



Assistive Technology Tips

Around the House

Choosing the right tool for the job and adapting the tools you have can make working in and taking care of your home a lot easier. This brochure offers some suggestions on how to do that. As a consumer, you have the right to try things out in the store. Ask for a demonstration, and thoroughly try out the item yourself.

Cleanliness Is Next To...

We all feel better when we look good. If problems with weakness, coordination, or paralysis make daily routines difficult, the bathroom is one room where modifications can really pay off. This brochure discusses just a few of a wide variety of adaptations and devices to make personal care and grooming routines easier.

What's for Dinner?

Eating a healthful, well-prepared meal can be one of life's great pleasures. If you have difficulties handling food preparation tools or silverware, this brochure may provide helpful information on aids and adaptations to use in the kitchen and dining room.

You Can Get There from Here

The freedom to move from place to place in your home and out in the community is critical to independence. If you have problems with movement, balance or coordination, there are a number of devices that may help you get around and accomplish everyday activities. This brochure includes information on devices to help with reaching, lifting, and walking.

Zip It Up

Every one of us has fumbled with a button. But stiffness, pain, weakness, or paralysis can make dressing and undressing particularly difficult. This pamphlet provides information on types of clothing and simple adaptations, devices, and methods to make dressing and undressing easier.

Around the House Cleaning

Floors:

- **Vacuuming:**
 - Canister vacuums are lighter
 - Upright help balance and support
 - Attachments allow easier access to tighter and higher places
 - Rotating brush on the power head gets deep into carpet, however this tends to be more expensive

- **Electric brooms:**
 - Generally lighter and less expensive than a full-size vacuum cleaner
 - Can adapt to both carpets and bare floors
 - Practice emptying dust compartment to make sure it is not more difficult than replacing a vacuum bag

- **Brooms:**
 - Look for one with a slant edge and feather bristles
 - Wide push brooms can provide more support while sweeping
 - Long handled dust pans can be bought at stores or insert a broom handle to a regular dustpan
 - Attachable handles to dust pans reduce bending over

- **Dust mops:**
 - Good for cleaning under bed and other furniture
 - Allow help with balance and support due to long length
 - If in a wheelchair, you can cut handle of mop or broom and attach bicycle grip or D-grip to give it a handle.

Dusting:

- Dust frequently, dust combines with airborne cooking grease to make a sticky film that requires scrubbing to remove
- Reaching aid holding a soft cloth can reach awkward surfaces
- Dusting mitt can be modified to fit over a foot, allowing you to dust along mop boards and under cabinet edges without bending over.
- To save time and energy, make or buy an apron with plenty of large pockets to carry cleaning supplies, or attach a pocketed pouch to your walker or wheelchair
- A small cart on casters can also be used to move cleaning supplies from place to place; sturdier models will offer some support when walking.

Windows:

- Lightweight, car-sized squeegee can be mounted on a broom handle
- Use the sponge side with a warm water/vinegar solution to scrub windows and mirrors; then wipe clean and dry with the rubber blade.

Storage

Organization is the key to efficient, accessible storage. Most of the products referred to in this section are widely available at hardware and department stores. Be sure to take along accurate measurements and comparison shop to find the product that solves a storage problem the most effectively for the least money.

Accessible storage defined:

- From waist height to just above eye level is most accessible
- "Within reach" means 6" less than your arm's length, seated or standing, or within reach of your reaching aid
- Store heavy objects within easy reach so you can handle them safely
- Store items close to when they will be used, to save motion
- Some storage can be made movable for easier use, such as roll-out shelves, hanging organizers on cupboard or closet doors, or storage carts on casters.

Kitchens:

- Make the most of already accessible space, as most kitchens have a lot of awkward or unusable space
- Stacking shelves or bins come in plastic or metal in many sizes, designs, and prices
- Roll-out shelves can make the back of a shelf as accessible as the front
- Under-shelf containers utilize wasted space

- A lazy Susan gives ready access to the back of a shelf
- A blank wall becomes storage with a sheet of peg board and wire hooks
- Pull-out shelving allows access from both sides of an island counter
- Corner cupboards can be better used by installing revolving or swinging shelves

Bathrooms:

- Vertical towel bars, with rings to hang towels through, take up little space and are easily reached
- Hanging racks, available in many bed and bath shops, can be very useful in the tub and shower
- They can be attached to a wall, the side of the tub, or the shower fixture, and can hold shampoo, soap, brushes, etc.
- If you take baths instead of showers, a shelf across the tub can hold bathing items.

