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It only takes a moment of distraction, lack of knowledge, or improper supervision for lives to be changed forever by a burn injury. Every 60 seconds, someone in the United States sustains a burn injury severe enough to require medical treatment.¹ Children are at particularly high risk due to their immature motor and cognitive skills, and dependence on adults for supervision and danger-avoidance interventions.² In fact, each day over 300 children are seen in emergency rooms and 2 children die from burn injuries.³ Children represent approximately 27% of admissions to U.S. burn center hospitals.⁴ The most common factors that contribute to burn injuries in children are:

- *Lack of or inadequate supervision*, such as: distracted, substance-impaired, or sleeping caregivers; use of an immature sitter or sibling; 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: keeping matches, lighters, lit candles or cigarettes within a child's reach; leaving a burning candle unattended; carrying hot liquids or food while holding a child; improperly extinguishing or burying bonfire coals; 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; burning trash/brush/weeds; lighting cigarettes, grills, or candles for adults; etc.
- *Abuse*, such as intentional injuries from hot water, cigarettes, stove-top burners, lighters, hair and clothing irons, etc.

Burn injury recovery can be a life-long journey that involves overcoming many difficult physical, emotional, spiritual, and psychological issues. Children with visible or functional differences can be at especially high-risk for community reintegration barriers such as staring, teasing, and/or bullying. Thankfully, **burn injuries are both predictable and preventable**. The following specific prevention strategies are most effective:

Children under 5 years old: *Scalds represent 62% of burn injuries sustained by young children, most frequently from spills and pull-downs of hot beverages/food, tap water being too hot, and/or intentional abuse injuries.*⁴ Burn injuries to children < 5 years old occur at a highly disproportionate rate to non-white minorities.⁴

To prevent scald injuries in young children:

- Maintain a 3-foot “no-kid zone” circle of safety (i.e., keep children outside of this circle) around all hot and potentially hot items, such stoves, microwaves, hot beverages/food, fireplaces, irons, BBQ grills, fire pits, heaters, candles, etc. Utilize safety gates, barriers, play pens, high chairs, etc. as needed.
- Never carry children while drinking, eating, or moving hot liquids/foods (e.g., coffee, tea, soup, noodles, etc.).
- Use the rear burners of the stove, with pot handles turned towards the back.
- Avoid using tablecloths which children can pull down, spilling hot items on top of themselves.

- Keep hot food, drinks, and small appliances (e.g., coffee pots and crockpots) away from the edges of countertops and tables, and out of the reach of children. Also keep appliance cords from dangling near countertop edges.
- Use travel mugs with tight-fitting “spill-proof” lids for all hot drinks. Coffee is often served at 175°F/79°C, and can cause a deep burn injury almost instantaneously when spilled or pulled down.
- Set water heaters to 120°F/48°C, or just below the medium setting. At 120°F it takes 5 minutes or more for a full-thickness third-degree burn to occur; versus at 140°F it only takes a very short 2 - 5 seconds!⁵ Consider adding anti-scald devices to tubs and showers.
- Measure your tap water temperature by allowing the hot water to run for 3 to 5 minutes, and then using a candy, meat, or water thermometer to test it. If the reading is higher than 120°F, turn down the water heater temperature. **Note:** it can take between several hours to one day for water in the tank to readjust. Wait, retest your tap water, and adjust the heater gauge again as needed.
- Before placing a child into bath water, first fill the tub/sink/basin and check the temperature. A safe bathing temperature is 100°F. Stay with the child during the entire bath, and keep them from turning on the faucet.
- Encourage parents to ask for assistance when they are feeling frustrated or overwhelmed. Instruct them to set a child down, walk away, deep breathe, count to ten, and ask for help if they feel they can't control their anger and are having thoughts of harming their child.



