

# Equipment for Adaptations

## for children & adults with muscular dystrophy & allied neuromuscular conditions

### *A guide to the equipment to be considered when planning adaptations*

To be used in conjunction with:

- Chapter 4      *Assessment of Need;*
- Chapter 10    *Disability Needs Assessment Form/Architect Brief;*
- Chapter 11    *Justification for Funding;*
- Chapter 12    *Funding/Understanding the Grant Systems/VAT;*
- Chapter 15    *Adaptation Specifications;*
- Chapter 18    *Addresses: Manufacturers/Suppliers/Sources of Advice.*

## Introduction

When planning adaptations for people with a neuromuscular condition, a number of items of specialist equipment should be considered. All the equipment in this manual has been included because it influences decisions relating to the adaptations, it needs to be plumbed in or installed, or it involves the provision of adequate space. In every case, the alternatives must be assessed before the final brief is given to the architectural designer.

The discussion is included under the following headings:

- ⇒ Providing access into the house & to the first floor 2
  - ⇒ Equipment in the bathroom 5
  - ⇒ Equipment in the bedroom 22
- ⇒ Justification of funding of equipment 24
  - ⇒ Equipment in the kitchen 25
    - ⇒ Ordering equipment 25
    - ⇒ Environmental controls 26
- ⇒ Providers & funding of equipment, adaptations & services 28

## Providing access into the house and to the first floor

A number of items of equipment may have to be considered, as follows:

- ⇒ short-rise lift;
- ⇒ Steplift;
- ⇒ portable ramps;
- ⇒ automatic door opener;
- ⇒ lift.

### Short-rise lift

This type of lift may be needed where there is a very steep approach to a house (particularly from the pavement) and there is insufficient space for a ramp. A number of firms produce short-rise lifts that overcome heights of up to **1000mm** and their specifications in relation to the cost should be compared. One suggestion is given below.

*The Ultimate Lifting Platform LP1000: Wessex Medical Equipment Ltd*

### Steplift

There are situations where it is impossible to build a ramp of the correct gradient, either because there is insufficient space or because the garden is too steep. In these instances, access to the house can be provided by installing a Steplift and the model discussed has been well tried and tested over a number of years. This consists of a platform (with safety rails and a folding front ramp) which rises hydraulically, with the standard model overcoming any height up to a maximum of **1000mm**. Bridging options for up to 3 treads are available, if necessary.

The platform, which is **1400 x 800mm**, is large enough for most wheelchairs and has a lifting capacity of **250kg**. However, the size of the platform can be increased by special order. A number of safety features are included and the unit is suitable for outdoor use, with in-built protection for the electrical unit and against corrosion.

*Terry Group Ltd*

### Portable ramps

In the context of an adaptations manual, the purpose of including portable ramps is to overcome difficult access into a house, usually as a temporary measure until adaptations have been completed or suitable housing has been found. However, there are also houses fronting straight on to the pavement where there is insufficient space for a ramp, short-rise lift or Steplift.

Portable ramps have improved considerably in recent years as they are manufactured in lightweight aluminium or fibreglass, which makes them easy to handle and fold either into one-half or one-third of their length. The choice is between channel ramps of between **150** and **250mm** width and full-width ramps. Channel ramps are usually easier to carry and store; however, if the disabled person needs to be pushed up the ramps and the carer is small, it can cause great strain on the carer's lower back because of the height involved. A wide ramp, where the carer walks up the ramp, makes this manoeuvre easier; however, this has to be offset against the fact that the ramps are more cumbersome and difficult to handle.

Various sizes are available and the length needed will depend upon the height of the steps to be bridged; as a rough guide this is likely to be a gradient of between **1 in 4** and **1 in 8**. However, the maximum and recommended heights and weights that are suitable for each ramp must be discussed with the manufacturer or supplier. There are many suppliers of ramps and the following are two suggestions:

*Portaramp/Division of Trident Industrial Ltd  
Thorworld Industries Ltd*

### Automatic door opener

The inability to open either the front or back door is very limiting to anyone wanting independence and can result in a disabled person becoming housebound. There is little value in being supplied with an indoor/outdoor powered wheelchair to increase independence if you then have to ask for help to open the door to get out of the house. In the past, supply of an automatic door opener has been limited to a disabled person living alone; however, now that disability needs are better recognised, these should be considered to increase the independence of *all* disabled people, including children, and particularly those who are old enough to be left in the house on their own.

Although automatic doors are widely used in commercial situations, the choice of domestic models is limited. However, there are a number of features and options that need to be discussed and considered either before or at the time of the assessment/choice of model, as follows:

<b>Comparative chart of features of automatic door openers</b>			
	Abloy from <i>RSL Steeper Ltd</i>	Spectra from <i>Southern Care Systems Ltd</i>	R.F. Door opener from <i>Ridley Electronics Ltd</i>
Door can be opened and closed manually when the opener is not activated electrically.	✓	✓	✓
'Finger protection' is installed along the hinged side of the door (as recommended by British Standard guidelines where doors are opened automatically and manually).	✓ as standard	✓ as optional extra	✓ as optional extra
Model suitable for standard opening and/or sliding doors.	standard only	standard only	standard & sliding
Model suitable for wood, aluminium & uPVC doors. (The latter usually supplied with multi-point locking, which may have to be opened manually in the morning and door closed with single lock.)	✓ including multi-point locking	✓ depending on locking system	✓ depending on locking system
Wide range of handset options.	✓	✓	✓
Operated by choice of push-button, infrared or radio controls.	✓	✓	✓
Speed of opening is automatically set, but time delay before closure can be altered to suit individual needs.	✓	✓	✓
Ability to detect a temporary obstacle & stop.	✓	✓	✓
Ability to distinguish between a temporary obstacle & the resistance of weather-proofing seal on the door frame.	✓	✓	✓

<b>Comparative chart of features of automatic door openers (cont.)</b>			
	Abloy from <i>RSL Steeper Ltd</i>	Spectra from <i>Southern Care Systems Ltd</i>	R.F. Door opener from <i>Ridley Electronics Ltd</i>
Weather-proofing seal compresses for the first half-second of the opening cycle to take pressure off the electric latch release, to enhance reliable operation.	✗	✓ as standard	✓ as optional extra
Advice available to choose optimum position for 13amp fused-spur, power source.	✓	✓	✓
Battery back-up for use in a power cut & as safety feature in the event of fire.	✓	✓ as standard	✓ as optional extra
Can be linked to door intercom & environmental control.	✓	✓	✓

If this equipment is not essential at the time that the adaptations are carried out, and if funding is tight, the fused spur should be installed to avoid affecting the decorations in the future, with the installation delayed until necessary, and then funded either through a subsequent housing grant or with help from a voluntary charity.

## Lift

A number of factors need to be considered when a lift is being chosen, and these have been included in Chapter 6 *Lift vs Extension*.

A telephone in the lift in case of lift breakdown may give a greater feeling of security for people using a lift when alone in the house. Phones may be an integral part of the lift, although mobile and cordless phones may make this safety feature more straightforward.

The model chosen must be large enough for any wheelchair likely to be needed in the future and able to take the weight of the chair and occupant. For this reason, the 'special' car size or the largest wheelchair lift are recommended, but there may be situations where the most appropriate position for the lift is too small and alternative options may need to be considered.

## Vertical wheelchair lifts

A number of firms manufacture or supply lifts, and individual Local Authorities (LAs) tend to prefer to use one firm only, as this makes servicing and repairs more straightforward, although maintenance of the lift is usually the responsibility of the grant applicant. Two firms have frequently supplied lifts to people with neuromuscular conditions and, when exploring the options, these firms may be a good place to start. However, this does not mean that other lifts are not satisfactory, provided they are the recommended size (see Chapter 6 *Lift vs Extension*).

