

# **Scald Injury Prevention**

# Scald Prevention



***Developed by:***  
**American Burn Association  
Burn Prevention Committee**

***Funded by:***  
**United States Fire Administration/  
Federal Emergency Management Agency**

# Fire and Burn Death and Injury

## Deaths

**4,000 deaths a year  
from fire and burns**



## Injuries

**25,000 hospitalized in burn centers**

**600,000 burn injuries treated in hospital EDs**

**(Close to half of all burn injuries treated in hospital emergency departments and one-third of admissions to burn centers are scald injuries)**

*(Sources: National Fire Protection Association, National Center for Health Statistics; American Burn Association, National Burn Repository, 2005)*

# What is a Scald Injury?

- **A scald injury occurs...**
  - **When contact with hot liquid or steam damages one or more layers of skin**



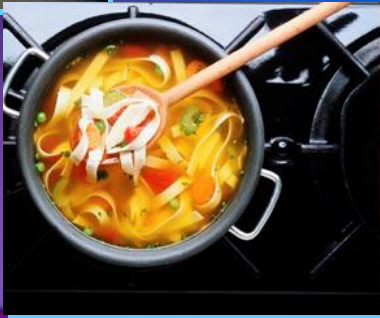
# Scald Prevention Topics

- **What are the main sources of scald injury?**
- **Who are the most frequent victims?**
- **How can scald injury be prevented?**
- **What are the appropriate first-aid responses?**

# Frequent Scald Burn Sources



- Hot tap water
- Hot beverages
- Hot food
- Steam



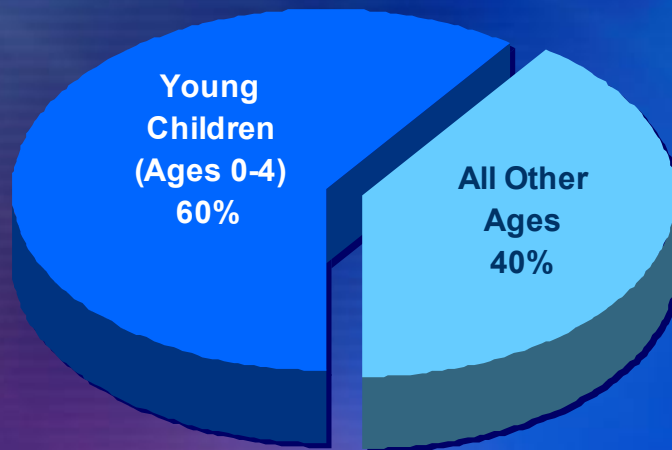
# Most Frequent Scald Injury Victims

- Young children
- Older adults
- People with disabilities

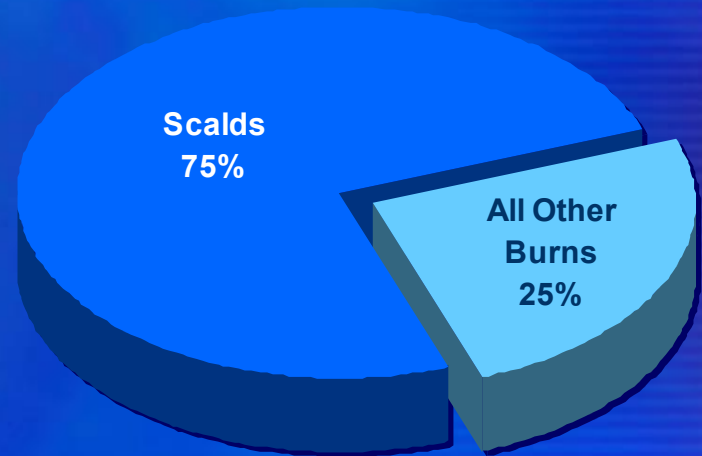


# Young Children and Scald Injury

- 60% of all scald injuries are to young children



- 75% of all burns to young children are scalds



*(Source: National Center for Health Statistics)*



# Young Children and Scald Injury

- **Curiosity, imitation**
- **Limited understanding of danger**
- **Limited ability to react quickly to hot contact**
- **Thin skin = deeper burn**



# Older Adults and Scald Injury

- **Thin skin**
- **Reduced mobility, agility**
- **Reduced ability to feel heat, due to health conditions or medication**



# People with Special Needs and Scald Injury

- **Sensory impairment**
- **Mobility or other physical impairment**
- **Diminished mental capacity**



## Common Sites of Scald Injury

- **Kitchen or dining area**

- Spills while handling or moving hot foods and liquids, often involving children

