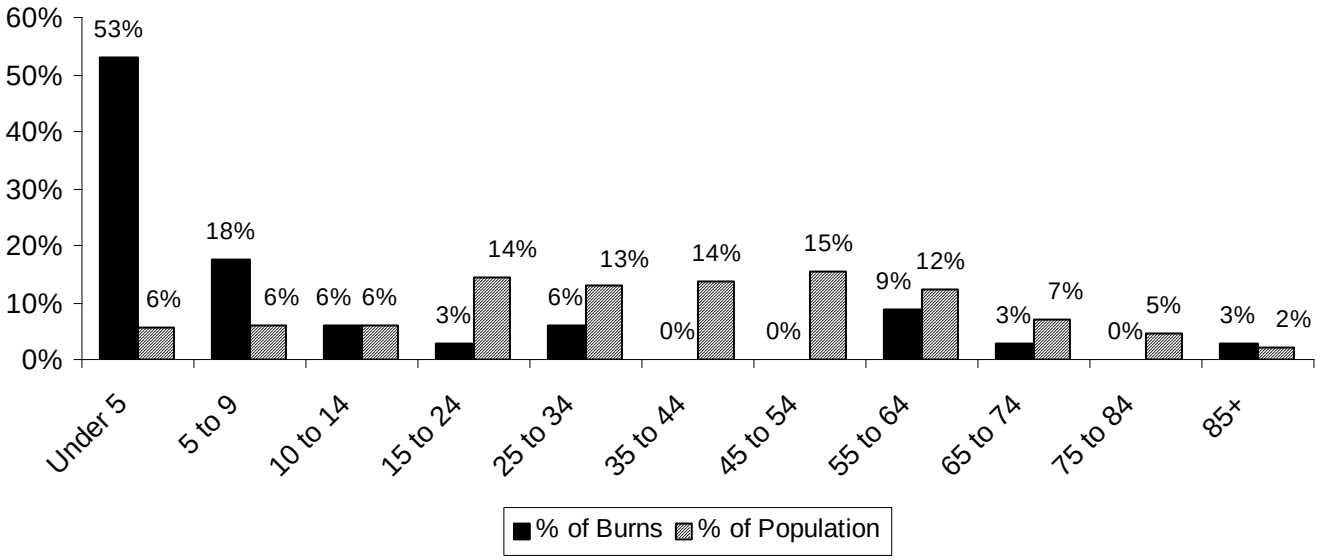


Over 1/2 of Contact Burns Were to Children Under 5
Children under the age of five accounted for 18, or 53%, of all contact burns. Pre-schoolers faced almost nine and a half times the risk of contact burns. This disproportionate risk could be the result of young children exploring their environment and underscores the need for constant supervision of toddlers.

Six (6), or 18%, of these burn victims were between the ages of 5 and 9; two victims, or 6%, were in the age group between 10 and 14; one young adult, or 3%, was between the ages of 15 and 24; two of the victims, or 6%, were between 25 and 34; there were no reported contact burns to anyone in the age group 35 to 54; three of the victims, or 9%, were between the ages of 55 and 64; one victim, or 3%, was between the ages of 65 and 74; there were no reported contact burn injuries to anyone between the ages of 75 and 84; and there was one victim, or 3%, over the age of 85. The youngest person to receive a contact burn in 2011 was a three-month old boy, and the oldest person was a 90-year old man.

The following graph illustrates the data in the above paragraph.

Contact Burn Injuries by Age Group



Cooking Was the Leading Cause of Contact Burns
Contact with cooking equipment caused 10, or 29%, of the contact burns in 2011. Contact with barbeques and unspecified cooking devices each caused three, or 9%, and coming into contact with a stove and an oven each caused two, or 6%, of 2011 contact burn injuries.

Curling Irons, Radiators & Clothes Irons Were the Next Leading Causes of Contact Burns
Curling irons and radiators each caused four, or 12%, and clothes irons caused three, or 9%, of these types of burn injuries.

A battery charger, a car, embers, a fireplace, a lamp, a lawnmower, a light bulb, a machine, a motorcycle, pavement burns, a pipe and hot wax each caused one, or 3%, of contact burns in 2011.

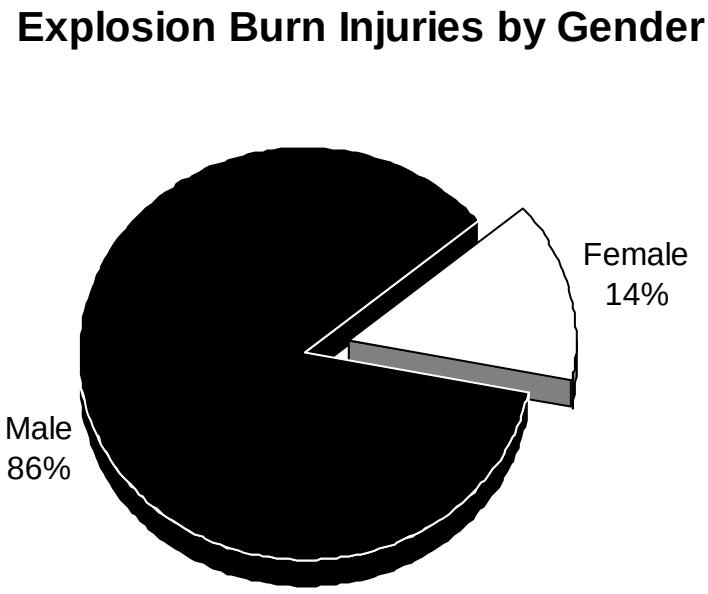
There were no reported work-related contact burn injuries in Massachusetts in 2011.

5-Year Old Burned by Barbeque
On April 10, 2011, a five-year old Quincy boy received burns to his hand when he grabbed a hot barbeque.

90-Year Old Man Burned by Lawnmower
On May 31, 2011, a 90-year old Franklin man fell on top of his hot lawnmower. He received burn injuries to the back of both legs, his abdomen and his left arm.

Burn Injuries Caused by Explosions

Explosions Caused 4% of Reported Burn Injuries
Fourteen (14), or 4%, of the 387 burn injuries reported in 2011 were caused by explosions. Eighty-six percent (86%) of the explosion burn victims were male and 14% were female.

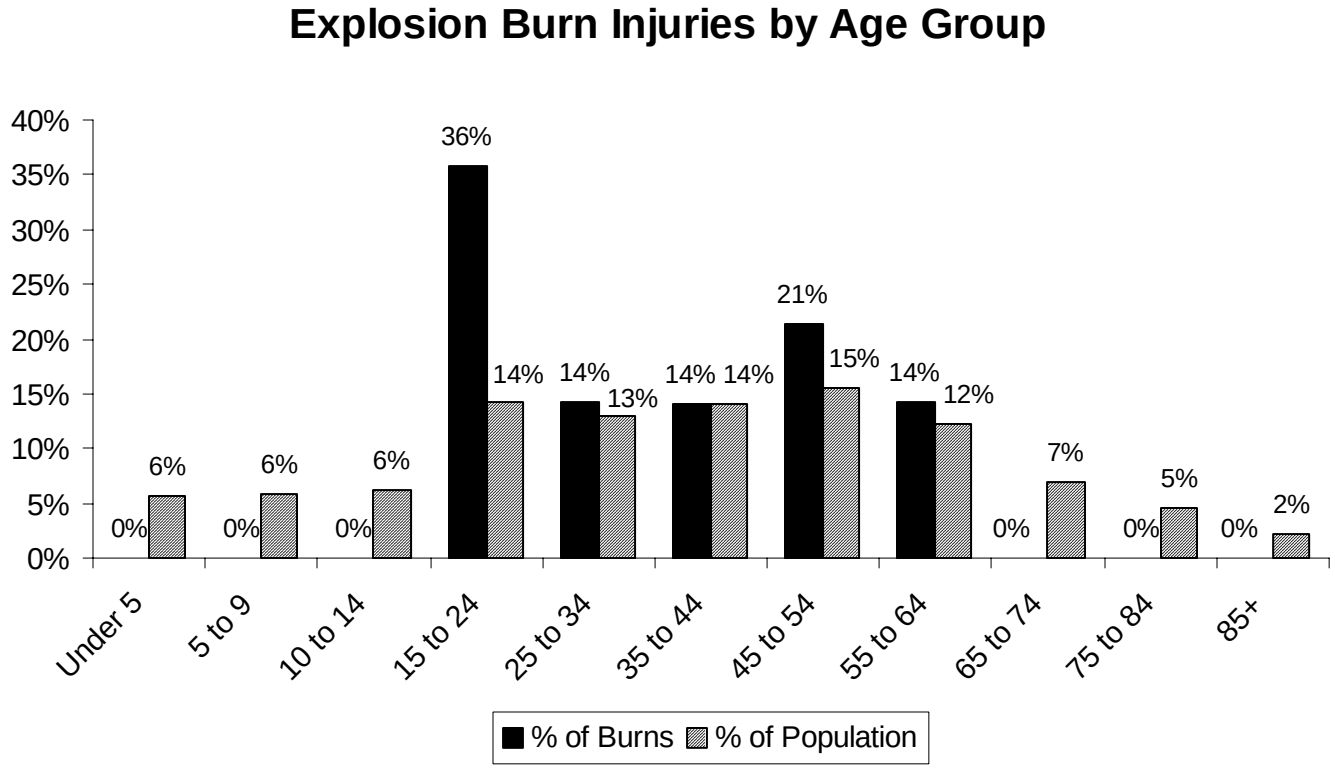


Five (5) burns, or 36%, occurred during work-related activities. Four (4) of these work-related victims were men and one was a woman.

Out of these 14 injuries there were no explosions with two or more injuries.

Adults Ages 15 to 24 Face Greatest Risk of Explosion Burns
No one under the age of 15 was reported to have received a burn injury from an explosion in 2011. Five (5) young adults between the ages of 15 and 24 were burned in explosions, accounting for 36% of these burns; adults between the ages of 25 and 34 received two, or 14%, of the explosion related burns; another two, or 14%, were between 35 and 44; three or 21%, were between 45 and 54 years of age; and two, or 14%, were between 55 and 64 years old. No one over the age of 64 received a burn injury due to an explosion. The youngest victim to receive a burn injury from an explosion in 2011 was a 15-year old boy; and the oldest person to receive one of these burns was a 64-year old man.

The following graph illustrates the data in the above paragraph.



Ignitable Gases Were the Leading Cause of Explosion Burn Injuries
Ignitable gases accounted for seven, or 50%, of the explosion-related burn injuries in 2011. Three (3), or 21%, were from propane, three, or 21%, were from gas powered stoves, and one, or 7%, was from a gas powered barbeque.

Four (4), or 29%, were from gasoline. Explosives caused two, or 14%, of these injuries. Gunpowder and fireworks each caused one, or 7%, of these injuries. An aerosol iginition accounted for one, or 7%, of the explosion-related burn injuries in 2011.

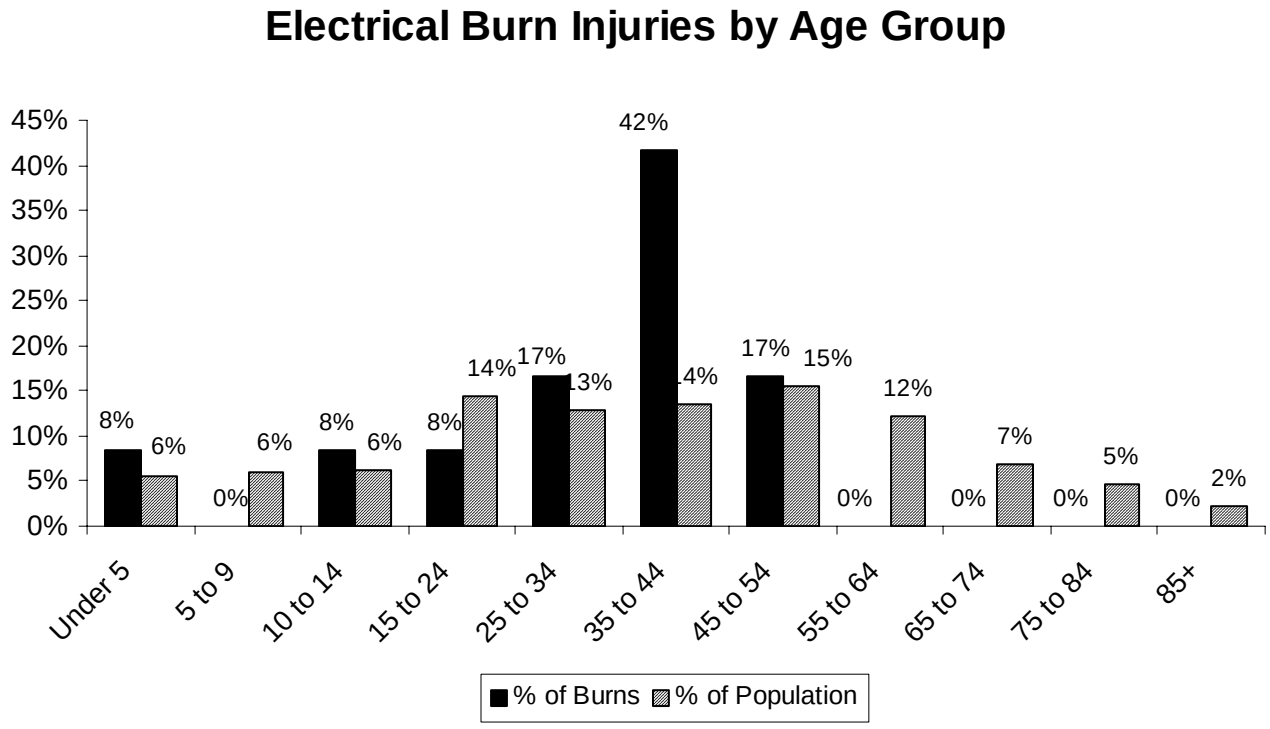
64-Year Old Man Injured While Working on Snowblower
On May 6, 2011, a 64-year old Springfield man received burns to approximately 15% of his body surface when there was an explosion while he was draining the gasoline from his snowblower.

24-Year Old Woman Injured in Gas Stove Explosion
On September 19, 2011, a 24-year old Newburyport woman received burns to approximately 20% of her body surface area when the gas stove she was attempting to light exploded directly in front of her.

Electrical Burn Injuries

Electrical Incidents Caused 3% of Burn Injuries
Twelve (12), or 3%, of the 387 burn injuries reported in 2011 were caused by electrical accidents. Ninety-two percent (92%) of the electrical burn victims were men and 8% were women. Ten (10), or 83%, occurred during work-related activities, all of these victims were men.

35 to 44 Year Olds Received 42% of Electrical Burns
All of the electrical burn victims in 2011 were between the ages of two and 53-years old. One (1), or 8% of electrical burn victims was less than five years old. There were no reported electrical burn injuries to anyone between five and nine; one victim accounted for 8%, was between the ages of 10 and 14; another victim, or 8%, was between 15 and 24 years old; two victims, or 17%, were between 25 and 34 years old; five victims, or 42%, were between 35 and 44 years old; two, or 17%, of the electrical burns occurred to people between the ages of 45 and 54. No one over the age of 53 was reported to have received electrical burns in 2011. The youngest person to receive an electrical burn injury was am two-year old girl, and the oldest victim was a 53-year old man.



1 of the Electrical Burns Were Caused by Electrocutions
Undefined electrical accidents caused 11, or 92%, of these burns. One (1), or 8%, of the electrical burn injuries in 2011 were from electrocutions.

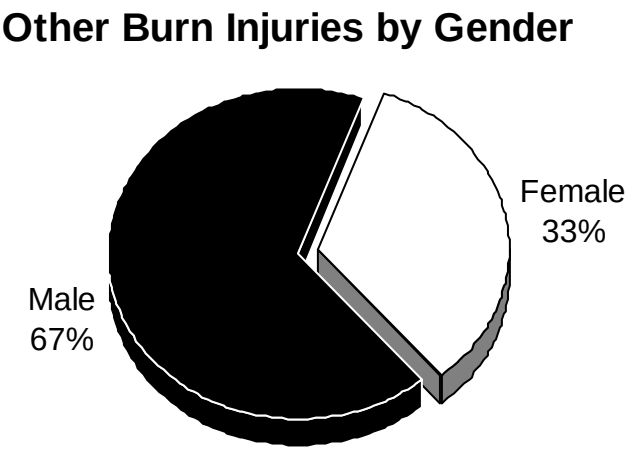
42-Year Old Man Burned While Working on Generator
On November 12, 2011, a 42-year old man was working on a generator when it sparked and he sustained a flashburn to his right arm and face.

35-Year Old Man Burned While Working
On August 31, 2011, a 35-year old Waltham man was working on a switchgear unit when it shorted out. He received flashburns to both his face and hands.

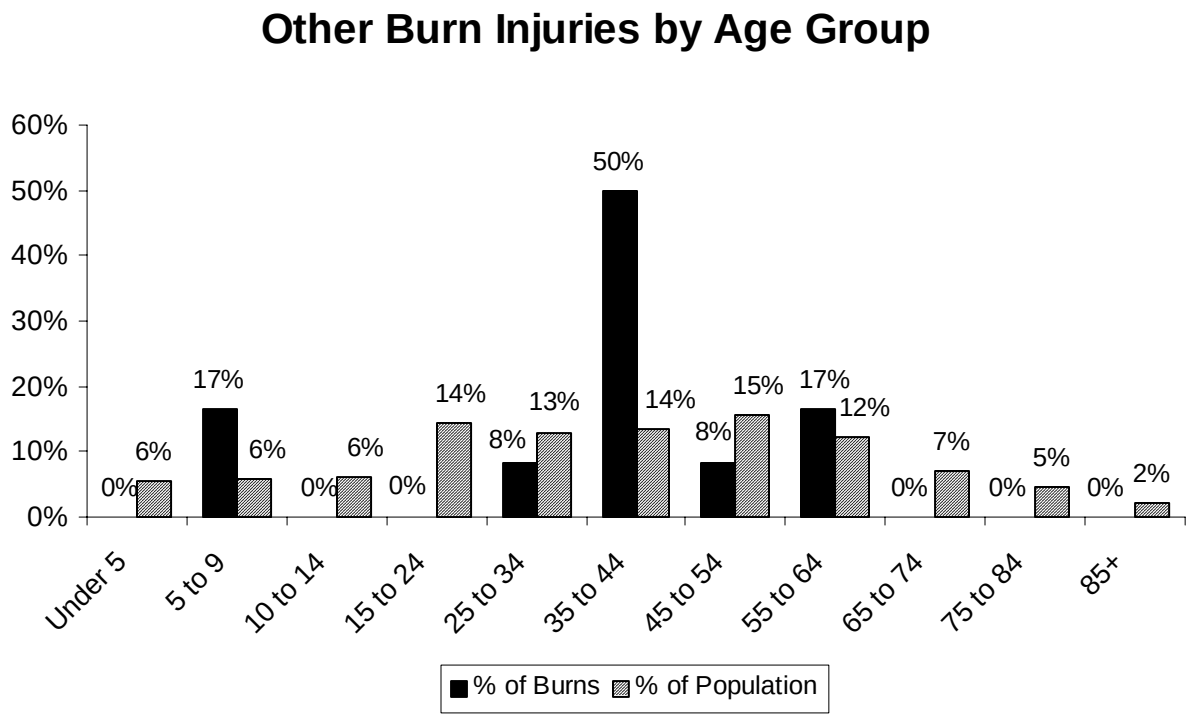
Other Types of Burn Injuries

***Other* Type Burns Cause 12 Injuries**
In 2011, there were 12 burn injuries that were characterized as *Other*. Eight (8) *Other* burns, or 67%, were attributed to exposure to chemicals. Three burns, or 25%, were caused by severe sunburns. And one burn, or 8%, was attributed by medical staff to a radiator.

Sixty-seven percent (67%) of the 12 victims were male and 33% were female. Health care facilities reported that five, or 42%, of the 12 *Other* burn victims were working when injured. Exposure to chemicals caused four of the five work-related injuries.



1/2 of *Other* Burn Victims Were Between 35 & 44 Years Old
In 2011 there were no *Other* burn victims under five-years old. Two (2) victims, or 17%, were between five and nine. There were no reported victims between the ages of 10 and 24; one victim, or 8%, was between the ages of 25 and 34; six victims, or 50%, were between 35 and 44 years old; one victim, or 8%, was between 45 and 54 years old; and two victims, or 17%, were between the ages of 55 and 64. No one over the age of 61 suffered an *Other* type of burn injury. The youngest victim was a five-year old boy and the oldest victim was a 61-year old man.



40-Year Old Woman Burned Sunbathing
On July 8, 2011, a 40-year old North Attleboro woman received a sunburn to her legs when she stayed out too long.

61-Year Old Woman Received Chemical Burn
On July 21, 2011, a 61-year old Brockton woman received a chemical burn to approximately 15% of her body surface area when she slipped and fell into a floor stripper.

41-Year Old Man Burned by Chemical at Work
On June 16, 2011 a 41-year old man received chemical burns to his right arm and hand. He received his burns while he was using a chemical stripper while at work.