Harmony wheelchair lifts: *Terry Group Ltd*  
VM31/VM51 or VM36/VM56 vertical lifts: *Wessex Medical Equipment Co Ltd*

## Equipment in the bathroom

Decisions to be made in relation to the choice of bathroom equipment are as follows:

- ⇒ bath vs shower;
- ⇒ level-access shower;
- ⇒ bath with an over-bath shower;
- ⇒ the need for a changing table;
- ⇒ body dryers;
- ⇒ the most suitable toilet;
- ⇒ essential washbasin features;
- ⇒ flooring.

### Bath vs shower

The first decision to be made is whether a bath with an over-bath shower, or a level-access shower, is the more appropriate. Personal choice will be very important; however, from a disability point of view, as a very rough guide, if you are independent in a shower but not in a bath, a shower is likely to be the better solution. With this exception, most people with a muscle problem feel that a bath is more satisfactory as it provides the opportunity to relax tired and aching muscles, and the depth of the water provides buoyancy to limbs which might otherwise have difficulty in moving.

A helper usually finds it is less of a strain on their back to assist with washing, by kneeling at the side of a bath and taking their weight on the bath rim, rather than leaning over a shower screen or trying to keep dry behind a shower curtain. It is also very difficult to wash a dependent person's feet and the lower part of their body in a shower, without getting into the shower with them.

A separate chapter is included in the manual itemising the issues that need to be considered. This should be read and discussed, and the relevant equipment demonstrated and assessed, before a decision is made.

### Level-access shower

The issues to be considered are:

- ⇒ standing or sitting use;
- ⇒ wall-mounted rails;
- ⇒ wall-mounted seat or a mobile shower chair;
- ⇒ most appropriate type of shower base.

### Standing or sitting use

Many people opt for a shower because they can walk; and having a shower while standing is easier than getting into a bath. For anyone likely to be able to continue standing, this may be the best solution; however, for many people with a neuromuscular condition, standing may not be very safe, and using a wall-mounted seat or shower chair should be considered. However, if the shower is to be used standing, the use of rails and their positioning will be important.

## Wall-mounted rails

Rails can be wall mounted or floor mounted; the former are recommended as they do not obstruct the circulation areas. Most people with a neuromuscular condition have insufficient arm strength either to pull with their arms or to push down, to help themselves to stand up; consequently, rails will have very limited value and are more often considered to be in the way. However, in a shower area they may be useful if positioned for an elbow to rest on when hair washing and to provide support, particularly around a room for someone unsteady on their feet. Because rails might be considered unsightly in a living area, furniture or even the wall will be used for support; however, in the bathroom, rails will be more appropriate, particularly if the user has bare feet and safety would otherwise be jeopardised.

The appearance of rails in this situation has improved enormously in recent years and two possible ranges have been included in this manual. If rails are needed, their height and position will be critical to each individual and should be assessed carefully.

Neaco Support System: *Go Independent*

Multi System with hand rail or support arms and wall-mounted rails: *Pressalit Care Ltd*

## Wall-mounted seat or a mobile shower chair

This information covers:

- ⇒ the factors to be considered;
- ⇒ electric, height-adjustable, wall-mounted shower seat;
- ⇒ mobile toilet/shower chair/cradle.

### The factors to be considered

The decision will be influenced by the ability to walk, the ability to stand up from a chair and whether the person has sufficient arm strength to propel a shower chair. The difficulty of a wall-mounted seat is that, if it is installed at the correct height for standing up, it will be too high to get down to wash the feet; however, if a shower chair is used, how does the user stand up from the chair? These difficulties are shared by many adults, resulting in the need for height adjustability.

### Electric, height-adjustable, wall-mounted shower seat

The answer is an electrical height-adjustable seat which rises sufficiently for the user to stand up and yet can be lowered near enough to the floor to allow the bather to sit with their feet firmly supported on the floor and their forearms supported on their thighs, and also enables the bather to be able to get down to wash their feet. The seat should have a supportive backrest and arms that project beyond the front of the seat to provide support when standing. See Chapter 8b '*Seat to Standing*', page 6.

SC.EL: *Astor-Bannerman (Medical) Ltd*

Multi System shower seat and support arms: *Pressalit Care Ltd*

### Mobile toilet/shower chairs/cradle

The choice is between:

- ⇒ Aquability/Freeway, toilet/shower chairs;
- ⇒ Sutton Shower Cradle.

- **Aquability/Freeway, toilet/shower chairs**

These are the two models that are particularly recommended as they are modular chairs that are available in alternative frame sizes, and have a detachable front arm and choice of backrest, footrest and seat. They can be supplied with straight and splayed side arms, to either increase the seat width or provide trunk support. When the assessment is carried out, the chair should be built up around the person to ensure that the correct support is achieved. If necessary, the frame and armrests can be manufactured to a specific height and made-to-measure models are available.

Aquability: *ASM (Accessories) Ltd*  
Freeway: *Westholme Ltd*

- **Sutton Shower Cradle**

This is recommended for anyone who needs more trunk support than is provided with either the Aquability or Freeway chairs and is supplied in three standard sizes with the option of a seat aperture. It may be necessary to alter the specifications of this chair to suit the individual user and made-to-measure models are available.

*ASM (Accessories) Ltd*

### Most appropriate type of shower base

The choice depends on:

- if the shower is to be used independently;
- if the shower area is adjacent to the toilet and needs to be used for positioning a wheelchair for sideways transfers on to the pan;
- the need for help from a carer.

The choice is between:

- ⇒ Neatdek;
- ⇒ shower trays;
- ⇒ sloping tiled floor.

### Neatdek

In the first two situations the priority is not only to have a wheelchair-accessible shower but also for the floor of the shower to be absolutely level. The conventional tiled floor that slopes to a drain outlet is not recommended, because any gradient is difficult for anyone with a neuromuscular condition either to walk up or to propel a shower chair up – and it will be essential for the floor to be level so that the wheels of the wheelchair are stable to ensure safety while transferring. The answer is to install a Neatdek, which is an attractive and truly level-access shower grille. One of its advantages is that the water drains across the whole shower area and the grille can be supplied in a variety of sizes, depending on whether the floor is concrete or wood. The largest size is a replacement for a bath, which is a good recommendation if a bath is needed in the future. The grille is usually nylon coated in a choice of white, beige or red. The Neatdek is supplied with a lever to lift up the grille for cleaning and the Cambridge model which is now available for concrete floors is manufactured in four parts to make this easier.

*Go Independent*

## Shower trays

It is recommended that the largest shower tray that is possible in the space available is used and if a bath is likely to be needed in the future, a bath-replacement tray should be installed. If the proposed shower is for an existing room, site surveys can be arranged.

A number of trays are available from different firms and several ranges of level-access trays that are widely used, and are very satisfactory, are recommended.

Level-entry trays (a range of 39 different sizes below and above floor level): *Autumn Mobility Ltd*  
Impey Level-Dec: *Creative Healthcare Ltd*  
Dove, ESL and Chiltern Invadex ranges: *Go Independent*

## Sloping floor

If the shower is to be used with help, a sloping floor will be satisfactory, provided that it is laid properly and water drains away satisfactorily. Unfortunately, experience shows that this work needs to be supervised to ensure that the gradient is introduced competently without being extreme (thereby creating difficulty in pushing the shower chair) and to ensure that the water is contained within the shower area.

## Bath with an over-bath shower

The main factor in choosing a bath instead of a shower is to enable bathers to relax their muscles in the warm water while keeping warm and enjoying the buoyancy. When an assessment is carried out, it is important to clarify the issues in relation to bathing that are important for people with neuromuscular conditions and also to be familiar with the alternative equipment to provide the solutions.

