

Chapter 3

Home Modifications



ARCHITECTURAL BARRIERS

People with disabilities enjoy greater access throughout our society today, thanks mostly to the passage of the Americans with Disabilities Act (ADA) in 1990. Although this historic civil rights legislation mandates, among other things, that public places be accessible to people with disabilities, you may find that getting out and about isn't always smooth sailing when walking becomes more difficult or when you use a wheelchair for mobility.

Restrictions and barriers are often most prevalent in private dwellings such as apartments or houses, whether it's a flight of stairs to the front door, narrow doorways or a cramped bathroom. Fortunately, there are many ways to make adaptations or modifications that promote independence and safety in your own home — and even a few that may be easy to apply in homes you visit often.

Modifications range from the very simple and inexpensive (a portable ramp), to the very complex and costly (a full remodeling project). This guide contains many examples of equipment that can sometimes fill a need and take the place of a lengthy home modification project.

The costs of each of these modifications can vary widely, as can local building requirements. Check Chapter 10 for sources of more detailed information about costs, choices and funding.



HOME SAFETY

Your local MDA office can help arrange a home visit by an occupational therapist (OT) to assess home safety. Such common-sense moves as repositioning furniture, removing rugs, eliminating clutter, moving electrical cords, and making an evacuation plan in case of emergency, can make everyday life easier and safer as your footing becomes less certain.

There are simple things you can do to your home and other surroundings to increase your personal safety, especially if ALS affects your balance and stability. Here are some tips to help prevent falls, burns and other injuries.

Kitchen



- When boiling food like potatoes, pasta or vegetables, put them into a wire basket inside a pot. When the food is cooked, you only need to lift the basket.

You can drain the water later after it has cooled down.

- Use a jug kettle or kettle tipper when pouring instead of lifting a kettle.

Preventing Falls

- In bad weather, wear warm boots with rubber soles for better traction.
- In public buildings, avoid polished, shiny floor surfaces whenever possible. Look for plastic or carpet runners to walk on.
- Keep rooms clutter-free, especially floors.
- Keep floor surfaces smooth but not slippery. Be aware of differences between rooms, especially differences in floor levels and thresholds.



- Make sure all carpets (including carpeted stairs) are firmly attached to the floor. Area or throw rugs should have skid-proof backing or rubberized mats underneath them.
- Wear supportive, low-heeled shoes at home. Avoid walking around in socks, stockings or backless slippers.
- Consider placing rails on both sides of stairways. Stairways should also be well lit.
- Keep power cords out of walkways.
- Use a rubber bath mat in the shower or tub.

General Safety

- Arrange with a family member or friend for daily contact, and always be sure at least one person knows where you are.
- Keep flashlights (and extra batteries) nearby, especially on nightstands, and use nightlights.
- If it's difficult to close a door, tie a rope around the door handle with a tennis ball on the end. Cover knobs with rubbery material to make them easier to grip.

- Obtain a backup system in case of power outages (such as a gas-powered generator). Inform your local power company if you use a ventilator or other life-support equipment. That way, in case of an emergency outage, your power grid can become a priority for power restoration.

- Consider high-tech options for using lights, appliances, opening doors and the telephone.



Voice-activated switches or systems known as environmental control units can operate numerous devices throughout your home with one remote control unit.

- Use reachers for retrieving items off the floor or from higher places instead of bending over or reaching.



MAKING YOUR HOME MORE ACCESSIBLE

Ramps

Portable or permanent ... long or short ... aluminum, fiberglass, wood or steel ... wheelchair ramps are available in just about any size and type imaginable. A ramp is usually a cost-effective way to make an entrance to a home accessible or to eliminate the barriers created by a step, threshold or a small flight of stairs. For safety's sake, every home should have at least two accessible entryways/exits.



Modular aluminum ramps are a quick, easy solution for many situations. You can use them temporarily at your home, or take them along when visiting someone or even for getting into a restaurant or shop. One caution: They may have



inadequate traction if the slope is greater than recommended.

Some portable ramps are built from lightweight materials like aluminum, and others fold to the size of a suitcase and have handles for carrying. Often, ramps can be custom-ordered to fit your needs.

If you're building a ramp, the correct slope is a 1-inch rise for every 1 foot of run, and 2-inch side curbs for safety are essential. A variety of materials can be used for ramps, but keep in mind issues such as a surface that can get slippery when wet outdoors, and the considerable weight of a power wheelchair plus its occupant.

