King's Fund

Choosing Beds for Nursing and Residential Homes

A guide

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Judith Jones
John Mitchell

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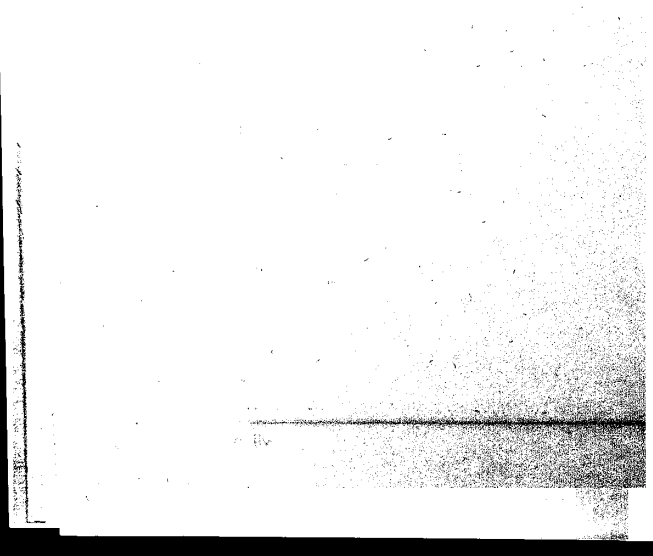
We are also grateful to the National Back Pain Association, for permission to reproduce a number of the illustrations used in this *Guide*, and to the Medical Devices Agency, for permission to reproduce their mattress-testing procedures (Appendix 2).

Disclaimer

The authors have made every effort to ensure that the information contained in this Guide was accurate at the time of going to press, and that as wide a range as possible of different types of (non-specialist) beds available in the UK was covered.

The authors can accept no liability for errors or omissions and strongly recommend that details of any beds or equipment should be checked directly with the supplier(s) or manufacturer(s).

The authors are seeking to develop methods by which the information in this Guide can be kept systematically updated and distributed, but as yet there is no certainty that this will prove possible.



Introduction

Some people have been surprised that we were writing a guide to buying beds. They did not think that there was enough to be said about them. To many people working in health care, beds are simply 'there', and only become noticeable when something goes wrong with them.

We believe, on the other hand, that beds are very important. A bed is much more than a piece of furniture. The comfort of the occupant depends on it and it can influence their recovery, independence and morale. It is part of the working environment of health care staff and of carers, and can have an influence, for good or ill, upon *their* health as well.

This guide, together with its two companion guides *Choosing Beds for Hospitals: A guide*, and *Choosing Health Care Beds for Use at Home: A guide for users and professionals*, attempts to help those who have the task of choosing beds, wherever they are, taking into account the needs both of the people *in* the beds and the people *around* the beds.

We consulted widely: many kinds of health care staff in hospitals, care homes and the community. We also talked with service managers, manufacturers, equipment experts and experts in fields such as tissue viability and ergonomics. We put great emphasis on consulting those with experience as patients and residents in health care settings and as users of beds when coping with a disability. You can read about this consultation and its implications in *Better Beds for Health Care: Report of the King's Fund Centenary Bed Project*. (See Appendix 1.)

The guide – what it is and isn't

The first part of the guide (page 4) helps you to consider some of the important issues underlying the choice of beds.

The second part (page 10) helps you to make rational choices, by giving information about beds and guidance on the process of choosing. You may find it helpful to work through this, following the suggestions for noting down information or using the checklists, which can also be downloaded from our Web site (*www.kingsfund.org.uk/*).

The aim here is to help you choose a *type* of bed. The guide does not name specific models or manufacturers, nor do we discuss 'specialist' beds in detail. No attempt is made to evaluate the quality of design or manufacture of any particular bed or item of equipment.

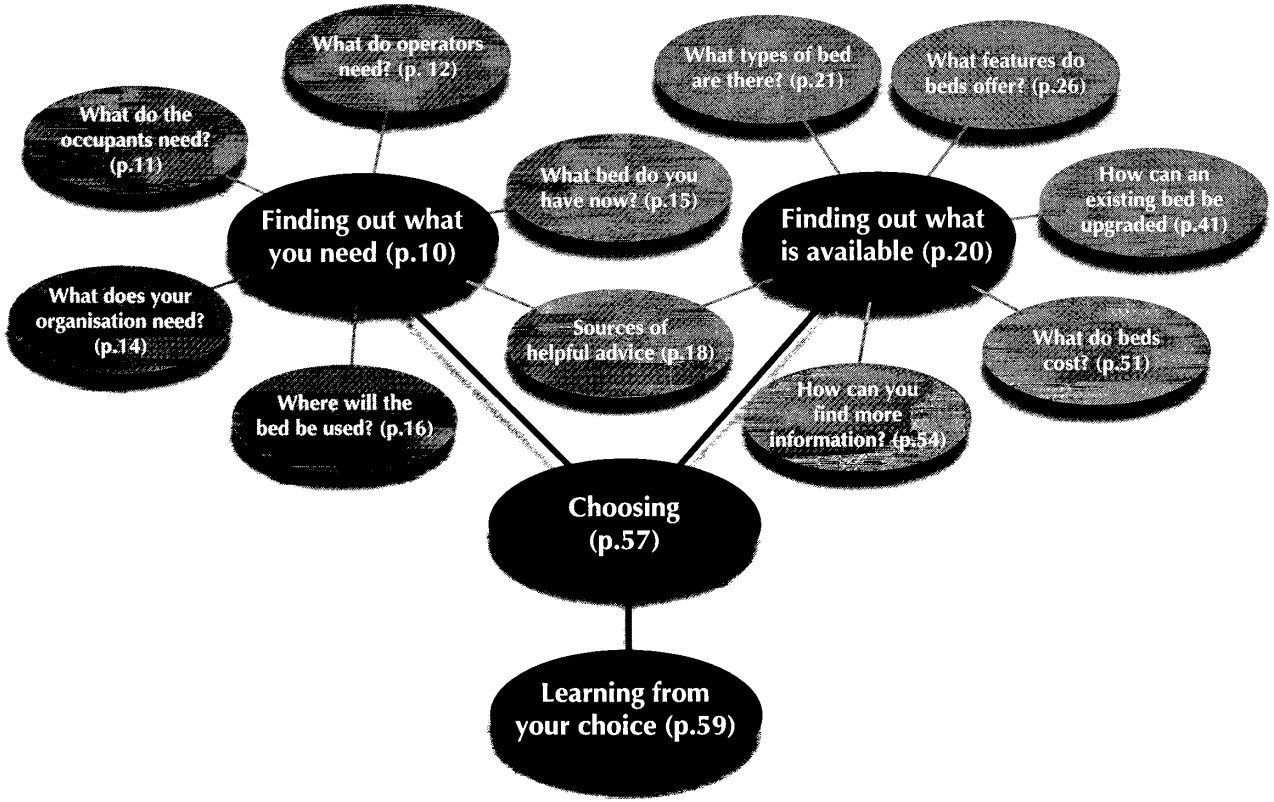
For an overview of the process of choosing, see the chart on page 3, *What's involved in choosing beds?*

Defining our terms

In this guide we use the term *occupant* to mean the person in the bed. We use *operator* to mean someone who deals with the bed as part of their work. This is anyone involved in caring for the occupant, or involved in the cleaning, moving, or maintaining of beds.