In addition, there are three interdependent issues to be considered in relation to the use of a bath and movement between the bedroom and bathroom. These are:

- safety for the bather in the water;
- eliminating manual lifting in and out of the bath;
- ease of transfer between the bedroom and bathroom, for both the disabled person and the carers.

These priority issues need to be considered in relation to the other factors that influence the choice between a bath and a shower, and these are listed below in the order in which they should be discussed. It is then necessary to consider:

- the length of time for which this solution is likely to be satisfactory;
- the effect of the choice of equipment on the rest of the family.

Therefore, when carrying out the assessment, the following issues need to be resolved:

- ⇒ the support in the bath, needed now or in the future to ensure safety;
- ⇒ the ability to move limbs and enjoy the buoyancy of the water;
- ⇒ ease of washing or being washed;
- ⇒ how to get in/out of the bath (preferably independently), and how the alternative equipment to provide support influences the process;
- ⇒ the method of transfer between the bedroom and bathroom;
- ⇒ whether the method chosen is likely to be a short-term or long-term solution;
- ⇒ whether the facilities are exclusively for the use of the disabled person or to be shared.

## The support in the bath, needed now or in the future to ensure safety

This is the crucial decision to be made, as safety is obviously the first priority. The inability to support yourself, with the result that you feel that you are going to float forwards, is very distressing. Bathtime is a useful playtime for a child; if a method is to be found for a child to be left to play safely without constant supervision, the parents must have complete confidence in the equipment. Unless the bather gains support from the side of the bath, a supportive seat will be necessary, with arms to lean on to provide trunk control.

The choice of equipment to provide the correct support is limited and there are seven alternatives, as follows:

- ⇒ vacuum support cushions;
- ⇒ *Kingkraft* Easibath Hi-Lift;
- ⇒ *Kingkraft* Contour;
- ⇒ Oxford Mermaid Ranger;
- ⇒ *ASM* Multi-System;
- ⇒ *Arjo* Sovereign;
- ⇒ *Arjo* Solo bath (or similar model).

### Vacuum support cushions

These systems consist of waterproof-covered shaped cushions filled with beads which, when the air is extracted, become rigid enough to provide support. A number of shapes are available and they can be used in conjunction with a ceiling hoist. Although useful for small, floppy children in an Easibath (see below), this option is not usually recommended for people with neuromuscular conditions in a standard bath as there are problems in providing enough support and yet allowing access to wash and sufficient freedom of movement to enjoy the buoyancy of limbs in the water. In addition, many bathers want the hoist sling removing in the bath, with the subsequent difficulties for the carer to reposition the sling while leaning over the bath with a rotated spine. This is a difficult manoeuvre as it is impossible to maintain the advice to bend the knees and keep the back straight, when reaching into the bottom of the bath.

Support cushions: *Kingkraft Ltd*

### *Kingkraft* Easibath Hi-Lift

This model is particularly suitable for small, floppy children because it combines a supportive bath with a shower platform and a changing table – and there is the opportunity to have a spa facility. Although the bath depth is standard, the length (up to **1970mm**) or width (up to **970mm**) can be made to fit the space available.

The unique fold-down side of the bath is level with the seat height of a standard wheelchair, which will help with transferring a child, if initially, a ceiling hoist is not used. The manual or powered height adjustability allows individual carers to work at the optimum level for their back. The shape and design of the cushioned, internal supports can be made to measure and redesigned when necessary.

The option of twin wastes is recommended to allow the water to drain quickly so that the child can be dried and dressed without feeling cold.

Advice with plumbing and electrical specifications is offered.

*Kingkraft Ltd*

### **Kingkraft Contour**

This model provides the same facilities as the Easibath, but is deeper and the internal space is larger, without increasing the overall length or width. Aesthetically it may be preferred to the Easibath.

*Kingkraft Ltd*

### **Sunrise Medical Mermaid Ranger**

This bath hoist consists of a pillar installed at either the end or (more usually) the side of the bath, to which the seat is attached, prior to winding a handle and lifting the seat into the bath. Winding this handle at the top of the pillar is strenuous and particularly difficult for small carers (and especially for those mothers of boys with Duchenne muscular dystrophy (DMD) who are manifesting carriers). Therefore, it is very pleasing that the Ranger is available with an electric motor, which can be bought as an 'add on' unit for existing models. In the future, it is recommended that it is always supplied with this motor.

The advantage of the seat is that it is comparable to a toilet seat, which usually makes it comfortable, particularly as it should always be supplied with a padded seat and backrest. If additional padding is needed, a *Sumed* bath or commode cushion can be superimposed. If the seat aperture is too large for small children, the size can be reduced with a *Mothercare* Softee Trainer seat, placed under the padded seat.

*Sumed International (UK) Ltd*  
*Mothercare Ltd*

The Mermaid Ranger footrest has always been height adjustable if the MD model was ordered, but this is now available as standard. However, if an existing unit is supplied from the Social Services stock, it must be checked that the footrest is suitable.

The Mermaid Ranger hoist is supplied with a chassis that is invaluable as a means of moving between the bedroom and bathroom and to provide support over a toilet. However, the Mermaid Ranger is not recommended if a shower toilet is to be used initially or in the future. This is because if it is superimposed over a shower toilet, the chassis has to be raised **32mm**, with the subsequent compromise of the washing and drying action which is discussed on page 17. A ceiling hoist used with the shower toilet is more satisfactory, as the user sits directly on the seat. It then becomes necessary for a supportive frame to be used, (see also page 17).

Bathers who subsequently develop knee contractures, which prevent their legs from being extended forwards, will be more comfortable with the seat raised up from the bottom of the bath. However, the disadvantage is that the depth of water covering the bather will be reduced. It will then be necessary to install a shower unit over the bath which will be useful also for hairwashing, and essential for anyone who needs to shower rather than use a bath, for religious reasons. Ideally there should be space at the end of the bath to enable a helper to reach a shower, wall-mounted at the side of the bath - with the bonus of being able to move freely behind the bather.

This equipment was first recommended about 10 years ago and although it has proved invaluable for many boys with DMD in the early stages, it is not often a long-term solution. With the passage of time, some larger boys have found it too constricting and others have found that it does not provide the support that is needed. In the latter case there is the advantage that, with the supply of a new mast arm, the Mermaid Ranger can be exchanged for the *ASM* Multi-System.

One of the advantages of this equipment is that it can be used with a standard bath and a Jacuzzi bath mat (see next page). For anyone who lacks trunk stability, the need for a supportive seat is important, as the spa bubbles may affect the bather's ability to balance.

*ASM (Accessories) Ltd*  
*Daily Care Ltd*

- **Ozomatic Hydrotherapy Unit (Jacuzzi bath mat)**

Many people with muscular dystrophy have gained a great deal of enjoyment and pleasure from these mats (or a spa built into an *Arjo* Sovereign bath). Although they have no proven medical benefit for anyone with a neuromuscular condition, the effects of the buoyancy and stimulation caused by the pressure from the bubbles may help muscle relaxation. It is important to stress that, initially, the unit must be used on a low setting, for less than five minutes, so that the bather can assess the effect on their body before building up the pressure and the time span used. The firm is offering a substantial discount to anyone with muscular dystrophy and will demonstrate the unit in the home.