For example, you can build a ramp from plywood, but it should be coated with a mixture of outdoor paint and sand for traction. (Sandpaper adhesive strips won't hold up under the weight of a power wheelchair.) Treated hardwoods and manufactured materials like PakkaWood cost more but add durability.

If cost is an issue, your local MDA office, independent living center or Chamber of Commerce may have a list of organizations or programs that can assist with residential ramp installation and costs.

Doorways

Most houses weren't built with wheelchair accessibility or maneuverability in mind. Often, doorways need to be altered or widened

to allow passage of power wheelchairs, which average 28 inches in width.

In a 30-year-old home, a typical front door is 35 inches wide; bedroom doorways with trim average 30 inches wide; hallway closets and bathroom doorways with trim are only 24 inches wide; and linen closets are 18 inches.

Sometimes you can simply replace door hinges with offset ones that bring the door out beyond the trim, allowing another 2 inches for passage. That may be enough to squeak by, but chances are good your doors and trim will acquire some dents and scars unless the opening is at least 36 inches.

Double doors, 4-foot-wide bi-hinge doors, and lightweight pocket doors (that slide into the wall) are also options for widening.





Keep in mind that lever-style door handles are easier to use than round knobs for someone with limited strength or dexterity.

Floors

Some types of flooring won't hold up under the weight of a power chair. For example, the strength of tile floors varies depending on material and thickness, and the tiles themselves will add weight. Also, the subfloor must be level so tiles, wood planks or other material won't crack if a wheelchair is rolled over it, and it must be strong enough to support added weight.

Cabinetry

Cupboards that feature pull-out or pull-down shelving or corner lazy Susans



will maximize accessibility to wheelchair users. D-shaped hardware instead of knobs makes opening easier.

Working with Contractors

Consult with at least three contractors about your plans. Check their licensing, insurance and credentials online, or with your state registrar of contractors or the Better Business Bureau. Get bids in writing and a detailed, written contract that both parties sign. Pay in stages as the work is satisfactorily completed, starting with a deposit of about 10 percent.

SAFETY EQUIPMENT

Support Pole

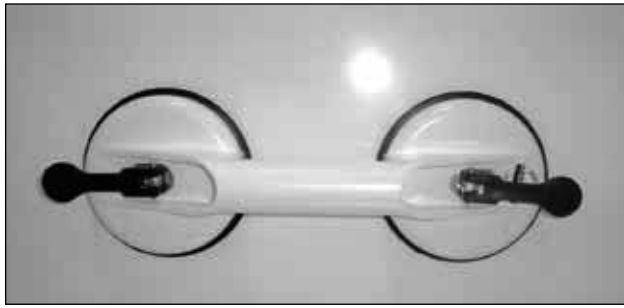
A floor-to-ceiling tension pole can be used wherever it fits, and will provide support for sitting, standing, getting out of bed, etc.

Support Rails

A variety of rails are available, many of which can be moved to different areas of your home or the homes of loved ones you visit often. Rails can be attached or used next to beds, bathtubs, tables and so on.

Grab Bars

Commonly installed in bathrooms, these rails can be placed just about anywhere they're needed in a home. Grab bars are available in many styles, shapes



and sizes. Be sure to securely mount them to a wall stud or use other effective hardware so they'll help balance and support you. And remember — soap dishes and towel racks aren't grab bars!

Stair Solutions

For multistory homes, many costly but effective lifts, elevators and stair machines exist.

If you're considering a stair lift, keep in mind that adding it can make it hard for others to use the stairs.

Residential models of *inclined platform lifts* can carry a person sitting in a wheelchair over a flight of stairs. *Stairway lifts* can carry a seated person up or down stairs. Both have models in which the platform or seat folds out of the way when not in use.

Remote Door Openers

These devices can unlock, open and close a door with the touch of a button. Some brands can be operated from a wheelchair-mounted transmitter or an environmental control unit (ECU) (see Chapter 6).

Other Electronic Safety Devices

Many products have been developed with safety and convenience for a person with limited movement and mobility in mind. You can find information about emergency phone systems, ECUs and other assistive devices in Chapters 1 and 6.

