

# Bathing Easy

There are a variety of accessible bath products designed to help people with disabilities maintain their independence in the home.

By Abir Mullick

**F**or people with disabilities, bathing or showering is often a difficult proposition. Accessible bathtubs, showers, bath lifts and seats available for home use can help them maintain some independence. These products also provide greater autonomy in personal hygiene and self-care for dependent bathers, while reducing the level of assistance needed from caregivers.

Factors to consider when choosing bath products for the home include the user's and caregiver's needs, as well as the item's cost, overall size, storage needs, maintenance requirements, obtrusiveness and aesthetic appeal. Before the consumer selects a product, a rehab specialist who is knowledgeable about accessible bath products should evaluate the user's needs and capabilities, study the bathroom layout and provide information about the available products.

When purchasing a product that may require architectural modifications, such as a bathtub or shower, it is essential to consult an architect familiar with accessible bathroom designs, building codes and the American National Standards Institute (ANSI) codes. It's also helpful to consult other consumers about their experiences in the use, repair and maintenance of these products.

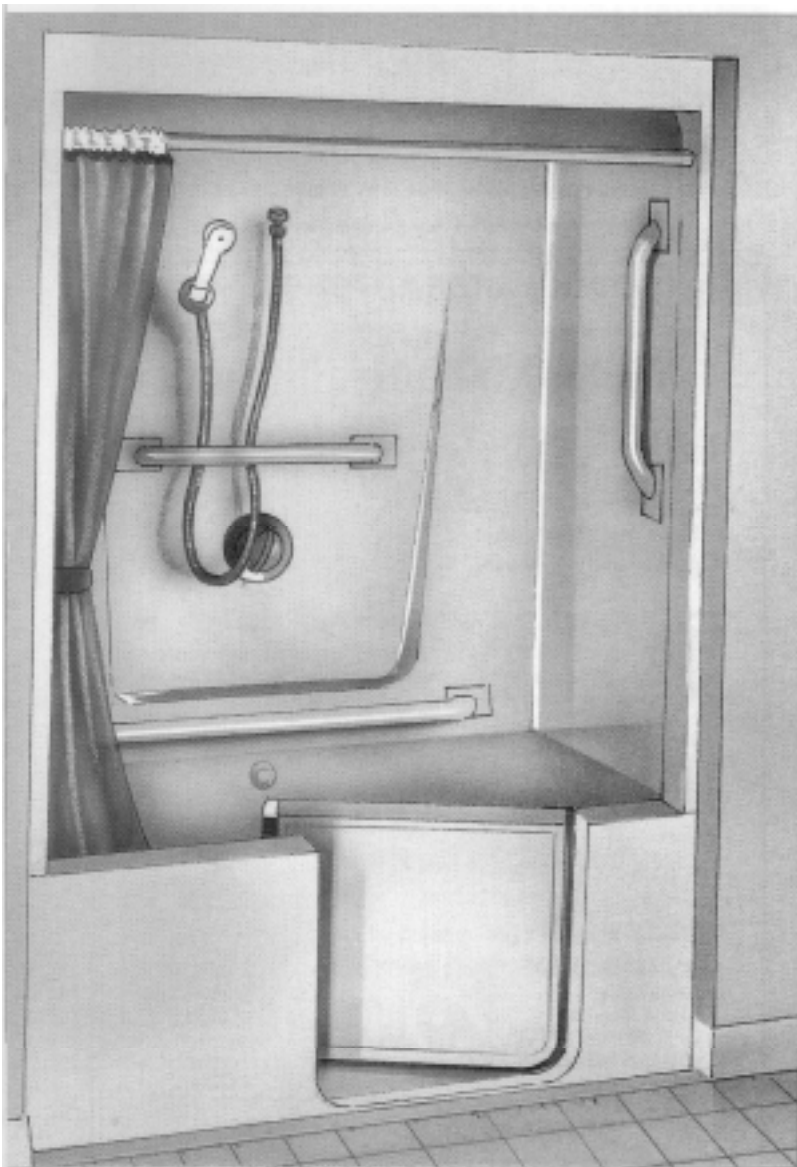
## Bathtubs

Accessible bathtubs are designed for people with limited mobility who have difficulty getting in and out of regular bathtubs. These tubs have an opening in the side that provides easy access and prevents transfer-related accidents. For caregivers, these tubs help minimize the stress and physical strain associated with bathing adults, considered by many professionals to be one of the most difficult aspects of home health care.