### **Bathing area**

- Inability to remove self from hot water

# Scald Injury Severity Factors

- **Length of contact with hot substance**
- **Temperature of substance**
- **Nature of substance**
  - Is it thick or sticky?
  - Does it retain heat?
- **Extent of body area scalded**
- **Location of scald**

# Protecting Children From Scalds

- Household changes
- Everyday precautions
- Child supervision



# Protecting Children from Scalds: Kitchen and Dining Areas

## Household modifications

- Mark and explain a “kid-free zone”
- Put away tablecloths
- Use spill-resistant “travel mugs”



# Protecting Children from Scalds: Kitchen and Dining Areas

## Everyday preparations

- **Keep friends, relatives, and sitters informed**
- **Turn pan handles away from stove front**
- **Observe safe microwave oven practices**
- **Protect electric cooking appliances and cords**



# Protecting Children from Scalds: Kitchen and Dining Areas

## Scald-safe child supervision

- Supervise young children at all times
- Encourage use of “kid-safe” zone
- Never hold a child in your arm:
  - While preparing or serving hot food
  - While drinking a hot beverage
- Keep hot food and liquids high and out of the reach of young children

# Protecting Children and Adults from Scalds: Bathing Areas

## Household Modifications

- Establish safe hot water temperature
- If this is not possible, install tempering valve or safe faucet and shower heads
- Install non-slip bath, shower mats
- Install grab bar in shower stall

# Setting a Safe Hot Water Temperature

**Time and temperature relationship  
required to scald a healthy adult**

<b>155° F</b>	<b>68° C</b>	<b>1 Second</b>
<b>140° F</b>	<b>60° C</b>	<b>5 Seconds</b>
<b>127° F</b>	<b>52° C</b>	<b>1 Minute</b>
<b>120° F</b>	<b>48° C</b>	<b>5 Minutes</b>
<b>100° F</b>	<b>38° C</b>	<b>Safe Bathing Temperature</b>

# Tap Water Scald



# Maximum Water Temperature Standards

- **Recommended maximum residential standard**  
**120°F (48°C)**  
(U.S. Consumer Product Safety Commission)
- **Nursing homes and child care facilities**  
**110°F (43°C)**  
(Recommended and by some state or local regulations)

# Measuring Hot Water Temperature

- Run hot water up to two minutes at tap
- Test temperature with cooking thermometer



# Establishing a Safe Hot Water Temperature

- If initial test temperature is above 120° F (48° C), lower heater thermostat setting
- Initial test temperature below 120°F/48°C may not prove safety is constant
- Retest several times until safe temperature setting is assured



# Bathroom Scald Prevention - Equipment

## Direct (scald prevention)

- **Tempering valve**
  - on water line
- **Anti-scald valves**
  - on shower heads and faucets

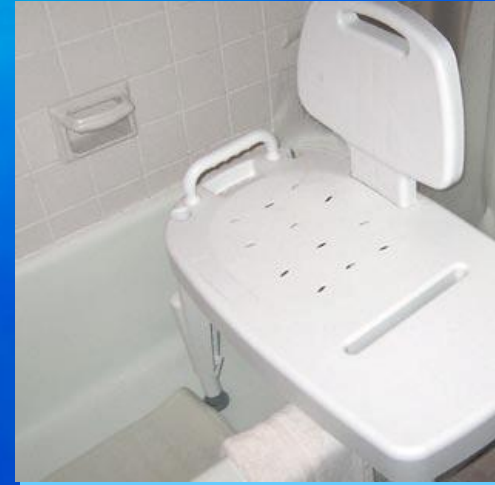




# Bathroom Scald Prevention - Equipment

## Indirect (fall prevention)

- Grab bars
- Non-slip mats in tub/shower, on floor
- Shower/bath seat



# Bathroom Scald Prevention - Precautions

- For single control faucet, always turn on and off in the “cold” position
- For dual control faucet, always turn “cold” faucet on first, and off last
- Make sure all household members and caregivers understand these controls



## Bathroom Scald Prevention - Behaviors

- **Check water temperature before placing child in tub or shower**
- **Instruct carefully any older siblings who help bathe young children**
- **Young children should never be left alone in the tub**



## Emergency Care of Scald Injury

- **Remove scald victim from source**
- **Remove all affected clothing, diapers, shoes, etc.**
- **Cool scalded area briefly with cool water**
- **Cover with clean, dry covering**
- **Do not apply creams, salves or ointments**
- **Call 9-1-1**

## Scald Prevention – Some Important Points

- **Limited mobility and thin skin increase risk and severity for the young and old**
- **Keep young children away when cooking, or when drinking hot beverages**
- **Test hot water temperature and establish thermostat setting at or below 120°F/48°C**