Closets:

- Stacking bins can create accessible storage at waist height on the floor of a closet
- shelving units attached to the door can store cleaning, laundry, or kitchen supplies within easy reach
- Full closet organizer "systems" are also available for \$50 and up
 - look for a sturdy modular unit that allows you to set shelves at heights that you can reach easily
- Lower the clothes bar if you use a wheelchair
- Bi-fold doors will give easier access to the entire closet.

For more information on the adaptations discussed here, or for additional suggestions, please contact the Easterseals Iowa Assistive Technology Program at 866-866-8782, atinfo@eastersealsia.org or 515-289-4069 (TTY).

Cleanliness Is Next To...

Grooming Aids

Dental Care:

- You can build up your toothbrush handle for easier gripping by adding a ready-made, built-up handle, a child's bicycle handle-grip, or a palm or wrist cuff, as illustrated
- Foam tubing called Rubazote, available from medical suppliers, has a hollow center to insert a handle into
- Extension handles, can be helpful when attached to toothbrush to allow easy maneuvering around the mouth
- A denture brush can be attached to a sink or counter with a suction cup device
- Flossing may be easier if you use a floss holder, available at most drug stores; it too can be fitted with a built-up handle
- "Pump" style toothpaste dispensers are easier for some people to manipulate
- A twisting key is another possibility, while a third alternative is toothpowder, which you can simply dip a wet brush into.

Hair Care:

- The handle adaptations illustrated here can be used to modify combs and brushes
- Extension handles are particularly useful if arm or shoulder motion is limited, but your motions will lose some force due to loss of leverage
- If you use a hair dryer, mount it on the wall to leave your hands free
- The bracket should swivel so the dryer can blow in any direction
- Hair washing is easiest in the shower; if you bathe in a tub, a hand sprayer is useful for rinsing
- Pump dispensers or flip lids ease opening and closing shampoo and rinse bottles

Skin Care:

- A soap mitt eliminates fussing with slippery bars of soap and awkward face cloths
- You can buy one inexpensively, or make a simple one yourself from a small amount of terry cloth

Shaving:

- Electric razors are easier to use and safer than blades

- A bracket or clamp can be rigged to hold a razor firmly to a counter or wall while you move your face against it
- A Velcro strap holder can help secure the razor in your hand.

Nails:

- A nail brush can be mounted on the edge of the counter or sink with suction cups
- Attach a nail file or emery board to a piece of wood or tape it to the countertop to stabilize it for one-handed use
- You can attach a nail clipper to a piece of plywood to give you better control, or increase the leverage by lengthening the handle as shown in the illustration
- Larger clippers for trimming toenails, available at most drug stores, may be easier to manipulate for fingernails, too.

Bath Aids

- **Safety** is the first consideration. Safety treads or rubber mats on the bottom of tubs and showers are simple and inexpensive. Test and adjust water temperature before stepping into a bath or shower. Set water heaters below 120 degrees and ask others not to run water elsewhere in the house to prevent temperature fluctuations. For extra protection, pressure balances to prevent surges of hot or cold water are available from plumbing supply stores.
- **Handrails** that clamp to the side of the bathtub and gripping bars for tub and shower walls can be purchased from medical suppliers.
- **Organize** items that you'll need before you get in the tub or shower. If you use a reaching aid, put it near the tub. A shelf across the tub keeps useful items near at hand and offers another surface to steady yourself against.
- Bath brushes with long handles are useful for scrubbing various hard-to-reach places; handles can be built up or bent to improve your control.
- Another way to scrub your back is to attach a piece of terry cloth, sponge or loofah to a strip of sturdy fabric or plastic to pull from side to side. These scrubbers are available for sale at medical supply stores, but you could easily make your own.