Domestic Violence Burn Injuries

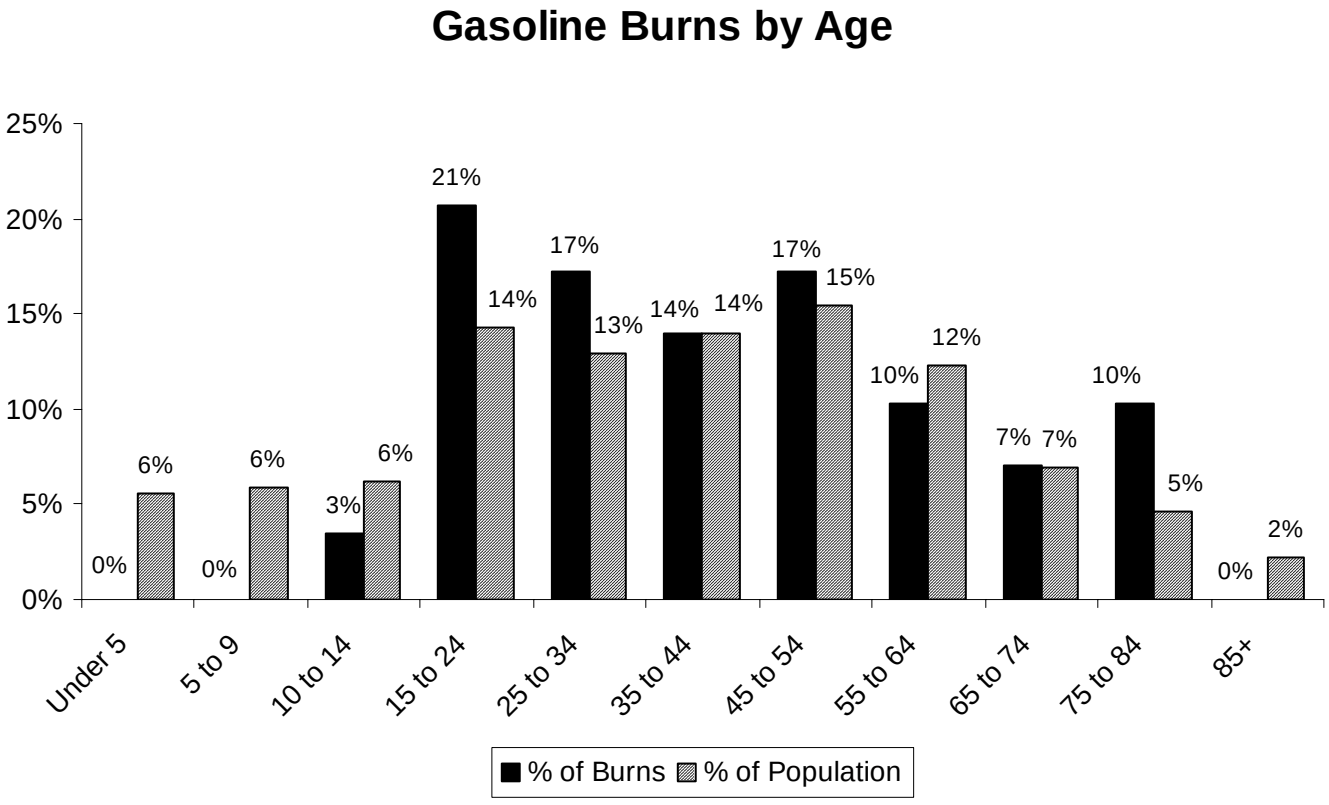
Domestic Violence Burns Cause 1 Injury
In 2011, there was one burn injury that was characterized as domestic violence. This one burn accounted for less than 1% of the total 387 burn injuries in 2011. The burn occurred to a 37-year old man that had a hot chicken pot pie thrown into his lap by his girlfriend.

Gasoline Related Burn Injuries

Gasoline Involved in 8% of Reported Burn Injuries
Gasoline was involved in 29, or 8%, of the 387 burns reported to M-BIRS in 2011. Gasoline was the primary cause of the injury in 24, or 83%, of these injuries. Because of more detailed descriptions as to how burn injuries occurred, it was determined that gasoline was also involved in five additional, or 17% of burn injuries that were coded with a different primary description, such as using it to start a cutting torch.

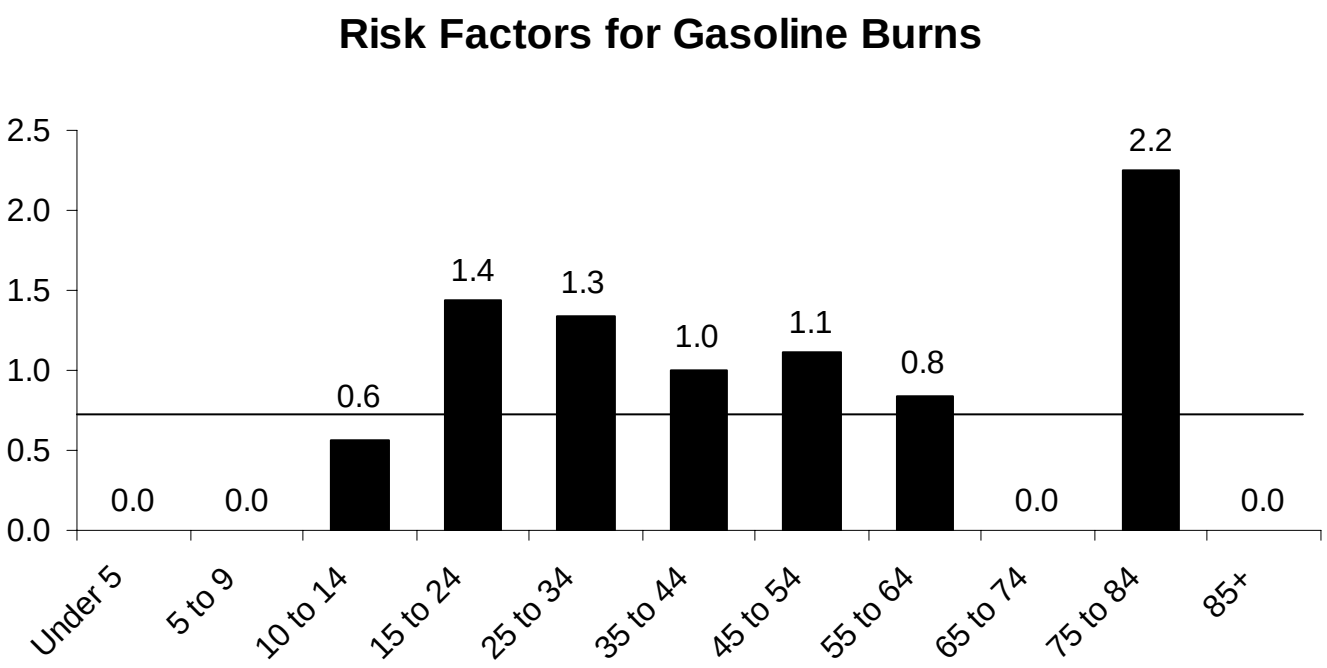
Fourteen (14), or 48%, of the gasoline related burn injuries were caused by fires. Eleven (11), or 38%, of the burn injuries involving gasoline were flame burn injuries. Four (4), or 22%, of these injuries were caused by explosions. Twenty-eight (28), or 97%, of the 29 gasoline related burn victims in 2011 were men, and one, or 3% were women. Four (4), or 14%, of the injuries occurred during work-related activities. Three (3), or 10%, of the gasoline burn injuries in 2011 were to children; 26, or 90% of these injuries occurred to adults.

21% of Gasoline-Related Burn Victims Were Between the Ages of 15 & 24
No one under the age of 14 in 2011 was the victim of a burn injury involving gasoline. One (1), or 3%, of the victims were between the ages of 10 and 14 years old. This age group has historically been the most at risk for these types of injuries, and this year this age group was 0.6 times at a greater risk of gasoline burn injuries. Six (6), or 21%, of the victims were between 15 and 24; young adults in this age group were the most at risk to be burned while handling gasoline, 1.4 times more likely. Five (5), or 17%, were between 25 and 34; four, or 14% were



between 35 and 44; five victims, or 17%, were between the ages of 45 and 54; three victims, or 10%, were in the age group 55 to 64 years old; two victims, or 7% were between 64 and 74; and three victims were between 75 and 84 years old. No one over the age of 83 received a burn injury involving gasoline. The youngest victim was a 14-year old boy and the oldest victim was 83-year old man.

The following graph illustrates the risk factor for gasoline burns by age group. If an age group has a risk factor greater than one it is said that an individual in that age group has a greater risk of being burned by gasoline. If an age group has a risk factor less than one, then individuals in that age group have a lesser risk of receiving any burns involving gasoline. In 2011, people between the ages of 75 and 84 had the highest risk of getting a burn involving gasoline. Members of the age group 15 to 24 had the second highest risk of getting a gasoline burn. Historically, adolescents in the age group 10 to 14 have had the greatest risk of getting a burn involving gasoline. In 2011 they had they were not at a greater risk of getting a burn involving gasoline.



It is actually gasoline vapors that burn, not the liquid itself. The vapors are generated at very low temperatures, are heavier than air and can travel a distance to find a spark or other ignition source. A spark or lit cigarette is enough to ignite the invisible fumes that may linger on clothing. Gasoline is a tool, but a dangerous one, and it demands respect.

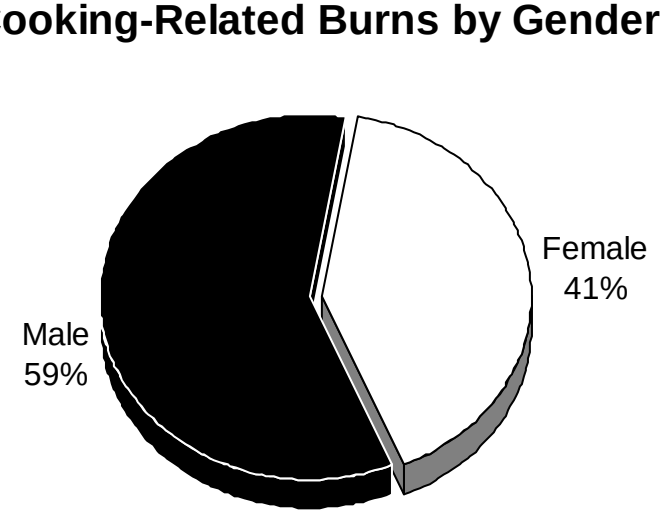
59-Year Old Man Burned in Gasoline Tanker Explosion & Fire
On July 23, 2011, a 59-year old Southampton man received burns to approximately 40% of his body surface area when a gasoline tanker truck hit the median, flipped over and exploded releasing flaming gasoline all over Route 1. The victim was in his own car traveling along Route 1 when this occurred and his car was ignited by the gasoline.

77-Year Old Man Killed Using Gasoline to Burn Out Ants
On March 8, 2011, a 77-year old Plymouth man was using gasoline to burn out ants in his yard when a nearby log ignited. He accidentally tripped on the log and caught himself on fire. He received third degree burns to approximately 60% of his body surface area. He was transported to a local hospital and then transferred to a Boston hospital where he succumbed to his injuries.

Some Safety Measures
- If you must store gasoline, store it outside the home in a detached garage or shed in approved safety cans away from open flames (i.e. water heaters and pilot lights) and out of reach of children.
- Never regularly carry gasoline in your trunk.
- A one-gallon approved container could be carried empty to be used only for emergencies.
- Never add gasoline to any fire or smoldering embers, the vapors spread quickly and ignite explosively.

Burns Caused by Cooking Activities

Cooking Activities Caused 36% of Reported Burn Injuries
Cooking activities caused 140, or 36%, of the 387 total burn injuries reported to the Massachusetts Burn Injury Reporting System in 2011. Cooking activities were the primary cause of the injury in 135, or 96%, of these injuries. Because of more detailed descriptions as to how burn injuries occurred, it was determined that cooking activities were also involved in five, or 4%, of other burn injuries that were coded with a different primary description such as 'ignitable liquids.'



Eighty-three (83), or 59%, of the 140 victims were male and the 57, or 41%, were female. Sixteen (16), or 11%, of the 140 people burned by cooking activities were working when injured.

Scalds Cause 71% of Cooking-Related Burn Injuries

One hundred (100), or 71%, of the 140 burn injuries caused by cooking were scalds. Sixty-one (61), or 44%, of these scald victims were injured by hot cooking liquids; hot food accounted for 34, or 24%, of these victims; and three, or 2%, were caused by unspecified cooking acts. Two (2) victims, or 2%, were scalded by steam; and another victim, or 1%, was scalded by unspecified cooking injuries.

Twenty-three (23), or 16%, of all cooking-related burns were flame burn injuries. Eight (8), or 6% of the cooking-related flame burn victims, were burned when their clothing ignited while cooking. Five (5), or 4%, were burned when cooking liquids started stovetop fires. Stoves were responsible for three, or 2%, of these injuries. Three (3), or 2% involved barbeques; one was from a gas grill. Flaming food, an aerosol can ignition, a chemical and an oven were each responsible for one, or 1%, of cooking-related flame burn injuries in 2011.

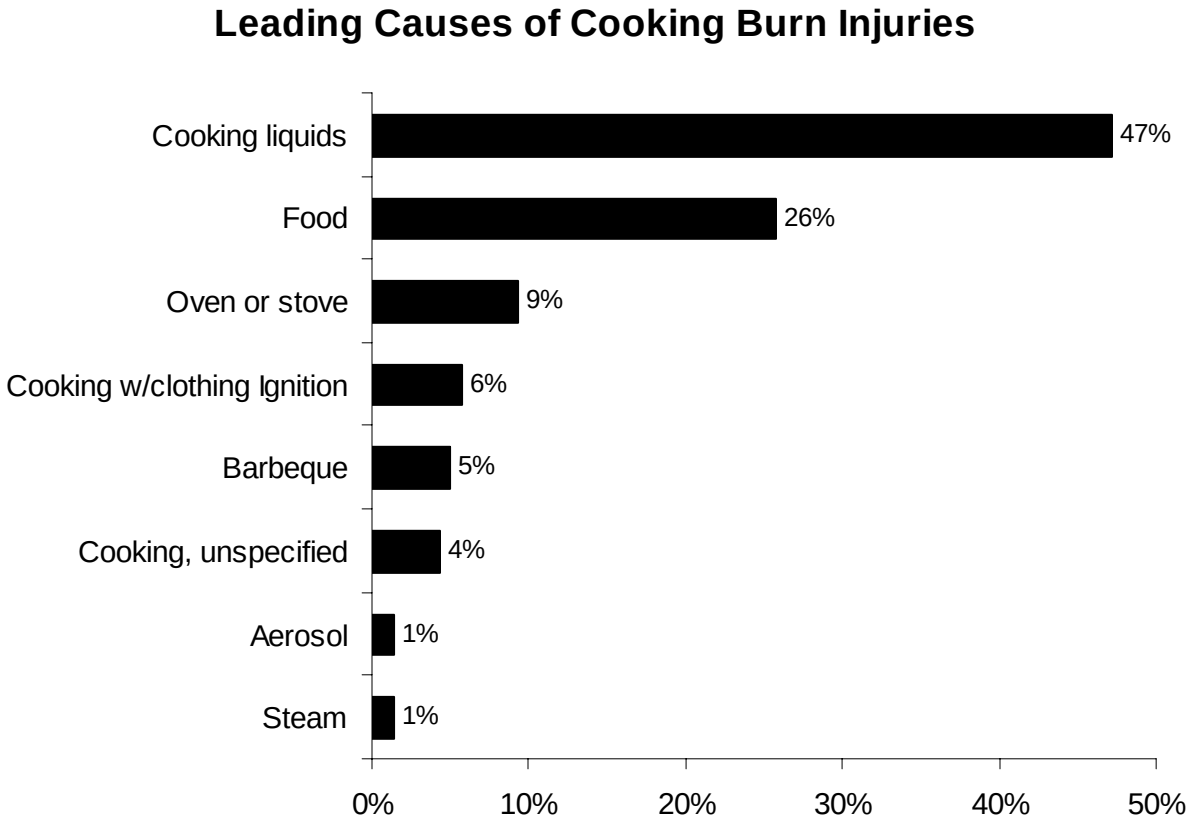
Ten (10), or 7% of all cooking-related burn victims, received contact burns while cooking. Contact with a barbeque and unspecified cooking acts each caused three, or 2%; and touching a hot oven and a hot stove each accounted for two, or 1%, of burn injuries while cooking.

Five (5) victims received burn injuries in cooking-related explosions, accounting for 4% of cooking burn injuries in 2011. Three (3) injuries involved gas stoves accounting for 2% of these injuries. The other two explosion victims were injured in explosions involving an aerosol can and a stove, and a gas grill each accounting for 1% of the cooking-related explosion burn victims.

One (1) of these cooking burn injury victims, or 1%, received their burn injuries from a fire. This was in an attempted self-immolation resulting in a house fire; the other cooking burn injury was a domestic violence incident involving hot food, accounting for 1% of all cooking related burns.

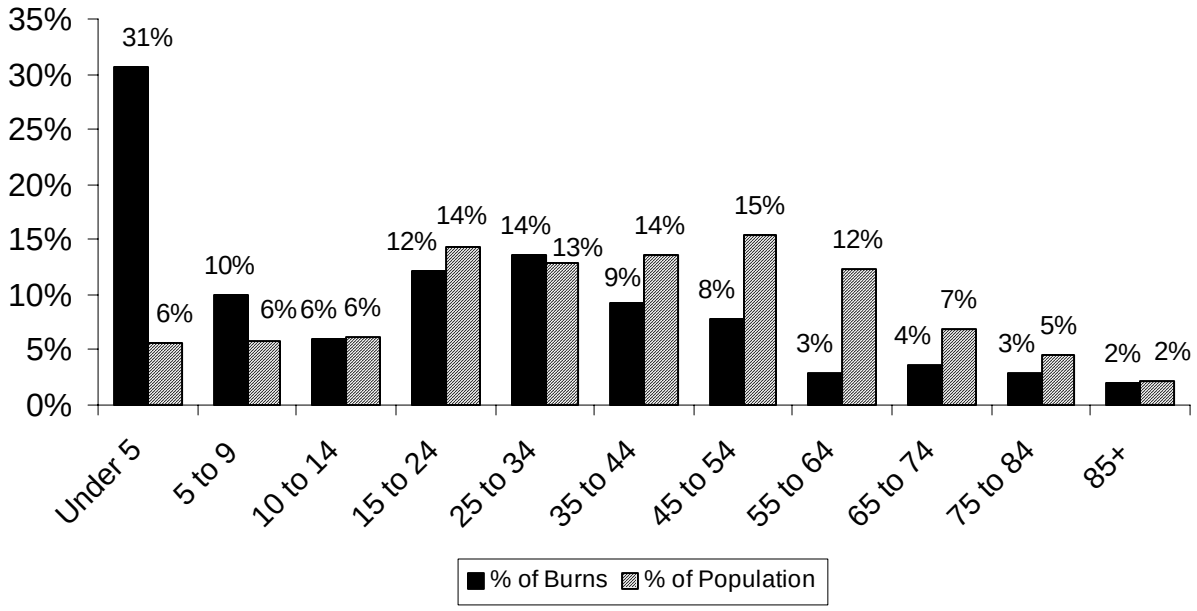
Cooking Liquids Were the Leading Cause of Cooking-Related Burns

Burns from cooking liquids were the leading cause of all cooking-related burns in Massachusetts in 2011. These burns accounted for 66, or 47%, of all cooking-related burn injuries. Burns from hot food were the second leading cause of cooking-related injuries. They caused 36, or 26%, of these injuries. Burns from conventional ovens and stoves caused 13, or 9% of these burns. Clothing ignitions while cooking caused eight, or 6%. Burns received while barbequing accounted for seven, or 5%, of all cooking burn injuries. Unspecified cooking activities caused six, or 4% of these burns; and aerosol ignitions and steam each caused two, or 1%, of the cooking related burns in the Commonwealth in 2011.



Children Under 5 Over 5 Times as Likely to be Burned by Cooking Activities
Forty-three (43), or 31%, of the cooking-related burn victims were under age five. This age group was five and a half times more likely to be burned by cooking related activities. Fourteen (14), or 10%, were aged between five and nine years of age; eight, or 6%, were between 10 and 14; 17, or 12%, were between 15 and 24 years old; 19, or 14%, were between 25 and 34; 13, or 9%, were between 35 and 44; 11, or 8%, were between 45 and 54; four, or 3%, were between 55 and 64; five victims, or 4%, were between 65 and 74; four, or 3%, of the victims belong to the age group between 75 and 84 years of age, and two, or 2%, of the victims was over the age of 85 in 2011. The youngest victim of a cooking-related burn was a four-month old boy who was burned by hot food, while the oldest victim was an 87-year old woman who also received her burn injuries from food.

Cooking Burn Injuries by Age Group



The cause of burns varied with age. Pre-schoolers generally do not cook. They do, however, grab pot handles and sometimes get underfoot when adults are cooking. Cooking liquids or cooking grease frequently scalds them. Parents should keep young children safely away from the stove and food preparation areas while adults are cooking.

In 2011 Older Adults Not at a Higher Risk for Cooking-Related Burn Injuries
Historically, older adults over the age of 65 were more likely to be burned while cooking. However in 2011, 11 older adults received burn injuries as a result of cooking in 2011. They represented 9% of the cooking burn injuries and 14% of the population and so were not injured by cooking at a disproportionate rate. Six (6), or 55%, of these victims were women and five, or 45%, were men. Five (5) of these older adults were burned by cooking liquids, four had their clothing ignite while cooking; one was burned by hot food and another was burned by an unspecified cooking act.

Clothing Ignitions while Cooking
Loose-fitting sleeves can easily come into contact with burners and catch fire. In 2011, eight, or 6% of the victims with cooking-related burns, were injured when their clothing ignited while cooking. Five (5) of the victims that had their clothing ignite while cooking were female and three were male. Four (4), or 50% of these burn victims, was 65 years old or older.

According to data collected by the Massachusetts Fire Incident Reporting System (MFIRS), unattended and other unsafe cooking practices caused 11,642 fires in 2010. These fires caused

one civilian death, 106 civilian injuries, 36 fire service injuries along with $8.2 million in losses. Many of these people also suffered from smoke inhalation[8].

Serious Burns from Cooking

- On January 8, 2011 an 82-year old Framingham woman received burn injuries to 10% of her body surface area when her shirt ignited when she got too close to her stove.
- On February 13, 2011 a 23-year old Boston woman burned multiple body parts when she lifted the cover off of a pan of flaming cooking oil, igniting her clothes.
- On May 25, 2011, a 38-year old Saugus man received burns to approximately 20% of his body surface area while cooking when cooking liquids scalded him.
- On May 21, 2011, a 45-year old Lowell man received second degree burns to approximately 60% of his body surface area when his gas grill exploded.
- On June 7, 2011, a 47-year old Marlborough man received first and second degree burns to approximately 20% of his body surface area when he received a flashburn from his barbeque and was not wearing a shirt.

Safety Measures

- ✓ Never leave cooking food unattended.
- ✓ Stand by your pan.
- ✓ Put a lid on stovetop fires, never move the pan.
- ✓ Keep a large pot lid handy to put out stovetop fires.
- ✓ Keep children at a safe distance from all hot items by using playpens, high chairs, etc.
- ✓ Create and enforce a **NO** zone around the stove. Do not let children play around the stove or barbeque.
- ✓ Test all heated food before giving it to young children.
- ✓ Keep pot handles turned in over the stove or countertop.
- ✓ Always use oven mitts or potholders.
- ✓ Secure loose sleeves or wear short sleeves while cooking.
- ✓ Never use water on a stovetop grease fire.
- ✓ Read and follow directions when using microwave ovens and other cooking appliances.
- ✓ Children should not be allowed to use cooking or heating appliances until they are mature enough to understand safe-use procedures and tall enough to safely handle items and reach cooking surfaces.
- ✓ If cabinets exist over cooking surfaces use them to store only items that will not be needed during cooking.
- ✓ When barbequing, use only charcoal lighter fluid to start a fire. Once the coals have been ignited, never add more charcoal lighter fuel to the fire; the container may explode in your hand.

