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# ASSISTIVE DEVICES FOR THE BATHROOM

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The bathroom is one of the rooms you mainly use, but it is also the place that presents the greatest obstacles to disabled or elderly people with motor difficulties. In this paper we are going to focus on some assistive devices for the bathroom; besides, we will suggest some useful tricks for an optimal use of the objects you commonly find in the bathroom, included those minor assistive devices that can make the everyday activities easier.

We will not deal with accessibility and usability of the bathroom from an architectural point of view<sup>1</sup>.

## Sanitary ware

- **Washbasin**

Nowadays the major companies selling sanitary products include in their catalogs a product line which has been specifically designed for disabled people. There you can find easy-to-use washbasin with special features: elbow support, inclination and height regulation, integrated siphon, lever mixer tap; these products are usually larger and more expensive than standard ones (Figure 1).



*Figure 1*

If you don't want to buy a special washbasin you can also use a suspended one, not very large (only for hands and face washing), provided with a small siphon and 20 cm distant from the wall to allow

wheelchair access. The shifting can be obtained by means of a shelf placed in the back, also useful for object laying. Particular attention should be payed to the installation of the product that should take in account the user's size and the conditions of use (standing or seated position, user in the wheelchair or not, etc).

- **Water Closet**

Various models for different disabilities are available (Figure 2). You may also use a standard wc, but in this case you should consider some important points. First of all, a suitable height guarantees a comfortable transfer from the wheelchair or from the standing position. Making the wc higher with a masonry base or using a raised toilet seat (Figures 3-4) may be necessary. A wc provided with a large front part is advisable to facilitate the user's access and to aid personal hygiene. If you buy a raised toilet seat, you should choose the proper height and a steady fixing system. Toilet reducers (Figure 5) are available on the market, too; they are especially suited for children and they can be clipped to the wc. The backrest is equipped with safety belts.



Figure 2



Figure 3



Figure 4



Figure 5

- **Bidet**

It is usually placed near the wc or in front of it; its use is often uncomfortable, because it requires complicated transfers from the wc. In this case a douche assembly is very useful: it can be connected to the bidet water tap or to a water pipe near the wc.

Another product named "water-bidet" exists; it combines wc and bidet functions.

These bidets enable you to wash yourself while seated on the wc; some of them provide also hot air drying facilities. A variety of models is available; the spray nozzle can be mounted on the wc frame (Figure 6) or incorporated into a special axis which is fixed to the wc (Figure 7). Obviously, costs depend on technology.



Figure 6



Figure 7

- **Shower**

The narrow size of the shower and the presence of a step usually don't allow easy access to people in wheelchair or with motor problems. In this case, a good solution is a barrier free shower tray (Figure 8); different sizes are available. You can also combine a shower tray with a shower box (Figure 9) which prevents water splashing. As it is only 90 cm high, it allows carer's help from outside.



Figure 8



Figure 9

Besides, other devices allow the user keep seated during the shower:

1. *Shower seat*

A variety of sizes and models, with or without armrests, is available; these seats are wall-mounted. The seat height should be fixed at a height to suit the user's needs (Figure 10).



Figure 10

2. *Shower chair*

It can be with or without wheels (Figures 11-12), according to the conditions of use. The first type is wall fixed while the second one, provided with big or small rear wheels, enables independent or attendant operated transfers respectively. It is important that you choose a product made up with water resistant materials.



Figure11



Figure12

Some models can help adults and children to keep a correct posture also in case of severe disabilities (Figures 13-14-15). These chairs often can be used for a double purpose, as a shower chair and as a commode chair, and they can be placed directly on the wc. If the user hasn't particular postural problems, a plastic garden chair placed in the shower is sufficient; it is a cheap solution and it offers a good steadiness.



Figure13



Figure14



Figure15

- *Bathtub*

If you can't or don't want to replace the existing bathtub with a suitable shower, you should focus on assistive devices that facilitates bath access.

These devices range from a simple “*seat for bath*” (Figure 16), which can be placed in the bathtub and requires the collaboration of the user, to the “*bath chair*” (Figure 17), placed half inside the bath, that offers an easier access but doesn't allow a complete immersion; in this case only having a shower is possible. Another device is the “*hoist for bath*” (Figure 18), which is battery powered and remote controlled; the seat can be raised to the bathtub level, where the user can easily sit, and then lowered to the bottom of the bathtub. Another solution is a special bathtub with front or side opening door and with an integral seat (Figure 19); this device requires that the user is able to move from the wheelchair to the seat and to step up into the bath.



Figure 16



Figure 17



Figure 18



Figure 19

- **Assistive devices for the bathroom**

- *Commode chairs*

A variety of chairs (wheeled or not) is available; they range from very simple and cheap products to more sophisticated and expensive ones, and a wide choice of seat sizes is provided.

You can choose between rigid or folding frame, fabric or padded seat and backrest, fixed or angle adjustable footrests (Figures 20-21). Some models can be placed directly on the wc.

As you can see, there's a wide choice of products, so the individual need should be attentively considered.

Remind that a commode chair should not be used as a transport or shower chair, because it hasn't been designed for these purposes.



Figure 20



Figure 21

- **Hoists** <sup>2</sup>

Also in this case, the market offers a variety of hoists for every need.

1. *Wheeled mobile hoists*

They have a wheeled frame; the hoist arm is provided with hooks for the sling. The base can usually be raised to allow hoist access to the wheelchair (Figures 22-23). A suitable sling can be used for wc and bath transfers. Both manual and electric hoists are available.



Figure 22



Figure 23

2. *Stationary hoists*

They are permanently fixed in a point, so the best position for installation must be exactly identified in order to guarantee a functional use. Some models don't require masonry to be installed, because the upright is pressure or screw mounted between the floor and the ceiling. These hoists are electrically powered (Figure 24).



Figure 24

3. *Ceiling fixed hoists*

They require the installation of a ceiling track on which the hoist can run. The track can be just a few meter long (e.g. for wheelchair to shower transfer) or it can travel from room to room (e.g. for bedroom to bathroom transfer – Figure 25).

We advise that you ask a company a technical survey for track design and feasibility assessment.



Figure 25

- **Support devices**

The market offers a wide variety of materials, colours and shapes. Support devices are formed by modular elements, which can be assembled according to the individual needs (Figures 26-27). It is important they are located in the best suited position and at a suitable height. The installation points should be defined according to the user's disability level and way of transfer.



Figure 26

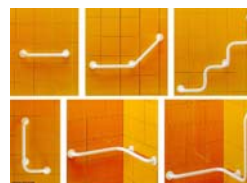


Figure 27

- **Personal hygiene**<sup>3</sup>

Small assistive devices that aid personal hygiene tasks are available on the market. They are hand worn devices provided with a pocket for toothbrush, razor or comb threading. If any gripping ability is left, an enlarged grip or an ergonomic handle can be used.

- **Conclusions**

As the use of the bathroom is a very personal issue, depending on the user's residual motor abilities and management of the everyday life, the choice of the best assistive device or architectural modification is not simple. We recommend that you ask for an expert advice in order to avoid expensive modifications and problems related to a "formally accessible" but not easy to use bathroom.

- **Bibliography**

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