Bathroom accidents account for a number of serious injuries to patients and residents in long term care, hospital and senior living facilities. Major potential hazards in the bathroom include slips and falls, burn injuries, and electric shock.

Introduction

The bathroom is a very likely area for slip and fall accidents. Residents' patients' lavatory and bathing/shower areas are ideal locations for accidental slips and falls resulting in injuries. The bathroom, by nature, should be considered a “wet location” at all times.

Discussion

All healthcare personnel should be trained to identify lavatory/bathing/shower area hazards like wet, soapy, and slippery floors, leaking toilets and water fixtures, trash on the floor, and insufficient illumination/lighting. Other areas to consider include wastebasket placement, use of warning signs or cones after cleaning/mopping floor, storage of bedside commodes and shower chairs in lavatory and bathing/shower rooms, and resident/patient footwear (regular and for wet locations). It is important to remember that some residents/patients will not follow the instructions to call for assistance when they are in trouble. To assist in eliminating/reducing the slip/fall causes of loss, each facility should institute controls to prevent the slips and falls in the lavatory, bathing, and shower areas. These controls may include:

- Daily monitoring for slip/fall and other hazards by staff with prompt corrective action.
- Continual and accurate assessment of resident/patient needs through frequent observations.
- Evaluation of the floor surface materials for slip resistance. Polished marble usually offers little slip resistance. Granite would be a better choice for slip resistance as well as maintenance. On existing surfaces, glazed safety strips may be used, but they require frequent replacement and cleaning due to the possibility of collecting unsightly grime and bacterial contamination. Chemical etching of ceramic surfaces has not proven very effective when wet or with soapy residues. Rubber mats do pose a significant tripping hazard in the tub.
- Providing sufficient handrails or sturdy grab-bars that remain fixed when grabbed for support. American Society of Testing Materials has developed ASTM F462, a standard for bathtub surfaces and grab-bars. The standard describes the general requirement for locating and installing grab bars. ASTM F462 has been recognized by bathtub manufacturers and the flooring industry. Insist on compliance with ASTM F462 for slip resistance when developing purchase specifications for these products.
- Shower curbs present a tripping hazard. Use of a contrasting color may help set them apart from the shower floor.
- Shower stall doors should be tempered safety glazed, and mirrors should have safety lamination in the back.
Burn injuries—Hot water at elevated temperatures, and in particular, to a decompensated or diabetic resident or patient, can cause serious burns resulting in possible permanent disability and disfigurement. ASTM F444 provides standard specifications for pressure and temperature. When possible, it is a good practice to have separate hot water systems for lavatory shower/bathing rooms and kitchen/laundry systems (where demands for hot water at much higher temperatures is common). For the residents’ and patients’ laundry, bathing, and shower rooms, temperatures of hot water should not exceed 110°F at the tap. The combination bath and shower valves are preferred. They maintain a preset mix of hot and cold water by compensating for pressure and temperature changes. One of the most important preventive controls in reducing burn injuries is to routinely inspect all hot water systems for temperatures and maintain adequate documentation. A Best Practice would be the institution of documented daily hot water temperature checks of various levels and locations throughout the facility to ensure the temperature does not exceed the 110°F maximum at any location. The test sites should be rotated every day.

Electric shock—Electricity and water are deadly combinations in any bathroom. If possible, locate all electrical outlets outside the lavatory. If this is not possible, furnish Ground Fault Circuit Interruption (GFCI), the type with the black/red buttons between the two outlets. This can provide protection against electric shock and electrocution, but these devices must be tested as part of the facilities electrical safety program. Electrical wiring should have adequate circuit breaker protection and should be in compliance with the National Electric Code.

Conclusion
By specifying proven products and using sound practices in designing and maintaining lavatories and bathing/shower rooms, healthcare facilities can reduce potential slip/fall, burn and electric shock hazards to healthcare residents and patients.

References