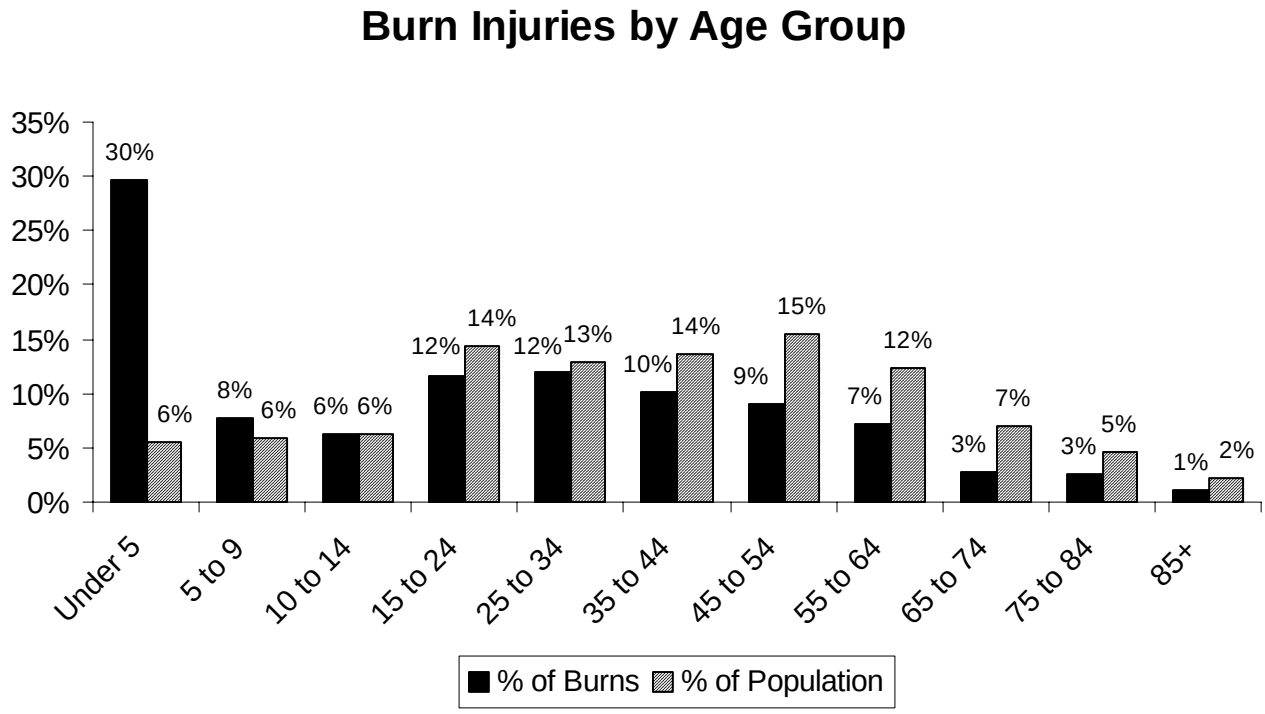
[8] 2009 Annual Report of the Massachusetts Fire Incident Reporting System; MA Dept. of Fire Services; pg. 134.

Burn Injuries by Age Group

Two (2) age groups were the only part of our population that were at a greater than average risk of a burn injury. Although burn injuries were reported in all age groups, very young children suffer more than their share and are almost four and a half times more likely to be burned. In 2011, older adults over the age of 65 were not burned at a disproportionate rate compared to their share of the total population; however their burns tended to be larger or more severe.

Thirty percent (30%) of all burn victims were children under the age of five. One hundred and fifteen (115) children under age five were seriously burned in 2011. Thirty (30), or 8% of the burn injuries, occurred to children aged five to nine; 24, or 6%, were youths aged 10 to 14. Forty-five (45), or 12% of the burn victims, were young adults aged 15 to 24. Forty-six (46), or 12% of the 2011 burn victims were adults aged 25 to 34. Thirty-nine (39), or 10%, were people aged 35 to 44. Thirty-five (35), or 9% of the burn injuries, occurred to adults aged 45 to 54; 28, or 7% of people who were reported to have incurred burns were between 55 and 64; 11, or 3% of all burn victims, were older adults in the 65 to 74 age group; 10, or 3%, were in the 75 to 84 year old age group; and four adults over the age of 85, or 1% of all reported burn victims in 2011, received burns of more than 5% of their body surface area.

The following graph illustrates the figures in the previous paragraph.



Children Under 5 At Highest Risk of Burn Injuries
The above graph compares the percentage of burn injuries incurred by each age group with the percentage that age group represents in the general population. Only 6% of the population in Massachusetts is under the age of five (source: 2010 U.S. Census data). We would expect therefore that children under five would account for a maximum of 6% of the burn injuries. In fact, they accounted for 30% of the reported burn injuries in 2011, making them 5.3 times more likely to suffer burn injuries. Children of this age group are the most dependent on others to protect them and are the least able to move out of harm's way unassisted.

The threat of burns is most severe for children less than two-years old. Seventy-five (75) babies and toddlers under the age of two, accounted for 19% of all burn victims, but all children under the age of five accounted for only 6% of the Massachusetts population.

Scald & Flame Burns the Leading Type of Burn to Most Age Groups
While scalds remain the leading cause of burn injuries overall, they were also the leading cause or tied for the leading cause of burn injuries to seven of the age groups. Scalds were the leading cause of burn injuries in the age groups of children under five, children between the ages of five and nine, young adults between the ages of 10 and 14, young adults between the ages of 15 to 24, and adults between the ages of 25 and 34. Scalds tied with burns from fires as the leading cause of burns to adults between the ages of 35 and 44 and 45 and 54 years old.

Flame burns were the leading cause to four age groups. Flame burns were the leading cause of burn injuries to adults 55 to 64, 65 to 74, 75 to 84, and to older adults over the age of 85.

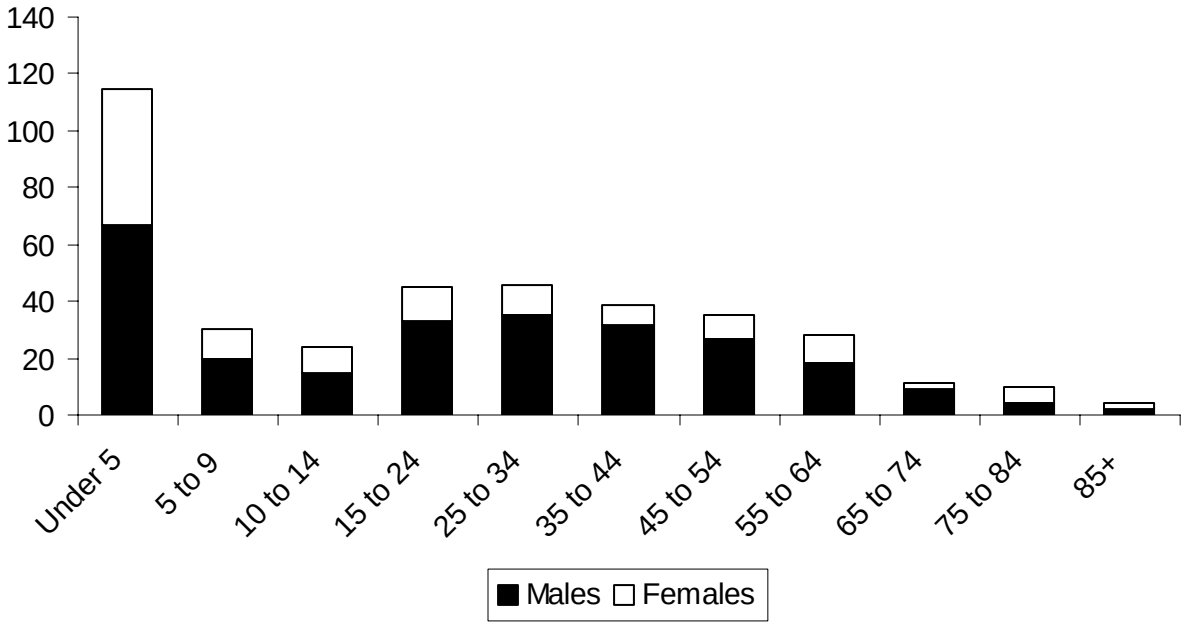
To learn more about the specific causes for each age group, please look at the age specific sections within *Burn Injuries by Age Group*.

Causes of Burn Injuries by Age and Gender

The leading causes of burn injuries vary widely between age groups depending on the nature of activities in which people are involved. Children under five are busy exploring their environment and reaching for anything in their grasp. Thirty-four percent (34%) of the burns incurred by these young children were scalds caused by hot beverages, 19% were caused by cooking liquids, and 10% were caused by scalds from hot tap water. Cooking liquid scalds, gasoline and other ignitable liquids were frequent causes of burn injuries to older teens and young adults.

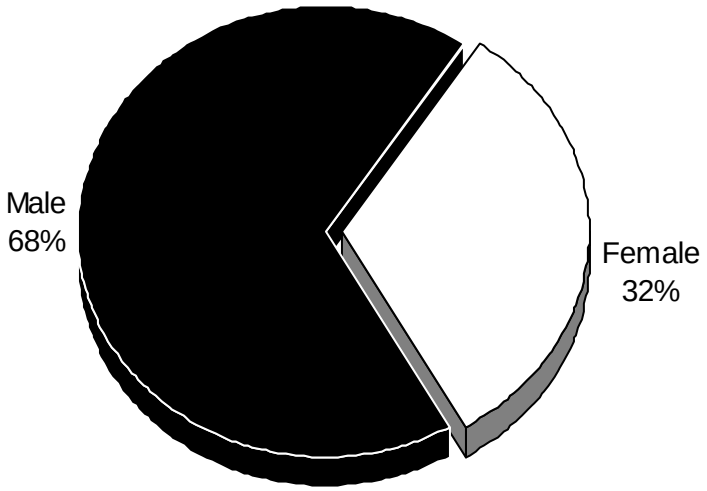
Parents of young children must be educated about the danger of scalds from hot beverages, cooking liquids and tap water. Teens and young adults need information about cooking safely, procedures to follow when a car overheats and the correct uses of gasoline. To be effective, burn prevention educators must develop strategies that address the risk faced by each age group.

Burn Victims by Age and Gender



Except for the age group of older adults between 75 and 84 where six women and four men were burned, and older adults over the age of 85 where two men and two women were burned, males were burned more frequently than females. In 2011, 262, or 68%, of the 387 burn victims were male, and 125, or 32%, were female.

Burns by Gender



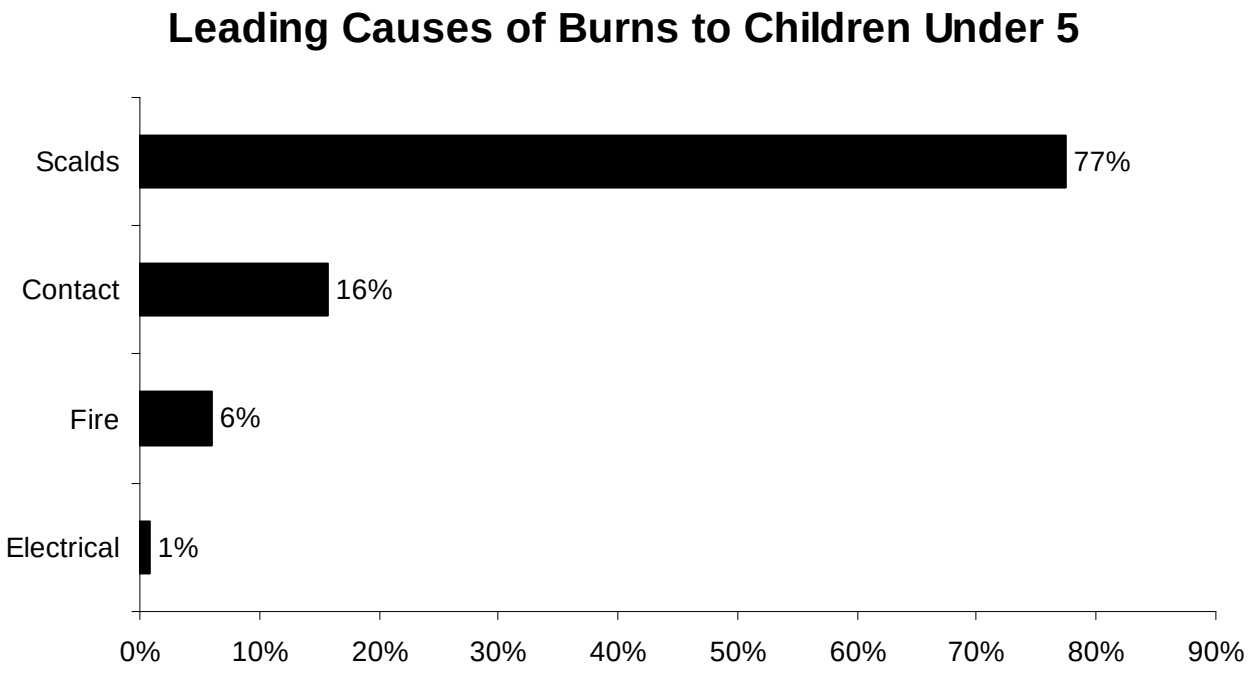
Children Under 5

30% of Reported Burns Incurred by Children Under 5
One hundred and fifteen (115), or 30%, of the burn injuries reported to M-BIRS in 2011 were incurred by children under five years old. According to the 2010 U.S. Census, only 6% of Massachusetts residents are under the age of five. Children under five were 5.3 times as likely to be burned, as were members of the general population. No other age group faced a risk this high. Fifty-eight percent (58%) of burned pre-schoolers were boys and 42% were girls.

Scalds Caused 77% of Burns to Pre-Schoolers
Scalds caused 89, or 77%, of the burn injuries incurred by children under five. Thirty-seven (37) were from hot beverages; another 37 were from cooking activities; 22 burns were from cooking liquids and 15 were from hot food. Twelve (12) burns to children under five were from hot tap water; and a scald from a machine, steam and an unknown scald each caused one burn to a child under five in 2011.

Contact burns accounted for 18, or 16%, of the injuries to children under the age of five. Six (6) children were burned during cooking activities; two each from touching a barbeque and an oven, and one each from a stove and an unspecified cooking act. Four (4) children were burned by coming into contact with heating equipment; three children touched a radiator and the other a hot fireplace. Clothes irons and curling irons each burned two children apiece. Contact with a hair dryer, a lamp, a lawnmower and a pipe each caused one burn injury to this age group.

Fires caused seven, or 6%, of the injuries to this age group. Three (3) were from camp fires, two involved embers from camp fires, and a bonfire and a brush fire each caused one of these injuries.



One (1) child under the age of five received an unspecified electrical burn causing 1% of the burn injuries to children under five in 2011.

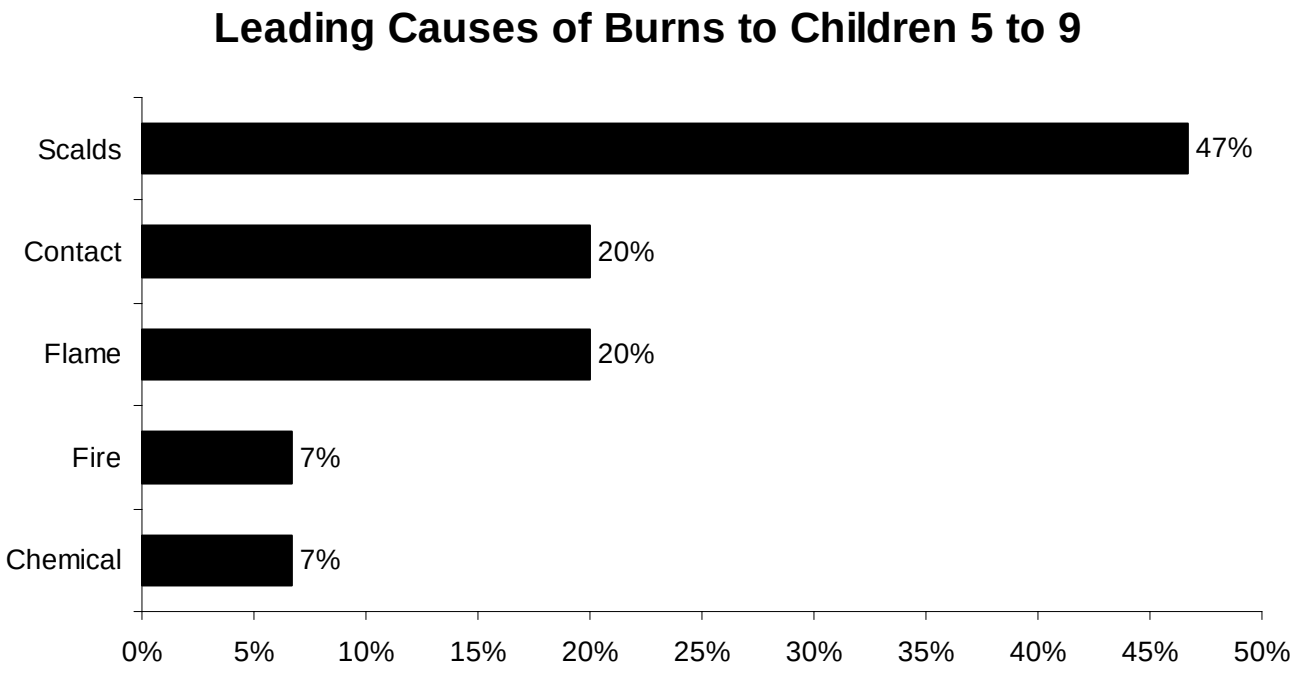
Children Ages 5 to 9

8% of Reported Burn Injuries Incurred by Children 5-9
Thirty (30), or 8%, of the burn injuries reported in 2011 were incurred by children between five and nine years of age. Twenty (20), or 67%, of the burn victims were boys, and, 10 or 33%, were girls. Children in this age bracket accounted for 6% of the population of Massachusetts and 8% of the burn injuries in 2011.

Burns From Scalds and Fires Were the Leading Causes to Children 5-9
The leading causes of burn injuries to children aged five to nine were scalds. Scalds caused 14, or 47%, of the burn injuries incurred by children aged five to nine in 2011. The scald burn injuries included 11 from cooking activities; 10 from hot food and one from cooking liquids; and the other three were from hot beverages.

Contact burns accounted for six, or 20% of these burns. Contact with cooking items caused two of these burns, one was a barbeque and the other a stove. Contact with part of a hot car, a clothes iron, a cooking iron and a light bulb each caused one of these burns.

Flame burns also accounted for six, or 20%, of the burn injuries to this age group. Two (2) injuries came from children misusing lighters. An aerosol can ignition from cooking that ignited



clothing, an unspecified clothing ignition, a fireplace and fireworks each caused one of these flame burn injuries.

In 2011 burns from fires accounted for two burn injuries, or 7%, to this age group. A bon fire and a motor vehicle accident with ensuing fire each caused one of these injuries.

Chemicals also caused two, or 7%, of the burn injuries to children between the ages of five and nine.

Children Ages 10 to 14

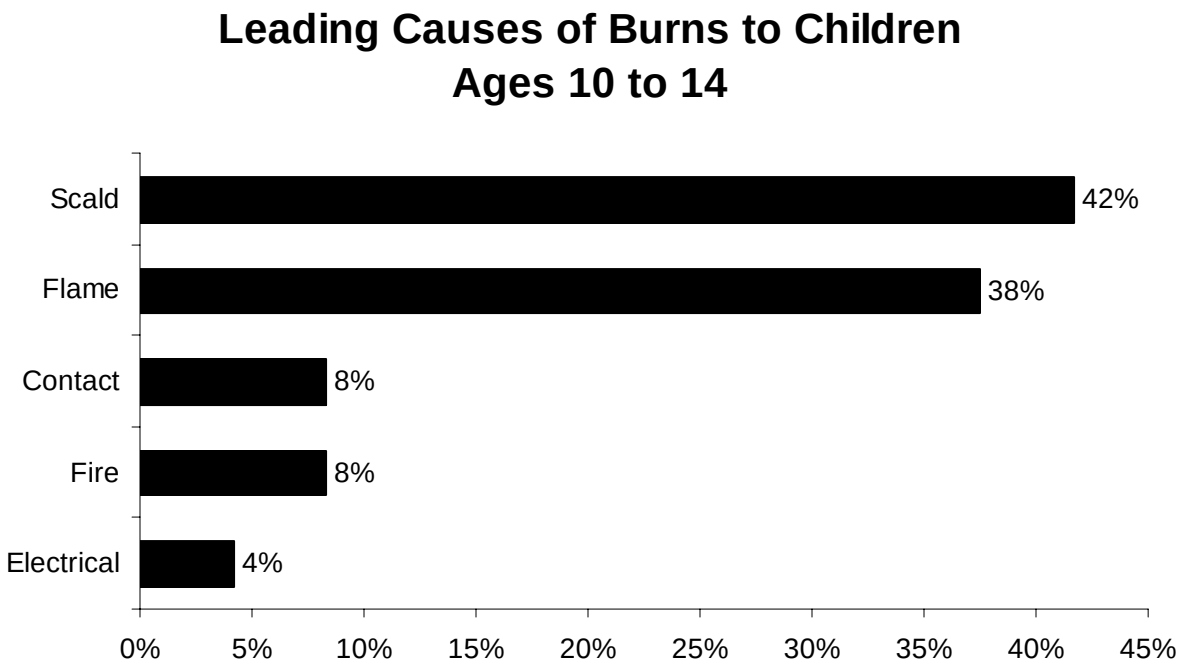
6% of Reported Burns Incurred by Children 10-14
Children between the ages of 10 and 14 suffered 24, or 6%, of the burn injuries reported in 2011. Fifteen (15), or 63%, were boys and nine, or 38%, were girls. Children in this age bracket accounted for 6% of the population in the Commonwealth of Massachusetts and 6% of the total reported burn injuries. At this age, children are exploring their environment more on their own, but often without the maturity or experience to reason out cause and effect.

Burns from Scalds Were the Leading Cause of Burns to Children 10-14
Scalds caused 10, or 42%, of the burns incurred by children aged 10 to 14. Cooking activities caused five of these burns; hot food was responsible for three and cooking liquids for two. Hot beverages caused four of these burns and one was from hot tap water.

Nine (9) pre-teens, or 38%, were injured by flame burn injuries. Four (4) of these injuries involved children misusing items; three of these involved clothing ignitions from a lighter and the other burn was a child misusing gasoline. Ignitable liquids caused two burn injuries. Cooking activities also caused two burns; one was caused by flaming cooking liquids, the other by a stove. An aerosol ignition caused one flame burn injury to this age group on 2011.

There were two contact burns to this age group, accounting for 8% of these burns. One was from contact with a hot battery charger and the other was from an unspecified cooking act. Burns from fires also caused two, or 8%, of the burns to this age group. A camp fire and a house fire started by a child misusing a lighter each caused one of these burns.

Electrical burns accounted for one, or 4%, of the burn injuries to this age group. This child received injuries from an unspecified electrical accident.



