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LIABILITY landscape

BY LINDA WILLIAMS, RN

Prevent hot water from scalding residents

Each year, approximately 3,800 injuries and 34 deaths at home are caused by excessively scalding hot tap water, according to the Consumer Product Safety Commission. The majority of these accidents involve the elderly and children under the age of five. Burns will occur after a 6-second exposure to 140-degree water or after a 30-second exposure to 130-degree water. Even if the water temperature is 120 degrees, a 5-minute exposure could result in third-degree burns.

Some common causes of tap-water burns to the elderly include slipping and falling in the bathtub and not being able to get up, not checking the water before touching it, temperature changes that occur when water is being used in other areas, and a plumbing malfunction that can cause a sudden burst of scalding water. Please take the time to review the circumstances surrounding the following situation and make the appropriate changes at your facility.

The Situation

A man, diagnosed with Huntington's disease, began to exhibit symptoms such as personality changes, involuntary movements, slurred speech, and impaired judgment. As the disease progressed, he needed more care and, consequently, moved into a nursing home.

The man liked to be bathed early in the morning. He required the use of a hydraulic lift to lower and raise him in and out of the tub. One day, a nurse's aide started his bathwater, checked the temperature with her hand, and went to get him. While the aide was in the man's room, the water continued to fill the tub. When the man arrived in the bathroom, he was lowered into the tub of water and immediately began thrashing about, which was not



unusual because of his medical condition. The nurse's aide stepped back to avoid the splashing then realized that the man had a painful look on his face. She immediately summoned help and a nurse came to assist with getting him out of the tub. Once he was lifted out of the tub, his skin was noticeably red and peeling. It was clear that he suffered second- and third-degree burns to more than half of his body, from his waist to his feet.

An ambulance soon arrived and the man was rushed to the hospital, where personnel reported the incident to the local police department. Later that day, an investigation was conducted and no criminal charges were filed. The incident also was reported

to the state board of health, and surveyors conducted their own investigation.

The man remained in the hospital's burn unit for 45 days and then was moved to a transitional hospital, where he resided for nearly three more months before going to another nursing home. Two months later, at age 59, he died of complications related to Huntington's disease. All of his siblings and parents had previously died of Huntington's disease between the ages of 52 and 62.

The Lawsuit

A few months after the man's death, a \$4 million lawsuit was generated by his widow, alleging negligence, breach of contract,

breach of duty, and personal injury, and seeking punitive damages. The following four defendants were named in the lawsuit:

1. The nursing home. The lawsuit alleged that the thermometer on the front side of the tub should have been checked before submerging the man. The nurse's aide did not indicate in any of her statements that she had done so. She merely said that she checked the water temperature with her hand before submerging the man.

2. The mixing valve manufacturer. Three months before the incident, a mixing valve was installed in the facility's pipeline to regulate the water temperature. Because of the extensive plumbing, the water heaters warmed the water to 140 degrees, which was hotter than the state requirement of 120 degrees. The thermal mixing valve had been installed and maintained by an independent service, not the manufacturer. The manufacturer denied that the valve malfunctioned or was defective in any way, and it had no control over how the valve was installed.

3. The plumbing service. The facility retained the plumbing service to perform periodic plumbing repair and maintenance. Three months before the incident, the plumber was called to the facility because of leaks in the plumbing system. At that time, the plumber re-piped the plumbing system with the mixing valve. After completion, the system was checked and found to be in working order. The plumber was not called back to the facility until the day of the incident. At that time, he removed the valve and was instructed not to do anything until the valve was released. After he was given the go-ahead by authorities, he replaced the valve. The plumbing company denied any negligence in its service to the facility.

4. The tub manufacturer. The tub manufacturer denied any negligence regarding the tub or the manufacturing of it.

In preparation for mediation, depositions were taken. The plumber testified that when he inspected the system after the incident, he found that the O-ring seals had been broken. The seals were expected to last for the life of the valve. He stated that he tested the valve after the incident with only the hot

water on. The temperature was 131 degrees. However, he was able to regulate the water to a cooler temperature by turning on the cold water tap.

In a separate testimony, the nurse's aide and another nurse stated they could not regulate the temperature, even with the cold water tap turned on. An expert witness, who also had tested the temperature after the incident, stated that the water flowing out of both faucets was hot water, indicating that the cold and hot water were not being separated properly, possibly because of a malfunctioning valve. The expert witness was asked if there were any warning signs on the tub stating that the valve should be checked on a regular basis. He replied that there were not. During the mediation, the plaintiff's attorney stated that he assessed fault by the defendants at the following:

- nursing home: 54%;
- mixing valve manufacturer: 16%;
- plumbing service: 20%; and
- tub manufacturer: 10%.

In addition, the total demand amount was raised by several million dollars and the plaintiff's counsel refused to budge during negotiations. As a result, all of the defendants walked away from the table without an agreement. As the date for the trial grew closer, another mediation was held. This time, all parties agreed to a settlement that was still sizeable, but much smaller than the original demand.

How You Can Protect Your Residents and Facility

The American Burn Association states the safest temperature for bathing is approximately 100 degrees. However, decreasing hot water temperature in a delivery system also increases the risk of bacterial growth. *Legionella* will grow in temperatures as high as 122 degrees, with an ideal growth range of 95 to 115 degrees. The Centers for Disease Control and Prevention's "Guidelines for Environmental Infection Control in Healthcare Facilities" (2003) states, "Maintain hot water at the return at the highest temperature allowable by state regulations or codes, preferably $\geq 124^{\circ}\text{F}$... [E]xplore engineering options (e.g., installing preset thermostatic valves

in point-of-use fixtures [baths, showers, and sinks]) to help minimize the risk of scalding." The following are additional bathing safety tips:

- Use master mixing valve (ASSE 1017–approved), point-of-use temperature control devices (ASSE 1016–approved) on shower valves and maximum temperature limit stops on faucets and shower valves. These antiscald devices can prevent water that is hotter than 120 degrees, or the temperature allowed by state regulation or code, from ever reaching the resident. Check with your local code officials for more information about these types of valves.
- Make sure the plumbing work has been or is done by a licensed plumber, according to local codes with all the necessary permits and inspections.
- Maintain a preventive maintenance program that monitors water temperatures routinely to ensure detection of elevated temperatures.
- Observe the tub water gauge level and manually measure the hot water temperature with a reliable thermometer before immersing a resident into a tub. In addition, staff should test the water with the back of their hand. If the temperature is not acceptable, corrections should be made before proceeding with the bath. Place these instructions in a prominent location for staff to reference. The facility safety team should perform periodic random audits to ensure compliance.

By taking a few precautionary measures, you can help prevent a similar situation from occurring at your facility. ■

Linda Williams, RN, is a Long-Term Care Risk Manager for the GuideOne Center for Risk Management's Senior Living Communities Division. She previously served as Director of Nursing in a CCRC and as a nurse consultant for two corporations with numerous long-term care facilities in Iowa. The GuideOne Center for Risk Management is dedicated to helping churches, senior living communities, and schools/colleges safeguard their communities by providing practical and timely training, and resources on safety, security, and risk-management issues. For more information, contact Williams at (877) 448-4331, ext. 5175, or slc@guideone.com. More information is available on the Center for Risk Management's Web site at www.guideone.com.