

Best Practices in Assisted Living Design

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While *best practices* is a term that is familiar to most of us in health care and many other industries, the term *universal design*,¹ as it applies to best practices in architectural design, is not as well known. This article introduces a series of articles on universal design that will be printed in *Assisted Living Consult*, and as such, is a primer for understanding the inclusive concepts of the term.

Universal design is a term that was first coined at a conference convened by the Center for Universal Design at the College of Design, North Carolina State University, 11 years ago.² The central idea is that building code requirements and even the various standards that respond to the Americans with Disabilities Act (ADA) are **restrictive**. The concept *universal design* is more **inclusive** and encourages designs “that are more usable by everyone. It broadly defines the user.”³

Let us illustrate with a story told by Ron Mace, the architect, researcher, inventor, and educator who was instrumental in the definition of the term. Ron, who had polio as a child and was confined to a wheelchair, visited a hotel that was compliant with code and ADA requirements. As Ron recalled: “In this hotel there were accessible rooms on each floor, and interestingly enough, they were the same room (eg, 503, 603, 703) all the way up through the tower. Because of this, all the accessible rooms provided only for



Figure 1. A lever style faucet is easier to control, can be used with one hand, and allows better control of the water temperature. Delta’s exclusive magnetic docking mechanism on this faucet secures the sprayer to the spout. This faucet’s Touch2O technology allows users to start and stop the flow of water with a tap anywhere on the spout or handle. This design incorporates the principles of *low physical effort* and *equitable use*.

left-handed transfers onto the toilet. The ADA does not require left-handed and right-handed rooms so this hotel was in compliance. It was not, however, usable. I couldn’t stay in this hotel because I make a right-hand transfer and cannot use a left-handed room.”⁴

It was this type of experience that inspired Ron to interpret the term *design* broadly to include as many people as possible and not to be satisfied with being “code compliant.” The principles of universal design that will be used in the future articles on Best Practices are the following.⁵

Equitable Use

This type of design is useful and

marketable to people with diverse abilities. Designs that meet the intent of the first principle of universal design provide the same means of use for everyone, identical when possible, and equivalent when not. These designs also avoid segregating or stigmatizing any user of the building or product. An example of a design that meets the principle of equitable use is a motion sensor or push pad that opens the front door of a building automatically for everyone, not only for those seeking handicapped access.

Flexibility in Use

This design principle calls for accommodations for a wide range of

Figure 2. Motorized adjustment sinks offer good looks, convenience, and flexibility. The touch of a button raises or lowers sink access from 28 inches (ideal for wheelchair use) to 36 inches (standard cabinet height). This design uses the principle of *size and space for approach and use*. The Approach™ line from ADAS, LLC includes adjustable sinks, cook tops, cabinets and vanities for kitchen and bath. For information visit www.ad-as.com.



individual preferences and abilities. Designs that meet the intent of the second principle provide choices in the methods used—for example, hotel rooms like the one where Ron Mace could not stay, would offer a choice of right-handed and left-handed transfers to the toilet.

Simple and Intuitive Use

In this case, the design should be easy to understand, regardless of the user's experience, knowledge, language skills, or current level of mental concentration. The design should be consistent with the user's expectations and intuitive knowledge. An example is a push bar on a door into a lobby. We all know to push the bar to escape the building in an emergency.

Perceptible Information

Design that relies on perception communicates necessary information effectively regardless of a user's sensory abilities. For example, an object might be designed to provide redundant information—like that of a car's fuel gauge that not only glows as an iridescent red arc, but also gets closer to zero when the car's gas tank is almost empty. Not needing your reading glasses to understand the gauge is a safety feature that

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maximizes the "legibility" of the most essential information.

Tolerance for Error

Designs that have a tolerance for error provide warnings of hazards and errors, like the spellcheck feature on this software program used to design this page. Another example is a double-cut key that can be inserted in either direction to open a door.

Low Physical Effort

The most important part about this design element is that the feature should produce as little fatigue as possible when it is used. The user should not be forced to lean on the object or be unbalanced when operating the device. The design should also minimize repetitive actions and physical exertion. A good

example of this is a lever for faucet or door handles (Figure 1). A poor design would be a storm door that closes while you are trying to get a bag of groceries inside the house.

Size and Space for Approach and Use

An example of this design principle is seating at concerts or sporting events that provides viewers with a clear line of sight to the action or stage. Adequate space for turning around, openings that are wide enough to cross through, and countertop heights that are usable by everyone are other examples (Figure 2).

In the next edition of "Best Practices for Assisted Living Design," we will analyze how each of these "must-do" items can be designed to provide benefit to all. Most of us will experience some disability during our lifetime. Universal designs move beyond mere compliance to provide relevant features for us all from both personal and professional perspectives. ALC

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