Ignitable Liquids & Fireworks Caused Only 1 of Pre-teen Burns
Historically gasoline, other ignitable liquids, and fireworks are a significant factor in pre-teen burn injuries. In 2011, they were only a factor in one, or 4%, of the burn injuries to pre-teens. A child misusing gasoline was involved in one flame burn injury

Ages 15 to 24

12% of Reported Burn Victims Between 15-24
Teens and young adults between the ages of 15 and 24 incurred 45, or 12%, of the burn injuries reported in 2011. Thirty-three (33), or 73%, were male and 12, or 27%, were female. Young adults aged 15 to 24 account for 14% of the population of Massachusetts and 12% of the burn injuries in 2011. Nine (9), or 20%, of the burn injuries incurred by this age group were work-related, eight were male and one was a female.

38% of Burns Were From Scalds
The leading cause of burn injuries to this age group were scald burn injuries. Seventeen (17), or 38%, of the burn injuries to people 15 to 24 years of age were caused by scalds. Thirteen (13) were caused by cooking activities; eight from cooking liquids, four from hot food and one from an unspecified cooking act. A hot beverage and a car radiator each caused one of these burns.

Thirty-three percent (33%), or 15, of the burn injuries incurred by people aged 15 to 24 were from fires. Eleven (11) victims received burns from camp or bonfires, two in brush fires, one

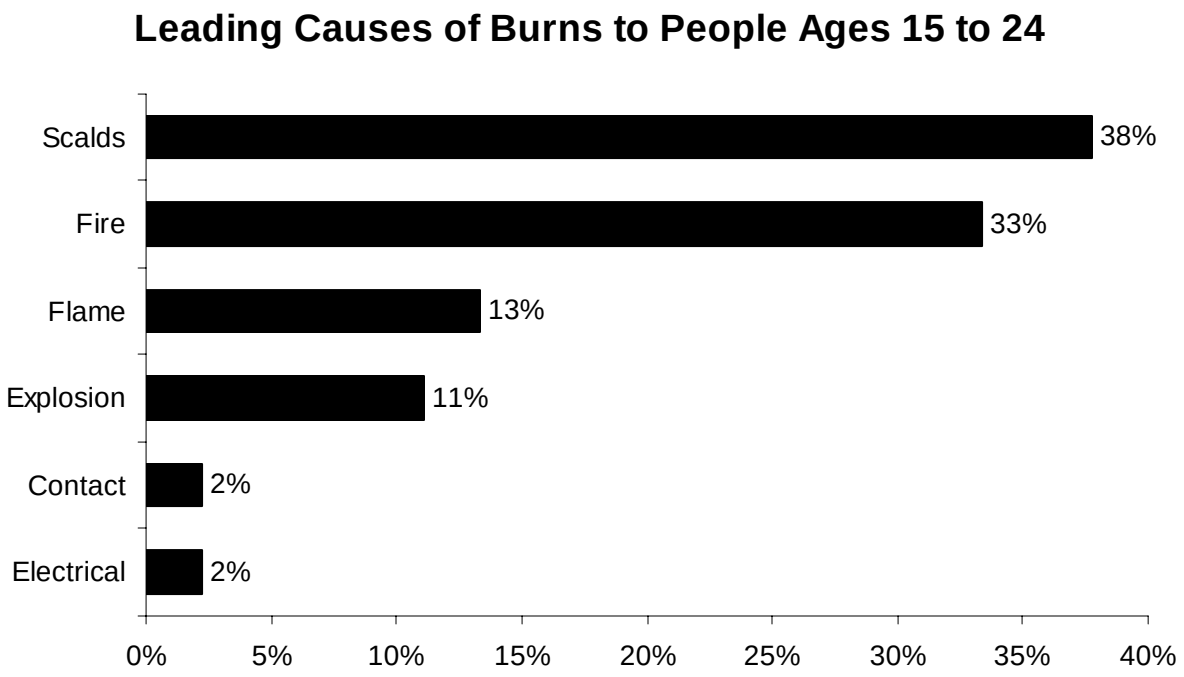
victim was injured in a house fire, and another victim was hurt in a motor vehicle accident with ensuing fire. Most young adults are injured in fires that occur outside the home.

Six (6), or 13%, of the burn injuries to this age group were caused by flames. Flame burns from cooking caused two of these injuries; one from cooking liquids, and one was a clothing ignition while cooking. Ignitable liquids also caused two of these injuries; one from gasoline and the other from an ignitable liquid other than gasoline. Smoking also caused two flame burn injuries to this age group; a clothing ignition from smoking and an unspecified smoking act each caused one of these injuries.

Explosions injured five, or 11%, of people in this age category. Ignitable gases were involved in three of these injuries; two were from gas stoves and one involved propane. Explosives caused two burn injuries; one was from gunpowder and the other involved fireworks.

Contact with hot objects caused one of these burn injuries, or 2%, of the burns to this age group. Contact with a hot motorcycle caused one burn injury to this age group.

There was one electrical burn injury to this age group. It was an electrocution. This burn accounted for 2% of the injuries to 15 to 24 year olds in 2011.



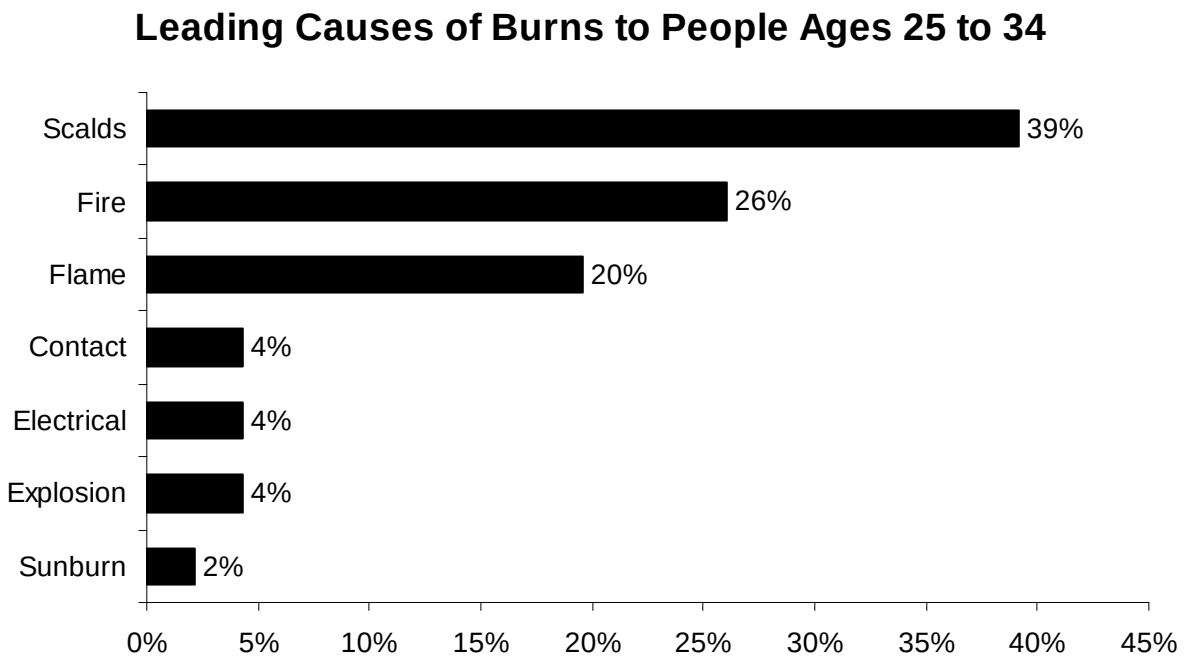
Ages 25 to 34

12% of Burn Victims Were Between 25 and 34
Forty-six (46), or 12%, of the burn injuries reported in 2011 were incurred by people between 25 and 34 years of age. Thirty-five (35), or 76%, of the victims were men and 11, or 24%, were women. Fourteen (14), or 30%, of the burn injuries suffered by this age group were work-related; 13 were men and one was a woman. People between the ages of 25 and 34 accounted for 13% of the population of Massachusetts while accounting for 12% of the total number of burn injuries reported in 2011.

Scalds Caused 39% of Burn Injuries
Scalds accounted for 18 burns, or 39% of the burn injuries for this age group. Twelve (12) of the scalds were from cooking; 11 were from cooking liquids and one was from an unspecified cooking activity. Hot beverages, car radiators and steam were each responsible for two scald burn injuries to this age group.

Burns from fires caused 12 injuries and accounted for 26% of the burn injuries to this age group. These fire-related burns included eight from camp or bon fires, two from house fires, one from a brush fire and another from a motor vehicle fire. The majority of these burn injuries are occurring outside the home.

Flame burns caused nine, or 20%, of the injuries to 25-34 year olds. Cooking caused four of these burns; two were from stoves, and one each was from flaming cooking liquids and an oven. Gasoline was responsible for two of these burns. A clothing ignition and an attempt at self-immolation each caused one flame burn injury to someone in this age group.



Contact burns caused two, or 4%, of the burns to this age group. Contact with hot asphalt, and a curling iron each caused one of these burns.

Two (2) people, or 4%, received electrical burns. Both of these burns were unspecified electrical burns.

Two (2), or 4%, of the burns to 25 to 34 year olds were caused by explosions. A gas stove and propane were each involved in an explosion that injured one person in this age group.

One (1) person, or 2%, between the ages of 25 and 34 received *Other* type burns. This was a sunburn.

Ages 35 to 44

10% of Reported Burn Victims Were Between 35 and 44 Years of Age
Thirty-nine (39), or 10%, of the burn injuries reported in 2011 occurred to people between the ages of 35 and 44. Thirty-two (32), or 82%, of the victims were men and seven, or 18%, of the victims were women. Adults between the ages of 35 and 44 accounted for 14% of the Massachusetts population but only 10% of the reported burns in 2011.

Almost 1/3 of Burn Injuries Were Work-Related
Fourteen (14), or 30%, of the burn injuries incurred by this age group were work-related. Thirteen (13) of these work-related burn victims were men, and one was a woman.

Burns from Fire & Scalds Were the Leading Cause of Injuries to 35-44-Year Olds
In 2011, burns from fires and scalds were tied as the leading cause of burns to 35 to 44 year olds. Burns from fires accounted for 10, or 26%, of the burn injuries to this age group. Three (3) were from house fires, two were from camp fires, another two were from motor vehicle fires, one was from a brush fire and one injury was from an unspecified fire.

Scalds also caused 10, or 26%, of the burn injuries to this age group. All 10 of these injuries involved cooking. Eight were from cooking liquids, one involved hot food and another scald burn was caused by an unspecified cooking act.

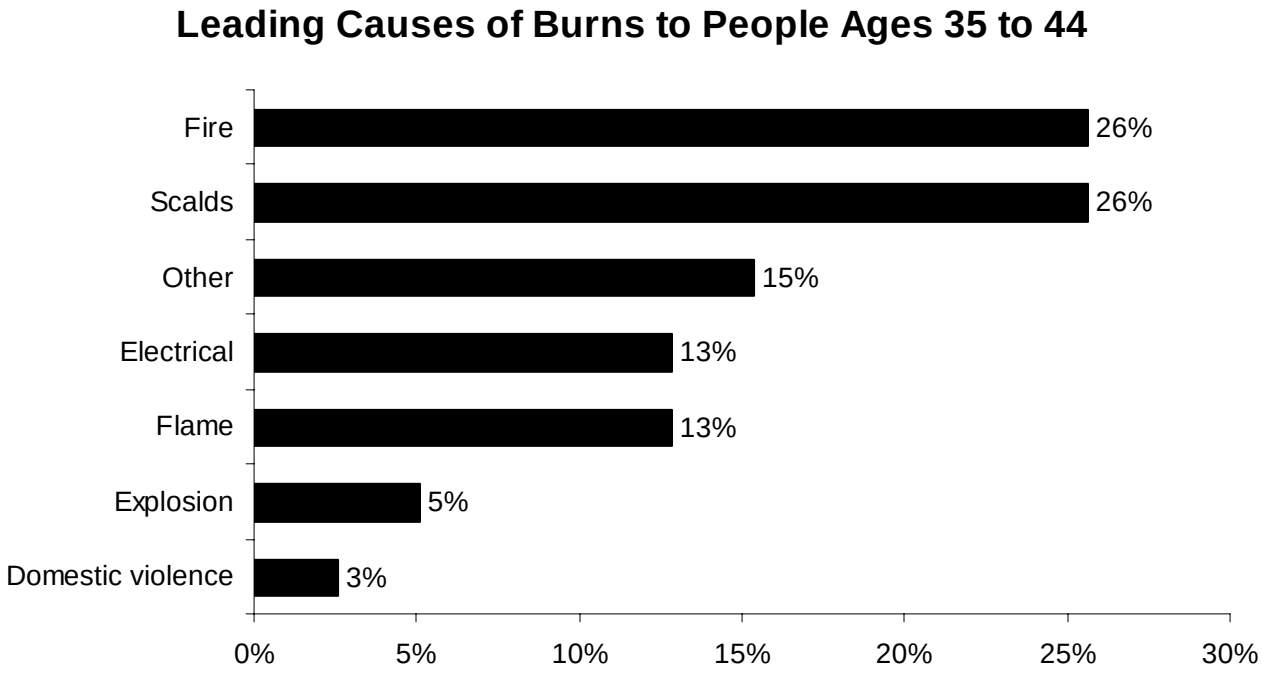
Other type burns accounted for six, or 15% of burns to this age group. Four (4) were from sunburns and two were chemical burns.

Electrical burns caused five, or 13%, of these burns. All five victims received an unspecified electrical burn.

Flame burns caused five, or 13%, of burn injuries to adults between the ages of 35 and 44. A barbeque, a candle igniting clothing, an electrical problem, gasoline and a woodstove each caused one flame burn injury in this age group.

Explosions accounted for two, or 5%, of the total burn injuries to this age group. An aerosol can and propane were each responsible for one of these burns.

Domestic violence accounted for one, or 3%, of the burns to this group. Hot food was the cause of this burn.



Ages 45 to 54

9% of Reported Burn Injuries Were Between 45 and 54 Years of Age
People between the ages of 45 and 54 incurred 35, or 9%, of the reported burns in 2011. Twenty-seven (27) or 77%, of the victims were male, and eight, or 23%, were female. Eight (8) of the 35 burn victims aged 45 to 54, or 23%, were burned while at work; six of them were men and two were women. This age group represents 15% of the population of Massachusetts while it received only 9% of the burn injuries in 2011.

Burns from Fires & Scalds Tied for Most of the Burn Injuries
Burns from fires caused 10, or 29%, of the burn injuries to victims 45 to 54 years old. Three (3) burns were caused by camp or bon fires; another three were from motor vehicle fires, two injuries were caused by house fires; one was from a brush fire, and the type of fire was not reported for one burn victim.

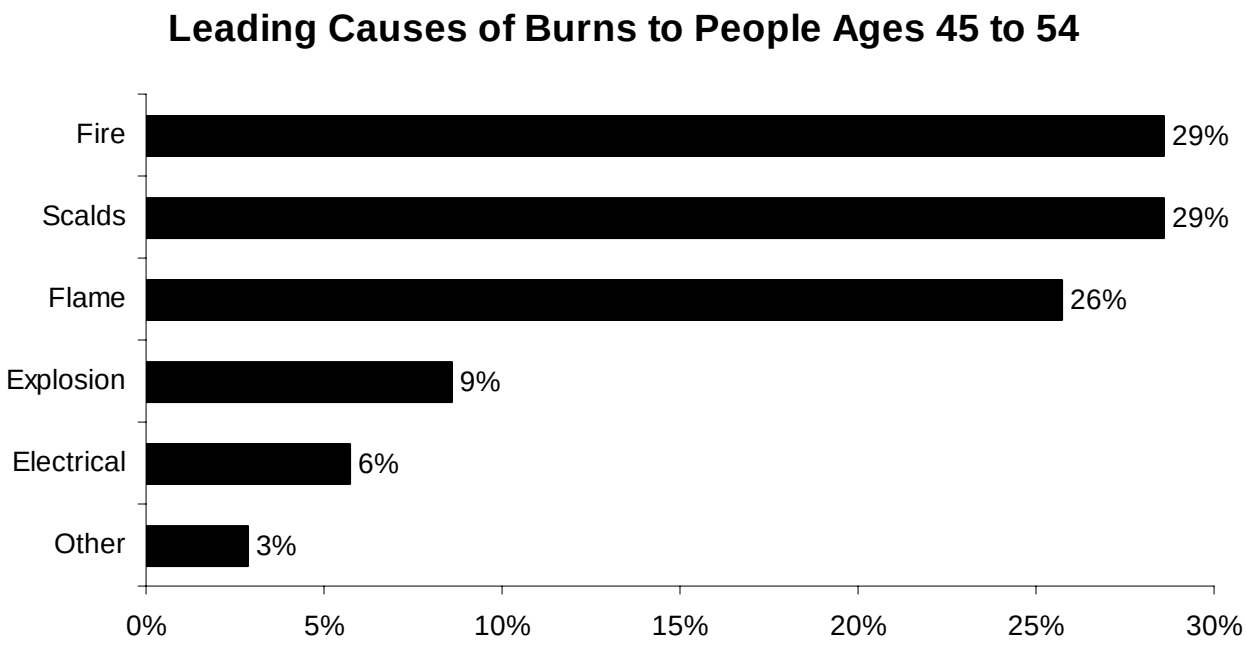
Scalds also caused 10, or 29% of the burn injuries to this age group. Cooking activities caused five of these injuries; cooking liquids caused four and hot food caused one. Steam and hot tap water each caused two of these injuries. A car radiator caused one of these burns.

Flame burns were incurred by nine, or 26%, of the burn victims between the ages of 45 and 54. Cooking activities were responsible for three of these injuries; two were from barbeques, and the other was from flaming cooking liquids. Clothing ignitions also caused three of these injuries; two were unspecified clothing ignitions and one was from a candle. Ignitable liquids and a flash fire from burning aluminum each caused one of the burns to this age group.

Three (3) members of this age group were victims of explosions. They accounted for 9% of the burn injuries to this age group. Two (2) of these injuries were caused by gasoline and one was from a gas grill.

Electrical burns were responsible for two, or 6%, of the burns to this age group. Both victims were burned in unspecified electrical accidents.

There was one *Other* type burn injury to this age group, accounting for 3% of the burn injuries. This was a chemical burn.



Ages 55 to 64

7% of Burn Victims Were Between 55 and 64 Years Old
Twenty-eight (28), or 7%, of the burns reported in 2011 were incurred by people between the ages of 55 and 64. Eighteen (18), or 64%, of the victims were men, and ten, or 36% were women. One (1), or 4%, of the 28 burn injuries incurred by people between 55 and 64 years old were reported to be work-related, and it occurred to a woman. People of this age group represent 12% of the total population of Massachusetts but only received 6% of the burns in 2011.

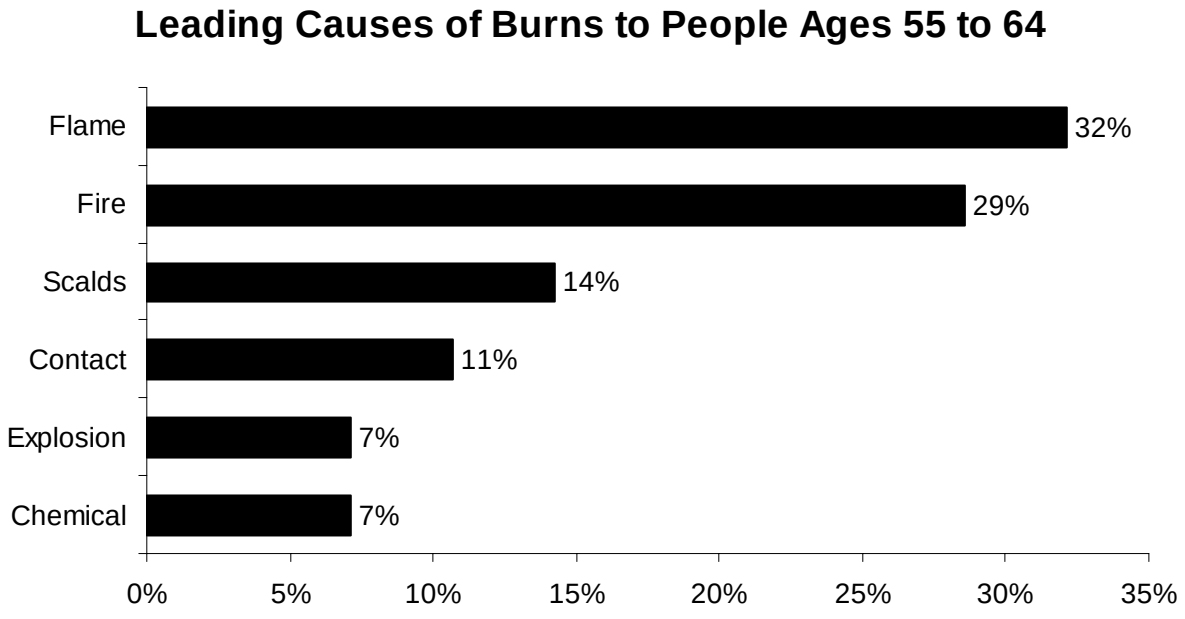
Almost 1/3 of Burn Injuries Were Flame Burns
Flame burns accounted for nine, or 32%, of the injuries to this age group. Clothing ignitions from cooking caused two of these burns. Smoking on home oxygen also caused two of these injuries. An aerosol ignition, a candle, a chemical, ignitable liquids and propane each caused one flame burn injury to someone in this age group.

Burns from fires caused eight injuries to people between the ages of 55 and 64 years of age in 2011, accounting for 29% of these injuries. Four (4) were injured house fires, three in motor vehicle fires and one victim was injured in a brush fire.

Scalds caused four, or 14%, of the burn injuries to people between the ages of 55 and 64. Cooking liquids caused three of these burns and a hot beverage caused one scald burn injury to this age group in 2011.

Contact burns were responsible for three, or 11%, of the injuries to this age group. Contact with hot embers, a radiator and hot wax were each responsible for one injury.

Explosions caused two, or 7% of the injuries to adults between the ages of 55 and 64. Both of these explosions involved gasoline.