What is for Dinner?

Food Preparation

Cutting, peeling and chopping:

- Cutting boards can be bought or made with stainless steel nails pointing up to hold meat, fruits, vegetables, cheese, etc., for one-handed cutting or peeling
- Some have a raised angle for buttering bread
- A peeler mounted on a clamp can be attached to a tabletop or a cutting board; the apple, carrot or potato can be pushed or pulled across the blade with one hand
- A hardwood chopping bowl comes with a five-bladed chopper and features a non-tip plastic base, at some medical/surgical supply stores
- Also available is a grater with suction feet and a bin to hold grated food.

Opening and closing containers:

- An electric can opener can prevent a lot of frustration
- Make sure the one you buy has non-slip rubber feet and a mechanism that can open any shape of can.
- Jar openers also come in many designs and are widely available
- Boxes can be slit open with a knife and closed with a piece of masking tape or a rubber band
- Plastic bags can be resealed with a rubber band or clothes pin by twisting the bag shut and tucking the twisted end under the rubber band

Mixing and beating:

- Bowls should be heavy enough to prevent sliding; a rubber ring on the base, a Dycem mat (from a medical/surgical supplier) or even a damp cloth can help
- Bowls with handles are widely available
- A hole cut in a piece of plywood or hardwood set over a drawer or sink will help steady a bowl while you use it, increasing your counter space at the same time
- If the bowl is flush with the board's surface, you can easily push ingredients into the bowl as they are prepared.

Blenders, electric mixers, and food processors can be a big help; if you buy one, make sure the features are useful for your cooking needs, and that you can operate the controls.

Cooking:

- To hold a pot or pan steady while you stir, try a wire frame attached to the stove with suction cups, available from medical supply stores.
- You can also push the handle against the back of the stove or another pot to stabilize it
- The lightest, easiest-to-manipulate pots are made from aluminum, stainless steel, and copper
- These metals are also good conductors, so they heat and cool quickly; you will need to stir more frequently with light-weight pots
- Casserole dishes and oven-to-table ware or ceramic, porcelain, Corning ware, and tempered glass come in all sizes and weights
- They are heavy, but designed to look good on the table, which means less transferring of food from one container to another.

Handles and knobs:

- Make sure the shape and size of handles and knobs are well-suited to the strength and flexibility of your grip
- A long handle lets you brace against your wrist or arm, or use both hands, and also makes reaching a back burner easier
- Handles on both sides of a pan distribute weight more evenly, but are sometimes smaller, and require two hands with good coordination
- A clip-on handle, available where camping supplies are sold, can function as an extra grip for a heavy or awkward pot.

Lids should have a knob that will not slip out of your grip. You'll find replacement knobs at hardware stores. If you use a reaching aid, choose a knob that works well with your aid. Any part of a pot that you touch should be well-insulated. Plastic and wood are the safest materials; solid and hollow-core metal handles will heat up eventually and could cause a burn.

A tipping platform can make handling a teapot easier and safer.

For frying bacon and thinly sliced foods, a cast aluminum fryer sits on top of the food, reflecting heat downward, so that it cooks without turning or stirring. A drainer/strainer that clamps over the pot is also a good idea. Oven mitts are essential when working with hot things; you can also use a reaching aid for some jobs. A commercial pizza shovel makes a good Reacher to pull hot dishes out of the oven.

Place heat-proof pads around the kitchen and use them as resting stops when carrying heavy, hot items over long distances. If you use a wheelchair, use a heat-proof lapboard or wheelchair tray so that you can use both hands for traveling.

Table Setting

Attractive table settings brighten mealtime and enhance the appreciation of good food. A variety of specially designed plates, dishes, cups, glasses and silverware are described here: you may find other designs in catalogs from the manufacturers of independent living aids.

Several manufacturers have designed plates with a curved inner wall and a slightly raised outer rim to help guide food onto your fork or spoon. A heavier plate prevents slipping and retains heat longer. Other options include: a nonslip scoop dish, which makes it even easier to push food onto your spoon; a partitioned plate; and dishes with high sides around all or part of the circumference. Available in ceramic or Melamine at medical/surgical supply stores.