*Scan Mobility Ltd*

### **ASM Multi-System**

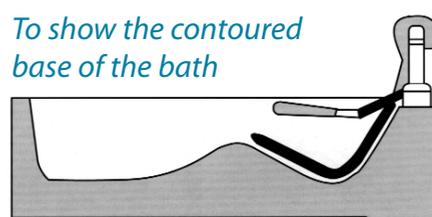
This seat offers excellent support and is very suitable for smaller children who cannot sit upright in a bath and for teenagers who have been using the Mermaid Ranger but have subsequently lost weight and it no longer provides the support needed. The ASM Multi-System can be placed in the bath using the same mast as the Mermaid Ranger (with a replacement arm) or alternatively using straps to attach it to a ceiling hoist. In either case the cradle will need to be used in conjunction with a mobile chassis either to move between the bathroom and bedroom or to support the cradle while a hoist sling is used to lift the child or young person on to the bed. The cradle is available in three sizes, but where necessary can be made to measure. The frame allows the seating angle to be changed so that, in a more upright position, with an aperture in the mesh, it can be used to provide support on the toilet.

*ASM (Accessories) Ltd*

### **Arjo Sovereign bath**

Many bathers prefer to recline, in which case the *Arjo* Sovereign baths are ideal and there are many features that make these baths particularly suitable for people with neuromuscular conditions, as follows:

- the baths have an integral seat which lowers into the bath and raises out of the bath electrically;
- the arms of the seat provide good support particularly as they extend in front of the bather;
- because the seat reclines as it lowers into the bath, the resting position takes full advantage of the depth of the water;
- the seat incorporates an excellent head support which is necessary for anyone who has had a spinal fusion, or has difficulty in controlling their head;
- the base of the bath has a raised central contour which provides support to anyone with knee contractures and prevents the bather from floating forward;
- in the past there has been the option of electrical rotation of the seat, which is recommended for people with a neuromuscular condition because it will provide an opportunity to increase independence and where necessary, make it easier for the carer to lift the legs over the bath rim. In future models, hopefully, this facility might be available again;
- when the bath is used in conjunction with a ceiling hoist and as the seat swings out of the bath above the rim, the seat is at the correct height for the carer to remove, or reposition the ceiling hoist sling.



There is the choice of three models, as follows:

- **Sovereign Standard:** The standard model in which the bath rests on the floor with a rim height of **610mm**. This model enables the carer to kneel at the side of the bath and support their trunk against the bath and their arms on the rim.
- **Sovereign Fixed Height:** The bath is raised up on small legs so that the bath rim is at a height of **840mm**, making this model a better choice for any carers who are unable to kneel at the side of the bath.
- **Sovereign Hi-Lo:** This model moves up and down electrically from rim height **615 - 960mm**, so that the bath is at the correct height to prevent the need for the carers to stoop and for bathers to transfer in and out of the bath. The additional cost will be justified in a multi-use situation where there will be the varied needs of each individual and their carers to consider.

Justification for the funding of these baths is included in Chapter 11c.

*Arjo Ltd*

### **Arjo Solo bath (or similar model)**

A number of firms manufacture baths that have integral seats that swing into and out of the bath (some with powered rotation) and can be raised and lowered electrically into the bath. The seat should pivot from the corner of the bath, so that it projects as far as possible from the side of the bath to ease the process of transfer; the bath should be a model that has the maximum range of seat-height adjustment. This may be essential for achieving the height needed to stand up; eventually, the minimum height may be of equal importance to ensure that a sliding downhill transfer can be achieved from a wheelchair that may not have a height-adjustable seat.

With the exception of the *Arjo* Sovereign, all these baths have a seat that supports the bather in an upright position; for many adults this may be the ideal sitting position to enable them to lean forward to wash.

*Arjo Ltd*

Having established which equipment will ensure safety, it then needs to be considered in relation to the other important issues listed on page 8.

### **The ability to move limbs and enjoy the buoyancy of the water**

Buoyancy is particularly important to anyone with restricted movement of the limbs and can be therapeutic to aching arms and legs to help to relax the muscles and relieve cramp; this feeling of well-being can be enhanced by a whirlpool or spa facility. Many boys with DMD find it easier to do their physiotherapy exercises and stretches after a long soak in a bath. However, the buoyancy will be restricted by the use of a hoist sling and it is therefore important for the bather to be well supported so that the sling can be removed (preferably before the bather gets into the bath) or loosened while in the bath. The spa facility can be built into the bath, as in the *Arjo* Sovereign bath, or supplied with the use of a jacuzzi bath mat with a separate motor. This alternative has been discussed on the previous page.

### **Ease of washing or being washed**

The sitting position of an adult can be crucial; some people need to sit upright to gain full function in their arms; others who are not able to be independent may find it easier to be washed when reclining. This makes the choice of bath important, and is discussed above and on the previous page, in relation to the *Arjo* baths. It is not satisfactory to leave a ceiling hoist sling in position, as this will make it difficult to gain access to wash.

## How to get in/out of the bath (preferably independently), and how the alternative equipment to provide support influences the process

The options are as follows:

- ⇒ using portable equipment;
- ⇒ using installed equipment to increase independence;
- ⇒ using equipment to help the carer.

### Using portable equipment

If the bather does not need support in the bath, is it possible to get in and out of a standard bath independently, or will simple portable bathing equipment be adequate to make this possible? Such equipment consists of bath seats that can be raised and lowered between the bottom of the bath and the bath rim. The choice is not covered in this manual, as it does not affect the provision of an adaptation; however, it may be a useful ‘stop-gap’ solution while waiting for adaptations to be carried out.

### Using installed equipment to increase independence

If help is needed to get in and out of the bath, can independence be restored or maintained with the use of a specialist bath? It is always important to try to provide equipment that the disabled person can use independently, at least initially and, if possible, that will also be suitable for use with a carer in the longer term.

Of the equipment included, the specialist baths will be ideal for increasing independence in getting in and out of the bath for both children and adults who are still able to walk. An *Arjo* Sovereign bath (see page 11) may appear to be unnecessarily sophisticated for a boy with DMD who can still walk and the suggestion may be made to delay the supply. In fact, the reverse is true, as this bath will maintain his independence in getting in and out until he is unable to walk with bare feet, but even at this stage it will make it easier for his parents to help him.

### Using equipment to help the carer

If help is needed, how will the carer lift the bather out of the bath without involving lifting manually? This must be with either a ceiling hoist or a bath seat like the Mermaid Ranger that lowers on to a chassis. If a ceiling hoist is used in conjunction with an integral seat, as in the *Arjo* baths, the sling is much easier to position as helpers can work at the correct height for their backs.

## The method of transfer between the bedroom and bathroom

The choice is between the following:

- ⇒ using a wheelchair;
- ⇒ using wheeled bathing equipment;
- ⇒ on an extended track of a ceiling hoist.

### Using a wheelchair

This is not a satisfactory option, apart from when the toilet is needed, and there is insufficient time to hoist the person on to the pan – or when using the washbasin. Two separate tracks in the bedroom and bathroom, using the wheelchair in between, is not a recommended option – raising and lowering the bather from the wheelchair is time consuming and necessitates readjusting the person’s sitting position each time.

## Using wheeled bathing equipment

There are two options:

- a shower chair, self-propelled or pushed by a carer (this has already been discussed on page 6 in relation to a level-access shower);
- a bath seat on a wheeled chassis, e.g. a Mermaid Ranger or an *ASM Multi-System* which were discussed on pages 10 and 11.

## On an extended track of a ceiling hoist

This option is discussed in Chapter 9 *Hoisting*. It is particularly satisfactory when used with a bath with an integral seat (e.g. an *Arjo Sovereign* or an *Arjo Solo* bath, or another similar model), which makes the process of putting on the sling and taking it off very straightforward for the carer. It allows the carer to work at the right height for their back and keeps the sling dry, as it is taken off before the bather enters the bath. A ceiling hoist eliminates the need for a bulky mobile hoist that may be a problem to store (particularly when a bathroom is used by the rest of the family).