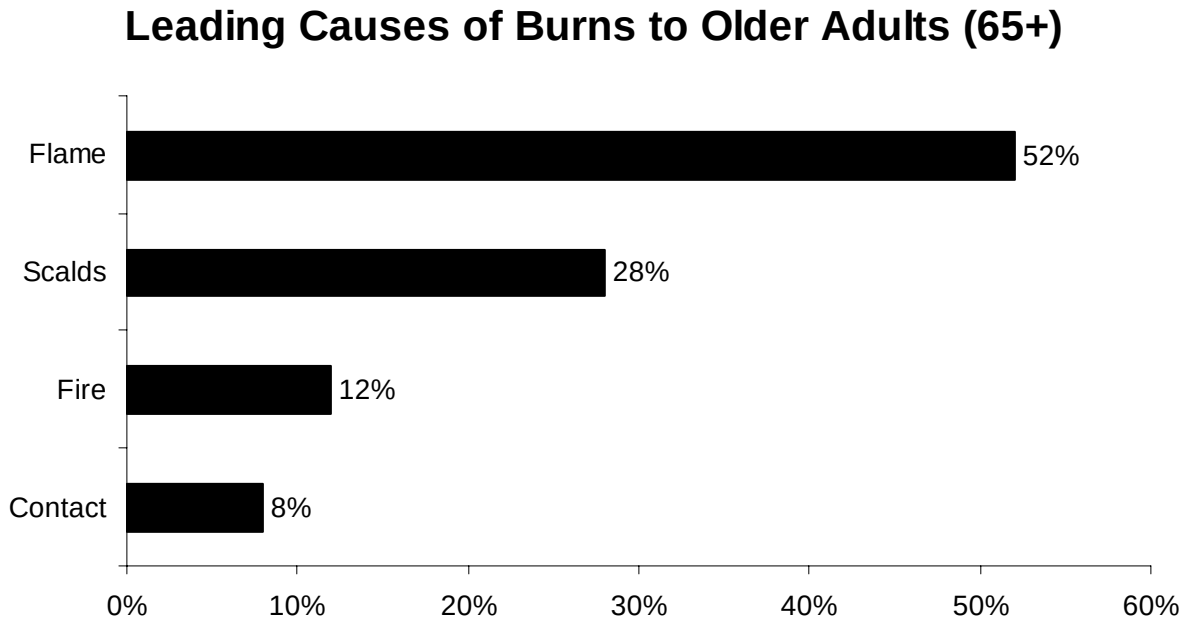
Another two burn injuries, or 7%, were *Other* type burns caused by chemicals

Over 65 – Older Adults

25 Burn Victims Over 65
Twenty-five (25), or 7%, of the burn victims in 2011 were over 65 years old. Eleven (11) were between 65 and 74; 10 were between 75 and 84; and four were 85 years old or older. Fifteen (15), or 60% of the victims were men, and 10, or 40%, were women. Older adults represent 14% of the total Massachusetts population but only 7% of the burn injuries in 2011, which means that in 2011 they were proportionately less likely to receive a burn injury.

Historically older adults account for 7% of the total number of burn injuries during the year. Since 1984 there have been 13,492 reported burn injuries to M-BIRS, 939 have been incurred by people over the age of 65. In 2001, they accounted for 11% of the total number of burn injuries, the highest percentage of any year since the inception of M-BIRS in 1984. In 2006, older adults accounted for the smallest percentage of total burn injuries since 1984, 3%.

Flame Burns Caused Over 1/2 of Burns to Older Adults
In 2011, flame burn injuries were the leading cause of burns to older adults. Flame burns caused 13, or 52%, of the burn injuries to people over the age of 65. Cooking caused six of these injuries; clothing ignitions from cooking accounted for four, flaming cooking liquids and hot food each caused one injury. Gasoline accounted for three of these injuries. An assault, an unspecified clothing ignition, propane, and a clothing ignition while smoking each caused one flame burn injury to this age group.



Scalds caused seven, or 28%, of the burn injuries to this age group. Four (4) were from cooking liquids. Hot tap water caused three scalds and hot beverages caused two injuries to this age group.

Burns from fires caused three, or 12%, of burn injuries to adults over the age of 65. House fires caused two of these burn injuries; and a camp fire caused one of these injuries.

Contact with hot objects caused two, or 8%, of the burn injuries to older adults in 2011. An unspecified cooking act and a hot machine each caused one of the injuries to this group

According to the Burn Awareness Coalition, the following scenarios increase the chance of a burn injury for older adults; smoking when tired, drinking alcohol or taking medications which can cause drowsiness, wearing loose fitting clothing while cooking, kitchen fires from unattended cooking, and grease fires on the stove top. During 2011, cooking accounted for 11, or 44% of the reported burn injuries in Massachusetts incurred by older adults. Clothing ignitions caused six, or 24%, and smoking accounted for one, or 4% of the burn injuries to older adults.

Safety Tips for Older Adults

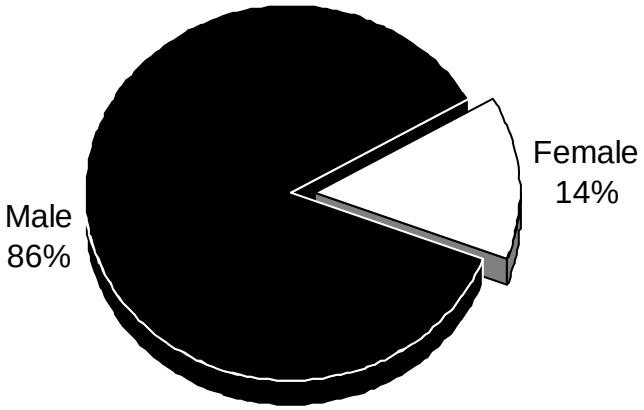
- Cook with the pot and pan handles turned in.
- Wear clothes with short or tight fitting sleeves and watch for clothes touching elements on the stove.
- Never leave boiling, broiling or frying food unattended.
- Keep stove surfaces clean of built up grease.
- Do not attempt to lift or carry heavy pots of hot liquid or food.
- Do not use a cooking stove for heating purposes or for drying clothes.
- Remember “Stop, Drop, & Roll” – It just may save your life.
- Do not smoke when you are tired, drinking alcohol or taking medications that make you drowsy. If you must smoke, make sure there are working smoke detectors in the immediate vicinity.

Work-Related Burn Injuries

13% of Reported Burns Occurred at Work

Massachusetts hospitals indicated that 49, or 13%, of the 387 burn injuries reported in 2011 occurred while the victim was at work. Men were much more likely to be burned while working than women. Forty-two (42) men, 86%, and seven women, 14%, were burned at work in 2011. In 2011, one person received a life-threatening injury from their work-related burn injury.

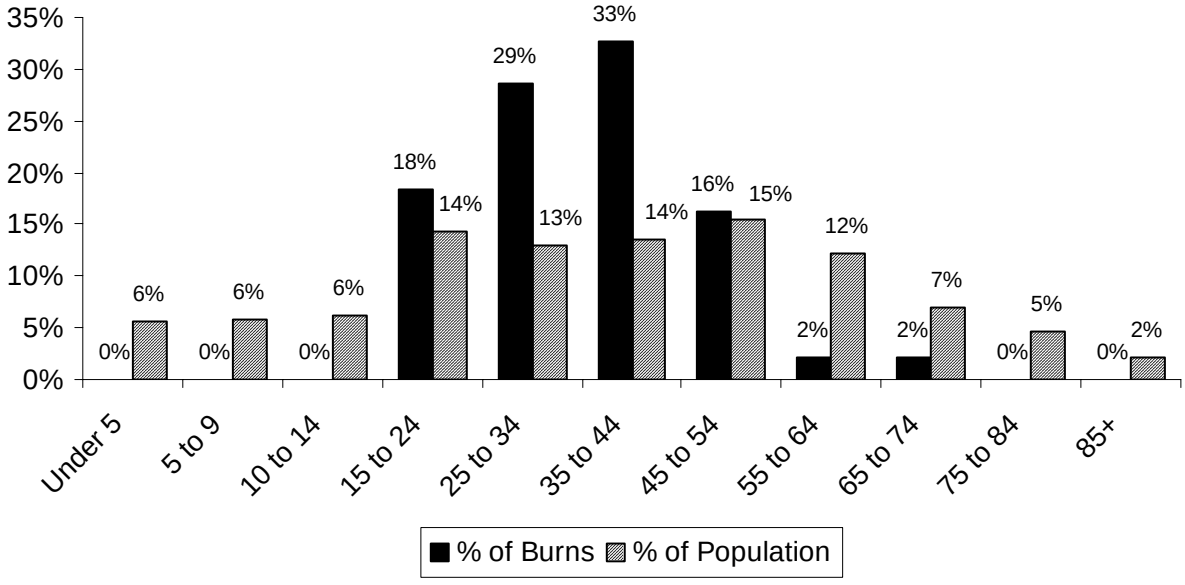
Work-Related Burns by Gender



1/3 of Work-Related Burns Incurred by People Between 35 and 44

No one under the age of 18 received a work-related burn in 2011. Nine (9), or 18%, were between 15 and 24 years of age. Fourteen (14), or 29%, of the victims were between 25 and 34 years of age; 16, or 33%, belonged to the 35 to 44 age group. Eight (8), or 16%, of work-related burn injuries were victims 45 to 54 years old. One (1), or 2% of work-related burns occurred in the 55 to 64 age group; and another burn injury, or 2%, occurred to someone between the ages of 65 to 74 years old, which was the oldest age group to have any. The youngest person to receive treatment for a work-related burn in Massachusetts in 2011 was an 18-year old girl who received a scald burn from a hot beverage. The oldest victim to receive a work-related burn was a 65-year old man who received a flame burn involving propane.

Work-Related Burns by Age Group



Scalds Caused 37% of Work-Related Burns
Scalds were the leading cause of work-related burns in 2011. These 18 burn injuries accounted for 37% of work-related burns. Twelve (12) involved cooking activities; 10 were caused by cooking liquids and two were caused by hot food. Car radiators and steam each caused two of these burns. Hot beverages and hot tap water each accounted for one of the work-related scald burns in 2011.

Electrical burns accounted for 10, or 20%, of work-related burns in 2011. Nine (9) injuries were from unspecified electrical accidents and one victim was electrocuted.

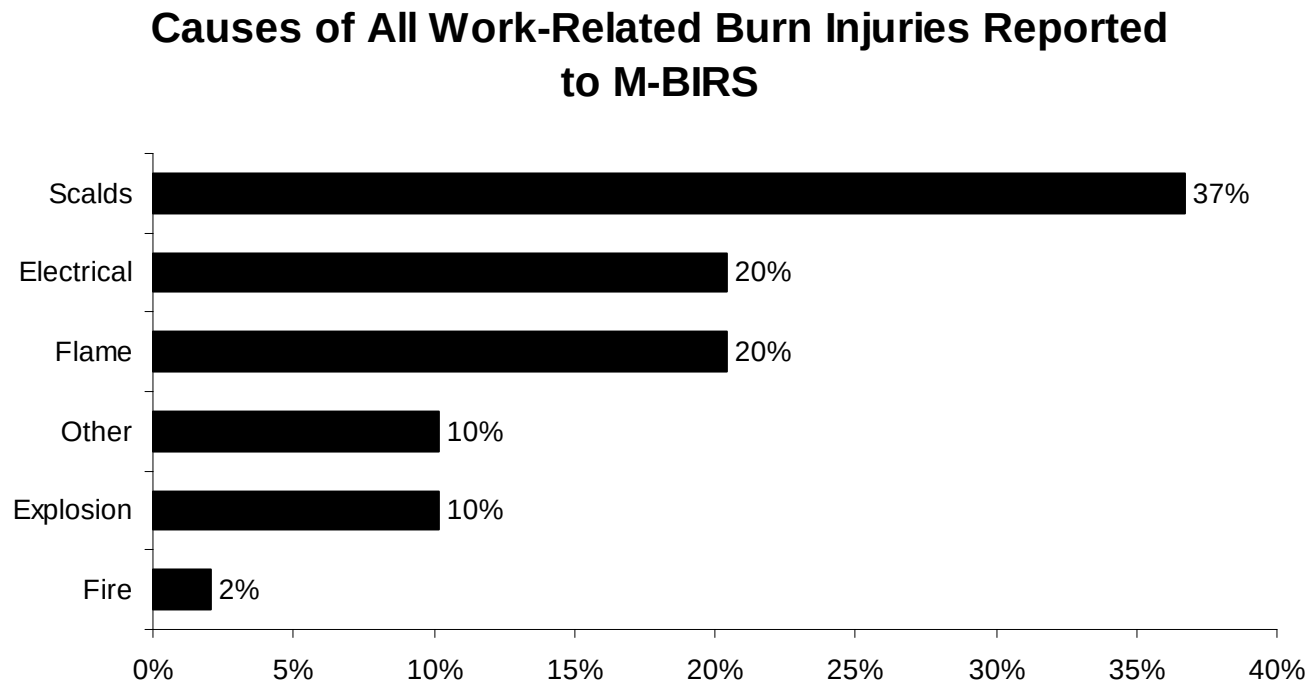
Flame burns also accounted for 10, or 20%, of these work-related burns. Gasoline caused three of these burns. Clothing ignitions caused two work-related burns. An electrical accident, a flashburn, a flash fire from burning aluminum, an oven and propane each caused one of the work-related flame burn injuries in 2011.

Explosions caused five, or 10%, of the work-related burns. Ignitable gases caused four of these injuries; gas stoves and propane each caused two of these injuries. An exploding aerosol can caused one work-related explosion burn injury in 2011.

Other type burns also caused five, or 10%, of work-related burns. Chemicals were responsible for four and a radiator caused one of these burns.

One victim, a town DPW worker who was performing a prescribed burn of reeds, was burned in a brush fire while working accounting for 2% of the work-related burn injuries in 2011.

The following chart shows the breakdown of the causes of all work-related burn injuries reported to M-BIRS regardless of whether they occurred in Massachusetts or not.



84% of Work-Related Burns Reported to M-BIRS Occurred in MA
Most, but not all of the work-related burn injuries treated in Massachusetts occurred in Massachusetts. Forty-one (41), or 84% of the 49 work-related burns reported to M-BIRS in 2011 occurred in Massachusetts. Two (2) of the work-related burns reported M-BIRS occurred in New Hampshire, one occurred in Maine, one occurred in Vermont, and four other work-related burns happened outside the United States. There were three reported injuries where the victims lived in Massachusetts but the address where the burn occurred was not reported.

1 Work-Related Injury Resulted in a Life-Threatening Injury
In 2011, there was one reported work-related burn that resulted in a life-threatening injury. The worker was injured when he was electrocuted by a live wire. In 2011, no one died from a work-related burn injury.[9]

Intervention and Prevention Efforts
The Massachusetts Department of Public Health (MDPH) tracks work-related burn injuries as part of ongoing sentinel surveillance of work-related injuries and illnesses in Massachusetts. MDPH refers select burn injuries to the Occupational Safety and Health Administration (OSHA), Region I, for inspection to ensure that the hazardous conditions associated with the burn injuries among employees in the private sector have been corrected and to ensure that workers are no longer at risk from hazardous conditions.[10] MDPH requested that OSHA investigate 13 workplaces where burn injuries occurred in 2011. OSHA had already been informed about five of the incidents. In addition, three burn injuries were referred for investigation to the Massachusetts Department of Labor Standards, which provides health and safety oversight to public sector workers, and two to Boards of Health (in Cambridge and Wellesley) that provide health and safety oversight to restaurants for consumers and employees.

Eight (8) companies were inspected by OSHA based solely on the MDPH referrals; six of those investigations have been completed, of which four resulted in citations and fines. OSHA issued citations and fines of $23,000 for hazards that led to a worker's electrical burns in a construction project at Logan Airport. The citations noted that the employer failed to protect the worker from energized equipment and failed to provide a lockout / tag out program. OSHA also issued $9,000 in fines in a cooking establishment from steam related burns. The employer was cited for failing to protect the employee by the poor design of work set-up and procedures with steamers, inadequate personal protective equipment and failure to even record the injury as required.

OSHA investigated two work-related scald burn injuries associated with coffee preparation in two cities this year, and subsequently met with corporate owners to discuss prevention opportunities. These injuries were identified through mandatory reporting of injuries to teen workers who are less than 18 years of age (the 5% of BSA may not apply). Site visits to three

[9] Two (2) employees died in 2011 from fire-related work incidents. Both of these victims died on scene and so no M-BIRS report was filed. A 33-year old man died as a result of an explosion and fire at a car dealership in Springfield, involving solvents in a 55-gallon drum. In another incident, a 59-year old truck driver perished when the gasoline tanker he was driving crashed and exploded in Saugus.

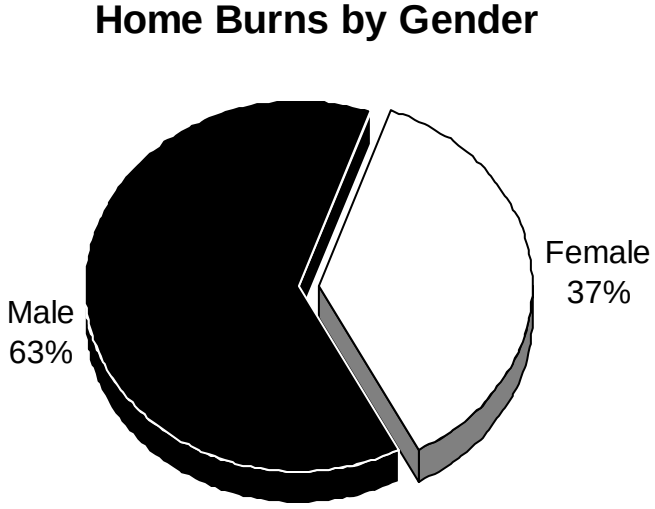
[10] Those injuries caused by explosions, chemical exposures, electricity, or that appeared to indicate likely violations of the OSHA standards, are referred to OSHA.

locations helped provide information about these injuries that occur when coffee brew baskets are removed while hot coffee (over 200°F) is still brewing. Recommendations were provided regarding integrating workplace health and safety into other job training and online education, and to provide additional supervision to teenage employees.

The relationship between the Department of Fire Services, Department of Public Health and OSHA serves as a model for how state and federal agencies can collaborate around the country. Based on this model, MDPH initiated referrals for amputation injuries, and collaborated with the Council of State and Territorial Epidemiologists to complete guidance for health departments to refer work-related injuries to OSHA for investigation and to enhance communication and action on serious work-related cases.

Burn Injuries in the Home

Almost 2/3 of Burn Injuries Occur in the Home
The home is the most common place for burn injuries to occur. In 2011, 248 people, 64%, of all the reported burn injuries took place in the victim's home or surrounding yard. More men were burned in their homes than women. One hundred and fifty-seven (157) men, or 63%, and 91 women, or 37%, were burned in their homes in 2011.



Over 1/2 of All Home Burns Are Scalds
One hundred and thirty-seven (137), or 55%, of the burn injuries that occurred in the home in 2011 were scalds. Cooking activities caused 73 of these home burn injuries; cooking liquids caused 44, hot foods caused 26 and unspecified cooking activities caused three of these injuries.

Hot beverages caused 44 of burns at home. Scalds from hot tap water accounted for 13 of these burns. Steam caused three, and car radiators caused two of these burns. A machine and an unknown scald each accounted for one of the home burn injuries in 2011.

Flame Burns Account for 17% of All Burns at Home
Flame burns were the second leading cause of burn injuries in the home. Flame burns accounted for 42, or 17%, of all home-related burn injuries.

Cooking activities accounted for 19, or 8%, of all home flame burn injuries; clothing ignitions while cooking caused eight injuries, cooking liquids caused five, stoves caused three, and barbeques caused three (one was a gas barbeque) of these injuries.

Five (5), or 2%, were caused by ignitable liquids; three were from gasoline and two were from other ignitable liquids. Aerosol ignitions were responsible for four, or 2%, of these burns.

Smoking caused three, or 1%, of these flame burn injuries; smoking while on oxygen, a clothing ignition while smoking and an unspecified smoking activity each caused one of these burns. Another three, or 1%, were from children misusing various items; two children were misusing lighters and one of these led to a clothing ignition and one child was misusing gasoline.

Heating equipment caused two, or 1%, of home burns; one was from a fireplace and the other from a woodstove. A candle, a chemical, an unspecified clothing ignition, fireworks and an attempt at self-immolation each caused one home-related flame burn injury, accounting for less than 1% of all home burn injuries in 2011.

Burns from Fires Cause 14% of Home Burns
Burn injuries from fires accounted for 34, or 14% of all burn injuries in homes. There were 16 injuries, or 7%, caused by camp or bon fires in the victim's yards. Thirteen (13) injuries were from house fires accounting for 5% of all home burn injuries. Many of these house fires were caused by electrical problems, smoking or heating. Brush fires caused four, or 2%, of these injuries; and structure fires were responsible for one, or 1%, of home burn injuries.

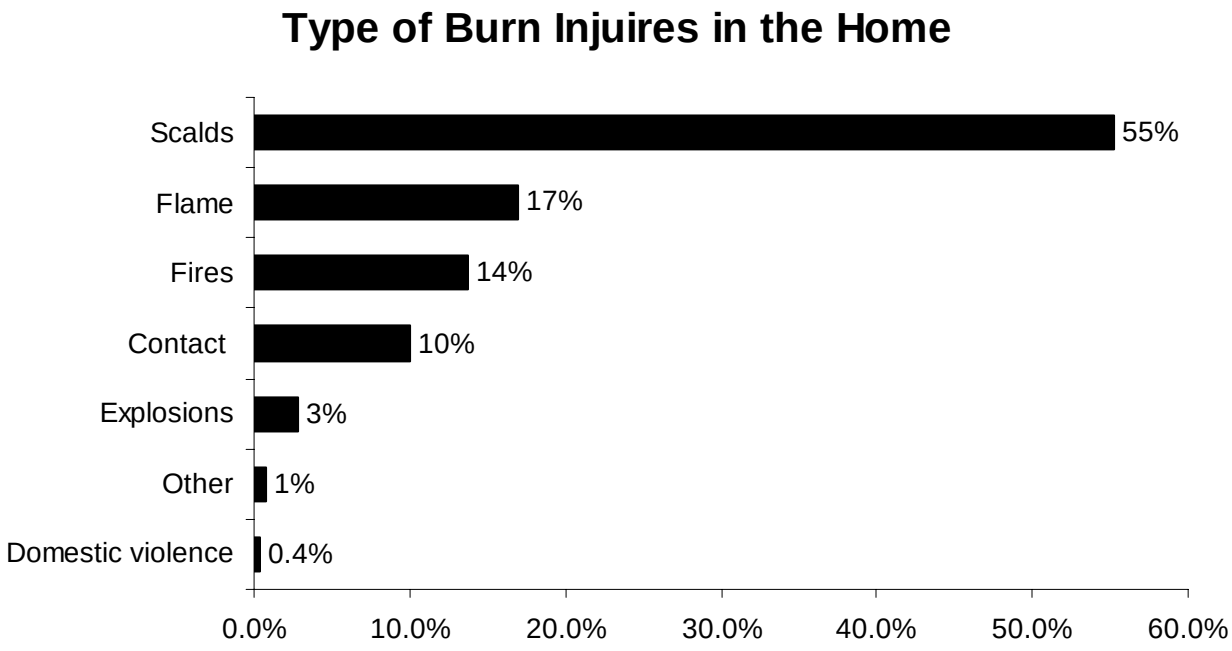
10% of Home Burns Come from Touching Hot Items
Contact burn injuries accounted for 25, or 10%, of all the burn injuries that occurred in homes in 2011. Cooking activities caused seven, or 3%, of these burns; two from contact with an oven, two from unspecified cooking activities, another two from a stove and one injury involved a barbeque. Contact with curling irons caused four, or 2%, and contact with clothes irons caused three, or 1%, of all the at-home burn injuries in 2011. Touching hot radiators burned two victims at home, or 1% of these injuries. Two (2) people, or 1%, were burned by lighting appliances; one by a lightbulb, the other by a lamp. Contact with a battery charger, a hot car, a hair dryer, a machine, a hot pipe and hot wax each caused one, or less than 1%, of the reported burn injuries that occurred in homes in 2011.