BATHROOM MODIFICATIONS

Solutions to bathroom inaccessibility can range from adding innovative or even portable equipment to work with your existing bathroom, or to completely remodeling the existing plumbing, structure and more. Here are some simpler bathroom modifications.

Bathtubs

While a soothing bath can provide much comfort, a bathtub often becomes inaccessible because it requires the bather to step over or be lifted over its wall. However, there are a growing number of solutions to this problem.

Existing Tubs:

Some companies will create a cutout to allow a user to step into a tub. Plumbing can be lowered and fixtures such as handheld showerheads can be retrofitted. Shower doors or curtains can be added to keep water in the tub, and a curtain will be necessary if you use a transfer tub bench.



New Tubs:

Tubs with a walk-in entry and sliding door can be installed. Recumbent bathtubs are designed as a therapeutic aid for someone who has little or no mobility, and they often have a slide-in entrance with a door that swings shut.

Bath Chairs:

Free-standing or wall-mounted benches enable a person to use a bathtub without sitting on the tub floor. This means less effort to exit the tub since the chair usually sits at the same height as the tub walls.

Bath Transfer Benches/Chairs:

This type of chair spans across the rim of the tub or shower, with half of it outside the tub. Some brands fea-



ture a seat that slides and/or swivels: The bather sits on the chair on the outside of the tub and then slides the seat into the tub, leaving only the legs to be lifted into the tub. Some models collapse for storage and portability and feature cutouts on the seat for toileting and personal hygiene.

Tub Transfer Boards:

Similar to chairs, this one-piece board spans the sides of the bathtub with one side that juts slightly beyond the edge of the tub. A bather must be able to sit up independently.

Showers

Roll-In Showers:

Roll-in showers usually have three walls and one open side that has a very slight threshold or none at all. This type of shower enables a wheelchair user to roll in and transfer to a bench or chair, or shower in a wheeled shower chair.



The slope of the floor in a roll-in shower is especially important so that water can be properly channeled into the drain. The area inside the shower needs to be carefully designed to allow room for maneuvering a wheelchair or wheeled shower chair. The ADA guidelines for roll-in showers call for a minimum of 30 inches in width and 60 inches in length.

Shower Units:

Prefabricated shower stalls often include features such as grab bars and fold-down benches and can be retrofitted in many bathrooms. One-piece units are available, as are units that come in several large pieces that can fit through the bathroom doorway and be assembled once inside.

Another choice is buying a prefabricated base, and then constructing walls around it, which allows for more opportunity to customize it for your needs and tastes.

Shower Commode Chair:

This type of chair can be used in a shower and also has a cutout seat for personal hygiene and a removable pan for commode use. Or it can be rolled over your commode/toilet. Some models have wheelchair-style design, and others have small casters for mobility. Others have extras like adjustable armrests and padding, and some can fold for storage or travel.

Sinks & Basins

Existing bathroom sinks can sometimes be made wheelchair-accessible by removing cabinets or cabinet doors underneath them. Remember to cover the plumbing with appropriate material to protect against scrapes and burns. Wide and shallow sink basins also enhance accessibility.

Toilets & Bidets

Standard toilets usually can be modified by raising their height, by adding a raised seat or a spacer underneath the base, for example. Safety rails can be installed on either or both sides (toilet safety frames) for added assistance.

A bidet offers a stream of water that provides personal cleansing after toileting. Many bidets can be attached to standard toilet seats, and some models boast remote control, warm water, built-in heaters or natural water features.



Spotlight on Bathroom Fixtures

Accessible hardware or specialized fixtures can transform any shower, sink basin or bathtub, and further enable use by someone with muscle weakness or limited dexterity. Single levers that are operable with one hand and that don't require twisting the wrist or tightly grasping the control are ideal.

Other options include electronic faucets with sensors that "see" when to turn the water on and off. These fixtures are more expensive, but don't require any hands to operate, boast water-saving efficiency and are effectively accessible.

Handheld showerheads, also known as *hand showers*, can also enhance accessibility in bathtubs or showers. Some come attached to a vertical bar so their height can be adjusted to suit you.

Many showerheads and bath fixtures come with an antiscald valve but it can also be added inexpensively to an existing fixture. Or, for an inexpensive alternative, just lower the heat setting on your water heater.



Always check your sink's current faucet spread and placement before purchasing new fixtures (most are center-set with a 4-inch or 8-inch spread).