## Whether the method chosen is likely to be a short-term or long-term solution

The aim should be to provide a long-term solution and in 90% of cases this will be possible; however, as many of the conditions discussed in this manual are progressive, a solution at an initial stage may not always be appropriate several years later. The progression of the disability in most neuromuscular conditions is stereotyped, but the finer details – such as the degree of knee contractures, the weight gain or loss and the shape of the spine, and therefore the ability to balance – will not be known and may influence the future success of equipment. Nevertheless, this is no excuse for not trying to achieve the ultimate solution; but rather a justification for possible failure!

## Whether the facilities are exclusively for the disabled person or to be shared

The aim should be to provide en-suite facilities, as discussed fully in Chapter 4 *Assessment of Need*. However, whether the disabled person has exclusive use of a bathroom may influence the choice of equipment. Where en-suite facilities are to be provided, unless the existing bathroom is to be used, the facilities are usually for the exclusive use of the disabled person, as partners and the rest of the family can use the house bathroom. However, in bungalows, or when a lift has been installed in a house and therefore the disabled person has access to the bathroom, it is often felt to be adequate for the disabled person to have to travel across the hall or landing to go to the bathroom. Alternatively the en-suite facilities may be provided by installing an additional door between a bedroom and bathroom and retaining the existing door from the hall or landing, so that the bathroom can still be used by the rest of the household. Neither is ideal or recommended, because of the lack of privacy, the length of time that the disabled person is likely to take in the bathroom and because the equipment provided may not be suitable for the rest of the family.

If a lift is installed, ideally there should be a wheelchair-accessible toilet on the ground floor, because it is a real hassle for a disabled person to have to use the lift each time; a ground-floor toilet has the additional advantage of being available for the rest of the family and partially overcoming the difficulties ensuing from the length of time taken in the bathroom by the disabled person. The exclusive use of en-suite facilities for a disabled person in a house where a lift has been installed is rare, as few houses are large enough for two bathrooms on the first floor; however, this may be a compromise that is necessary where the choice is for a lift, rather than a ground-floor extension. See Chapter 6 *Lift vs Extension*.

## The need for a changing table

There are a few houses in which it is structurally impossible to provide en-suite facilities because the rooms cannot be reorganised internally and because there is insufficient space in the garden to build an extension. In these unusual circumstances only, an alternative may be to provide a changing table within the bathroom, on which the disabled person can be undressed prior to bathing - and subsequently dried and dressed.

The most satisfactory type of changing table has the following features:

- ⇒ height adjustment;
- ⇒ an adjustable, elevating backrest.

### Height adjustment

This simulates an electric bed with a high/low facility to allow the surface to be placed at the optimum height for carers in order to protect their backs.

### An adjustable, elevating backrest

This will allow the disabled person to be supported in the most comfortable sitting position when this is easier for dressing.

### Recommended models

There are a number of options, including the following models:

- CT120/CT150 Child's changing table
- CT190 Adult-sized changing and showering table.  
These models are powered and have a height adjustability of **800mm**. The adult model travels from **150 - 950mm** and the child's can be mounted at the most suitable height for the carer. Both are wall mounted with the adult model gaining additional support from the floor.

*Astor-Bannerman (Medical) Ltd*

- Linido hinged showerstretcher. The stretcher is hinged on the wall and lowers on to folding floor supports. The mild steel frame can be supplied coloured at no extra cost and special modifications are available.

*Otto Bock UK Ltd*

- Shower bench. This can be powered or installed on the Multi System (see Chapter 17 *Multi-use Facilities*).

*Scanflex Ltd*

*Southern Care Systems Ltd*

*Pressalit Care Ltd*

## Body dryers

Many people who have been towel dried by a carer following bathing never feel completely dry, and would prefer the privacy of drying themselves. An additional advantage of the dryer is that it doubles up as a booster heater for the bathroom.

### Apres Shower Body Dryer/heater

The advantage of the Apres Shower Body Dryer is that its height and length ensure that the warm air reaches every part of the body. The dryer is controlled by an air-pressure switch that can be mounted in the optimum position for the user, which is likely to be at a height and position similar to that of a light switch (see Chapter 14 *Scales and Templates*).

*Apres Shower Dryers Ltd*

*Go Independent*

*Total Hygiene Ltd*

## The most suitable toilet

In making decisions in relation to the most suitable pan, the choice will be influenced by the age and size of the user, their ability to balance and their ability to clean themselves. There are three solutions:

- ⇒ infant toilet;
- ⇒ low-level cistern with a long flush pipe;
- ⇒ shower toilet.

### Infant toilet

Usually, the only situation in which infant toilets are fitted is in schools where children of a particular age will be using the pan. However, many young children would find a smaller pan at home a great help, both in balancing and in getting on and off the pan. Installation will depend upon three factors:

- whether the child is using the same bathroom as the rest of the family;
- the success of the alternative of a toilet-trainer seat (e.g. Softee Trainer) to reduce the size of the seat hole on a standard pan and a Step Stool (both from *Mothercare Ltd*);
- whether a superimposed chair or frame is a better and longer-term solution for a child who is likely to have difficulty in balancing.

### Low-level cistern with a long flush pipe

This type of pan has an inlet pipe between the cistern and the pan and is not close-coupled. The importance of the inlet pipe is that the pan can be installed sufficiently far forwards from the cistern to allow a chair to be superimposed over the pan, with the chair seat correctly lined up with the bowl underneath (see Chapter 15 *Adaptation Specifications*).

*Twyford Ltd*

### Shower toilet

There are a number of issues to be considered in relation to this specialised equipment:

- ⇒ the purpose of the shower toilet;
- ⇒ use with a superimposed toilet chair;
- ⇒ MD toilet frame;
- ⇒ use with a ceiling hoist;
- ⇒ justifying the cost;
- ⇒ choice of models;
- ⇒ comparative chart.

### The purpose of the shower toilet

Shower toilets were previously known as a combined WC and bidet. Their function is to wash and then dry the user's bottom to eliminate the need for toilet paper. They are essential equipment for anyone unable to reach to clean themselves.

### Use with a superimposed toilet chair

In the past these toilets have been used by people with neuromuscular conditions, with a superimposed Mermaid Ranger (or a special toilet chair made to be used in conjunction with this equipment); however, neither option is recommended because it is important that the user's bottom forms a seal with the seat, to ensure a satisfactory washing and drying action. Obviously, when the user is sitting on a chair over the top of the pan, the water and hot air have to travel further and their action and, therefore, effectiveness, are compromised. The better solution is to use the toilet with a ceiling hoist and for the disabled person to use a special frame for support (see below).

### MD toilet frame

This height-adjustable frame was designed for use with the Clos-o-Mat (see below) and a ceiling hoist, enabling the user's bottom to form a seal on the toilet seat to allow the most effective washing and drying action; a superimposed chair will be a poor compromise. The frame has a mesh backrest, a height-adjustable footrest and armrests; and where necessary, it can be made to measure. The frame must be floor-fixed for stability.

*Daily Care Ltd*

### Use with a ceiling hoist

To ensure flexibility in the user's seating position, the ceiling hoist track should run from front to back over the pan, rather than from side to side. This is important to ensure that the water washes the correct parts.

### Justifying the cost

Privacy on the toilet is very important and, as this need is widely understood, there is not usually a problem in justifying the cost; however, for the occasions where this is necessary, see Chapters 11d and 11e.

### Choice of models

There are two models to consider:

- **Clos-o-Mat**

A decision will have to be made whether a plinth (available in **25, 50, 75** and **100mm** heights) will be required; this will be influenced by the user's leg length (because of the need to place their feet on the floor) and the optimum height for transfers.

**N.B.** *The optional super-sensitive switch must be supplied.*

*Total Hygiene Ltd*

- **Geberit**

This unit offers a wide range of adjustable rocker and infrared switches. As with the Clos-o-Mat, it can be supplied with a cushion seat and douche washing to suit male or female users.