Explosions Responsible for 3% of Burns in Homes
Explosions caused seven, or 3%, of all reported burn injuries in homes in 2011. Gasoline was involved in three, or 1%, of these burn injuries. Ignitable gases caused three, or 1%, of these

injuries; one was caused by a gas barbeque, one from a gas stove and the other injury was caused by propane. Gunpowder was involved in one, or less than 1%, of the 2011 home explosion burn injuries.

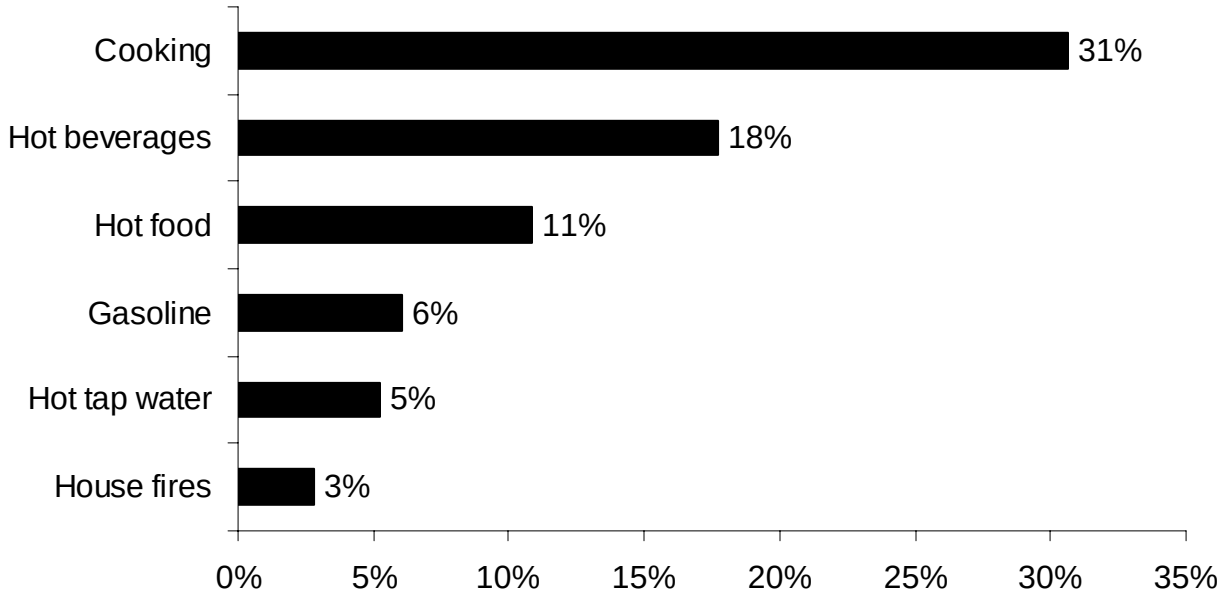
Other Types of Burns Cause 1% of Home Burns
Two (2) *Other* types of burn injuries were reported occurring to victims in their homes in 2011 accounting for 1% of home burn injuries in 2011. One (1) of these three injuries involved a chemical and the other involved a sunburn.

1% of Home Burns Caused by Domestic Violence
One (1) person received a burn at home in 2011 during a domestic violence incident. This attack involved hot food and accounted for less than 1% of all home burns.



Cooking Caused Almost 1/3 of Burn in Homes
In 2011 cooking activities caused the most overall burns regardless of burn type. Burns from cooking caused 73, or 31%, of burns in Massachusetts' homes. Hot beverages were the cause of 44, or 18%, of home burns in 2011. Hot food was the cause of 27, or 11%, of home burns in 2011. Gasoline was involved in 15, or 6%, of home burn injuries. Hot tap water accounted for 13, or 5%, of these burns. House fires caused seven, or 3%, of the burns that were reported to have occurred in homes in 2011.

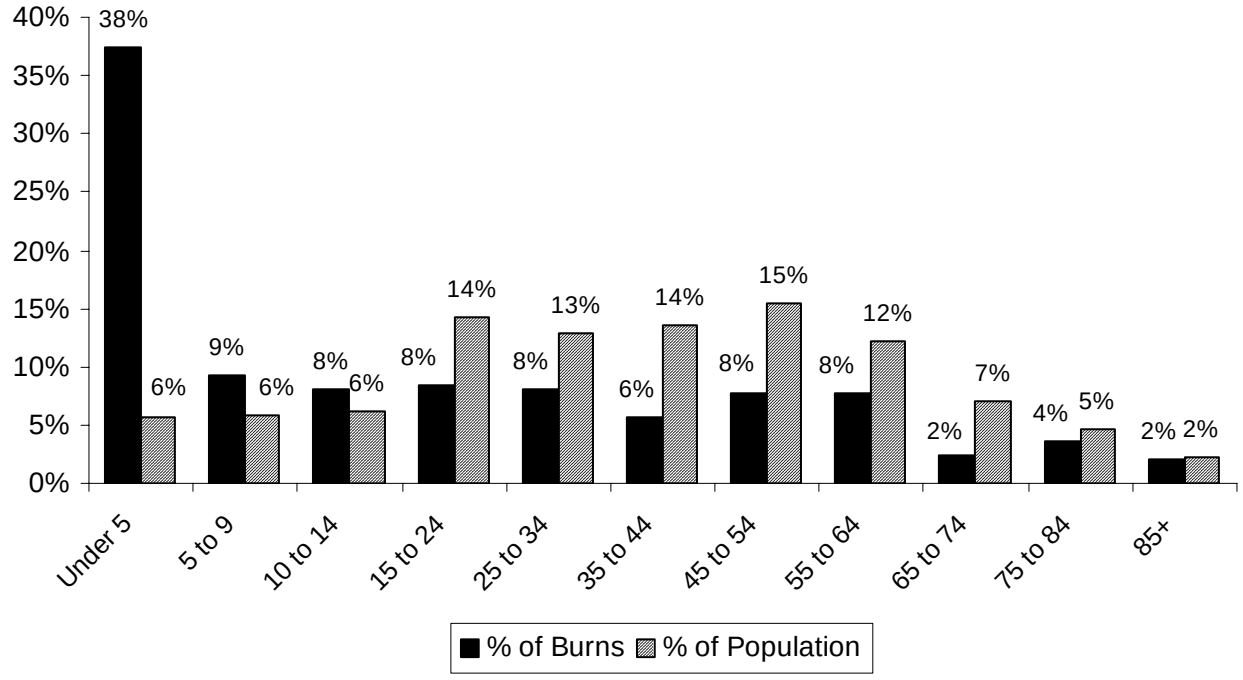
Leading Types of Burn Injuries in the Home



38% of Home Burns Were to Children Under 5

Thirty-eight percent (38%) of the 248 victims that received their burns at home were less than five years old. They were over six and a half times more likely to suffer a burn at home. Children between the ages of five and nine received 9% of the burn injuries that occurred in people's homes, while children aged 10 to 14 accounted for 8% of these injuries. Young adults between the ages of 15 and 24 accounted for 8% of these burns; 8% were between 25 and 34; 6% were between 35 and 44; 8% were between 45 and 54; 8% were between 55 and 64; 2% were between 65 and 74; 4% were between 75 and 84; and 2% were over the age of 85.

Home Burn Injuries by Age Group



Hot Tap Water Scalds Youngest & Oldest Victims
A one-month old boy, who received scald burns to 8% of his body surface area from hot tap water, was the youngest victim to receive an at-home burn injury. The oldest victim to receive a burn at home was a 93-year old man who received a scald to 8% of his body surface area from hot tap water.

1% of Home Burns Resulted in Death
Three (3), or 1%, of the 248 reported burn injuries that occurred in homes in 2011 resulted in death for the victim. Two (2), or 67% of these deaths, were men; and one, or 23%, was a woman. The youngest victim was a 77-year old man who died from flame burns involving gasoline. The oldest victim to succumb to his injuries was an 84-year old woman who received burns to 80% of her body surface in a house fire. A brush fire involving an 83-year old man accounted for the other home burn fatality.

For more information on all residential fire deaths please refer to the annual reports of the Massachusetts Fire Incident Reporting System (MFIRS). Most victims of fatal fires die immediately and are not reported to or captured by M-BIRS.

Burn Injury Reports by Hospital

Forty-four (44) out of the 97 acute care health care facilities in Massachusetts submitted a total of 430 burn injury reports for 387 victims to the Massachusetts Burn Injury Reporting System (M-BIRS). Some individuals were treated at more than one hospital, resulting in more burn reports than total victims. For information on the number of burn reports submitted by each hospital, please refer to the table *Number of Reported Burn Injuries Per Hospital* in the Appendix.

Law Requires Hospitals to Report Burn Injuries Over 5% of the Body
Massachusetts General Law (MGL) Chapter 112, Section 12A requires all physicians and medical treatment facilities to immediately report treatment of every burn injury extending to 5% or more of a person's body surface area to the State Fire Marshal and to the police department in the community in which the burn occurred.

Hospitals May Fax Reports or Call and Submit Written Reports
Health care facilities have a choice about how to report burn injuries. Health care providers may fax their burn injury reports to the State Fire Marshal at the Department of Fire Services, (978) 567-3199. A completed transmission will satisfy both the telephone and written notification provisions of the law. Hospitals not opting for the fax report method must report burn injuries by telephone at (800) 475-3443 and submit a written report.

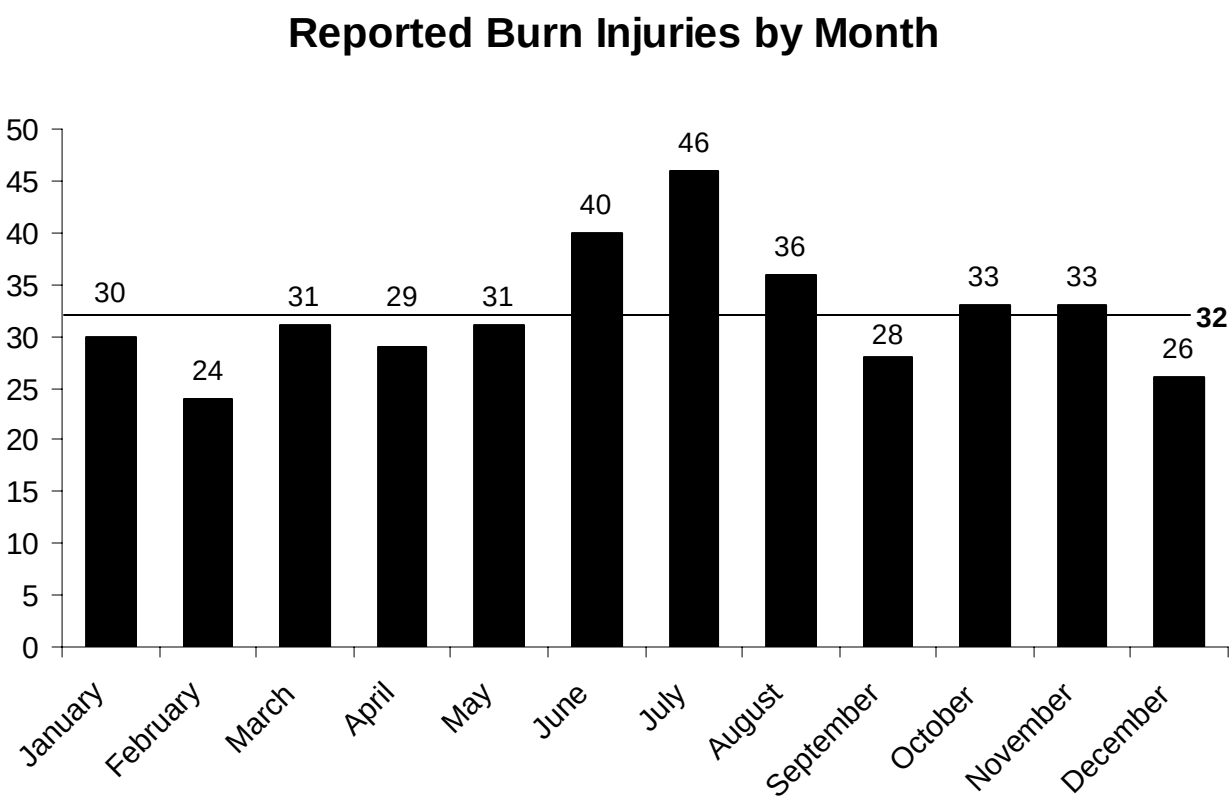
Although M-BIRS was instituted under the Department of Public Safety in June of 1984, Massachusetts hospitals have been required to report burn injuries to a government agency since 1973. M-BIRS, along with the Office of the State Fire Marshal, was carried over to the newly created Department of Fire Services in 1996. It remains a joint program of the state Department of Fire Services and the Massachusetts Department of Public Health.

M-BIRS Has Two Main Purposes — Identifying Arsonists and Burn Prevention
Data collected by the Massachusetts Burn Injury Reporting System is used in several ways. Investigators use the data to determine if an arsonist was treated for a burn that resulted from an attempt to illegally burn a building or vehicle. If these burns are not reported promptly, arsonists may continue to light fires that threaten life and property. Our data has also been used to identify problems that need to be addressed by public education or regulation and to develop appropriate strategies. We need to know what type of activity injures whom, if the injuries are seasonal, and how old the victims are, to develop and implement effective prevention programs. We appreciate the efforts of the many dedicated doctors, nurses and clerical personnel who report the burn injuries promptly and completely. They make the program work.

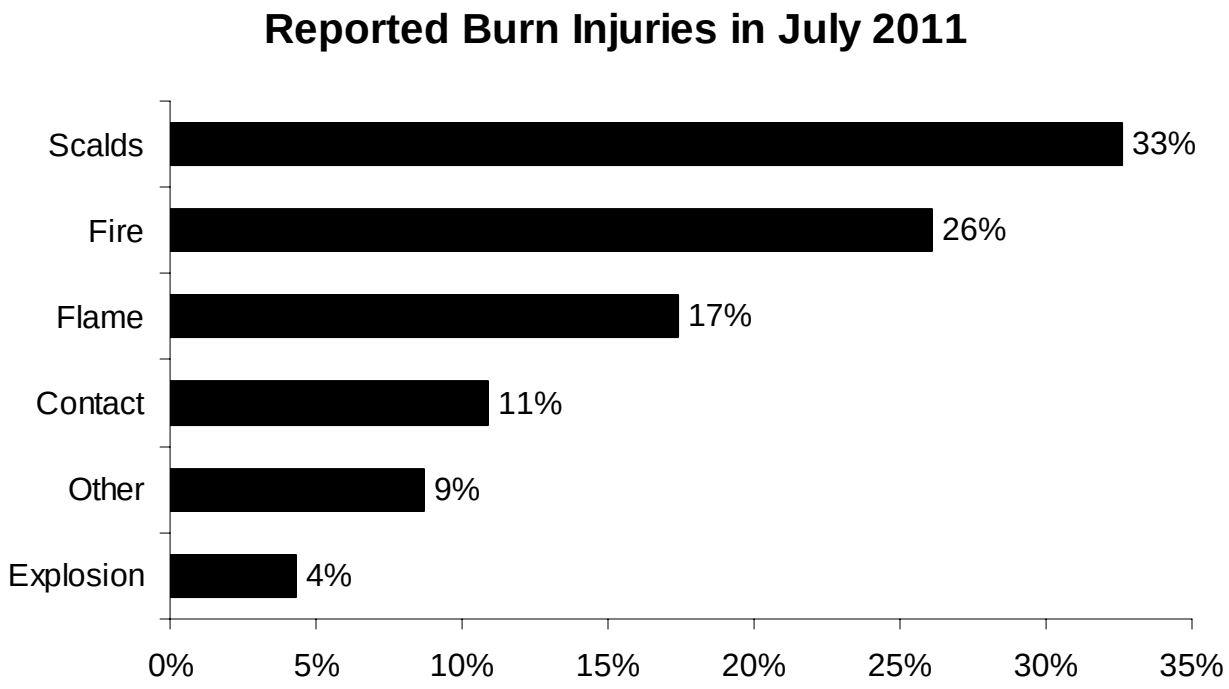
Burn Injuries by Month

Average of 32 Burns a Month
An average of 32 burns was reported during each month of 2011, from a low of 24 in February to a high of 46 in July. It is below the 5-year (2007-2011) average of 35 burns per month and also below the 10-year (2002-2011) average of 33 burns per month.

Scalds caused the most burn injuries during all 12 months of the year.



July Was the Peak Month for Burns
July was the peak month for burns in 2011. Forty-six (46) burn injuries were reported to M-BIRS during July. In July, scalds accounted for 15, or 33%, of these burns. Burns from fires accounted for 12, or 26% of July's burn injuries. Flame burn injuries caused eight, or 17%, of these burns. Contact burns accounted for five, or 11% of these injuries. *Other* burns causes four, or 9%, of these injuries. Burns from explosions caused two, or 4%, of the burn injuries in July 2011 in Massachusetts.

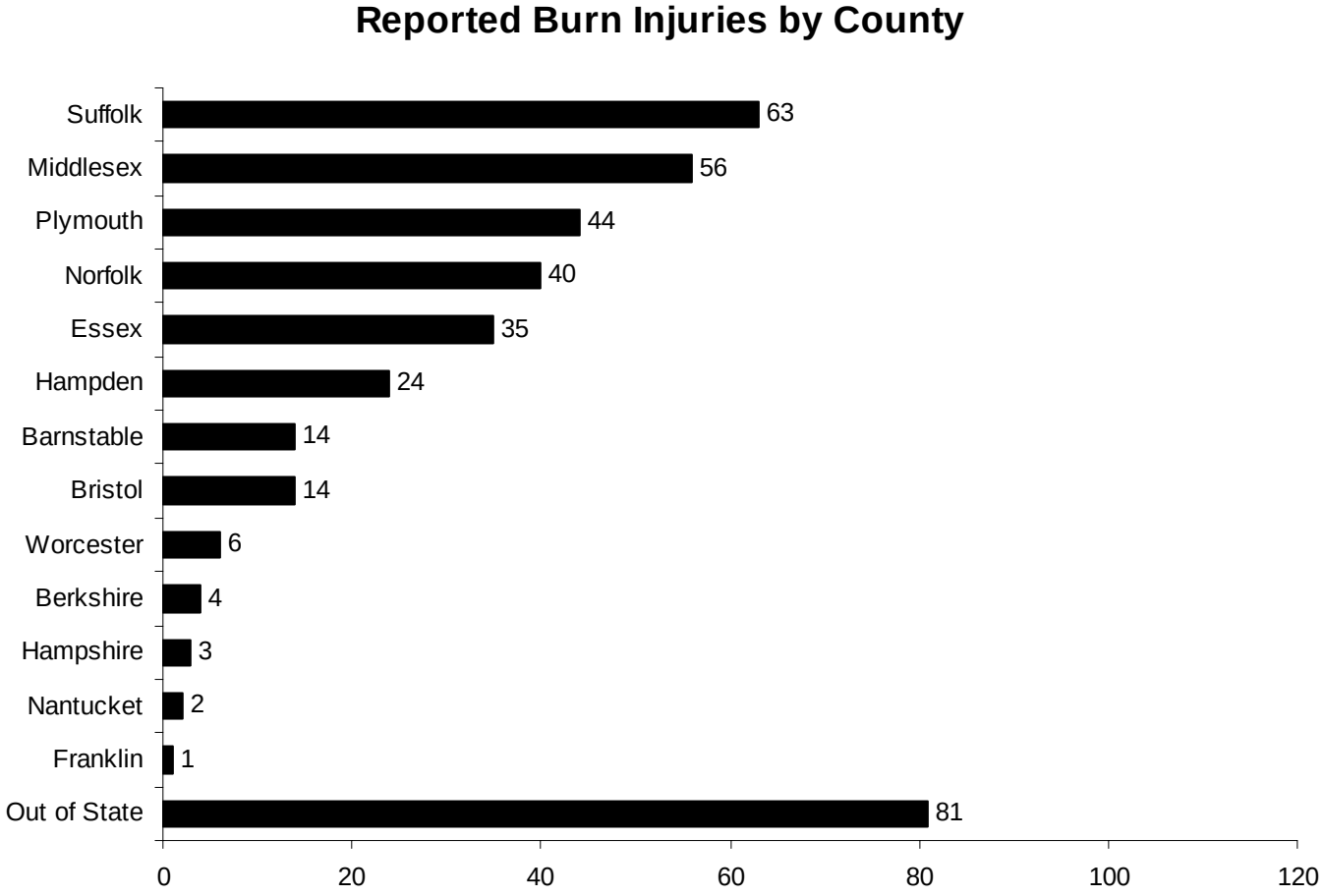


For more information, please refer to the table *Causes of Burn Injuries by Month* in the Appendix.

Geographical Demographics

Massachusetts Burn Victims from 129 Cities and Towns
Massachusetts medical facilities treated 306 residents of 122 Massachusetts cities and towns. Burn victims came from 13 of the 14 counties in the Commonwealth. The largest numbers of reported burn injuries were incurred by residents of Suffolk, Middlesex and Plymouth counties. It appears that some large Boston hospitals (Suffolk County) may have under reported the burns they treated.

Eighty-one (81) burn victims from out-of-state received treatment at Massachusetts facilities. Some of the people were injured while vacationing here; others came to Massachusetts specifically for the specialized treatment of burn injuries that is available in the Commonwealth.



For information on the number of burn victims from each Massachusetts community, please refer to the table *Burn Injuries by Victim's Community* in the Appendix.

Boston & Springfield had the Most Reported Burn Injuries

Boston was home to the most burn injury victims with 57 of its residents reported to have a burn injury in 2011, this is down from the 61 reported in 2010. Springfield had the second largest number of victims with nine. Quincy had eight injury reports, Brockton, Lowell and Lynn each had seven residents receive burn injuries. Abington, Lawrence, Methuen, New Bedford and Weymouth each had five reported burn injuries in 2011.

Burns Per 10,000 Population

However the map on page 65, *2011 Burns by 10K Population*, displays the number of burns reported by community per 10,000 of its residents. The darker the community is shaded the more burns per 10,000 population were reported from that municipality. Cities and towns that are white did not have a reported burn injury in 2011.