Accessible bathtubs were originally designed for institutional use, and their use in residential settings is still relatively new. Several manufacturers produce accessible bathtubs exclusively for home use. With minor modifications to the bathroom, these products fit within the tub space. They work well for a variety of users and are designed to blend in aesthetically.

Many institutional bathtub manufacturers also market their products for residential use. Buyers planning to use these tubs in the home should be aware that they have been designed for dependent bathers and their caregivers. These tubs tend to be gadgetlike and challenging to operate, and require considerable learning on the part of the user. Many older, independent bathers will find them complicated and intimidating, and the tubs may not blend in well with residential bathrooms. They are also expensive, can require major home modifications and may demand considerable maintenance.

Many accessible bathtubs, both residential and institutional, provide some form of hydromassage while the user is bathing. Like all whirlpools, these bathtubs have built-in water supplies, as well as electricity for the motor and water pump, thermostatic control for



Illustrations by Alexandre Djollikian

A side-entry tub.

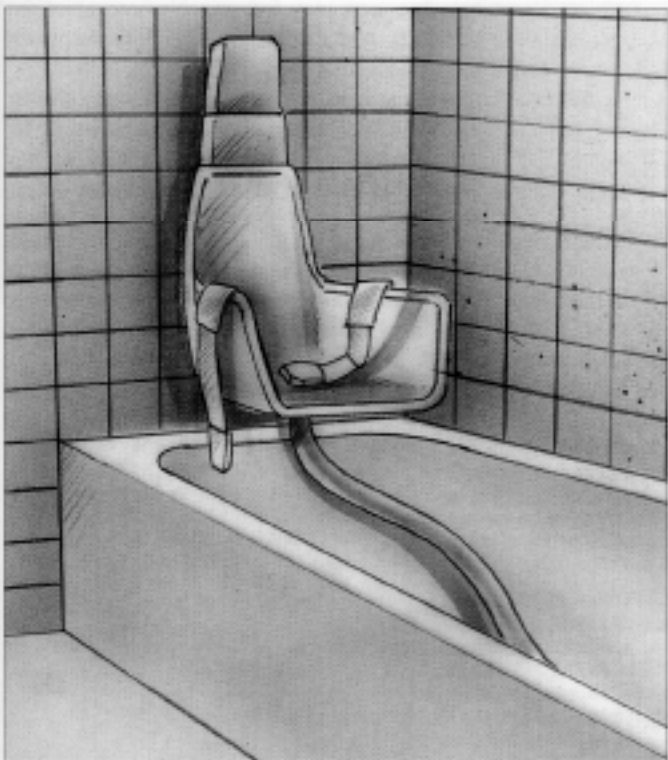
regulating water temperature, an air-flow system for hydromassage and several valves for controlling water flow. A control panel regulates the whirlpool, water temperature, spray heads, mixing valves, drains and door.

Accessible bathtubs are made primarily of Fiberglas and have built-in seats, grab bars and whirlpool jets. Some have flexible hoses and soap and shampoo dispensers for added convenience. There are three general types of accessible bathtubs:

- 1 The side-entry tub has a hinged door on the side of the tub that swings open like a car door to allow bathers to get in and out. When the door closes, it seals the opening so that the tub can contain water.
- 1 The overhead-door tub has a door that slides up and down on a wall-mounted track. In the open position, the door rests on the tracks, parallel to the ceiling, like a garage door. When closed, it becomes the tub wall and holds water.
- 1 The shutter-door tub has a door that rolls open and is hidden beneath the tub floor. The bather pulls the door up to close the opening and hold water.

All three types of tubs have sophisticated sealing systems that inflate when the tub is filled with water. To maximize safety, water will not flow in these tubs unless the door is perfectly sealed. The door remains sealed until the water is completely drained. The power-operated doors and the electrically controlled lock system in some models empower dependent bathers and offer them added security.

When choosing a tub, keep in mind the user's physical abilities and condition. For example, overweight people might find the width opening too narrow and tall people may find the legroom insufficient. Someone with paralysis or one weak side may experience considerable difficulty getting in and out of the tub. Also, a permanently installed seat that is not adjustable can be difficult for those with postural problems. A Fiberglas seat may be cold and slippery, causing the user to slide off.



A water-pressure tub lift requires professional installation and maintenance.