*ESL Healthcare Ltd*

The chart on the following page is included to help with the choice.

<b>Comparative chart of shower toilet features</b>	
<b>Geberit: ESL Healthcare</b>	<b>Clos-o-Mat: Total Hygiene</b>
<b>Floor or wall mounted?</b>	
In a domestic situation, units are normally floor mounted; but, in a residential setting, it is easier to keep the floor clean if they are wall mounted.	Usually floor mounted; if wall-mounted units are to be installed, wall construction must be checked.
<b>What height are the pans?</b>	
Optimum height will be important for tall users, for side transfer from wheelchairs and to reduce gap between a superimposed chair and the pan.	
Floor mounted: <b>430mm</b> plus choice of 16 measurements, up to additional <b>110mm</b> height Wall mounted: from minimum height of <b>345mm</b> to height required. Mounted on wall frame: <b>415 - 615mm</b>	<b>400mm</b> (top of pan) plus <b>25, 50, 75</b> or <b>100mm</b> plinths, placed under floor-mounted pan
<b>Overall dimensions: height x width x depth</b>	
<b>910mm x 460mm x 710mm</b>	<b>820mm x 500mm x 710mm</b>
<b>Can a chair be superimposed?</b>	
Height and width of pan will need to be checked carefully. Assisted and self-propelling Westholme Freeway and Chiltern Invadex chairs are manufactured for use over both units. If the seat size is too wide, this can be reduced, if necessary, using side and backpads.	
<b>Are these bidets satisfactory when used with a superimposed chair?</b>	
Use of a chair is a compromise, as the water has further to travel and (more important) the warm air escapes. When a user sits directly on the seat (see <i>Daily Care MD</i> toilet frame, on previous page) their bottom forms a seal, which contains both the water and the warm air. It is important that the disabled person's bottom is properly dried to prevent sores.	
<b>Does the shower toilet need to be modified for use with the superimposed chair?</b>	
Would be supplied with a remote control.	When commissioned, the seat switch (normally activated when the user is sitting directly on to the seat) is wired out.
<b>What height should the unit be when used with a superimposed chair?</b>	
If a superimposed chair (not a frame) is essential, both shower toilets should be raised so that the seat of the chair fits as closely as possible to the top of the bowl.	
Pan height can be set to individual requirements	<b>50mm</b> is the recommended plinth to raise pan to height of <b>450mm</b>
<b>Can the unit's settings be adjusted to suit user requirements?</b>	
Water spray intensity and the drying temperature can be adjusted to ensure optimum effectiveness and comfort. This may be particularly important when used with a superimposed chair.	Douche temperature and pressure can be adjusted by the Clos-o-Mat engineer.
<b>Is the water pressure significant?</b>	
Works on water pressure and if this is low, the problem would be identified at site survey and installation of booster pump would be advised.	Integral pump ensures that external water pressure does not affect the use of the shower toilet.

<b>Comparative chart of shower toilet features (cont.)</b>	
<b>How is the water heated?</b>	
A heat exchanger warms the water prior to use.	Stores sufficient warm water for each wash.
<b>How are the functions operated?</b>	
There is a choice of 3 remote-control switch handsets to activate the washing, drying and flushing cycles.	The operating lever should be depressed for 20-25 seconds so all the warm water is used, and to ensure maximum time of drying air. Flushing is simultaneous with douche wash, which is important for infection control, particularly for multi-use.
<b>Is an odour extractor available?</b>	
Pressure on the seat activates the odour extractor.	Optional extra.
<b>Country of manufacture</b>	
Switzerland	UK
In Europe, shower toilets are personal hygiene/luxury bathroom products not used exclusively by disabled people.	
<b>Colours</b>	
White is standard, but if a colour is required, the manufacturers can be contacted.	White is standard, but coloured pans (manufactured abroad) are an optional extra N.B. Continental colours differ from British.
<b>Who commissions the installation?</b>	
Standard commissioning service is not provided. It is important to check that the installer is fully trained and has been on the firm's course. All ESL surveyors have been trained to commission.	It is important to check that unit has been fitted correctly, conforms to water/electricity regulations, is suitable for client - and that switches or isolator switches are fitted. Total Hygiene's own service engineers commission all installations, irrespective of who has carried out the work.
<b>Guarantees/Maintenance contract</b>	
12 months, with a maintenance contract (after guarantee expires) of up to 5 years.	
Cost: £80 per annum + parts and includes service.	Cost: £100 parts and labour per annum and includes service.
It may be wise to have this included in the grant, unless Social Services Dept. agree to pay for maintenance.	
<b>Available from:</b>	
Imported by <i>ESL Healthcare Ltd.</i>	May be purchased direct from <i>Total Hygiene Ltd</i> or from one of their local distributors.
Contact the firms above to request on-site demonstration	

## Essential washbasin features

A number of features are needed to make a washbasin suitable for a person with a neuromuscular condition. The ideal basin for anyone with severe weakness in their arms, and who is not able to lean forward and then regain their position in the wheelchair, did not exist until the two models discussed in the chart below were specifically designed.

<b>Comparative chart of height-adjustable washbasin features</b>	
<b>ABW4/ABW4SP:</b> <i>Astor-Bannerman (Medical) Ltd</i>	<b>Spectra:</b> <i>Southern Care Systems Ltd</i>
<b>Width along front edge</b>	
Any width <b>750 - 1200mm</b> . Surface can be cut to any shape, if necessary; size and shape do not affect cost.	Two widths <b>700mm or 1050mm</b> ; size does not affect cost.
<b>Front-to-back measurement</b>	
<b>675mm</b> from front edge to wall is standard, but can be made any measurement.	<b>645mm</b> (standard) or <b>695mm</b> (to order). Latter recommended to allow for length of chair under basin - from front edge to housing containing mechanism.
<b>Front profile thickness</b>	
<b>13mm</b>	<b>19mm</b>
<b>Are there any other special features to the bowl and surface?</b>	
The basin is shaped to allow wheelchair access.	
Surface recessed for soap on right-hand side (optional left).	Surface recessed to allow splashes to drain back into bowl.
<b>What material is used for the basin and surrounding surface?</b>	
Corian, a solid, 'marble-like' material, which is non-scratch and easy-to-clean.	One-piece epoxy moulding with glossy, scratch-resistant finish.
<b>Colours available</b>	
12 standard colours for surface, with further range of 80 colours for which there is additional charge; bowl white.	Choice of 4 colours; bowl same colour as surround.
<b>Vertical travel</b>	
<b>450mm</b> with minimum and maximum heights depending on wall-fixing height.	<b>400mm</b>
<b>Is there a safety device to prevent the basin lowering too far and crushing the user's knees?</b>	
Yes	Yes
<b>How are the functions operated (i.e. height-adjustability, tap &amp; plug control)?</b>	
Handset with touch-sensitive switches (standard) or infrared controls for any function. Option of custom-designed handset to operate any/all functions. Controls can be fixed to basin surface with additional option of touch-free tap control.	

