



# Office of Ombudsman for Mental Health and Developmental Disabilities



## Burn Injury Alert

This Medical Alert is based on the work of the Medical Review Subcommittee and should be posted prominently. The Office of Ombudsman for Mental Health and Developmental Disabilities works to improve the services provided to people with disabilities by communicating important information found in the Medical Review Subcommittee's reviews of deaths and serious injuries. Thank you for promptly reporting deaths and serious injuries. You are helping us to meet our mission.

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**Burns** are a form of traumatic injury caused by thermal, electrical, chemical, or radioactive agents. For burn injuries, the criteria for reportable serious injuries are those severe enough to be considered second or third degree burns. Most burn-related serious injuries reported to the Ombudsman's Office are thermal. Unprotected sun exposure (sunburns), hot water (bath, shower, sink), hot moist materials (such as moist or wet towels heated for treatment or therapy), and personal heating devices (such as a heating pad) cause most of the burn injuries reported to this Office.

Hot water burns often involve one or more of the following four factors:

- **Temperature of the water** - This is directly related to the maximum temperature settings on plumbing and household equipment. The temperature of water can be measured, and equipment or devices can be adjusted accordingly. Equipment or devices that control the maximum temperature of the water should be periodically checked for proper functioning. Any indicated adjustment or maintenance should be done without delay. Maximum water temperatures of 120F have been shown to reduce hot water burns.
- **Length of time skin is exposed to hot water** - While some temperatures will cause a severe burn immediately, lower water temperatures can cause a severe burn if the skin is exposed for a sufficient length of time. Please note the "Scalds: A Burning Issue" information on the other side, which is included for your convenience and reference.
- **Integrity of the skin** - The skin of the very young and very old and damaged skin (healing wounds, diaper rash) are more susceptible to burn injuries.
- **Staff supervision** - Regardless of the setting, traumatic events often occur when staff are called upon to deal with an emergency situation elsewhere in the facility. While true emergencies cannot be predicted or scheduled, other factors can be identified and addressed. These include periodic and routine assessments of client vulnerabilities, periodic and routine review of the level of supervision the client requires, ongoing awareness of the entire environment, and striving to be vigilant against allowing one's familiarity with a client to supercede the need for constant, close supervision.

Similar factors can be involved in thermal burns from hot moist materials and personal heating devices. Even when a device is functional and being used appropriately, even when hot moist materials are being used as prescribed or directed, the length of time the skin is exposed to heat can be the prime factor in both whether or not a burn occurs and in how severe a burn may turn out to be. In some cases, the severity of a burn may not be apparent until some time later. When symptoms of a burn injury are present (redness, mild swelling, pain, blisters, weeping of fluids) have the injury promptly assessed and treated by a healthcare professional.

# Scalds: A Burning Issue

*From a “Campaign Kit for Burn Awareness Week 2000”*

## Water temperature

## Time required for a third degree burn to occur

155° F	68° C	1 second
148° F	64° C	2 seconds
140° F	60° C	5 seconds
133° F	56° C	15 seconds
127° F	52° C	1 minute
124° F	51° C	3 minutes
120° F	48° C	5 minutes
100° F	37° C	Safe temperature for bathing

Reference: Moritz, A.R., Herriques, F.C. Jr. Studies of thermal injuries: II The relative importance of time and surface temperature in the causation of cutaneous burns. Am J Pathol 1947; 23:695-720.

Retrieved on 1/10/2013 from <http://www.ameriburn.org/Preven/2000Prevention/Scald2000PreventionKit.pdf>

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