

Burns and Scalds



Reality Alert

While changing an infant in a separate room, an in-home childcare provider heard the bath tub faucet turn on. She quickly laid the infant down in a crib and went to investigate what was happening in the bathroom. Two other children, ages 3 ½ and 1 ½, were playing with the water. She quickly shut the faucet off, but soon realized the youngest child had significant burns on both hands. In less than 60 seconds the young girl received second and third-degree burns over a sizeable portion of her body.

By the Numbers

In 2003, an estimated 83,300 children, ages 14 and under, were treated in emergency rooms for burn-related injuries. An additional 1,000 children die each year from fire and burns. Among children ages 4 and younger, scald burns account for 65% of hospitalizations and almost \$40 million in expenses.

Safe Water Temperatures

Most water heaters should be programmed to deliver water no higher than 120° Fahrenheit. Since most water heaters have High, Medium, or Low settings and not temperature-specific readings, proper testing is extremely important. The easiest way to test the current settings of your water heater is to allow hot water to run from the faucet at its hottest setting for three to five minutes, and then test with a thermometer. If the water is too hot, adjust the heater and wait one full day to retest the temperature.

H2O Temp	Time for 3rd Degree Burns
155° F	1 second
148	2 seconds
140	5 seconds
133	15 seconds
127	1 minute
124	3 minutes
120	5 minutes
100	Safe temperature

Proper Treatment

Like most injuries, proper treatment of a burn can be the difference between a speedy recovery and long-term damaging effects. Hot and wet clothes, for example, can trap in heat and exacerbate the effects of the burn, so they should be removed if not charred to the skin. It is important to recognize that when treating any burn, the things you don't do can be just as important as the things you do. For example, DO NOT pierce blisters or apply ice or ointment; only treat with cold water.

First-Degree burns are typically less severe, bright red, and impact only the outer layer of skin. Accidentally touching a stove burner, getting too much sun, and exposure to hot tap water can all cause first-degree burns. Most minor burns do not require medical attention; apply a continuous flow of cold water until the area cools.

Second-Degree burns are distinguished by the blistering and red blotchy marks they leave on the skin. Pain can be minimized by submerging the impacted area in cold water. Keep submerged until medical attention arrives. If severe, a cold, damp cloth can be applied, but it MUST be sterile.

Third-Degree burns destroy every layer of skin and can be life-threatening. Get medical attention immediately. Before addressing the burn directly, check for signs of shock and treat accordingly. Remove any tight fitting clothes and jewelry near the burn since extreme swelling may occur. Submerge the burn in cold water, but AVOID ICE; you may increase the chances of the victim going into shock! Once cooled, pat the area dry and lightly wrap with a sterile bandage. Elevate burned arms or legs to help proper blood flow, and, most importantly, keep the person still until professional medical attention arrives.

Crock Pots and Microwave Ovens



Reality Alert

A small facility had been using a crock pot to warm formula for several years. The device was in the kitchen placed on top of a small mini-refrigerator and was plugged into a power surge protector. The crock pot was powered on from 9am to 5pm everyday. Two children had just been placed in high chairs for lunch, when one of the kids pulled at an exposed electrical cord and was splashed with scalding hot water. The incident did not immediately appear to be serious, but it quickly became clear the 18-month-old received 2nd and 3rd degree burns over 40% of her body! After therapy, skin grafting, and more than \$200,000 in medical expenses, the child will likely have scarring along her neck, back, hands, and legs for the rest of her life.

Defining the Exposure

While scald injuries similar to the bath tub incident on the previous page can and do happen, researchers at the Department of Trauma and Burn Services at the Children's National Medical Center have identified the most common cause of unintentional scald burns as hot liquid spills from a countertop or stove. In the childcare industry, most of these spills tend to be closely connected to the improper heating of formula.

Microwaves – Most states have adopted regulatory restrictions on the use of microwaves to heat formula. Although a microwave may get the job done quickly, it does so inconsistently. Pockets of extremely hot formula can make the temperature vary greatly in between sips. Microwaves can also damage bottles which result in piping hot formula spilling on a child. **THERE IS NEVER AN APPROPRIATE TIME TO USE A MICROWAVE TO HEAT FORMULA.**

Crock Pots – Many states prevent child care facilities from using crock pots for both food preparation and bottle warming, and with good reason. Not only can the continuously high temperatures cause a severe burn exposure if knocked over, they also attract armies of bacteria.

Unnecessary Danger

There is no benefit to warming a child's formula. With so little upside, and so much at stake, why take the chance?

According to the British Medical Journal, "No differences related to sleep patterns, food intake, weight gain, and frequency of crying and regurgitation have been found when compared between infants given warm milk and others given milk from the refrigerator." Efforts should be made to share this valuable information with parents. With their support, infants can be weaned off of warm formula and childcare facilities can become safer places to learn, play, and socialize.

General Guidelines

SAFEST SOLUTION	ALTERNATIVE
Serve bottles at room temperature.	Heat bottle by running it under warm tap water.
Never use microwaves to heat formula.	None. Never use a microwave to heat formula.
Remove all crock pots.	Secure the crock pot and all cords with straps. Place in a blocked-off area only accessible to adults. Provide detailed guidelines for use and cleaning near the device. Water temperatures cannot exceed 120°F.