<b>Comparative chart of height-adjustable washbasins (cont.)</b>	
<b>ABW4/ABW4SP: Astor-Bannerman (Medical) Ltd</b>	<b>Spectra: Southern Care Systems Ltd</b>
<b>Does it matter if the control handset falls in the water?</b>	
No, handset and switches are waterproof.	
<b>Does the basin have electrical safety protection?</b>	
Yes. Because the basin is supplied at mains voltage and transformed within the appliance, an RCD (residual current device) is built-in. In the event of an electrical fault, this device isolates the mains supply, so that the power switches off immediately.	Yes. The transformer is mounted remotely and therefore the appliance is entirely mains free.
<b>Does the basin have a battery back up?</b>	
Yes, it will continue working for up to 24 hours after a power cut.	No
<b>Is there a choice of taps?</b>	
Yes. Basins are supplied with lever (150mm) taps, operated manually - or on ABW4SP, also controlled with touch-sensitive switch on handset. Further option is touch-free, infrared tap system, which if likely to be needed in the future, would be more cost effective to fit initially.	Yes. Full electronic control of water is standard using touch-sensitive switches or infrared controls. Choice of manually-operated lever taps (single or two) supplied to order, positioned as required.
<b>Is the water temperature thermostatically controlled?</b>	
Not normally needed, but can be included as an option when required	Yes, as standard.
<b>Is the basin supplied with a touch-controlled, pop-up plug?</b>	
ABW4: No. ABW4SP: Yes	Yes, as standard.
<b>Does the unit include a shaver socket?</b>	
Yes, on right-hand side, with advantage that socket rises with basin.	No, shaver socket has to be positioned on adjacent wall.
<b>Does the unit include a mirror?</b>	
Rectangular mirror (standard).	Circular mirror.
<b>Is the mirror supplied with a light?</b>	
ABW4: No. ABW4SP: Yes. Strip light is fitted over mirror, switched on and off from handset.	Yes, low voltage halogen spotlights each side and above mirror, operated by switch on handset.
<b>If light is left on inadvertently, is there a timer to switch it off automatically?</b>	
Yes, after 15 minutes.	Yes, after 10 minutes.
<b>Can the basin be fitted in front of a window?</b>	
No, electronics are fitted behind mirror, which cannot be removed.	Yes, basin can be supplied without mirror and light, with price reduced.

<b>Comparative chart of height-adjustable washbasins (cont.)</b>	
<b>ABW4/ABW4SP:</b> <i>Astor-Bannerman (Medical) Ltd</i>	<b>Spectra:</b> <i>Southern Care Systems Ltd</i>
<b>Can the basin be supplied in modular units?</b>	
If height adjustability is not needed initially, basin, integral surface, mirror and standard taps can be supplied, mounted on wall brackets and include option of flexible plumbing. At a later stage, a handset, which includes, touch-sensitive/infrared control of height adjustability, taps and pop-up plug - or entirely touch-free control of taps - can be added, when necessary.	Special handset including infrared controls may be added later.
N.B. If features are likely to be needed in the future, modular supply is not cost effective.	
<b>Is the flexible plumbing supplied with the basin?</b>	
Yes. If basin is initially installed at a fixed height, it is prudent to install flexible plumbing so that this does not need to be changed later.	Yes, concealed behind an <b>80mm</b> - deep cover under basin. This will reduce space for chair length from user's chest to tip of footrests and must be reflected in the front-to-back surface measurement.
<b>Are there any special fitting arrangements?</b>	
Supplier is able to carry out installation. However, fitting is straightforward and specialist flexible plumbing can be supplied in advance to builder, if required. Unit may need commissioning if installed by local, inexperienced contractor.	2-stage fitting process, Wall frame containing fixed plumbing is usually sent to site to enable contractor to complete all plumbing in advance of basin delivery. Basin is then fixed to wall and plumbing plugs into this frame. Manufacturer or network of agents can carry out this part of installation – or both stages, when there are no contractors on site.

### Justifying the cost

See Chapters 11f and 11g.

### Flooring

This is discussed in Chapter 15 *Adaptation Specifications*.

## Equipment in the bedroom

The following need to be included:

- ⇒ electric bed;
- ⇒ ceiling hoist;
- ⇒ work/equipment surface;
- ⇒ intercom.

## Electric bed

The need, the essential features required and the recommended models are covered in Chapter 8c *Electric Beds*.

## Ceiling hoist

The need for a ceiling hoist, the features to be considered, the most appropriate type of slings and all other aspects of hoisting are included in Chapter 9 *Hoisting*.

## Work/equipment surface

All the details of this recommended surface are included in Chapter 15 *Adaptation Specifications*. However, here it is appropriate to discuss:

- ⇒ medical importance;
- ⇒ choice of brackets.

### Medical importance

Modern management of DMD and other forms of muscular dystrophy is to aim to maintain walking and standing for as long as possible, sometimes with the use of long leg calipers and standing frames. It is unrealistic to expect children to stand in a frame without an activity in front of them; therefore, it is necessary to provide them with surfaces that are suitable for use from a wheelchair and with a standing frame, in order that they may use a computer, music centre, etc.

**N.B.** *The importance of this surface from the point of view of a child's medical management and happiness in the future cannot be stressed strongly enough. In addition, now that so many of the GCSE exams include project work, adequate working space is essential. An easily-accessible surface will enable children to slide their forearms on the surface to gain the maximum benefit from their hand function. See Chapter 11 Justification for the Need & Funding of Working Surfaces.*

### Choice of brackets

The difference in the two recommended types of adjustable brackets should be mentioned:

#### Independence Range

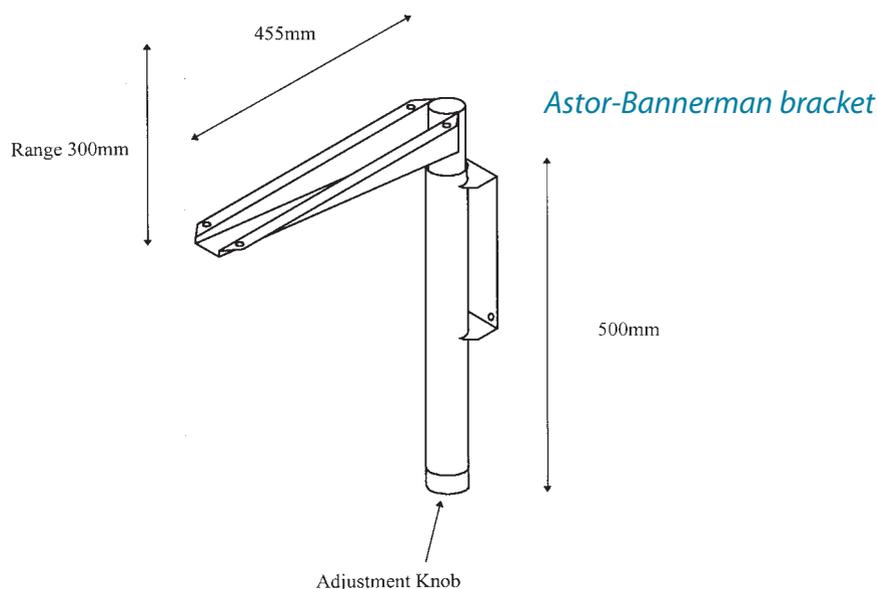
These are the less expensive and have been used over a number of years with great satisfaction. The firm will supply the wall rail, brackets and a four-drawer unit, of which the top drawer is a pull-out surface. Shallow drawers are essential to limit the weight and allow the user, at least initially, to open the drawers independently. It is advisable to buy the **40mm** (not **30mm**) worktop from the local DIY store, so that the design and colour is easier to choose and also to reduce the carriage costs. However, it may be more satisfactory for some families to have the worktops supplied cut to size and ready to install. The wall rail allows the height to be altered in 10 stages of **20mm**.

*Huntleigh Renray Ltd*

## Adjustable brackets

The advantage of these brackets is that the height of the surface can be altered by turning the screw at the bottom of the bracket without removing the surface or anything on it, and the adjustment is infinite and not predetermined.

*Astor-Bannerman (Medical) Ltd*



## Intercom

Parents usually feel more reassured if there is an intercom between the child's room and their bedroom and the sitting room, so that they know that they will hear when the child calls. Initially, it is usually adequate to use unsophisticated units that plug into a **13amp** socket, until the disabled child qualifies for an NHS environmental control, which incorporates a series of intercoms between rooms and to an external door.