A pedestal cup has been designed to make drinking easier for people with a weak grip. A lidded cup reduces spills and controls the flow of liquid; this design is particularly useful for people in bed.

Look for these features in a cup:

- easy-to-grip handle(s)
- insulation or large handles to prevent burns
- a wide base for good stability when empty or full
- break resistance
- easy-to-clean finish

Products are also available to adapt your own tableware: a plate guard in plastic or metal to help guide food onto your fork or spoon; non-slip matting (Dycem, available at medical supply stores) to keep plates from sliding around; handles or wide bases to add to glasses or mugs for better stability; angled or bendable straws which permit drinking from a regular glass while lying in bed.

Silverware:

Specially designed knives, forks, and spoons described here can be found at medical supply stores and some "gourmet" kitchen shops. They have been designed to help you overcome the problems of weak grip, lack of flexibility, limited range of motion, and poor coordination.

A built-up handle makes it easier to grasp eating utensils. The simplest way to do this is to buy a length of Rubazote at a medical supply store; this is foam rubber tubing that comes with a variety of bore dimensions to fit a range of handle sizes. Or you can use a child's bicycle handle-grip, as shown in the illustration. Several manufacturers make cutlery with square, round oval, or built-up handles of varying lengths in light, standard, or heavy weights. Shop around to find which version is best for you. If you have trouble moving your wrist, fingers, or arm, try a fork or spoon with a swivel or self-leveling mechanism.

Extension spoons and forks to assist with limited range of motion can be set at any angle.

Also available are utensils designed to be attached to the palm rather than gripped by the fingers; the angle can be adjusted to compensate for lack of range of motion. Speaking of angles, you can buy "bent" or offset forks and spoons angled left or right in a variety of shapes. Knives come with straight or curved blades, either smooth or serrated, for easier cutting. A person with one hand can cut food easily by rocking a Nelson knife back and forth across the food. Another suggestion: an ordinary pizza cutter can be sharpened and used as a one-handed food cutter. Combination utensils are convenient if you don't use both hands, or if coordination is a problem. Known as "knoons," "knorks," and "sporks," they come in several different designs and weights, some with built-up handles.

You Can Get There From Here

Reaching Aids

Pushing, pulling, grasping, and turning are movements that can be easier for you with a reaching aid. The models shown here have been designed to cover a wide range of activities and will help people with a weak or painful grip, or a limited range of motion.

The most common reachers consist of a pair of jaws controlled by a trigger mechanism. Made of lightweight aluminum and plastic, they are available in a variety of sizes and lengths. The desk-sized model, about 24" long, is useful for retrieving objects on your desk, kitchen counter, or bedside table. A mid-range length, about 28" long, is useful for everyday activities such as picking up objects from the floor or reaching high storage areas. An extra-long model (32") is also available if you need extended reach. Features you'll find useful include a magnet for catching and holding metal objects, and a projecting lug for pulling things toward you. Folding styles and reachers with toggle (rather than trigger) closing action, swivel heads, or forearm extension are also available.

Prices vary widely, depending on the size and features. Reachers are generally available at most medical supply stores.

Walking Aids

Mobility can be complicated by many factors, such as pain and weakness in the legs or back, uncertain balance or dizziness, muscular tremors or spasms, or paralysis. There are a variety of changes in your environment, as well as canes and walkers, that can enhance your mobility in and out of your home.

Modify Your Home

Install grab bars in critical locations.

Remove small rugs; avoid shag carpeting.

Arrange furniture so that you can walk from solid piece to solid piece, using the furniture for support.

Clothing and Footwear

Choose pants and tops that do not restrict motion, and do not trail behind.

Choose shoes with textured soles for better grip.

Removable cleats can give you better footing on ice or snow.

Canes

Although canes can be purchased at many drugstores, you should consult with your doctor if you are having frequent or pronounced periods of weakness, dizziness, or poor coordination.