Children 5 years of age and older: *Flame burns are the leading cause (44%) of burn injuries to older children, frequently from children misusing fire (e.g., playing with matches or lighters, using accelerants, firesetting, fireworks, experimenting with bottle bombs or other explosives, etc.).⁴ To prevent flame-related injuries in older children:*

- Teach children that matches and lighters are tools for adults only. Older children may only use them (after obtaining permission) in a safe manner and while under proper adult supervision.
- Keep matches and lighters high out of the reach and sight of children, in a locked cabinet.
- Set a good example by using matches, lighters, gasoline, and other fire sources in a careful and safe manner. Never misuse fire for “entertainment.” Children will imitate the behavior you show.
- Store gasoline and other flammable liquids/gases out of the reach of children. Use gasoline only for fueling engines. Never use gasoline near a flame source or to start a fire, e.g. burning leaves/brush.
- Discuss the potential impact friends can have on misusing fire and ways to overcome peer pressure.
- Maintain a minimum of a 3-foot “no-kid zone” circle of safety around campfires, fireplaces, bonfires, outdoor fire pits, etc. When done, completely extinguish the fire with water; stir the coals and continue to pour water on embers until they are completely cool. Many burn injuries occur each year from abandoned, buried, or improperly extinguished and/or disposed of coals.
- With close supervision, teach older children to stay in the kitchen when frying, grilling, or broiling food.
- Leave fireworks shows to the pros! Do not allow children to play with fireworks. Sparklers, often erroneously considered “safe,” burn at approximately 1,800°F or 8.5 times hotter than boiling water!
- Install and maintain smoke alarms: working smoke alarms save lives, cutting the risk of dying in a home fire in half. Make a home fire escape plan and practice it at least twice a year (at night and during the daytime), to be sure everyone knows the alarm sound and how to respond.
- If you suspect a child is at risk for or has been misusing fire, refer them to the nationally-acclaimed and research-proven effective Straight Talk program that is provided at no cost to families:
<https://traumaburn.org/programs/educationprevention/straight-talk>

For additional burn prevention information and to access free materials (you are highly encouraged to co-brand them with your organization's logo!), visit:

- American Burn Association Burn Injury Prevention Tip Sheets and Posters: <http://ameriburn.org/prevention/prevention-resources/>
- National Action Plan for Child Injury Prevention and [Reducing Fire and Burn Injuries](https://www.cdc.gov/safecild/nap/index.html): <https://www.cdc.gov/safecild/nap/index.html>
- National Burn Awareness Week Materials: <http://ameriburn.org/prevention/burn-awareness-week/> and www.nfpa.org/Public-Education/By-topic/Safety-in-the-home/Burn-awareness
- National Fire Protection Association Safety Tips and [Children and Fire](https://www.nfpa.org/Public-Education): <https://www.nfpa.org/Public-Education>
- National Scald Burn Prevention Campaign: www.flashsplash.org
- REACH School and Community Reintegration and Aftercare: <https://traumaburn.org/programs/aftercaresupport/returning-education-and-continued-healing-reach>
- Safe Kids Worldwide (burns/scalds, fire, and fireworks): www.safekids.org/safetytips
- Sean's Story - National Youth Firesetting Prevention and Intervention Campaign (including [professional training](#), [safety education programs](#), and [resources](#)): www.seansstory.org
- Understanding Burn Care and Firefighter Preparedness (includes burn prevention and education): <http://understandingburncare.org/>
- United States Fire Administration burn and scald prevention outreach materials: https://www.usfa.fema.gov/prevention/outreach/burn_prevention.html
- University of Michigan Injury Prevention Massive Open Online Course: <https://injurycenter.umich.edu/mooc/>
- Vision 20/20 Model Performance in Community Risk Reduction and [animated burn prevention video](#): <https://strategicfire.org/symposiums/symposium-6/symposium-6-presentations/>
- Youth Firesetting Information Repository and Evaluation System (YFIRES): <https://yfires.com/>
- 5 Easy Tips to Make Your Home Scald-Proof Poster and Handout (also available in Spanish and Arabic): <https://traumaburn.org/resources>
- Email [Karla](#) to get a handout list of vetted burn injury prevention and fire safety resources.

References:

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2. Klas KS, Vlahos PG, McCully MJ, Piche DR, Wang SC. School-based prevention program is associated with increased short- and long-term retention of safety knowledge. *J Burn Care Res* 2015;36(3):387-93.
3. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Available from: www.cdc.gov/safecild/Burns/ Accessed January 14, 2021.
4. American Burn Association. (2019). National burn repository 2019 update: report of data from 2009 - 2018. Chicago: American Burn Association.
5. Moritz AR, Henriques FC. Studies of Thermal Injury: II. The Relative Importance of Time and Surface Temperature in the Causation of Cutaneous Burns. *Am J Pathol* 1947;23(5):695-720.