If we look at the number of burn injuries compared to the total population of the individual community we get a different picture. One would expect the bigger cities and towns to have more burn injuries because of their populations. When we calculate the rate of reported burn injuries for every 10,000 people in a given municipality, the ranking changes. The top six communities in terms of the total number of reported injuries fall towards the bottom of the rankings. Communities with one, two or three reported burns take over the top spots because of the very small populations. These communities may have a rate that far exceeds the actual number of burns that were reported. The legend symbols are consistent in both maps.

Leverett had the highest rate of burn injuries per 10,000 population at 5.40. Next highest was Holbrook with 3.71 burn injuries per 10,000 population; Orleans had 3.40; Abington had 3.13; Cheshire had 3.09; and Nahant had 2.93 burn injuries per 10,000 population[11].

Scalds Per 10,000 Population

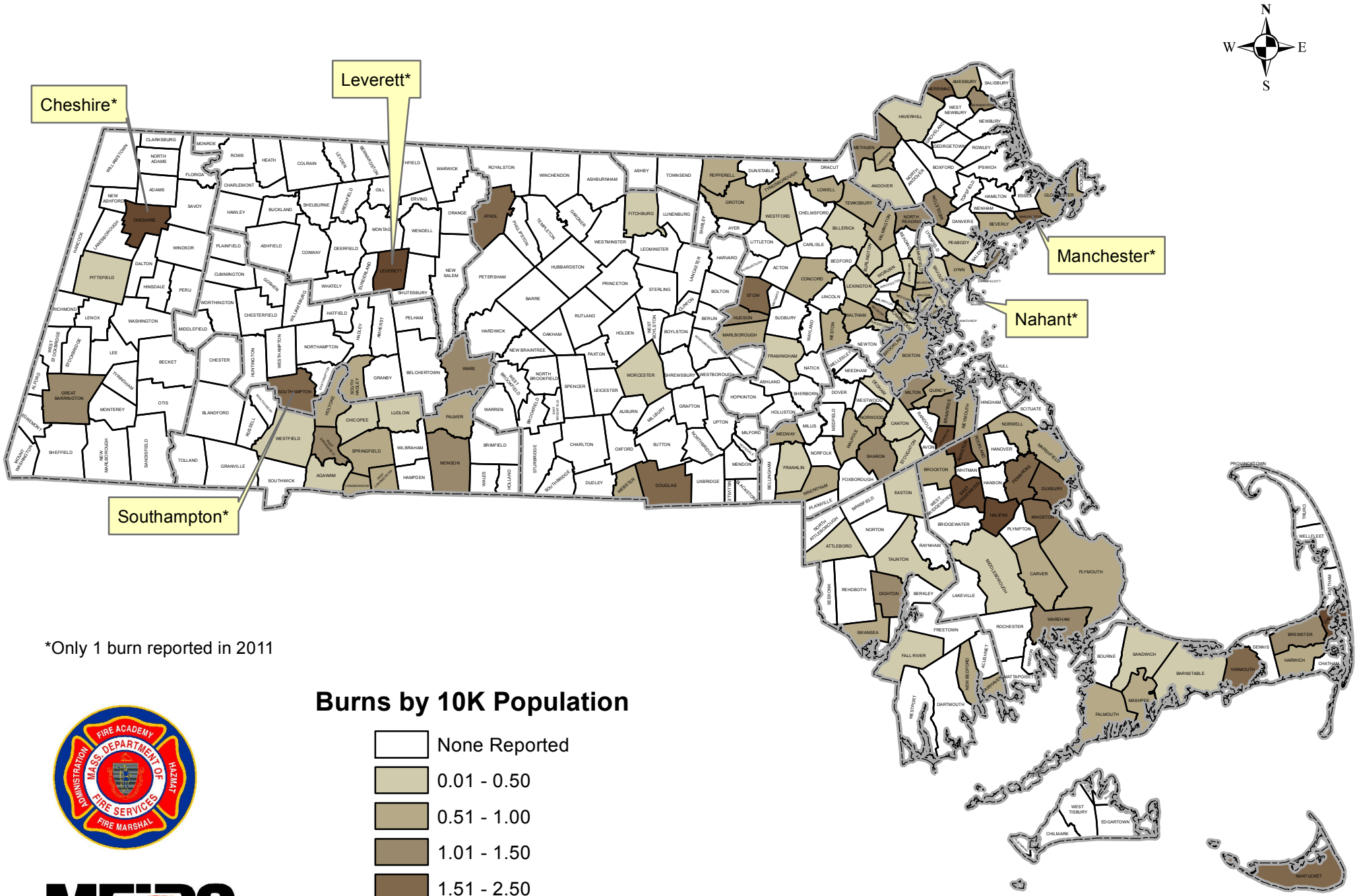
The map on page 66, *2011 Scalds per 10K Population*, displays the rate of reported scald burn injuries by the victim's home community for every 10,000 of that community's population. The darker the community is shaded the more burn injuries per 10,000 people were reported from that municipality. Cities and towns that are white did not have a reported burn injury in 2011.

Leverett had the highest rate of 5.40 scald burn injuries per 10,000 population. Next highest was Manchester with 3.89 scald burn injuries per 10,000 population; Plympton had 3.55; Holbrook had 2.78; and Hull had 1.94 scald burn injuries per 10,000 population[12].

[11] Monroe, Tolland, Chesterfield & Pelham each only had 1 burn injury reported in 2010. Washington had 3 reported burn injuries and Manchester had 4 in 2010.

[12] Each of these communities only had one scald burn reported in 2010.

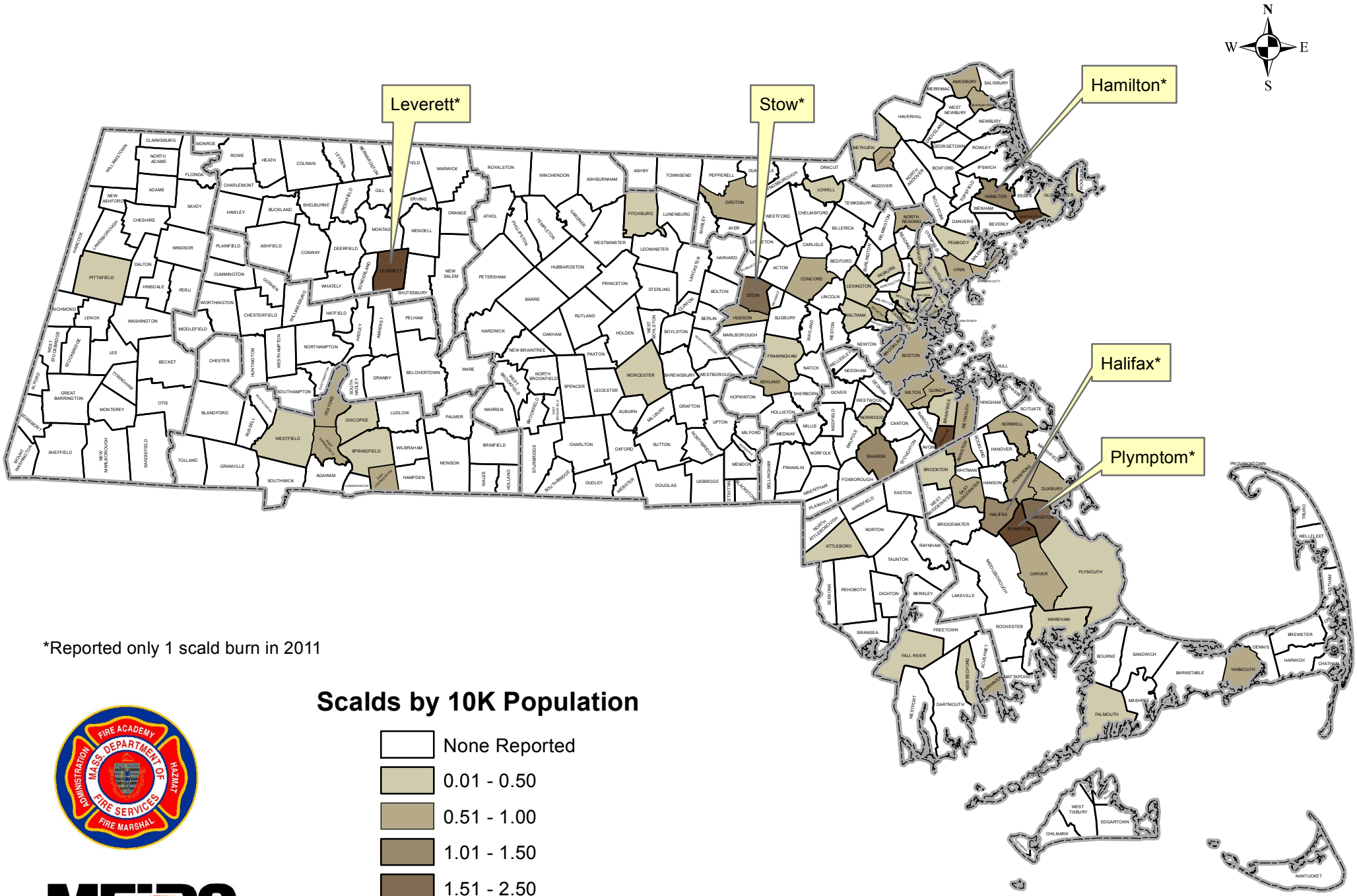
2011 MA Burns by 10K Population



*Only 1 burn reported in 2011

MFIRS
Massachusetts Fire Incident Reporting System

2011 MA Scalds by 10K Population



*Reported only 1 scald burn in 2011

MFIRS
Massachusetts Fire Incident Reporting System

2011 Appendix

* Italicized names are sub-categories for the headings listed above them.

Specific Causes of Burn Injuries

Cause	# of Burns	% of Burns
Scalds	**179**	**46.3%**
Cooking	98	20.2%
Cooking Liquids	*61*	*15.8%*
Food	*34*	*8.8%*
Cooking	*3*	*0.8%*
Beverages	51	13.2%
Hot Tap Water	17	4.4%
Car Radiator	5	1.3%
Assault	1	0.3%
Machine	1	0.3%
Not reported	1	0.3%
Fires	**69**	**17.8%**
Camp or Bon Fires	34	8.8%
Camp Fire	*11*	*2.8%*
Bon Fire	*7*	*1.8%*
Gasoline	*7*	*1.8%*
Ignitable Liquids	*3*	*0.8%*
Embers	*2*	*0.5%*
Assault	*1*	*0.3%*
Brush Fire	*1*	*0.3%*
Clothes	*1*	*0.3%*
Flammables	*1*	*0.3%*
House Fires	15	3.9%
House Fire (Unspec.)	*7*	*0.3%*
Arson	*1*	*0.3%*
Child w/lighter	*1*	*0.3%*
Electrical	*1*	*0.3%*
Gasoline	*1*	*0.3%*
Gas Stove	*1*	*0.3%*
Propane	*1*	*0.3%*
Smoking	*1*	*0.3%*
Wood Stove	*1*	*0.3%*
Motor Vehicle Fires	11	2.8%
MV Accident	*5*	*1.3%*
Gasoline	*1*	*0.3%*
Airplane Crash	*1*	*0.3%*
Arson	*1*	*0.3%*
Car Fire	*1*	*0.3%*
Cigarette	*1*	*0.3%*
Brush Fires	6	1.6%
Brush Fire	*3*	*0.8%*
Gasoline	*2*	*0.5%*

Cause	# of Burns	% of Burns
Fire (cont'd)		
Clothes	*1*	*0.3%*
Structure Fires	2	0.5%
Smoking in Bed	*1*	*0.3%*
Tent Fire	*1*	*0.3%*
Fires, Unspecified	1	0.3%
Not reported	*1*	*0.3%*
Flame Burns	**66**	**17.1%**
Cooking	21	5.4%
Cooking/Clothes	*8*	*2.1%*
Cooking Liquids	*5*	*1.3%*
Barbeque	*2*	*0.5%*
Barbeque (gas)	*1*	*0.3%*
Food	*1*	*0.3%*
Oven	*1*	*0.3%*
Stove	*1*	*0.3%*
Ignitable Liquids	12	3.1%
Gasoline	*7*	*1.8%*
Ignitable Liquids	*5*	*1.3%*
Child Misusing	6	1.6%
Child w/Lighter	*3*	*0.8%*
Child w/Lighter/Cloth	*2*	*0.5%*
Child w/Gasoline	*1*	*0.3%*
Smoking	5	1.3%
Smoking/Clothes	*2*	*0.5%*
Smoking on Oxygen	*2*	*0.5%*
Smoking (Unspec.)	*1*	*0.3%*
Aerosol	4	1.0%
Clothes Ignition	4	1.0%
Candle	3	0.8%
Candle/Clothes	*2*	*0.5%*
Candle	*1*	*0.2%*
Propane	2	0.5%
Heating Equipment	2	0.5%
Woodstove	*1*	*0.3%*
Fireplace	*1*	*0.3%*
Assault	1	0.3%
Chemical	1	0.3%
Electrical	1	0.3%
Fireworks	1	0.3%
Flashburn	1	0.3%

Cause	# of Burns	% of Burns
Flame Burns (cont'd)		
Metal	1	0.3%
Self-immolation	1	0.3%
Contact Burns	**34**	**8.8%**
Cooking	10	2.6%
Barbeque	*3*	*0.8%*
Cooking (Unspec.)	*3*	*0.8%*
Oven	*2*	*0.5%*
Stove	*2*	*0.5%*
Curling Iron	4	1.0%
Radiator	4	1.0%
Clothes Iron	3	0.8%
Battery Charger	1	0.3%
Car	1	0.3%
Embers	1	0.3%
Fireplace	1	0.3%
Lamp	1	0.3%
Lawnmower	1	0.3%
Light bulb	1	0.3%
Machine	1	0.3%
Motorcycle	1	0.3%
Pavement Burns	1	0.3%
Pipe	1	0.3%
Wax	1	0.3%

Cause	# of Burns	% of Burns
Explosions	**14**	**3.6%**
Ignitable Gases	7	1.8%
Propane	*3*	*2.1%*
Gas Stove	*3*	*0.8%*
Barbeque (Gas)	*1*	*0.8%*
Gasoline	4	1.0%
Explosives	2	0.5%
Fireworks	*1*	*0.3%*
Gun Powder	*1*	*0.3%*
Aerosol	1	0.3%
Electrical	**12**	**3.1%**
Electrical (Unspec.)	11	2.8%
Electrocution	1	0.3%
Other Burn Injuries	**12**	**3.1%**
Chemical	8	1.3%
Sunburn	3	0.8%
Radiator	1	0.3%
Domestic Violence	**1**	**0.3%**
Food	1	0.3%

Causes of Burn Injuries by Age

UNDER 5	115	29.7%
Cause	**# of Burns**	**% By Age**
Scalds	**89**	**77.4%**
Beverages	37	32.2%
Cooking	37	32.2%
Cooking Liquids	*22*	*19.1%*
Food	*15*	*13.0%*
Hot Tap Water	12	10.4%
Machine	1	0.9%
Steam	1	0.9%
Unknown	1	0.9%
Contact	**18**	**15.7%**
Cooking	6	5.2%
Barbeque	*2*	*1.7%*
Oven	*2*	*1.7%*
Stove	*1*	*0.9%*
Cooking (Unspec.)	*1*	*0.9%*
Heating	4	3.5%
Radiator	*3*	*2.6%*
Fireplace	*1*	*0.9%*
Clothes Iron	2	1.7%
Curling Iron	2	1.7%
Hair Dryer	1	0.9%
Lamp	1	0.9%
Lawnmower	1	0.9%
Pipe	1	0.9%
Fire	**7**	**6.1%**
Camp or Bon Fires	7	6.1%
Camp Fire	*3*	*2.6%*
Embers	*2*	*1.7%*
Brush Fire	*1*	*0.9%*
Bon Fire	*1*	*0.9%*
Electrical	**1**	**0.9%**
Electrical	1	0.9%

AGES 5 TO 9	30	7.8%
Cause	**# of Burns**	**% By Age**
Scalds	**14**	**46.7%**
Cooking	11	36.7%
Food	*10*	*33.3%*
Cooking Liquids	*1*	*3.3%*
Hot Beverages	3	10.0%
Contact	**6**	**20.0%**
Cooking	2	6.7%
Barbeque	*1*	*3.3%*
Stove	*1*	*3.3%*
Car	1	3.3%
Clothes Iron	1	3.3%
Curling Iron	1	3.3%
Light bulb	1	3.3%
Flame	**6**	**20.0%**
Child w/Lighter	2	6.7%
Aerosol	1	3.3%
Cook/Clothes	1	3.3%
Fireplace	1	3.3%
Fireworks	1	3.3%
Fires	**2**	**6.7%**
Camp or Bon Fires	1	3.3%
Bon Fire	*1*	*3.3%*
Motor Vehicle Fires	1	3.3%
MV Accident	*1*	*3.3%*
Chemical	**2**	**6.7%**
Chemical	2	6.7%

AGES 10 TO 14	**24**	**6.2%**
Cause	**# of Burns**	**% By Age**
Scalds	**10**	**41.7%**
Cooking	5	20.8%
Food	*3*	*12.5%*
Cooking Liquids	*2*	*8.3%*
Hot Beverages	4	16.7%
Hot Tap Water	1	4.2%
Flame	**9**	**37.5%**
Child Misusing	4	16.7%
Child/Lighter/Clothes	*2*	*8.3%*
Child w/Gasoline	*1*	*4.2%*
Child w/Lighter	*1*	*4.2%*
Ignitable Liquids	2	8.3%
Cooking	2	8.3%
Cooking Liquids	*1*	*4.2%*
Stove	*1*	*4.2%*
Aerosol	1	4.2%
Contact	**2**	**8.3%**
Battery Charger	1	4.2%
Cooking (Unspec.)	1	4.2%
Fire	**2**	**8.3%**
Camp or Bon Fires	1	4.2%
Camp Fire	*1*	*4.2%*
House Fires	1	4.2%
Child w/Lighter	*1*	*4.2%*
Electrical	**1**	**4.2%**
Electrical (Unspec.)	1	4.2%

AGES 15 TO 24	**45**	**11.6%**
Cause	**# of Burns**	**% By Age**
Scalds	**17**	**37.8%**
Cooking	13	28.9%
Cooking Liquids	*8*	*17.8%*
Hot Food	*4*	*8.9%*
Cooking (Unspec.)	*1*	*2.2%*
Hot Beverages	1	2.2%
Car Radiator	1	2.2%
Fire	**15**	**33.3%**
Camp or Bon Fires	11	24.4%
Bon Fire	*3*	*6.7%*
Camp Fires	*2*	*4.4%*
Gasoline	*2*	*4.4%*
Assault	*1*	*4.4%*
Clothes	*1*	*4.4%*
Flammables	*1*	*4.4%*
Brush Fires	2	4.4%
Gasoline	*2*	*4.4%*
House Fires	1	2.2%
Unspecified	*1*	*2.2%*
Motor Vehicle Fires	1	2.2%
MV Accident	*1*	*2.2%*
Flame	**6**	**13.3%**
Cooking	2	4.4%
Cooking Liquids	*1*	*2.2%*
Cook/Clothes	*1*	*2.2%*
Ignitable Liquids	2	4.4%
Gasoline	*1*	*2.2%*
Ignitable Liquids	*1*	*2.2%*
Smoking	2	4.4%
Smoking/Clothes	*1*	*2.2%*
Smoking (Unspec.)	*1*	*2.2%*
Explosion	**5**	**11.1%**
Ignitable Gases	3	6.7%
Gas Stove	*2*	*4.4%*
Propane	*1*	*2.2%*
Explosives	2	4.4%
Fireworks	*1*	*2.2%*
Gun Powder	*1*	*2.2%*
Contact	**1**	**2.2%**
Motorcycle	1	2.2%
Electrical	**1**	**2.2%**
Electrocution	1	2.2%

AGES 25 TO 34	**46**	**11.9%**
Cause	**# of Burns**	**% By Age**
Scalds	**18**	**39.1%**
Cooking	12	26.1%
Cooking Liquids	*11*	*23.9%*
Cooking (Unspec.)	*1*	*2.2%*
Hot Beverages	2	4.3%
Car Radiator	2	4.3%
Steam	2	4.3%
Fire	**12**	**26.1%**
Camp or Bon Fires	8	17.4%
Gasoline	*3*	*6.5%*
Ignitable Liquids	*2*	*4.3%*
Bon Fire	*2*	*4.3%*
Camp Fires	*1*	*2.2%*
House Fires	2	4.3%
House Fires	*2*	*2.2%*
Gas Stove	*1*	*2.2%*
Brush Fires	1	2.2%
Brush Fire	*1*	*2.2%*
Motor Vehicle Fires	1	2.2%
MV Accident	*1*	*2.2%*
Flame	**9**	**19.6%**
Cooking	4	8.7%
Stove	*2*	*4.3%*
Cooking Liquids	*1*	*2.2%*
Oven	*1*	*2.2%*
Gasoline	2	4.3%
Clothes Ignition	1	2.2%
Self-immolation	1	2.2%
Contact	**2**	**4.3%**
Asphalt	1	2.2%
Curling Iron	1	2.2%
Electrical	**2**	**4.3%**
Electrical (Unspec.)	2	4.3%
Explosions	**2**	**4.3%**
Gas Stove	1	2.2%
Propane	1	2.2%
Other	**1**	**2.2%**
Sunburn	1	2.2%

AGES 35 TO 44	**39**	**10.1%**
Cause	**# of Burns**	**% By Age**
Fire	**10**	**25.6%**
House Fires	3	7.7%
Arson	*1*	*2.6%*
Gasoline	*1*	*2.6%*
House Fire	*1*	*2.6%*
Camp or Bon Fires	2	5.1%
Camp Fire (Unspec.)	*2*	*5.1%*
Motor Vehicle Fires	2	5.1%
Arson	*1*	*2.6%*
MV Accident	*1*	*2.6%*
Brush Fires	1	2.6%
Gasoline	*1*	*2.6%*
Fire, Unspecified	1	2.6%
Scalds	**10**	**25.6%**
Cooking	10	23.1%
Cooking Liquids	*8*	*20.5%*
Food	*1*	*2.6&*
Cooking (Unspec.)	*1*	*2.6%*
Other	**6**	**15.4%**
Sunburn	4	10.3%
Chemical	2	5.1%
Electrical	**5**	**12.8%**
Electrical (Unspec.)	5	12.8%
Flame	**5**	**12.8%**
Barbeque	1	2.6%
Candle/Clothes	1	2.6%
Electrical	1	2.6%
Gasoline	1	2.6%
Woodstove	1	2.6%
Explosions	**2**	**5.1%**
Aerosol	1	2.6%
Propane	1	2.6%
Domestic Violence	**1**	**2.6%**
Food	1	2.6%