Consider the following factors in selecting a cane:

- Height: The handle should be at the height of your hip joint.
- Weight: You should have no trouble lifting it.
- Handle: The grip should be comfortable and secure.
- Base: Canes are available with single tips, or 4-legged, wide bases.

Other options available include a loop on the handle of the cane, to free your hands for other activities, and a fold-down ice gripping tip, which can be attached to the side of the cane.

Walkers

The walker is particularly useful for individuals with balance problems since it affords support through both arms at a fixed distance. Walkers come in a wide range of heights and weights, with a variety of handle styles. Ask your doctor or physical therapist for help in making a selection.

Grab Bars

Grab bars make the most of your strength by giving you extra support when and where you need it, such as climbing in and out of the bathtub, your bed, or negotiating a flight of stairs.

A grab bar looks like a towel rack, but that's where the similarity ends. A grab bar is designed to be strong enough to support your weight and more. Flanges on the ends of the bar have sturdy screws for installation, preferably into wall studs. There is room between the bar and the wall for you to get a good grip, and the diameter of the bar will feel solid in your hand. Made of plastic or rust resistant metal, the bar may have a rough surface to prevent slipping. Many shapes and sizes are available for different uses; most are wall-mounted, but some attach to the edge of your bathtub.

Some considerations in selecting a grab bar:

- Evaluate your physical abilities; choose a bar and a location which lets you use your strongest muscles most effectively.
- Make sure the bar you select is long enough to carry a movement through to its conclusion; if you run out of support before you're fully standing, you could lose momentum and fall back, or fall forward from too much force.
- An occupational therapist can help you with decisions about where to place what kind of bar.

Some shapes and sizes of grab bars are illustrated here. They can be purchased at plumbing supply outlets, some department and hardware stores, and at medical/surgical supply stores. If you can't find one to suit your needs, some companies will custom design a bar for a somewhat higher price. Alternatively, you may be able to combine standard bars in sequence to give you the support you need.

Zip It Up

Choose Accessible Clothing

- Roomy, stretchy clothes with simple fastenings are your best bet. For ease and comfort, choose clothing with:
 - side or front closings
 - deep armholes or raglan sleeves
 - pull-on, elasticized waists
 - ample ease to move freely
 - and "breathable," soft-surface fabrics

Clothing Adaptations

- Sew cuff buttons on with elastic thread; keep them buttoned all the time and simply slide your hand through.
- Remove buttons from the cuff or front of a blouse or shirt and sew the button to the closed buttonhole borders. Sew Velcro on the two sides and press to close.
- Attach a ring or loop to the zipper tab so it's easier to catch with fingers or a dressing aid.
- Sew loops or tabs of ribbon or seam binding inside clothes to help in pulling them on or off.
- Adapt a brassiere by sewing up the back closure, cutting the front open, and attaching Velcro strips.
- To keep a shirt or blouse tucked in, sew rubber strips to the inside of your skirt or slacks waistband.
- Slacks can be fitted with side zippers in the legs to ease in pulling them on and off. Zippers in the inside seam of the knee may accommodate a cast or brace.

Remember: Buttons require the most movement and coordination; snaps or dome fasteners are easier. Zippers are faster and easier still, and simplest of all are Velcro strips.

Some Other Tips

Wheelchair-users should avoid long ties or scarves, full-length coats, wide pant legs, or floppy sleeves, which can catch in wheel spokes or pick-up dirt from the tires.

Wrap-around skirts are particularly fast and easy to put on and allow women in wheelchairs extra movement. Choose a shawl rather than a sweater for extra warmth.

Jackets with side (not rear) vents are less likely to ride up. Pre-tied, clip-on ties are available in attractive patterns for a dressier look. Avoid using pants pockets; keep your wallet in a breast pocket, secured with a strip of Velcro.

If you use crutches, a top with too much roominess can cause bunching or binding under the arms. On the other hand, tight shirts or blouses restrict arm and shoulder movement, leading to balance problems and split seams.

A customized apron of pockets designed for tools or items that you use most frequently may make work or hobby activities easier and more enjoyable.