What's involved in choosing beds?

This chart represents an overview of the process of choosing beds



Chapter 1

Why is the right bed important?

In choosing a bed you are addressing a complex set of needs which encompass those of both occupants and operators. Of the many factors which have to be considered, the three most important are the influence of the bed upon:

- work-related back pain in operators
- the tissue viability of the occupants
- the independence of occupants.

Beds can cause work-related back pain

Causes and costs

'Manual handling' involves lifting, pushing, pulling, carrying, lowering and supporting loads. In the health services in 1990/91, it accounted for almost 50 per cent of workplace accidents reportable to the Health & Safety Executive (i.e. over-three-day injury).[1] Such injuries most commonly affect the back.[2]

Where an injury destroyed a person's career in health care, recent awards have amounted to as much as £150,000 to £345,000 in compensation.[3] Costs to the organisation are also likely from sickness absence, recruitment and training of replacement staff, fines for breaches of legislation, and increases in insurance premiums.[4]

As well as single incidents, cumulative back stress predisposes the spine to pain and/or injury.[5] This could result from repeated heavy lifting, or from poor postures (e.g. stooping, twisting or bending sideways). For instance, hospital nurses have been estimated to stoop for 22 per cent of their shift.[6]

Who is affected

A variety of staff are affected by back pain. A study of nurses (hospital and community) found that 52 per cent of handling accidents involved the bed itself.[7] Of all reported lifting and handling accidents, 27 per cent occurred in nursing and residential homes.[7] Domestic and maintenance staff may also have high levels of back pain, relative to the general population.[8]

Back pain may also be a risk for some occupants. Self-care and recreational activities may be undertaken in the bed such as washing, eating, reading, writing or watching television. If there is no proper backrest, then these activities will be uncomfortable for those with and without existing back trouble.

The need for space

It is not possible to handle occupants safely in a work area which restricts freedom of movement, or where the furniture/equipment presents obstacles or results in staff adopting awkward postures.[3] This is particularly so where the bed is a low or a double bed.[9]

The need for adjustability and ease of use

Employers are legally required to avoid hazardous manual handling. Where this is not possible, tasks must be assessed and risks reduced as far as is reasonably practicable, using an ergonomics approach.[1] The workstation (the bed) height must be suitable and be reached without undue bending and stretching. This is important when handling occupants, and when making or cleaning the bed.

The right bed height depends on the task, and the height and body proportions of staff. The '*Use of non-adjustable beds for patients requiring more than an absolutely minimal degree of nursing care cannot be condoned.*'[3] Fixed height beds, such as divans, are only suitable for residents who need no help. Beds for nursing must be of variable height and the easier this is to adjust, the more likely it is to be used.[3] In one study, footpumps were rarely used by nurses during manual handling, in spite of the effect on posture, but motorised height adjustment was used 86 per cent of the time when making the bed.[10]

All mechanisms on adjustable beds must be easy and safe to operate. This facilitates, or even eliminates, manual handling. Most pull-out backrests cannot be operated with one hand and result in awkward postures, often whilst trying to hold an occupant forward. Some beds have winder handles which wind in a vertical plane to adjust tilt or profiling. These make staff stoop and twist, and where not retracted fully after use, may catch against people's legs. Electrically powered beds make manual handling much easier for staff and for residents.

Beds can impact upon tissue viability

Anyone choosing beds must take into account the risk of pressure sores, particularly if these beds may at some time accommodate frail elderly people, or others, for instance those with neurological impairment, who are at risk.

Why think about pressure sores?

Pressure sores represent a huge burden: to the resident, who suffers pain and added illness; to the staff, for whom the treatment of sores means extra work; and to your organisation, which bears the cost of treatment and care.

Needless to say, pressure sores are not only a matter of cost. Homes are concerned for the welfare of their clients, and allowing them to suffer preventable pressure sores is not acceptable.

The proprietor of one nursing home in our study had calculated the additional cost to her home of nursing a resident with a pressure sore to be £270 per week.

Nursing homes have had to pay out sums as large as £12,000 in damages[11] to residents who developed pressure sores.

Risks to tissue viability

The three major mechanisms by which pressure sores develop are:

- **by disproportionate pressure on bony prominences**, from the weight of an occupant lying on an ordinary mattress. Occlusion of the blood supply cuts off the supply of oxygen and nutrients, and retains waste products
- **by shearing force**, where an occupant is sitting up in bed and slips down. The skin itself remains static, while deeper tissues below are dragged and blood vessels damaged
- **by friction**, often from the occupant being dragged rather than lifted, causing superficial skin damage, which is then liable to further damage.

The risk is further increased where skin remains moist, through poor ventilation or incontinence.

The mattress and tissue viability

'Specialist' beds, such as alternating pressure mattresses and air fluidised beds are reserved for those at highest risk of pressure sores, or those who already have them.

General purpose beds should be suitable for low to medium risk occupants, providing a surface which 'conforms to the contours of the body so increasing the area of the body in contact with the mattress, with a resulting reduction in peak pressure'.[12] 'Pressure-reducing' foam mattresses are effective and have been compared in trials.[13] However, no 'best buy' has been identified. Foam and fibre-filled overlays are not very effective in reducing pressure;[14,15] it is preferable to replace the mattress than use such an overlay.

Care and replacement of foam mattresses are as important as the choice of mattress. They must be turned regularly (usually weekly) and tested frequently for 'bottoming-out', for integrity of the cover and for contamination (see Appendix 2) and replaced immediately on failing any of these tests.

