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Servizio Informazione Valutazione Ausili

Assistive Technology Research and Information Service



BEDS

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How often have you looked forward to lie down on a comfortable bed at the end of a hard day? Yet in particular situations the simple thought to lie down can rise strain and worry. This feelings can be due to the inadequacy of the bed: if it is too high or too low, it doesn't allow a safe transfer and requires an excessive physical effort to the user and to the carer. But once the user is in the bed there is still a problem: is he/she able to change position, or does he/she need help? Sometimes, getting a comfortable position in the bed and laying in this way all day long seems to be the only solution.

Anyway, avoiding this situation is possibile, if you consider using a bed which has been specifically designed for people with special needs.

Electrically adjustable beds

As already said, the comfort in use of a bed depends not only on the position of the user on the mattress, but also on the ease of getting in and out of it and of changing position in it. These features should be taken into account when looking for a new bed.

- *Bed's height*

This is a key feature that allows easy wheelchair-to-bed (and vice versa) transfers and sit-to-stand (and vice versa) transitions.

In the first case increasing or reducing the bed height, so that a horizontal transfer is possible, is the simplest solution. A sliding board may also be used (Figures 1-2).



Figure 1



Figure 2

A suitable height can be obtained sawing the bed legs or applying them a rise (Figure 3). In case of sit-to-stand transitions, the bed height should be adjusted in such a way as to guarantee comfortable sitting and standing.



Figure 3

This homemade solution usually doesn't cost much and it can solve the user's problems. Yet, this is not the best solution if you need different height adjustments (for example, bed raising after the patient's transfer, in order to prevent the carer from excessive stooping) or if the bed is used by people with different methods of transfer. In these cases, you need an electrically adjusted bed. These beds are operated by remote control and they allow independent use by disabled people (Figure 4).



Figure 4

- *Mattress platform adjustment*

Another choice is a mattress platform with two or more sections whose position can be adjusted. The angle of head and leg section is usually adjustable; these functions enables the lying patient to change the position of the trunk (reaching the sitting position) and of the legs (flexing hips and knees).

A great advantage of this product is that the the carer engagement is lightened or it is not needed at all. These electric beds are operated via push-button remote control.

If necessary, the above mentioned functions can be integrated in an environmental control unit; also voice or blow (or other) controls can be used. Anyway, these systems should be evaluated within a global environmental control system.

Which bed to choose

Nowadays, various types of beds are on the market: they range from very simple models, similar to hospital beds (Figure 5), to models made up of valuable materials and based on higher technology (Figure 6).



Figure 5



Figure 6

There are great differences in costs: some beds are provided by the National Health Service (prescription code 18.12.10.003, “Sectioned electric bed”) so that they are partially or totally free of charge; some others cost up to 5/6 millions Lira.

If you don’t want to buy a new bed, you should get an adjustable bed mattress support and place it in your single or double bed frame. You can find it at cheap cost in any furnishing shop (Figures 7-8).



Figure 7



Figure 8

Manually adjustable beds

They have the same features of electric beds. They can be adjusted by means of a crank (Figure 9) or of an hydraulic foot-pedal (Figure 10).



Figure 9



Figure 10

This kind of beds usually costs less than electrically adjustable ones, but they don’t allow independent use, so the presence of an attendant is always required.

You should choose the best solution according to the user’s and to the carer’s needs.

Accessories

- *Bed rails*

Sometimes safety rails are needed; you can choose between integrated bed rails and standard bed rails, that fit every kind of bed (Figures 11-12-13).



Figure 11



Figure 12



Figure 13

- *Rails for self-lifting*

These devices can be free-standing or bed-mounted (Figures 14-15-16); they may be useful for self-lifting and bed transfers.



Figure 14



Figure 15



Figure 16

- *Grip ladders*

Also these devices aid self-lifting and sitting up in the bed (Figure 17).



Figure 17

- *Bed-tables*

In case you want to have some objects to hand (a phone, a book, a glass, etc) while you are in the bed without frequently asking for the carer's help, a bed-table is a good solution for you (Figures 18-19-20).



Figure 18



Figure 19



Figure 20

Special beds

- *Stand-up beds*

They are very particular beds, and their use should be attentively evaluated. They can be tilted to the vertical position, so that the lying user can reach the standing position (Figure 21).



Figure 21

- *Lateral tilting*

This kind of bed allows lateral shifting of the lying patient (Figure 22).



Figure 22

- *Side exit*

This kind of bed allows the attendant to move the lying patient in every way. Besides, the mattress support can carry the patient out of the bed frame on the bed side, making the transfers easier (Figure 23).



Figure 23

To conclude, a wide variety of beds is available on the market, but the most important point to consider is what the user and the attendants really need.