

User-Friendly Kitchens

by Jim Kregel

The term “universal design” has become an industry buzzword — I see and hear it everywhere. However, when I bring it up, I find that most people don’t really understand what it means. The real key is to take the word “universal” literally. Simply put, universal design is nothing more than design that works well for all people of all ages and at all stages of life.

For example, I’ve been remodeling homes since the mid ’60s and in nearly every kitchen, the dishes are stored in a wall cabinet to one side of the window above the sink. This has become such a convention that almost no one gives it a second thought. However, this location puts the dishes out of comfortable reach for many users.

The following tips for kitchen design are not only useful but, in most cases, inexpensive to implement, too.

Cabinet and Countertop Layout

Concentrate the work triangle by positioning the stove, sink, and refrigerator within convenient reach of one another. Although the design convention is to limit any leg of the work triangle to 9 feet, shorter distances are better for people with limited mobility.

Kitchen islands are popular, but can become a stumbling block for those using walkers or in wheelchairs. If you must have an island, provide enough space — at least a 42-inch-wide corridor — between it and the surrounding cabinets for unimpeded negotiation. And locate the island so that it doesn’t block direct access between the sink, refrigerator, and range.

Countertop height. Provide a section of countertop that is lower than the 36-inch standard height to accommodate shorter cooks or a cook in a wheelchair.

A counter height of 30 to 32 inches works well (see Figure 1).

Wall cabinet height. Install frequently used wall cabinets at lower-than-standard heights. To reach and store items above the height of a bent elbow is difficult for many people, young and old. A wall cabinet can be mounted on a base at floor level, making access easy while increasing the negotiable floor area.

Cabinet doors. When selecting and laying out the cabinets in a kitchen, limit the cabinet door width to 18 inches. Wider doors are more difficult to operate and to negotiate around when open.

Storage

Shallow, 12-inch-deep pantry storage is better than a full-depth pantry cabinet. Items are readily visible and more accessible.

No knobs. Instead of knobs, use handles that are easier to grasp on the cabinets. Knobs require a pinching action that can be difficult for many to execute. Touch latch doors are excellent for those with arthritic hands (approximately 40 million Americans have arthritis).

Use vertical pullouts in narrow cabinets to improve access without the need for bending or kneeling to reach items in the rear. Pulling items into full view makes storage and retrieval more comfortable for people with limited reach or sore backs and knees. It’s also easy to see when a food item needs replacing.

Instead of fixed shelves behind cabinet doors, install lazy susans or roll-outs in all base cabinets. Or, do away with doors entirely and use drawer units for kitchen storage. Use high-quality ball-bearing slides and hardware, rated to handle the weight of the intended



Figure 1. Varied countertop heights ensure a comfortable work surface whether the user is short or tall, standing or seated.



Figure 2. This pull-out step stool stows in the toe-kick below the sink or a hard-to-reach wall cabinet.

storage. Full-extension drawer slides bring the entire contents out from under the countertop or upper drawer.

Appliance garages are especially useful for storing heavy items right on the countertop, eliminating the need for reaching, bending, and lifting.

Cumbersome bins. Loaded trash and recycling bins can be heavy — make sure they can be removed laterally without having to lift them above their supports.

Install tote trays in a cabinet dedicated to the storage of frequently used items. Totes can be used to carry multiple items across the kitchen, or to serve the table, eliminating extra trips.

Child safety latches. Equip one or more cabinets with a child safety latch to prevent little fingers from accessing