Not much information is available about how good spring mattresses are at pressure reduction. Such mattresses, if of good quality (preferably pocket sprung) and in good condition, may well be better than poor quality foam mattresses or other mattresses in poor condition. However, they are unlikely to be as good as good quality foam 'pressure-reducing' mattresses.

The bedstead and tissue viability

The amount of *pressure* exerted upon vulnerable tissues depends mainly upon the mattress, whilst *shear* and *friction* may be related to the type of bedstead. An occupant sitting in the bed with knees extended tends to slide down. Both shear and friction result from this, and also from staff lifting the occupant back up. Fully supporting the legs in slight flexion reduces these forces.[16] This can be achieved with a wedge for the knees, or better still, a profiling bed.

Beds which help minimise manual handling reduce the danger of friction and correspondingly, the risk of pressure sores.

Beds can impact upon the independence of occupants

It can be seen from the above that studies have been done which explore the financial implications of back pain and pressure sores. However, we have found no studies assessing the cost of having occupants more dependent than they need be. It seems possible that if residents with impaired mobility could do more for themselves, staff time might be saved and perhaps there might be some increase in the overall well-being of residents. So far there is no published evidence for this. What we do know, however, is that independence is a major issue affecting the quality of life of those receiving health care.

Our consultation showed how much independence mattered to occupants and to their carers and relatives.

Sometimes the bed made life difficult:

> *'One ninety-year old that I care for, she is very short and her bed was too high for her. She couldn't get in it properly ... when she sat, you know, to sit back on it and she gradually broke down the side of the mattress so the bed became tilted. She fell out once or twice'*
> (Care assistant, residential home)

Hospital patients were delighted to be able to position themselves with the help of a profiling bed:

'If you've got this facility, after 10 minutes you could alter it again, you wouldn't be bothering the nurses at every little whim. Like I say, that is brilliant'
(Woman after cardiac surgery)

A bed with variable height helped a severely disabled man to do things for himself:

'You can be in a sitting position with your feet out of bed and you can press it and it comes up high so that you can stand up, or even put your trousers on'
(Man disabled by stroke)

Health care staff both in care homes and hospitals observed that where elderly and disabled people have the means to do small things for themselves, their confidence and abilities can grow:

'Particularly with elderly patients, they lose confidence in front of your eyes ... and sometimes small interventions mean that their confidence grows and then they'll do more things and they'll succeed'
(Doctor, elderly care ward)

'With this bed, you see, he could sit up, he could bend his legs and then ... he started to use his hands more because he could reach for a book, that sort of thing'
(Care assistant, residential home)

Beds and the control of infection

While beds are not thought to be a major factor in the transmission of infection in health care, it is nevertheless essential that risk be reduced in every way possible. Choosing new beds offers an opportunity to purchase with ease of cleaning in mind, and to institute thorough and regular cleaning regimes.

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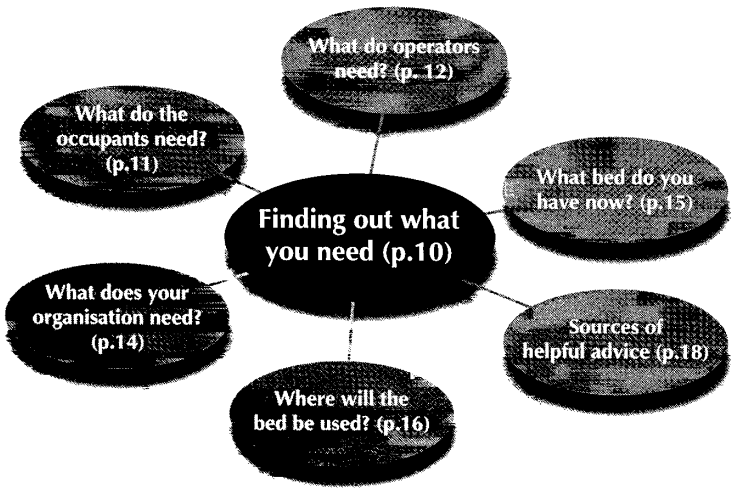
Chapter 2

Finding out what you need

A bed in a residential or nursing home is used in some way by each of the variety of people who come into contact with it, and it must be fit for all their purposes. For most residents their bed is the place where they sleep. However, when somebody becomes ill, and spends time in bed, what they and their carers need becomes more complex. For the occupant the bed must be a place of safety and comfort. It may become the place in which they live and perform everyday functions. The kind of bed they have may influence how independent they may be.

For the operators, the bed is rather like a workbench, upon which the tasks of care are performed. It must allow them to work in safety.

When considering what sort of beds to buy, you need to know what both the occupants and the operators need to do, and what aspects of the bed or the equipment associated with it might make things easier or more difficult. We suggest that before finding out what there is to choose from, you talk to the people who are going to use the beds every day and find out what they need. This first stage helps you consider your present position and to look at what you should take into account when choosing beds.



What do occupants need?

This section provides examples of tasks undertaken by occupants and a range of operators, in which the bed might play a part. The list is not comprehensive, but should provide a framework for your thinking.

Occupants in bed may need to:

- rest and sleep
- communicate: see and hear what is going on around, talk with others
- move about in the bed: sit up, lie down, turn over
- get in and out
- stay in a sitting position in order to: reach things on a table or locker, watch TV, read, write, have a conversation
- care for themselves: eating, personal hygiene.

Consider whether your present beds allow people to do these things **easily, effectively, comfortably, safely** and, where possible, **independently**?

The difficulties occupants may need to overcome

Beds in nursing and residential homes may be used by a succession of occupants with a wide range of problems. They will have a variety of difficulties in using beds. Bear in mind:

- movement difficulties, such as loss of muscle power, pain, joint stiffness, muscle spasticity
- sensory difficulties, such as hearing, sight, awareness of joint position, skin sensation
- mental difficulties, such as confusion, mental illness
- respiratory or circulatory difficulties.

In addition, consider problems which may be experienced by occupants who are very short or tall, very thin or very heavy.

What do operators need?

Nursing, therapy, medical and care staff may need to:

- communicate with the occupant
- move the occupant in bed
- move the occupant into and out of the bed
- help the occupant with eating, drinking, personal hygiene
- set up or use equipment
- examine, or give treatment
- make the bed
- move the bed.

Domestic, maintenance and other staff may need to:

- clean the bed
- clean around the bed
- move the bed
- dismantle and reassemble the bed
- repair the bed.

