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## 10 Essential Design Approaches to Prevent Resident Falls in Senior Living

by Lisa B. Bixler, Colin Healy and John Hrivnak

How effectively does your community protect residents from falls? Physical safety and good health will determine whether residents stay or move. These factors affect the reputation of your entire community.

Here, we highlight how to blend form and function to achieve the most welcoming and secure of senior living communities. One of the ways to achieve this is to design to avoid falls.

These 10 factors are only a few that help older adults avoid falls, and they start from the moment someone steps onto your property:

**1. Covered entrance:** A covered entrance helps prevent the accumulation of snow and ice and rain-matted leaves. Maintenance due to weather factors is a critical part of fall prevention.

**2. Well-maintained ramps:** These code-mandated ramps make residents' use of wheelchairs easy, but care must be taken for proper maintenance. A building inspector recently referred to a handicap ramp as a "handicapping ramp." When residents use a ramp or equipment intended for accessibility, their guard is down concerning possible slipping or tripping issues. Ramps must be kept free of all hazards at all times.

**3. Thresholds you can get over with a wheeled device:** At the entrance of the building, a level transition with no steps is

called a "zero entry." It is required in congregate living settings but should be included in smaller residential settings as well. At each room where a saddle is needed, it should be flush or slightly beveled, following Americans with Disabilities Act guidelines. This condition often happens at the bathroom door.

**4. Floors without joints that would affect a wheeled device:** The transition from floors made of different materials should be equipped with the proper beveled edge trim strips or saddles to avoid gaps or sudden level changes. This is especially important for residents using walkers with wheels and those using canes.

**5. Carpet without padding:** Small changes in surface elevations can cause tripping, especially



when unexpected. Because padding under carpets is invisible, its presence is not obvious, yet it can lead to unevenness in the surface and should be avoided.

**6. Corridors with tone or color contrasts:** The contrasting elements should be positioned a foot away from the wall. Even different colors amongst corridors can be helpful. Seniors need contrast to navigate and to help avoid falls. For example, one community had planters painted the same color as the walls, which made them a tripping hazard.

**7. Brighter and better positioned lighting:** We need more light as we age, as our eyes become less supple and lose the ability to adapt quickly to changes in brightness. This means that the required watts per square foot for energy codes may be at odds with the additional amount of light needed for seeing well and for the kinds of fixtures and positioning that will support that. “Wall washers” and ceiling fixtures are excellent for setting a mood and for getting around, but brighter lighting is required for completing tasks such as reading, hobbies or food preparation. High-wattage floor lamps or table lamps are good choices.

**8. Abundant storage:** Having a place for everything in closets, furniture or built-ins helps prevent dangerous clutter from accumulating.

**9. Stairs with double railings:** Railings on both sides help older adults climb stairs. They provide needed stabilization to avoid losing balance, they help a person pull himself or herself up the stairs and they are a fail-safe to losing one’s grip with one hand. Two hands are better than one on stairs. Graspable railing shapes are especially important in smaller residential care settings, where inspectors often are less stringent, particularly with outside railings. The ubiquitous 2×4 is not an acceptable railing on deck stairs.

**10. Bathrooms with proper safety features and warnings:** Lots of attention is paid to grab bars for fall prevention. They must be placed well and have proper blocking. They are now available in many

styles to match the decorative design of other accessories, such as towel bars. Tile floors also can have hidden issues. Smaller tiles with non-slip surfaces provide more traction due to more grout lines. When pitched too steeply toward a central shower drain, they can turn a shower chair into a fall hazard by twisting a person’s legs to the point of collapse, even while being used “properly.” Also, when a person exits a shower chair, if he or she holds a grab bar with one hand while pushing on the seat with the other hand, the seat may tip like a see-saw as weight is taken off it, leading to a fall or twisted back. A simple slope toward a strip drain can help prevent this unexpected hazard.



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