*Ridley Electronics Ltd*

## Justification of funding of equipment

The expense of all the bathroom and bedroom equipment included in this manual can be fully justified, which is very important when a grant application is made. For this reason, the value and need of each of the more expensive items are discussed and included in Chapter 11 *Justification for Funding*.

## Equipment in the kitchen

### Height-Right trolley

For many years there has been a need for a powered height-adjustable trolley, and this model was designed for people with neuromuscular conditions. The table has innumerable uses for anyone with difficulty in bending and lifting, or who becomes tired when standing for any length of time. It could also (partially) eliminate the need for height-adjustable kitchen units. The main purpose is to provide a height-adjustable surface controlled from any position and this adjustability can be very important where different heights are needed for different activities. The trolley is invaluable in the kitchen, where it can be used to prepare food (a casserole for example) and then the surface can be raised to the same height as that of any of the oven shelves and the dish safely slid into the oven. Even more important, the hot dish can be removed from the oven without any risk.

This simple unit provides much more versatility than any fixed unit. The difference between its minimum and maximum height (**600** and **1000mm**) is far greater than that of any available height-adjustable but fixed unit. Because it is not fixed in one place and runs on castors, it can be used in any room.

The trolley is both functional and visually pleasing. The **600 x 480mm** wipe-clean top, in heat-proof Corian, an easy-to-clean, non-scratch, marble-like material has been designed to blend well into a home. The trolley is mounted on four castors, which make it relatively easy to move in spite of the weight of the batteries housed in the base which aid stability, together with the fact that the castors can be locked with ease using the control switch. The charging point at the side of this switch uses a small charger similar to that used for a mobile phone.

When the user is unable to stand and needs a wheelchair all the time, the height-adjustability of this trolley is still invaluable.

*Thomas Gideon Design*

### Sit-Easi height-adjustable ironing board

The board is housed in a slimline wall-mounted cupboard and the gas spring provides controlled downward and assisted upward movement. The height can be altered for use either standing or sitting and the cantilevered supports do not obstruct wheelchair access.

*Panilet Tables*

## Ordering equipment

Some specialist items are made to order to incorporate optional features. Lead times may vary during holiday or busy periods. Orders should be placed in advance, with a required date of delivery.

## Environmental controls

The following questions are frequently asked about environmental controls and their supply:

- ⇒ What are environmental controls?
- ⇒ Who pays for the system?
- ⇒ What systems are supplied?
- ⇒ Who is eligible?
- ⇒ Who can refer someone for an environmental control?
- ⇒ Which system would be best?
- ⇒ Who is the assessor?
- ⇒ How long will it take to supply the equipment?
- ⇒ Will anyone demonstrate the equipment following installation?
- ⇒ Who should be contacted if the equipment needs repair?
- ⇒ Can additional equipment be linked to the control at a later date?
- ⇒ Removal of equipment.

### What are environmental controls?

Environmental control systems are designed to provide independence to severely disabled people, by enabling them to operate domestic appliances and equipment by remote control from a display panel. Examples are:

- an alarm;
- intercoms to an external door and to as many rooms as necessary;
- an unlocking system linked to either the front or back door used with an intercom so that the user can ascertain who is at the door before allowing them into the house; and
- use of a loudspeaking telephone, which is supplied with the system and which has the capacity to store numerous numbers.

Accessories are available to enable other domestic appliances, such as lights, heaters, radios, television, beds and curtains, to be operated. Many disabled people may prefer to control some of their appliances, such as their television, with an existing standard remote control. This may apply also to an automatic door opener and an electric bed.

### Who pays for the system?

The Department of Health supplies the systems free of charge, where the disabled person conforms to the eligibility criteria. However, other than alarms and intercoms, accessories are not included in the contract and justification will need to be made to the Social Services Department. Examples would be a curtain control and (in exceptional circumstances) an automatic door opener.

### What systems are supplied?

Although the contracting arrangements are reviewed from time to time, the present contracts for systems funded by the department are with three suppliers:

- *Possum Controls Ltd* who supply the Companion, Freeway and Compact – of which the Companion is likely to be the most suitable for people with neuromuscular conditions;
- *RSL Steeper Ltd* who supply the Fox, Personna, and Lynx (with speech) – of which the Fox will be ideal.
- *SRS Technology Ltd* who supply the SRS100.

## Relevant features

These are as follows:

- units operated by infrared or radio signals, allowing use from anywhere in the house and garden and away from home;
- selection of functions is achieved with the use of a scanning light on the small portable display panel, and the scan speed and an audible tone can be adjusted.
- the selection can be voice announced for anyone with a visual impairment, or who has difficulty in seeing the display when in bed;
- if the standard switch is not suitable, a variety of alternative switches can be plugged into the control panel;
- the Companion and SRS100 can be interfaced with a computer.

## Who is eligible?

Usually disabled people with a neuromuscular condition can be considered for the equipment if they:

- are sufficiently disabled to need the equipment;
- require the independence that the system provides;
- are sufficiently motivated to use it.

The age at which a boy with DMD, or any child, should be referred will depend upon the level of disability and the need, and this should be discussed with the Family Care Officer (FCO) or occupational therapist (OT). However, unfortunately the supply is budget limited and different areas use different criteria, which if necessary can be challenged.

## Who can refer someone for an environmental control?

Usually anyone, but the arrangements will vary from one area to another. If the need has to be justified it is usually a help to discuss the supply with the FCO or OT. Referral is to the co-ordinator in the relevant area, who is responsible for the local administrative arrangements for supply and installation. The address of the co-ordinator can be obtained through the Social Services Department.

## Which system would be best?

*Possum Controls*, *RSL Steeper* and *SRS Technology* will send out information and videos, which are also available from the Muscular Dystrophy Campaign's National OT Advisor. If, as a result, one particular system appears to be the most appropriate, this should be discussed with the medical assessor.

## Who is the assessor?

The assessor will be a medical consultant in the area who has been appointed to do this work and will make home visits to:

- ascertain eligibility;
- help with the choice of system;
- ensure that other cheaper systems would not suffice.

Following this assessment, a report will be sent to the co-ordinator.

## How long will it take to supply the equipment?

There are a number of stages to be followed:

- medical assessment;
- case conference, organised by the co-ordinator and held in the user's home, when a representative of the firm will discuss with the user, the carer and any other health or Social Services staff who are involved, the specific items to be supplied and details of their installation. The equipment will be demonstrated, technical questions answered and installation arrangements discussed;
- installation of electrical sockets or joinery work, if required. This will be the responsibility of Social Services under the *Chronically Sick and Disabled Person's Act* – and it would be wise to ensure that an OT or social worker from the department is present at the case conference, to be delegated the task of making the necessary arrangements;
- installation of the environmental control.

## Will anyone demonstrate the equipment following installation?

Yes, the supplier will demonstrate the equipment and ensure that the user is confident in its use. If an OT is present, they would expect to be available to help if any problems arise in using the equipment in the future, and to provide a follow-up and review, if and when necessary.

## Who should be contacted if the equipment needs repair?

A telephone helpline is available to report problems or to ask for advice on the use of the equipment. In the event of difficulty contacting the firm, the co-ordinator should be notified.

## Can additional equipment be linked to the control at a later date?

Yes. The co-ordinator should be contacted, to make any necessary arrangements. However, if additional equipment is to be provided privately, the firm can be contacted directly.

## Removal of equipment

If the equipment is no longer required, the co-ordinator will arrange for it to be removed by the contractor.

## Providers and funding of equipment, adaptations and services

See Chapter 12 *Funding of Adaptations*.