With your present beds, can all the staff perform their various tasks **easily, effectively, comfortably** and **safely**? Do any of these difficulties relate to the design or positioning of the beds, in particular the various bed features, adjustment mechanisms and accessories?

When choosing beds, also bear in mind the following:

- ☐ **Numbers of staff.** Could the problem of low staffing levels be alleviated by having beds which allow some residents to do more for themselves, or enable operators to perform some tasks more quickly and easily?
- ☐ **Size.** Does the bed height suit all occupants and operators, from the smallest to the tallest, for the tasks they must undertake? A variable height bed overcomes this problem
- ☐ **Pregnancy and health.** Do manual handling tasks place at risk operators who have a health problem, such as back trouble, or who are pregnant? Beds which facilitate the independence of occupants and reduce back stress should help.

What does your organisation need?

Of course the needs of your organisation play a part in the choosing of beds. You may have to take into account:

- cost constraints
- time constraints (are you limited as to when the money can be spent?)
- your existing supply of equipment which attaches to, or interfaces with beds, including pressure-reducing mattresses
- organisational policies which may affect which sort of beds can be bought, such as manual handling policies
- the requirements of the registration and inspection authority
- existing maintenance contracts
- the organisation's existing relationship with suppliers.

What beds do you have now?

In choosing a new bed, or beds, it is easier to be clear in what you are doing if you first review your current stock, and keep a record for future reference.

Make an inventory, noting the type, age and condition of your existing beds and mattresses, as well as any particularly good and bad points about them. Would you buy the same beds again? You may find the form in Appendix 3 (which you may photocopy) helpful for this.

The following questions may be useful:

- ☐ Are the bedsteads and accessories (safety rails etc.) in good working order? Are all adjustments easy and safe to operate?
- ☐ What maintenance or repair has been done?
- ☐ Does the design of present bedsteads facilitate good health care and staff safety?
- ☐ Is their appearance acceptable?
- ☐ What is the condition of the mattresses? (See Appendix 2 for how to test foam mattresses.)

Where will the beds be used?

A bed should be appropriate for the places in which it will be used. All types of user need to be consulted to find out how the bed works for them in its environment.

The questions below may help to identify problems in fitting beds into your environment.

Room space

- Is there enough room for the bed, and if so, will there still be room for other furniture, belongings and visitors?
- Ideally, the bed should not be placed against the wall. If it must, is there sufficient space for it to be pulled out? A bed which is easy to move is best. Remember, large castors make it easier to move the bed on carpet but increase its overall height.
- If the bed has any controls, for instance for height adjustment, will they be accessible when the bed is in position?
- Is there enough room to use any necessary handling aids, such as a hoist? If not, space should be created. It may be possible to choose or adapt a bed to reduce the need for manual handling.

Storage space

- Do you have storage space for accessories? If not, bed features such as backrests may be best built into the bed, rather than separate

Moving around the home

- Can the bed be moved in and out of the room: are the doors wide enough and is there room to turn? If not, the bed must be capable of being dismantled. So-called 'home care' beds do this.
- If the bed has to be moved within the home, are there any slopes, ramps, gaps in the floor or rough surfaces to be negotiated? Larger castors make these easier, but they increase the overall height of the bed. The weight of the bed is also important
- If beds have to travel in lifts, will they fit?

Electrical supply

- If you choose a bed, some part of which is electrically powered, is there a power supply conveniently located?
- Could there be any hazards, such as fire, or the danger of people tripping over cables or of overloading the electrical system?

Aesthetics

- Does the bed look right? Many people feel that a King's Fund or nursing bed looks too 'clinical' for a home. Most nursing beds can have wooden or laminate ends fitted. Some home owners disguise underbed mechanisms with valances or oversized duvets. Newer types of nursing bed have wooden frames and look more like ordinary beds.

  Some problems may be alleviated by a different bed. However, others may need a different solution (e.g. having some accessories as an integral part of the bed (if there is little storage space); using a motorised device for steering or slopes).

Who can give you helpful advice?

As well as talking to those who will use the beds, you can benefit from the advice of experts at all stages in the choosing process.

Useful advice can come from:

- **Users (occupants and operators)** who have practical experience. They are particularly helpful in identifying what is wrong with what you have at present, and what is needed. If you decide to try out a bed (see page 57) they can help at that stage
- **Literature.** This can be found through a health library and may be able to answer some of your questions. Some suggested reading is to be found in Appendix 1
- **Specialists.** Who can advise about particular aspects of bed choice. They are helpful at all stages of the process. If you do not know of a local specialist in every related field, the following organisations may be able to put you in touch with one:

  – Tissue Viability Society
  – Infection Control Nurses' Association
  – The Ergonomics Society
  – Royal College of Nursing
  – College of Occupational Therapists
  – Chartered Society of Physiotherapy
  – National Back Exchange (for manual handling specialists).

For how to contact these, see Appendix 4.

Checklist: whom to consult

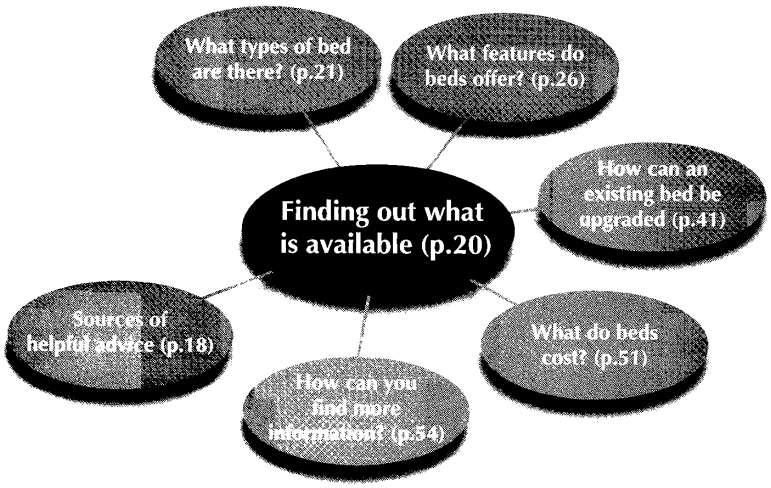
The following checklist may help with your decision-making. Ticks show suggestions about whom you may wish to consult at each stage.