AGES 45 TO 54	**35**	**9.0%**
Cause	**# of Burns**	**% By Age**
Fire	**10**	**28.6%**
Camp or Bon Fires	3	8.6%
Camp Fires (Unspec.)	*2*	*5.7%*
Gasoline	*1*	*2.9%*
Motor Vehicle Fires	3	8.6%
Airplane Crash	*1*	*2.9%*
Cigarette	*1*	*2.9%*
Gasoline	*1*	*2.9%*
House Fires	2	5.7%
Smoking	*2*	*2.9%*
Unspecified	*1*	*2.9%*
Brush Fire	1	2.9%
Clothes Ignition	*1*	*2.9%*
Structure Fire	1	2.9%
Tent Fire	*1*	*2.9%*
Scalds	**10**	**28.6%**
Cooking	5	14.3%
Cooking Liquids	*4*	*11.4%*
Food	*1*	*2.9%*
Steam	2	5.7%
Hot Tap Water	2	5.7%
Care Radiator	1	2.9%
Flame	**9**	**25.7%**
Cooking	3	8.6%
Barbeque	*1*	*2.9%*
Barbeque (Gas)	*1*	*2.9%*
Cooking Liquids	*1*	*2.9%*
Clothes	3	8.6%
Clothes (Unspec.)	*2*	*5.7%*
Candle/Clothes	*1*	*2.9%*
Ignitable Liquids	1	2.9%
Metal	1	2.9%
Explosions	**3**	**8.6%**
Gasoline	2	5.7%
Barbeque (Gas)	1	2.9%
Electrical	**2**	**5.7%**
Electrical (Unspec.)	2	5.7%
Other	**1**	**2.9%**
Chemical	1	2.9%

AGES 55 TO 64	**28**	**7.2%**
Cause	**# of Burns**	**% By Age**
Flame	**9**	**32.1%**
Cooking/Clothes	2	7.1%
Smoking on O_2	2	7.1%
Aerosol	1	3.6%
Candle	1	3.6%
Chemical	1	3.6%
Ignitable Liquids	1	3.6%
Propane	1	3.6%
Fire	**8**	**28.6%**
House Fires	4	14.3%
Unspecified	*3*	*10.7%*
Woodstove	*1*	*3.6%*
Motor Vehicle Fires	3	10.7%
Gasoline	*1*	*3.6%*
MV Accident	*1*	*3.6%*
Unspecified	*1*	*3.6%*
Brush Fires	1	3.6%
Unspecified	*1*	*3.6%*
Scalds	**4**	**13.3%**
Cooking Liquids	3	10.0%
Hot Beverages	1	3.3%
Contact	**3**	**10.7%**
Embers	1	3.6%
Radiator	1	3.6%
Wax	1	3.6%
Explosion	**2**	**7.1%**
Gasoline	2	7.1%
Other	**2**	**7.1%**
Chemical	2	7.1%

AGES 65+	**25**	**6.5%**
Cause	**# of Burns**	**% By Age**
Flame	**13**	**52.0%**
Cooking	6	24.0%
Cooking/Clothes	*4*	*16.0%*
Cooking Liquids	*1*	*4.0%*
Food	*1*	*4.0%*
Gasoline	3	12.0%
Assault	1	4.0%
Clothes Ignition	1	4.0%
Propane	1	4.0%
Smoking/Clothes	1	4.0%
Scalds	**7**	**28.0%**
Cooking Liquids	4	16.0%
Hot Tap Water	2	8.0%
Hot Beverages	1	4.0%
Fire	**3**	**12.0%**
House Fires	2	8.0%
Electrical	*1*	*4.0%*
Unspecified	*1*	*4.0%*
Camp or Bon Fires	1	4.0%
Gasoline	*1*	*4.0%*
Contact	**2**	**8.0%**
Cooking (Unspec.)	1	4.0%
Machine	1	4.0%

Causes of Work-Related Burns

Cause	# of Burns	% of Total
Scalds	**18**	**37%**
Cooking	12	24%
Cooking Liquids	*10*	*20%*
Hot Food	*2*	*4%*
Car Radiator	2	4%
Steam	2	4%
Hot Beverages	1	2%
Hot Tap Water	1	2%
Electrical	**10**	**20%**
Electrical (Unspec.)	9	18%
Electrocution	1	2%
Flame	**10**	**20%**
Gasoline	3	6%
Clothes Ignition	2	4%
Electrical	1	2%
Flashburn	1	2%
Metal	1	2%
Oven	1	4%
Propane	1	2%

Cause	# of Burns	% of Total
Explosions	**5**	**10%**
Ignitable Gases	4	8%
Gas Stove	*2*	*4%*
Propane	*2*	*4%*
Aerosol	1	2%
Other	**5**	**10%**
Chemical	4	8%
Radiator	1	2%
Fire	**1**	**2%**
Brush Fire	1	2%
Total	**49**	**100%**

Number of Reported Burns Per Hospital

Addison Gilbert Hospital	1
Anna Jacques Hospital	4
Baystate Medical Center	23
Berkshire Medical Center	1
Boston Medical Center	1
Brockton Hospital	7
Brigham & Women's Hospital	29
Cambridge Hospital	1
Cape Cod Hospital	8
Charlton Memorial Hospital	1
Children's Hospital	50
Emerson Hospital	4
Fairview Hospital	1
Falmouth Hospital	3
Faulkner Hospital	1
Harrington Memorial Hospital	3
Holy Family Hospital	3
Jordan Hospital	2
Lawrence General Hospital	5
Leominster Hospital	1
Lowell General Hospital	2
Marlboro Hospital	2
Massachusetts General Hospital	124
Metro West Medical Center	4
Milton Whitinsville Hospital	1
Morton Hospital	1
Nantucket Hospital	1
Newton Wellesley Hospital	2
Norwood Hospital	3
St. Anne's Hospital	1
St. Elizabeth's Medical Center	2
St. Luke's Hospital	4
St. Vincent's Hospital	1
Saints Medical Center	1
South Shore Hospital	29
Shriners Burns Hospital	88
Sturdy Memorial Medical Center	2
Tobey Hospital	4
UMass Medical Center, University	2
Walk-in Clinic - Wilmington	1
Whidden Memorial Hospital	1
Winchester Hospital	2
Wing Memorial Hospital	2
Unknown	1

Causes of Burn Injuries by Month

JANUARY	30	7.8%
Cause	**# of Burns**	**% By Month**
Scalds	**15**	**50.0%**
Cooking	8	26.7%
Cooking Liquids	*6*	*16.7%*
Hot Food	*2*	*6.7%*
Hot Beverages	6	16.7%
Hot Tap Water	1	3.3%
Unknown	1	3.3%
Flame	**10**	**33.3%**
Cooking	4	13.3%
Cook/Clothes	*3*	*10.0%*
Food	*1*	*3.3%*
Ignitable Liquids	2	6.7%
Aerosol	1	3.3%
Clothes Ignition	1	3.3%
Fireplace	1	3.3%
Metal	1	3.3%
Fire	**3**	**10.0%**
House Fires	2	6.7%
Unspecified	*1*	*3.3%*
Woodstove	*1*	*3.3%*
Camp or Bon Fires	1	3.3%
Bon Fire	*1*	*3.3%*
Contact	**2**	**6.7%**
Embers	1	3.3%
Radiator	1	3.3%

FEBRUARY	24	6.2%
Cause	**# of Burns**	**% By Month**
Scalds	**13**	**54.2%**
Cooking	7	29.2%
Cooking Liquids	*5*	*20.8%*
Hot Food	*2*	*8.3%*
Hot Beverages	5	20.8%
Steam	1	4.2%
Flame	**5**	**20.8%**
Cooking	3	12.5%
Cook/Clothes	*2*	*8.3%*
Cooking Liquids	*1*	*4.2%*
Child w/Lighter	1	4.2%
Ignitable Liquids	1	4.2%
Contact	**4**	**16.7%**
Cooking	3	12.5%
Unspecified	*2*	*8.3%*
Stove	*1*	*4.2%*
Curling Iron	1	4.2%
Fire	**1**	**4.2%**
House Fires	1	4.2 %
Cigarette	*1*	*4.2%*
Electrical	**1**	**4.2%**
Electrical	1	4.2%

MARCH	**31**	**8.0%**
Cause	**# of Burns**	**% By Month**
Scalds	**16**	**51.6%**
Cooking	8	25.8%
Cooking Liquids	*6*	*19.4%*
Hot Food	*2*	*6.5%*
Hot Beverages	4	12.9%
Hot Tap Water	3	9.7%
Steam	1	3.2%
Flame	**7**	**22.6%**
Candle	1	3.2%
Chemical	1	3.2%
Clothes Ignition	1	3.2%
Cooking Liquids	1	3.2%
Gasoline	1	3.2%
Propane	1	3.2%
Smoking on Oxygen	1	3.2%
Fire	**4**	**12.9%**
Camp or Bon Fires	4	12.9%
Assault	*1*	*3.2%*
Brush Fire	*1*	*3.2%*
Gasoline	*1*	*3.2%*
Ignitable Liquids	*1*	*3.2%*
Contact	**2**	**6.5%**
Fireplace	1	3.2%
Lamp	1	3.2%
Explosion	**1**	**3.2%**
Propane	1	3.2%
Other	**1**	**3.2%**
Chemical	1	3.2%

2 Deaths

APRIL	**29**	**7.5%**
Cause	**# of Burns**	**% By Month**
Scalds	**11**	**37.9%**
Cooking Liquids	6	20.7%
Hot Beverages	4	13.8%
Hot Tap Water	1	3.4%
Flame	**7**	**24.1%**
Cooking	3	10.3%
Cooking Liquids	*2*	*6.9%*
Cooking/Clothes	*1*	*3.4%*
Ignitable Liquids	2	6.9%
Child w/Gasoline	*1*	*3.4%*
Ignitable Liquids	*1*	*3.4%*
Smoking/Clothes	1	3.4%
Woodstove	1	3.4%
Fire	**6**	**20.7%**
Brush Fires	3	10.3%
Clothes	*1*	*3.4%*
Gasoline	*1*	*3.4%*
Unspecified	*1*	*3.4%*
Camp or Bon Fires	1	3.4%
Camp Fire	*1*	*3.4%*
House Fires	1	3.4%
Unspecified	*1*	*3.4%*
Structure Fires	1	3.4%
Tent Fire	*1*	*3.4%*
Contact	**5**	**17.2%**
Radiator	2	6.9%
Cooking	2	6.9%
Barbeque	*1*	*3.4%*
Oven	*1*	*3.4%*
Curling Iron	1	3.4%

MAY	**31**	**8.0%**
Cause	**# of Burns**	**% By Month**
Scalds	**13**	**41.9%**
Cooking	7	22.6%
Cooking Liquids	*4*	*12.9%*
Hot Food	*2*	*6.5%*
Unspecified	*1*	*3.2%*
Hot Beverages	4	12.9%
Assault	1	3.2%
Hot Tap Water	1	3.2%
Fire	**5**	**16.1%**
Camp or Bon Fires	3	9.7%
Gasoline	*2*	*6.5%*
Embers	*1*	*3.2%*
Brush Fires	1	3.2%
Gasoline	*1*	*3.2%*
House Fires	1	3.2%
Arson	*1*	*3.2%*
Flame	**5**	**16.1%**
Cooking	2	6.5%
Barbeque (Gas)	*1*	*3.2%*
Stove	*1*	*3.2%*
Flashburn	1	3.2%
Gasoline	1	3.2%
Contact	**4**	**12.9%**
Clothes Iron	2	6.5%
Curling Iron	1	3.2%
Machine	1	3.2%
Explosion	**2**	**6.5%**
Barbeque (Gas)	1	3.2%
Gasoline	1	3.2%
Other	**2**	**6.5%**
Sunburn	2	6.5%

JUNE	**40**	**10.3%**
Cause	**# of Burns**	**% By Month**
Scalds	**21**	**52.5%**
Cooking	12	30.0%
Cooking Liquids	*7*	*17.5%*
Hot Food	*5*	*12.5%*
Hot Beverages	3	7.5%
Car Radiator	3	7.5%
Hot Tap Water	2	5.0%
Steam	1	2.5%
Fire	**6**	**15.0%**
Camp or Bon Fires	3	7.5%
Bon Fire	*2*	*5.0%*
Camp Fire	*1*	*2.5%*
MV Fires	3	7.5%
Car Fire	*1*	*2.5%*
Gasoline	*1*	*2.5%*
MV Accident	*1*	*2.5%*
Electrical	**4**	**10.0%**
Unspecified	4	10.0%
Flame	**4**	**10.0%**
Barbeque	2	5.0%
Gasoline	1	2.5%
Smoking/Clothes	1	2.5%
Contact	**2**	**5.0%**
Battery Charger	1	2.5%
Stove	1	2.5%
Explosion	**2**	**5.0%**
Gasoline	1	2.5%
Gunpowder	1	2.5%
Other	**1**	**2.5%**
Chemical	1	2.5%

JULY	**46**	**11.9%**
Cause	**# of Burns**	**% By Month**
Scalds	**15**	**32.6%**
Cooking	9	19.6%
Hot Food	*8*	*17.4%*
Cooking Liquids	*1*	*2.2%*
Hot Beverages	5	10.9%
Hot Tap Water	1	2.2%
Fire	**12**	**26.1%**
Camp or Bon Fires	7	15.2%
Camp Fire	*2*	*4.3%*
Gasoline	*2*	*4.3%*
Bon Fire	*2*	*2.2%*
Embers	*1*	*2.2%*
Ignitable Liquids	*1*	*2.2%*
House Fires	2	4.3%
Electrical	*1*	*2.2%*
Unspecified	*1*	*2.2%*
Brush Fire	1	2.2%
Unspecified	*1*	*2.2%*
Motor Vehicle Fires	1	2.2%
Gasoline	*1*	*2.2%*
Fire, Other	1	2.2%
Not Reported	*1*	*2.2%*
Flame	**8**	**17.4%**
Clothes Ignitions	6	13.1%
Candle/Clothes	*2*	*4.3%*
Cooking/Clothes	*2*	*4.3%*
Child/Lighter/Cloth	*1*	*2.2%*
Unspecified	*1*	*2.2%*
Fireworks	1	2.2%
Propane	1	2.2%
Contact	**5**	**10.9%**
Cooking	3	6.5%
Barbeque	*2*	*4.3%*
Unspecified	*1*	*2.2%*
Hair Dryer	1	2.2%
Pavement burns	1	2.2%
Other	**4**	**8.7%**
Chemical	2	4.3%
Radiator	1	2.2%
Sunburn	1	2.2%
Explosion	**2**	**4.3%**
Fireworks	1	2.2%
Gasoline	1	2.2%

AUGUST	**36**	**9.3%**
Cause	**# of Burns**	**% By Month**
Scalds	**15**	**41.7%**
Cooking	9	25.0%
Cooking Liquids	*4*	*11.1%*
Hot Food	*4*	*11.1%*
Unspecified	*1*	*2.8%*
Hot Beverages	3	8.3**%**
Hot Tap Water	2	5.6%
Car Radiator	1	2.8%
Fire	**11**	**30.6%**
Camp or Bonfires	8	22.2%
Camp Fire (Unspec.)	*4*	*11.1%*
Gasoline	*2*	*5.6%*
Clothes Ignition	*1*	*2.8%*
Flammables	*1*	*2.8%*
Motor Vehicle Fires	3	8.3%
MV Accident	*2*	*5.6%*
Airplane Crash	*1*	*2.8%*
Explosion	**4**	**11.1%**
Propane	2	5.6%
Aerosol	1	2.8%
Gasoline	1	2.8%
Contact	**2**	**5.6%**
Car	1	2.8%
Lawnmower	1	2.8%
Electrical	**2**	**5.6%**
Electrical (Unspec.)	1	2.8%
Electrocution	1	2.8%
Flame	**2**	**5.6%**
Clothes Ignition	1	2.8%
Ignitable Liquids	1	2.8%

SEPTEMBER	**28**	**7.2%**
Cause	**# of Burns**	**% By Month**
Scalds	**15**	**53.6%**
Cooking	8	28.6%
Cooking Liquids	*4*	*14.3%*
Hot Food	*4*	*14.3%*
Hot Beverages	3	10.7%
Hot Tap Water	2	7.1%
Car Radiator	1	3.6%
Steam	1	3.6%
Fire	**5**	**17.9%**
Camp or Bon Fires	2	7.1%
Camp Fires (Unspec.)	*2*	*7.1%*
House Fires	2	7.1%
Unspecified	*2*	*7.1%*
Motor Vehicle Fires	1	3.6%
Arson	*1*	*3.6%*
Flame	**4**	**14.3%**
Child w/Lighter	1	3.6%
Gasoline	1	3.6%
Smoking on Oxygen	1	3.6%
Stove	1	3.6%
Explosion	**2**	**7.1%**
Gas Stove	2	7.1%
Contact	**1**	**3.6%**
Motorcycle	1	3.6%
Other	**1**	**3.6%**
Chemical	1	3.6%

OCTOBER	**33**	**8.5%**
Cause	**# of Burns**	**% By Month**
Scalds	**14**	**42.4%**
Cooking	10	30.3%
Cooking Liquids	*8*	*24.2%*
Hot Food	*2*	*6.1%*
Hot Beverages	4	12.1%
Fire	**7**	**21.2%**
House Fires	4	12.1%
Child w/Lighter	*1*	*3.0%*
Gasoline	*1*	*3.0%*
Gas Stove	*1*	*3.0%*
Unspecified	*1*	*3.0%*
Camp or Bon Fires	1	3.0%
Bon Fire (Unspec.)	*1*	*3.0%*
Motor Vehicle Fires	1	3.0%
MV Accident	*1*	*3.0%*
Flame	**7**	**21.2%**
Aerosol	3	9.1%
Assault	1	3.0%
Child w/Lighter	1	3.0%
Cooking Liquids	1	3.0%
Gasoline	1	3.0%
Other	**2**	**6.1%**
Chemical	2	6.1%
Contact	**2**	**6.1%**
Clothes Iron	1	3.0%
Oven	1	3.0%
Explosion	**1**	**3.0%**
Gas Stove	1	3.0%

2 Deaths

NOVEMBER	**33**	**8.5%**
Cause	**# of Burns**	**% By Month**
Scalds	**18**	**54.5%**
Hot Beverages	8	24.2%
Cooking	7	21.2%
Cooking Liquids	*4*	*12.1%*
Hot Food	*2*	*6.1%*
Unspecified	*1*	*3.0%*
Hot Tap Water	2	6.1%
Steam	1	3.0%
Fire	**5**	**15.2%**
Brush Fires	1	3.0%
Unspecified	*1*	*3.0%*
Camp or Bon Fires	1	3.0%
Bon Fire (Unspec.)	*1*	*3.0%*
House Fires	1	3.0%
Smoking	*1*	*3.0%*
Motor Vehicle Fires	1	3.0%
MV Accident	*1*	*3.0%*
Structure Fires	1	3.0%
Smoking in Bed	*1*	*3.0%*
Electrical	**3**	**9.1%**
Electrical	3	9.1%
Contact	**3**	**9.1%**
Curling Iron	1	3.0%
Light bulb	1	3.0%
Wax	1	3.0%
Flame	**3**	**9.1%**
Gasoline	2	6.1%
Electrical	1	3.0%
Domestic Violence	**1**	**3.0%**
Food	1	3.0%

DECEMBER	**26**	**6.7%**
Cause	**# of Burns**	**% By Month**
Scalds	**13**	**50.0%**
Cooking	7	26.9%
Cooking Liquids	*6*	*23.1%*
Hot Food	*1*	*3.8%*
Hot Beverages	3	11.5%
Hot Tap Water	2	7.7%
Machine	1	3.8%
Fire	**4**	**15.4%**
Camp or Bon Fires	2	7.7%
Bon Fire (Unspec.)	*1*	*3.8%*
Ignitable Liquids	*1*	*3.8%*
House Fires	2	3.8%
Propane	*1*	*3.8%*
Unspecified	*1*	*3.8%*
Flame	**4**	**15.4%**
Cooking	2	7.7%
Oven	*1*	*3.8%*
Stove	*1*	*3.8%*
Child/Lighter/Clothes	1	3.8%
Self-immolation	1	3.8%
Electrical	**2**	**7.7%**
Electrical	2	7.7%
Contact	**2**	**7.7%**
Pipe	1	3.8%
Radiator	1	3.8%
Other	**1**	**3.8%**
Chemical	1	3.8%

Burn Injuries by Victim's Community

County	# of Burns
Barnstable	**14**
Barnstable	2
Brewster	1
Falmouth	2
Harwich	1
Mashpee	1
Orleans	2
Sandwich	1
Yarmouth	4
Berkshire	**4**
Cheshire	1
Great Barrington	1
Pittsfield	2
Bristol	**14**
Attleboro	1
Dighton	1
Easton	1
Fairhaven	1
Fall River	1
New Bedford	5
North Attleboro	1
Swansea	1
Taunton	2
Essex	**35**
Amesbury	1
Andover	1
Beverly	2
Gloucester	2
Haverhill	1
Lawrence	5
Lynn	7
Manchester	1
Marblehead	2
Merrimac	1
Methuen	5
Middleton	1
Nahant	1
Newburyport	2
Peabody	1
Saugus	1
Swampscott	1

County	# of Burns
Franklin	**1**
Leverett	1
Hampden	**24**
Agawam	1
Chicopee	1
East Longmeadow	1
Holyoke	2
Longmeadow	1
Ludlow	1
Monson	1
Palmer	1
Springfield	9
West Springfield	4
Westfield	2
Hampshire	**3**
South Hadley	1
Southampton	1
Ware	1
Middlesex	**56**
Ashland	2
Belmont	3
Billerica	1
Burlington	1
Cambridge	1
Concord	1
Everett	2
Framingham	3
Groton	1
Hanscom AFB	1
Hudson	2
Lexington	1
Lowell	7
Malden	3
Marlborough	2
Medford	3
Melrose	2
North Reading	2
Pepperell	1
Somerville	1
Stow	1

County	# of Burns
Middlesex (cont'd)	
Tewksbury	2
Tyngsborough	1
Wakefield	1
Waltham	4
Watertown	1
Westford	1
Weston	1
Wilmington	2
Woburn	1
Nantucket	**2**
Nantucket	2
Norfolk	**40**
Braintree	4
Brookline	4
Canton	1
Dedham	1
Franklin	1
Holbrook	4
Medway	1
Milton	3
Norwood	2
Quincy	8
Sharon	2
Stoughton	1
Walpole	2
Weymouth	5
Wrentham	1
Plymouth	**44**
Abington	5
Brockton	7
Carver	1
Duxbury	3
East Bridgewater	4
Halifax	2
Hull	3
Kingston	3
Marshfield	2
Middleborough	1
Norwell	1
Pembroke	3

County	# of Burns
Plymouth (cont'd)	
Plymouth	4
Rockland	2
Wareham	3
Suffolk	**63**
Boston	57
Chelsea	3
Revere	2
Winthrop	1
Worcester	**31**
Douglas	2
Fitchburg	1
Webster	1
Worcester	2
Out of State	**81**