## Seats, Stools and Chairs

There are three general categories of seating fixtures designed for bathers:

- Bath seats, about 6 inches high, allow for maximum submersion. They are designed for short-duration bathing and are appropriate for people with strong backs and those who can sit down and stand up.
- Bath stools are knee-height seats that allow the bather to submerge his or her legs in the water and wash the upper body using a cloth or hand-held showerhead.

Most stools have a narrow base, which makes them unsuitable for people who have difficulty maintaining a stable sitting position. Stools with wide bases, on the other hand, are not only too large to fit easily in tubs, but also may be unstable if the base rests on the tub's curved edges. In addition, a stool's narrow seat may cut the circulation in people with wide buttocks, and can also cause them to slip off easily and fall.

- Bath chairs are similar to stools, but their wide seats, backrests and, on some models, armrests, provide added comfort during an extended period of bathing. Although they allow only partial immersion of the body, their backrests make them particularly suitable for people with poor back strength. Some bathers, however, are bothered by the backrest because it makes it harder to clean their entire back, so they lean forward, which can cause bathers with poor back strength to become unstable and fall. Some chairs have twist mechanisms to adjust the height of the seat, backrest and armrest, allowing users to tailor their sitting position to their needs. However, these mechanism can become loose from constant use, causing them to collapse unexpectedly.

## Bath Lifts

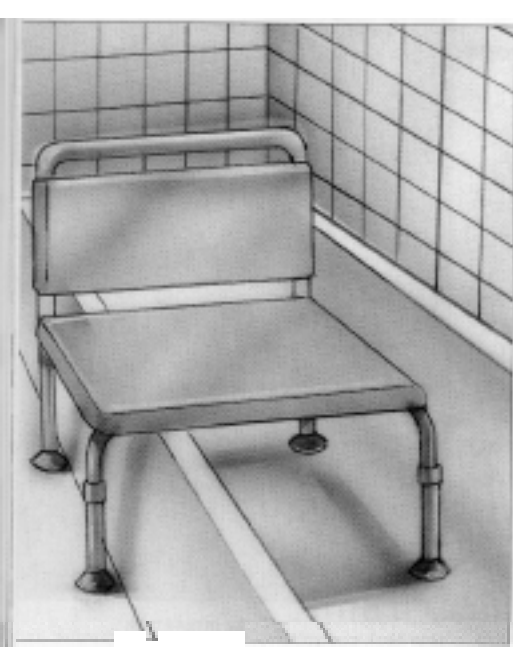
Bath lifts help users get in and out of standard bathtubs. Some devices facilitate making transfers, while others physically lift bathers in and out of the tub.

- A transfer bench has a long seat and backrest and straddles the rim of the bathtub. The bather sits down outside the tub, then moves inside by sliding his or her body across the seat. The backrest and inside-tub grab bar serve as hand supports when transferring in and out of the tub. The bench allows a shower curtain to be drawn for privacy and includes a rim around it to drain water into the tub. Height-adjustable legs and suction cups provide additional seating comfort and personal security. While the bench is portable, its size can make it difficult to store.
- A tub trolley is suitable for people with good upper body strength. It consists of an aluminum frame that straddles the rim of the tub. A plastic swivel seat rides along the frame on wheels mounted to its base. Using a wall-mounted grab bar, the bather pulls the seat in and out of the tub. The trolley frame adjusts to a variety of tubs, but its large size and heavy weight can make it difficult to transport and store.
- A hydraulic lift is appropriate for people who depend on caregivers for making transfers. It consists of a hydraulic mechanism, a floor-mounted column with a seat attached, and a handle to pump the



Bath chairs are suitable for people with poor back strength.

## Bathing Easy



A transfer bench.

lift. The user sits on the seat, and as the handle is pumped the seat gradually rises along the column to the tub wall height, swings 180 degrees in the air, clears the tub rim and enters the tub. The user remains in the lift seat while bathing. Those with limited mobility will need a caregiver to pump the handle, while people with some independence can manually pump

the handle to make transfers. This lift must be installed by a skilled professional, and the bathroom must be spacious enough to accommodate it. It is not an appropriate choice for someone who fears heights or has difficulty maintaining a stable sitting position.