Whom to consult	When? Finding-out stage	Choosing stage	Done	Comments
Users				
Occupants	✓	✓	☐	
Family and friends of occupants	✓	✓	☐	
Nurses	✓	✓	☐	
Care staff	✓	✓	☐	
Domestic staff	✓	✓	☐	
Others (specify)			☐	
Specialists				
Tissue viability specialist	✓	✓	☐	
Manual handling advisor	✓	✓	☐	
Ergonomist	✓	✓	☐	
Infection control specialist	✓	✓	☐	
Health and safety officer/risk manager	✓	✓	☐	
Fire officer	✓	✓	☐	
Maintenance manager	✓	✓	☐	
Your peers				
Others in your present workplace	✓	✓	☐	
Other home owners or managers	✓	✓	☐	
Others				
Suppliers and manufacturers' representatives	✓		☐	

Chapter 3

Finding out what is available

This section of the guide aims to help you match what you need to what there is. It contains some information about beds and points you to some further sources. It may be helpful to use the checklist on page 19 to ensure that you have consulted everyone who could help you at this stage.



What types of bed are there?

Most home owners make great efforts to make their rooms as 'homely' as possible. Many choose upholstered divan beds, and these are common also in homes where residents supply their own beds. When a resident is disabled, or becomes ill, their need for independence or for nursing care may override the need for homeliness, and a divan becomes unsuitable. Some homes keep a stock of 'hospital-style' nursing beds to use in such circumstances, others adapt the beds they have with accessories. Others have, as standard, nursing beds which have a pleasant, domestic appearance but which have the all-important height variability and sometimes profiling as well as other useful features. These are much to be preferred over domestic-style beds for all but the fittest of residents, and even the fittest resident may become ill and require nursing care.

This section describes the types of bed which are available. For some suggestions about beds which are supplied by residents themselves, see Appendices 5 and 6.

Domestic style beds

Divan bed

A divan is a low, flat platform, of fixed height and contour and supported at each corner by a leg or skid. It is customary for a divan's platform to be an upholstered box, though some manufacturers also refer to low, fixed-height wooden or metal beds as 'divans'. An upholstered headboard is usual.

A **shallow divan** has a box platform approximately 15cm (6") deep (see Fig.1).

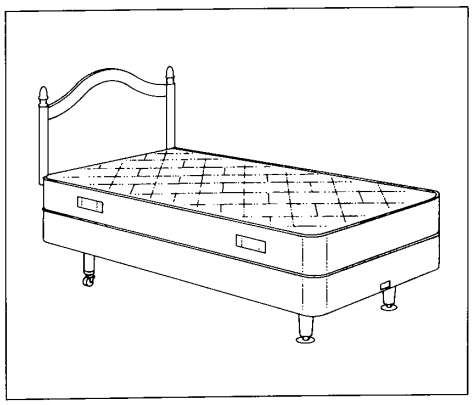


Fig. 1 A shallow divan

A **deep divan** has a box platform approximately 38cm (15") deep. Some have drawers for storage in them. It should be noted that deep divans may not have sufficient clearance for a hoist underneath and it may be difficult for staff to get their feet under when making the bed or attending to the occupant. This puts staff at risk: such beds should not be used.

Wooden bedstead

A fixed height bedstead which may have a sprung, slatted or, occasionally a solid platform.

Metal bedstead

A fixed height bedstead, with sprung, mesh or slatted platform.

Profiling or adjustable divan bed

Some domestic divans are designed to 'profile' or 'contour'. The mattress platform is made up of three, four or five sections, which may be angled (usually electrically) for comfort and convenience. Profiling is discussed in detail on page 37. Such beds are often marketed as 'health care' beds or as beds suitable for disabled people. While profiling is immensely helpful for assisting with nursing care and with independence of occupants, it is of limited value if the bed is not also height adjustable. For this reason, such beds should be viewed with extreme caution (although some can be adapted by use of a 'bed lift'). Some such beds are fitted with a 'massager' which runs on an electric motor.

Hospital beds

King's Fund bed

This most commonly used type of bed in British hospitals (see Fig. 2). Any bed made to the British Standard for Hospital Bedsteads* is entitled to the name 'King's Fund bed'. In order to meet the Standard, the bed has to have certain features, which include one-way tilt, adjustable backrest, detachable interchangeable bed ends, castors with centrally-operated brakes, a bed stripper, a bed extension and variable height within a specified range. Two-way tilt is optional. The bed must also meet dimensional, constructional, strength and stability requirements as well as requirements for its weight and surface finish.

There are now electrically powered versions of such beds, sometimes called 'electric King's Fund beds'.

* British Standards Institution. *British Standard for Hospital Bedsteads*. BS 4886: 1988.

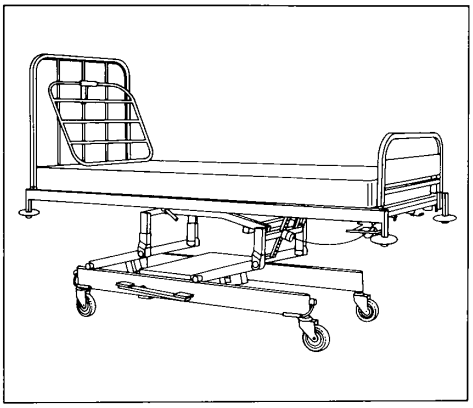


Fig. 2 A King's Fund bed with a pull-out backrest

'Specialist' beds

There are many 'specialist' beds available, which are designed mainly for use in hospitals, but occasionally used in nursing or residential homes. These include:

- **Acute care bed** – has profiling, and usually a pressure-reducing or pressure-relieving mattress, and may have other features suitable for high-dependency hospital occupants
- **Cardiac bed** – a profiling bed with the additional feature of having the foot end come down to form a chair shape. They can be useful for heavy or very immobile occupants
- **Heavy duty bed** – for occupants who exceed the usual weight capacity of hospital beds. It usually profiles into a chair shape (like the cardiac bed) to bring the occupant into a sitting position
- **Pressure reducing/relieving bed** – low air loss, alternating pressure and air fluidised beds are specialist beds for the prevention of pressure sores in those at medium or high risk, and for the treatment of existing pressure sores. They are discussed in the extensive literature on tissue viability, and not in this guide
- **Stand-up bed** – tilts to bring the occupant into a standing position
- **Turning bed** – can turn from side to side, usually to a maximum angle of between 45 and 60 degrees. It is useful for heavy, dependent occupants and for those with pressure sores.

Nursing beds

These are also known as 'home care beds' or 'care home beds'. A very wide range of beds fall into this category. Some are very close to King's Fund beds, only failing to meet the specification in some minor respects. At the other end of the range are some which are close to domestic beds.