Outerwear

Look for warm, waterproof designs that can bridge seasons, with the same design features--deep armholes or raglan sleeves, roominess--as indoor clothing.

A hooded poncho or cape is particularly suitable for protecting a wheelchair user from rain and cold and can be purchased at camping supply stores. If you design your own, cut it just below waist level at the back and allow enough front length to drape over the knees. Taper the sides, so they won't bunch and catch in the wheels. A zip-in insulated lining can make a rain cape into a cold weather garment.

A hat is essential in winter since so much body heat escapes from an uncovered head, and older persons may be especially susceptible to chilling. A well-designed winter hat covers the ears, is made of a natural fiber with good insulating properties, and is not tight. If gloves are difficult for you to wear, try mittens instead. They're warmer, much easier to get on and off, and come in a wide variety of colors and styles. A thumb-less version is especially warm and easy to get on and off, and can be knitted by a friend.

Footwear

- Both dressy and casual shoes are available in slip-on styles.
- Elastic shoelaces stay tied and simply stretch open when you put on or remove your shoes.

- Shoelace clips slide up and down the lace ends and lock into place.
- Many sport shoes and boots and a few dressier styles are available with Velcro tab fasteners. Try them out.
- A shoe button screws into the top lace hole on your shoe; once laces are tied, you just hook them over the button to fasten.

Inexpensive removable cleats attached to shoes or boots can improve your walking control on ice or snow. These can be purchased from a medical supply store.

Dressing Aids

When it comes to the actual process of dressing and undressing, dressing aids can make these activities easier.

A well-designed aid should be lightweight but sturdy, and will:

- help you reach your clothing and put it toward you
- hold the garment so that you can put in your foot, arm, etc.
- pull the article on without straining your back, shoulders or arms
- attach to and detach from clothing easily

A very simple dressing aid can be made by attaching a clothes peg, hook, garter, or clamp to a piece of fabric tape, rope, or length of wood. The rope or tape can be tied into loops for easier handling; two aids can be used together to pull on slacks, pantyhose, or a skirt. An instant dressing aid can be improvised from a wire coat hanger by bending the triangular form into a long, thin handle, use the hook to reach, pull, or zip.

Sew small loops inside your clothes; catch them with the hook of your dressing aid to pull them toward you and to pull them on. Use belt loops on skirts or slacks, and buttonholes on shirts, blouses, and sweaters. If you own a reaching aid, you've probably already used it as a dressing aid. Most reachers have jaws or a projecting hook or lug for catching articles and retrieving them. You can find commercial dressing aids at most medical supply stores.

Once the garment is on, you'll need to fasten it. Buttons can be dealt with easily with a button hook, available in many sizes, with a variety of handles. Push the hook through the buttonhole, catch the button in the hook, and pull it through.

Attach a ring or loop to the zipper on slacks or jackets to make it easier to catch with your finger or the hook of a dressing stick. For back zippers, use a dressing stick if you can reach the zipper; otherwise attach a hook with a cord as shown in the illustration

(before putting on the garment, if you can't reach behind), then grasp the cord or ring and pull the zipper.

Shoes and Boots

A simple shoehorn can be your best friend when it comes to putting on shoes and boots, whether laced, buckled, or slip-on.

Shop for a long-handled model to reduce bending and straining; check that the point where the horn joins the handle is sturdy, particularly if you use it for heavy shoes or boots.

The handle can be built up if you find it hard or painful to grip. Push your shoe up against the wall or a solid piece of furniture for stability when putting it on.

Removing shoes and boots can also be difficult, but a bootjack can be a great help. Place your heel between the prongs of the bootjack and pull your foot out.

A bootjack can be fastened to the floor in a convenient location or left free to be moved where needed.

Or use the rung of a chair or stool to catch the heel when removing footwear.

Further Information

Several manufacturers sell clothing and aids for people with special needs.

For additional information on how to locate or fabricate the adaptations discussed here, for other suggestions, or to request catalog information, please contact:

Easter Seals Iowa Assistive Technology Program
866-866-8782, atinfo@eastersealsia.org or 515- 289-4069 (TTY)

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