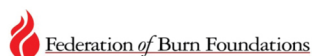


It Can Happen In A **Flash** With A **Splash**

LIQUID AND STEAM BURN LIKE FIRE

FACTS



- Every minute, someone in the United States sustains a burn injury severe enough to require treatment. (Estimated 450,000 injuries/year or i.e., a burn injury every 70 seconds.)

- Each day over 300 children are seen in emergency rooms and 2 children die from burn injuries.

- Children < 16 years old represent approximately 30% of all admissions to U.S. burn center hospitals.



- In 2013, an estimated 68,536 scald burn injuries were seen in hospital emergency rooms in the U.S.; 15,588 (23%) of these occurred to children 4 years old and younger.
- Children are at particularly high risk for burn injuries due to their immature motor and cognitive skills, inability to self-rescue, and dependence on adults for supervision and danger-avoidance interventions.^{5,6} Older adults are similarly more vulnerable due to decreased reaction time, impaired mobility, and effects of pre-existing health conditions.

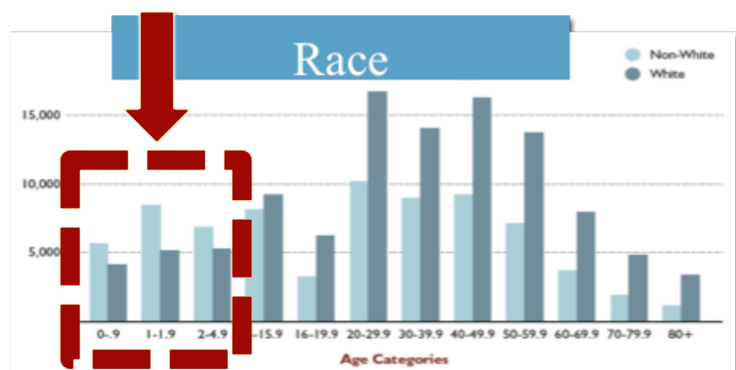
- Infants/toddlers and elderly adults have thinner dermal layers compared to persons of other ages, leading to deeper burn injuries at lower temperatures or shorter exposure times. When exposed to the same quantity of hot liquid, a child will sustain burns over a larger percent total body surface area (%TBSA) than an adult (due to a child's overall smaller body size) i.e. Thin dermis + Small body = Large, deep burns



- Hot water will burn skin at temperatures much lower than boiling point (212°F/100°C). In fact, it only takes 2 seconds of exposure to 148°F/64°C water to cause a burn serious enough to require surgery! Hence, set hot water heaters to 120°F/48°C or just below the medium setting. A safe bathing temperature is 100°F.



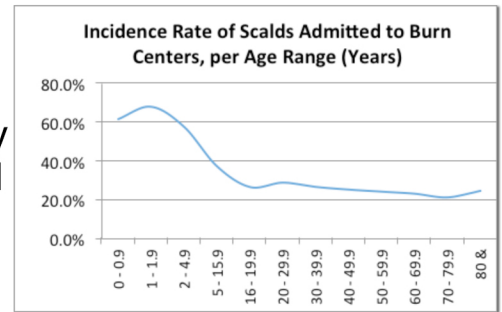
- Dangerously high water temperatures were found in 41% of inspected urban homes, with rental properties at greater risk for unsafe levels. Actual tap water temperatures can vary from the heater thermostat settings. Therefore, test water temperatures at the faucet with a candy/meat thermometer after allowing the hot water to run for 1 – 3 minutes. Adjust the heater setting accordingly. Re-test in 24 hours.
- 85 - 90% of scald burns are related to cooking/drinking/serving hot liquids. Coffee is often served at 175°F/79°C, making it high-risk for causing immediate severe scald burns when spilled or pulled down.
- Lack of standardized definitions cause variation in reported numbers. However in children under 5 years of age, approximately 27 – 57% of scalds occur from cups/mugs/tableware containing hot liquids; most commonly from a pull-down (48%) or spill (32%) mechanism.
- An estimated 9 - 20% of cooking-related burn injuries occur to young children while pulling hot food/liquids from microwave ovens. A prospective study found that 90% of 2-year-olds can turn-on microwaves, open the door, and remove hot contents.



Other markers of lower socioeconomic status (such as low income, young mother, large families, single parents, illiteracy, low parental education, receiving government assistance, etc.) have also been linked to increased risk of burn injury.

- An overwhelming 84% majority of scald burns occur in the home, compared to 73% for other types of burns. In children < 5 years of age, the in-home injury rate increases to 95%.
- Males represent nearly 69% of all burn injury admissions. Females disproportionately comprise 41% of scald burns. (Ratio of males to females for all burns is nearly 3:1, vs. it approaches 1:1 specifically for scald burns.)

- Scald burns (from hot water, other liquids, and steam) comprise 34% of overall burn injuries admitted to U.S. burn centers. However, 62% of these occur to children less than 5 years old.
- While the proportionate rate of scald burn injuries in older adults is comparable to all others > 16 years old, the risk of complications (i.e. a marker of morbidity) and mortality increases. Scald burns to adults 60 years and older frequently result in loss of independence and reliance on skilled care facility or in-home nursing care.
- A national survey revealed almost half (44%) of respondents do not believe burns are a serious danger in their home, despite the fact that 75% reported they or a family member had suffered a burn injury at home. Although it is well documented that young children are at higher risk for scald injuries, 40% of those surveyed erroneously believed that older children and adults were at higher risk.



- Between 2007 – 2013, the proportion of burn center admissions due to scald burns has continued to increase each year (from 29.8% to 33.7%).

Year of NBR	2008	2009	2010	2011	2012	2013	2014
%Scald	29.8	30.1	31.0	32.7	33.0	33.5	33.7

The most common factors that contribute to scald burn injuries in children are:

- Lack of or inadequate supervision, such as: distracted, substance-impaired, or sleeping caregivers; use of a sibling or immature sitter; infrequent observation; neglect; etc
- Danger is not perceived by the caregiver, and therefore protective measures are not implemented. Caregivers may be ignorant of potential burn-causing hazards in the environment and/or be inexperienced in anticipating potentially dangerous situations, such as: leaving hot beverages within a child's reach, not checking bath water temperatures, carrying hot liquids/food while holding a child, etc.
- Responsibility given to a child above their developmental ability, such as: bathing or caring for a younger sibling, cooking or using a microwave at a young age, etc.
- Abuse, such as intentional injuries from pouring onto or submerging into hot water.



*All references and citations for these facts can be found at www.flashsplash.org.