A nursing bed may *look like* a hospital bed, a wooden bedstead or a metal bedstead. It may have any of the following features:

- fixed **height** or variable height or adjustable height*
- **variable height mechanism** (hydraulic, mechanical or electric mechanism)
- **tilt** (head down, head up, or both)
- **castors** (castors may be on one or both ends of the bed)
- **brakes** (on two or four of the castors, operated centrally or individually)
- **mattress platform** (slatted, mesh or solid)
- **backrest** (rising or pull-out; rising backrest may be manual or electric)
- **profiling** (of three, four or five sections, operated manually or electrically)
- **bed ends** (metal, wooden or laminate, usually detachable and interchangeable)
- **bed stripper**
- **bed extension**
- capable of accepting **accessories** such as drip poles, safety rails, lifting (monkey) poles.

See Figs. 3 and 4.

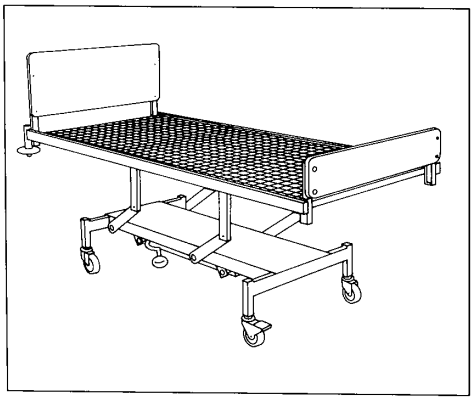


Fig 3. A nursing bed

* 'Variable height' means that height can be varied by any amount within the bed's range with the occupant in it. 'Adjustable height' means that the legs can be individually extended manually by a fixed amount and then will stay there until the next adjustment

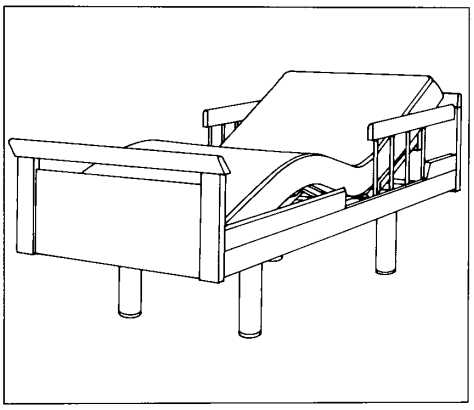


Fig. 4 A nursing bed with four-section profiling and integral safety rails

Home care beds

These are nursing beds which are capable of being easily dismantled and assembled for transporting.

What features do beds offer?

This section deals with features of beds and helps you decide which features you need, and what to look for when choosing those features. Bear in mind your list of user needs (see pages 11–13). Appendix 7 may be useful in helping you to clarify your requirements.

Before you decide on features, however, consider throughout the importance of **ease of cleaning** and of **maintenance** to your choice of bed. Beds and accessories which are difficult to clean will be cleaned less effectively than ones which are easy. Corners and ledges harbour dirt for organisms to grow. Smooth, washable surfaces are safer than upholstered ones.

Manufacturers claim that modern hydraulic and mechanical systems are now so reliable, and replacement of electric motors so easy and relatively inexpensive, that preventive maintenance is largely unnecessary. However, some specialists regard it as important. It is perhaps more important to ensure that should anything go wrong, repairs can be carried out promptly.

The features covered in this section include:

Backrest

Many nursing beds have an integral backrest to support the occupant in a sitting position. This helps them communicate with others and to do things such as reading, and eating. It is useful for occupants who are unable to lie flat because of, for instance, a hiatus hernia or breathing difficulties. All backrests tend to make the occupant slide down the bed. You can counteract this by tipping up the foot end or, better still, by using a profiling bed instead.

Types of backrest

Backrests may be pull-out or rising. A **pull-out backrest** is built into the bed end, and can be pulled out as required. A **rising backrest** is the head end of a hinged, two-section mattress platform. This type may be electrical, mechanical (winder) or gas spring assisted (with a release lever). Rising backrests form part of profiling beds (see page ??). Electrically operated backrests help occupants be more independent, for those capable of operating them, and put less musculoskeletal stress on operators than hydraulic or mechanical mechanisms.

What to look for

- ☐ The British Standard* recommends at least 0–60 degrees of adjustment for a rising backrest. However, more is better: the more upright the occupant, the easier becomes activity (e.g. reading and writing; manual handling). A pull-out backrest should adjust between 0–90 degrees.
- ☐ Quick and smooth action
- ☐ Easy to position by one person working alone, with a dependent occupant
- ☐ Adjustable with one hand – this reduces back stress for an operator working alone
- ☐ Ideally, adjustable by the occupant while in bed (to increase independence and reduce staff input)
- ☐ Comfortable for the occupant

* British Standards Institution. *British Standard for Hospital Bedsteads*. BS 4886: 1988.

Watch points – backrests

Pull-out backrests

- Most cannot easily be adjusted by one person working alone with a dependent occupant. This is potentially dangerous
- Impossible for occupants to adjust safely whilst in bed
- Pulling the backrest over the mattress may be difficult, especially if the mattress is thick (more than 130 mm) or an overlay is used
- Bars are uncomfortable, as pillows tend to slip down

Rising (gas spring-assisted) backrests

- May be hard to lower with light occupants or empty beds, or may be hard to raise with heavy occupants
- Some release levers may be too close to the head of the bed and so are obstructed by furniture (e.g. lockers).

Rising (winder handles) backrests

- May take many turns for the backrest to reach the desired position
- If not fully stowed away winders may catch against people
- Detachable winders may be lost
- Handles which wind in a vertical plane make operators stoop and twist, causing back stress

See also: mattress; profiling

See Figs. 4 (page 25), 5 and 6 (page 29).