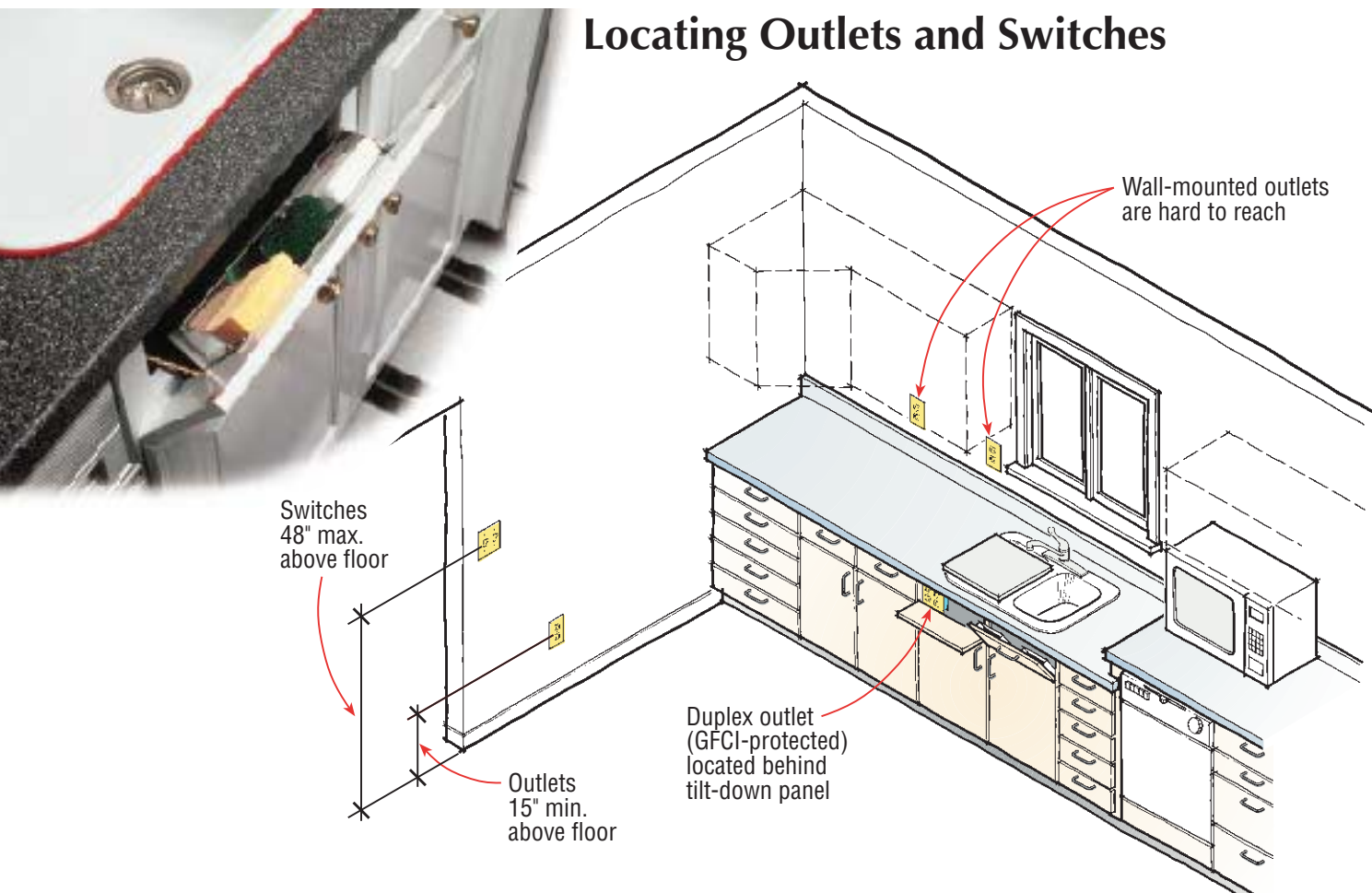


Figure 3. A tilt-down soap-saver panel (inset above) can conceal a front-mounted GFCI outlet, eliminating an awkward reach across the countertop to plug in a small appliance. A wall switch should be no higher than 48 inches above the floor, and outlets no closer to the floor than 15 inches.

household poisons or other items they shouldn't have.

At the Sink

Use lever handles at the sink — like cabinet handles, they're easier to use than round knobs. As a rule of thumb, any faucet that can be turned on or off with the palm of the hand, fist, forearm, or elbow is an accessible faucet.

Provide cutting boards that cover the sink at countertop level. It's easier than reaching down to the bottom of the sink to slice and dice.

Install a pull-out step in the toe-kick to make the sink easy for short adults and small children to reach. The step is much safer than a wobbly stool or chair (Figure 2).

Lighting and Wiring

Locate light switches no higher than 48 inches on the wall, and place the wall outlets no lower than 15 inches above the floor to accommodate all users.

Provide generous overhead and task lighting in the kitchen. People over 65 years old require three times as much

light as a 20-year-old. Good lighting also improves safety and reduces eye-strain. Undercabinet lights ought to be standard in the kitchen.

Easy-to-reach outlets. Reaching across a 25-inch-deep countertop to plug in a small appliance is awkward. Instead, install a GFCI-protected duplex outlet behind a tilt-down panel (Figure 3).

Floors and Surfaces

Use light-colored surfaces in the kitchen to reflect and improve illumination. Dark colors absorb light and can impede visibility, especially for older eyes.

Matte or semi-gloss finish. High-gloss finishes on floors, cabinets, and work surfaces are both slippery and visually distracting. Older eyes, in particular, have trouble with reflected glare. Instead, choose products and surfaces that have matte or semi-gloss finishes.

Non-skid floors are always an excellent choice for children and adults. Although it has certain drawbacks in a spill-prone kitchen, carpeting is an excellent flooring choice, both for preventing

and cushioning falls. Look for a commercial-grade carpet, such as a tight, dense (30-ounce), short-loop Berber weave, made of washable, stain-resistant olefin fiber.

Define the countertop edge. Countertop edges with a contrasting color to the surface help to differentiate the vertical surface from the horizontal (Figure 4). This is important for older adults who are losing a bit of their depth perception.

Appliances

An open flame is thought to be more dangerous than a resistance-heating coil. For this reason, an electric cooktop is a better choice than gas.

Mount a drop-in cooktop in a surface 30 to 32 inches above the floor to improve access for shorter adults and children as well as those in wheelchairs.

Front-mounted controls are much easier to read and reach than side controls. Side-mounted controls are less intuitive, forcing users to reference the line diagrams while leaning over a hot cooktop.

Elevate the dishwasher on a platform, between 6 and 16 inches above the floor, to make it more comfortable to load and unload (see *Kitchen & Bath*, 8/00).

Lower the microwave. For comfortable access, install a microwave oven so that the bottom of the unit is between 24 and 48 inches above the floor. The top of a raised dishwasher often provides the ideal height for microwave installation.

Side-by-side refrigerators have smaller doors to negotiate around and make the refrigerator and freezer sections equally accessible. Through-the-door ice cubes and water are a convenience for all users.

Incorporating some or all of these suggestions into the design of a contemporary kitchen in no way compromises the look of the cabinetry or the room. In fact, forward-looking universal design is today's design. 

Jim Krengel is a Certified Kitchen Designer and a former remodeler from St. Paul, Minn.



Figure 4. A contrasting color for the countertop edge provides an important visual aid for eyes with limited depth perception. Note the mirror mounted above the cooktop — no need to peer into a boiling pot to see what's cooking.