- A water-pressure tub lift consists of a plastic swivel seat mounted on a vertical column that contains a hydraulic unit. It uses household water pressure of 20 pounds per square inch to transfer someone into and out of the tub. The user sits on the seat, rotates into the tub, and gradually lowers into the tub. Inadequate water pressure can interfere with the lift's effectiveness. The lift requires professional installation and maintenance.
- A hydro-cushion is a baglike seat that is placed inside the tub and inflated using water from the tub faucet. The bather sits on the seat and lowers himself or herself by draining water out of the bag. When the bather is finished, he or she refills the bag and rises to the height of the tub rim. The hydro-cushion seat can support someone up to 300 pounds. Low water pressure can interfere with the lift's performance.
- A floor lift is suitable for people who are unable to make independent transfers. It consists of a metal frame on casters, a hydraulic pump and a suspended cloth sling. Usually, the bather is first transferred onto the sling. Then, the hydraulic jack is used to lift the user, rotate him or her 180 degrees and allow entry into the tub. The caregiver also uses the jack to raise the bather out of the tub. While the lift can be easily rolled through a home, it requires a spacious bathroom and the assistance of a caregiver for proper operation.
- A powered lift is appropriate for people with mobility problems. It features an overhead ceiling track with a harness. The user sits on the harness and uses a remote control device to activate an electric motor that raises and lowers him or her in and out of the tub. The harness provides a safe, comfortable grip on the bather's body and allows a caregiver access to the person's underside for better hygiene.

### Showers

Accessible showers are designed for people who have difficulty using bathtubs. They require no crossing over walls to enter and exit.

Almost all accessible showers have grab bars, storage shelves and a bathseat, and many have a height-adjustable or hand-held showerhead.

There are two types of shower stalls: roll-in stalls for wheelchair users and compact shower stalls for ambulatory people. According to ANSI codes, roll-in stalls must be at least five feet square so a wheelchair user can turn around. Compact stalls, on the other hand, must be three feet square to allow easy reach of accessories and controls. Both stalls must have an 18-inch-high seat, grab bars placed 33 to 36 inches from the floor and controls at a height of 38 inches.

When considering an accessible shower, keep in mind the user's needs and physical abilities. People with paralysis or weakness on one side can't use wall-mounted grab bars on their affected side, which limits their ability to enter or leave independently. And while grab bars are an important feature, if their size, position, orientation and texture are not compatible with the user's needs, they can create a false sense of safety and fail to support the bather.

Similarly, someone who has difficulty standing up while bathing cannot reach the controls and accessories from the bathseat; by attempting to stand, the bather jeopardizes his or her safety.

A large shower stall may be convenient, but it also requires the bather to roll around more, making him or her tired and breathless. And although it is considerably easier for a caregiver to transfer a bather in and out of a shower than a tub, doing so will usually cause the caregiver to get wet.

There are three types of seats designed for use in the shower:

- 1 The hanging chair, made of a steel-tubing frame with woven, nonslip nylon seat and backrest, dangles from a wall-mounted grab bar. It is lightweight, easy to place in the shower and remove, and is designed for short-duration bathing. However, some users may feel unstable because of the chair's tendency to swing. Also, the chair has no armrests, which could prove difficult for some users during transfer.
- The height-adjustable chair is permanently installed to the shower stall wall; some models fold against the wall when not in use. Its flat seat and backrest are both height adjustable, allowing them to be customized to the bather's needs. This chair offers easy access for wheelchair users.
- Shower wheelchairs are for nonambulatory users who need to wheel in and out of shower stalls. On some models, the armrests can be removed for greater access to the body, and many have an opening in their seat to allow access to the bather's underside. These chairs are made of rustproof composite alloys and have waterproof seats and backrests. ■

### ACKNOWLEDGMENT

This article is the result of research supported through funding from the National Institute on Disability and Rehabilitation Research, U.S. Department of Education. For booklets on bath seats and bath lifts, contact: Center for Assistive Technology, Rehabilitation Engineering Research Center on Aging, State University of New York at Buffalo, 515 Kimball Tower, Buffalo, NY 14214-3079; voice/tdd: 800/628-2281, voice: 716/829-3141.

*Abir Mullick is an assistant professor at the Department of Architecture, SUNY Buffalo. He has studied the bathing needs of older people and caregivers, and has developed bathing equipment based on the universal design principle. He is a project director with the RERC on Aging.*

*SUNY Buffalo, Department of Architecture, School of Architecture and Planning, 112 Hayes Hall, 3435 Main St., Buffalo, NY 14214-3087; 716/829-3483; fax: 716/829.3256.*