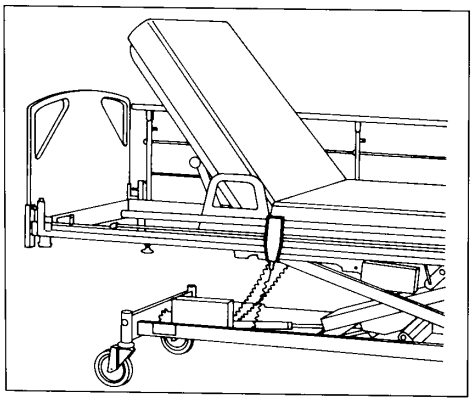


Fig 5. A rising backrest

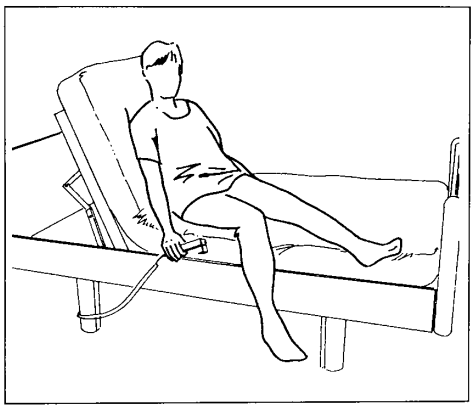


Fig 6. Getting out of bed: using a rising backrest to sit up

Bed ends

Bed ends help retain the mattress and bedding, and provide a handhold when moving the bed.

What to look for

- ☐ On nursing beds, head and foot boards should be easily removable and interchangeable, so that the bed can be reversed
- ☐ Attachment points for lifting poles (monkey poles) should allow easy fitting
- ☐ Must be deep enough to retain a mattress, and an overlay if one is likely to be used
- ☐ Construction and fitting should be secure, and robust enough to tolerate ill-treatment; most staff grasp the bed by its head and footboards in order to manoeuvre it
- ☐ No protruding edges or projections which can cause damage to walls or equipment
- ☐ No dirt traps
- ☐ Can be attractively styled in wood or fabric to fit with the decor of the room

See also: bed accessories (lifting pole); tilt

Brakes

If a bed has castors, brakes are important for safety. However, they are only as good as the floor on which the bed rests. If this is uneven or slippery, the bed may skid even with good brakes. Brakes may be on two or four individual castors, or all four castors may be braked by a central mechanism which is operated by a single control, usually a lever at the foot of the bed. Some newer beds are braked electrically.

What to look for

- ☐ Easy to reach and operate even when the bed is in its lowest position
- ☐ Operate on all four castors
- ☐ Easy to see if brakes are on or off

Watch points – brakes

Individually-braked castors

- Mean the operator must walk around the bed. Leaving some castors unbraked is dangerous
- Are awkward to reach when the wheel turns in under the bed or when some sorts of safety rail are lowered
- Beds placed with the long side near a wall make access awkward to individual brakes on that side

See also: castors; stripper

Castors

Castors make moving the bed easier, but if they have no brakes they may make it less stable for an occupant getting in and out. Some homes do not use castors for this reason. Some beds have castors only at one end, which is a compromise between safety and manoeuvrability. This is not sufficient if beds often have to be moved over any distance. Generally, the larger the castor, the easier is the bed to manoeuvre and the more easily it will run upon a carpeted floor, over gaps, thresholds and uneven surfaces. However, larger castors will increase the overall height of the bed. Some newer beds have retractable castors. These sit inside the sleeve of each bed leg and are only dropped into position when the bed must be moved.

What to look for

- ☐ Sealed units, to reduce the build up of dirt and allow easy cleaning. This also helps to keep castors running smoothly
- ☐ Easy to fit, for maintenance

See also: brakes

Dimensions of the bed

The British Standard* recommends a maximum overall length of not more than 2235mm (7'4"), or, when extended, 2415mm (7'11"). The overall width is not more than 965mm (3'2"). Some beds are longer and wider than this. This can be comfortable and convenient for large occupants. However, wide beds increase the risk of injury to staff, since they must lean further over to reach the occupant so handling aids should be used. Occupants who are not used to a single bed and are afraid to turn over for fear of falling out may find safety rails reassuring.

* British Standards Institution. *British Standard for Hospital Bedsteads*. BS 4886: 1988.

Extension (hospital and nursing beds)

A bed extension lengthens the bed for tall occupants. This is becoming increasingly necessary as the average height of the population is increasing. A mattress wedge is used to lengthen the mattress itself. Staff should be aware that beds may be extended and know how to do this. Extensions are either an attachment, or an integral part of the bed frame to be pulled out as required. They should not inhibit use of other bed mechanisms (e.g. tilt or bed stripper) and should be easy to use and fit.

What to look for

- ☐ An integral extension may be preferable; those which are removable need storage space and may be easily lost

See also: stripper; tilt

Height

The height from the floor to the top of the mattress of a fixed-height bed may be anything from approximately 50cm (20") to 91cm (36").* Beds which are of low fixed height endanger staff; high beds are difficult for occupants to get in and out.

There are two alternatives to the fixed height bed:

- the **adjustable-height bed**
- the **variable-height bed.**

See Fig. 7.

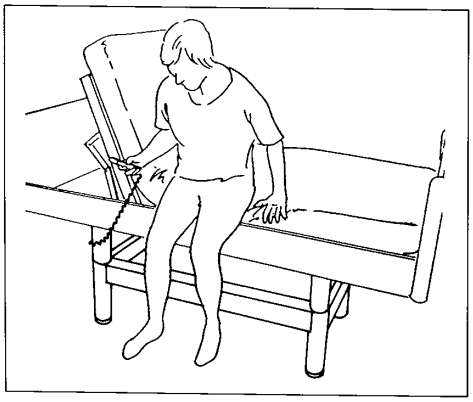


Fig. 7 Getting out of bed: using variable height to stand up

* British Standards Institution. *British Standard for Hospital Bedsteads*. BS 4886: 1988.

Height adjustment

The height of some nursing beds is altered manually in fixed stages by a telescopic mechanism in each leg. It can be useful for someone who is bedfast, where the bed needs to be kept high for some time to make nursing tasks easier and safer, and it can be lowered should the occupant become well enough to get in and out. However, adjusting the mechanism is awkward and needs at least two staff, and preferably a bed jack. A *variable-height bed* is much to be preferred.

Height variability

The height can be altered at any time for the convenience of occupant or operator, usually low for getting in and higher for getting out. It can be put at the right level for transfer to wheelchair or commode. Variable height beds can be kept lowered to reduce the risk of injury to occupants who fall out of bed.

Most 1990s beds have a 'pedestal' system, where a hinged support raises the platform. They may be mechanical (foot pump), hydraulic (foot pump) or electric (switch). Some beds have winders, but those which wind in a vertical plane cause staff to stoop and twist. Some newer designs have electric telescopic legs.

Staff have to operate foot pump mechanisms, but occupants who are capable can operate electric height mechanisms themselves. This gives them the chance of greater independence.

Operators must be able to stay in a good posture when adjusting the height, at all stages.

What to look for

- ☐ As wide a range of height adjustment as possible, preferably with a minimum height of less than the current British Standard* of between 355–405mm (14–16"). Some newer beds will go down to 300mm (12") or lower – look for them. They make a difference to occupants' independence and safety
- ☐ Easy access to controls
- ☐ Sufficient clearance for hoists and cantilever tables underneath. Telescopic legs have no underbed space taken up by mechanisms. This allows these beds to go lower than 'pedestal' beds while still leaving clearance
- ☐ Clear labelling of controls with their function, i.e. up, down

* British Standard Institution, *British Standard Specification for Hospital Bedsteads*, BS 4886: 1988: Variable height.

Watch points – height

- When an overlay or thick mattress (more than 130mm/5″) is used, most beds do not go low enough for wheelchair transfers or for small occupants to get into and out of bed unaided. This must be weighed against the advantages of a thick mattress for pressure reduction
- Some foot pedals become difficult to reach when the bed is at its lowest
- Using a foot pump can be hard work with a heavy occupant on the bed

See also: bed accessories (safety rails); mattress; profiling; underbed mechanisms

Legs

Divan beds can be supplied with metal skids instead of legs. Such beds are easier to move than those with legs and no castors, but could nevertheless constitute a manual handling hazard. It is advisable to have an extra skid or set of legs in the middle of the bed for heavy residents. Access for hoists should be carefully considered before purchasing such beds.

Mattress

A mattress should be comfortable, safe and suitable for the bed upon which it rests. There is a lot of information available to compare mattresses, such as that from the Medical Devices Agency (see *Who can give you helpful advice?* and Appendix 4 for details).

Spring mattress

The mattress on a divan bed is usually sprung. There are three types of springing:

- **Open springs.** Rows of hour-glass shaped springs joined to each other by coiled wire. The comfort and durability of the mattress depends mainly upon how many springs – the more the better
- **Continuous springs.** The mattress is woven out of a continuous length of wire
- **Pocket springs.** Each spring is in an individual fabric pocket. This allows for the greatest possible conformity of the mattress to the body, and so is likely to be best for comfort and pressure relief.

The sprung layer is covered with up to ten layers of padding, over which is a quilted cover. The better quality the padding, the more comfortable the mattress. Removable waterproof covers can be used, or mattresses supplied with a waterproof vinyl-impregnated cover.

A good sprung mattress, especially upon a sprung base, can give good conformity to the body and is therefore helpful for pressure reduction. However, someone who is at risk of pressure sores would probably be better nursed on a pressure-reducing mattress of a type appropriate to their assessed level of risk. An overlay does not compensate for an inadequate mattress.

Foam mattress

Most hospital style mattresses consist of a foam core encased in a waterproof cover. Standard mattresses are 130 and 150 mm thick. They are made of solid foam construction or of layers of foam of differing densities. Some have surfaces which are contoured or cut into cubes, to reduce interface pressures and shearing. Others have an outer 'frame' of foam of a higher density to give a firm edge to the mattress. Published trials indicate that most foam 'pressure-reducing' mattresses are more effective than the now outdated, but still widely used NHS contract mattress (marbled cover) and now sold as the 'economy' mattress. No one of these has yet been assessed as superior in all respects to the others.

The new NHS contract mattress (cream cover) introduced early in 1998, although it is not marketed as a pressure reducing mattress, has much better pressure-reducing qualities than the old one.

Care and replacement

Care and replacement of foam mattresses is crucial. Mattresses should be turned regularly (weekly if occupied during the daytime) to minimise indentation of the foam, and should be tested regularly for 'bottoming-out'* and for integrity of the cover (fluids penetrating the cover damage the foam). When they fail any of these tests, they should be replaced at once. For how to test, see Appendix 2.

* 'Bottoming-out' or 'grounding' means that the mattress is too worn or damaged to conform properly to the shape of the body on it.

What to look for – foam mattresses

- ☐ For general purpose use: suitability for occupants at 'low to medium risk' of pressure sores
- ☐ Two-way stretch fabric cover. This reduces interface pressures and is more durable and comfortable than a PVC-coated nylon cover
- ☐ Vapour permeable fabric. This allows moisture to dissipate, reducing the risk of skin maceration. Occupants will perspire less and be more comfortable
- ☐ Zipped removable cover, for cleaning, testing for water resistance and inspecting the foam core
- ☐ Space on cover to write the date of first use
- ☐ Easy identification of ends and sides, to help with regular turning
- ☐ For profiling beds or beds with rising backrests, mattresses should be hinged or flexible, so they conform to the profile of the bed

! Watch points – mattress

- 150mm mattress may interfere with the use of a pull-out backrest
- The thicker the mattress, the higher the bed will be at its lowest setting. This may make it difficult for small occupants to get in and out. This disadvantage has to be weighed against the advantages of a thick mattress for pressure reduction
- Sprung mattresses are not generally suitable for profiling beds, since they do not conform well to the profile of the bed

See also: height adjustment; profiling

Mattress platform

This is the base upon which the mattress rests. It may be mesh, slatted, perforated or solid. Some beds have solid unventilated bases. These are not good because they trap moisture.

What to look for

- ☐ No traps for moisture, spilled fluids or dirt
- ☐ No sharp corners or edges on which bedding may snag or hands may be scratched
- ☐ No finger traps, especially when cleaning, making, or maintaining the bed
- ☐ Rotating buffer at each corner, to minimise damage to walls and furniture

See also: profiling

Profiling

Profiling mattress platforms are made in three, four or five sections. They support the head and torso, thighs, and lower legs respectively. Four section bases have an extra piece for the buttocks. Five section bases have an adjustable head section. All sections may be angled to allow changes of posture, except for the buttock section. The angling of the sections allows the occupant any choice of position between lying flat, through reclining, to sitting up. Knees may be flexed or extended in any of these positions, and use of the knee break helps to prevent occupants from sliding down when sitting.

Where occupants can control the profiling facility they have more independence, for instance getting comfortable or getting out of bed and it may enable them to drink, read etc. Electric profiling substantially reduces manual handling and back stress. Even dependent occupants may be moved by one person.

It should be remembered that a bed which profiles without height adjustment is generally not suitable for nursing. Duvets and fitted sheets may be more convenient on profiling beds. Pillows are best secured.

See Fig. 4 (page 25).

Types of profiling

Models vary in the number of sections which may be operated independently of each other. For example, in some the knee break automatically rises as the backrest rises, whereas in others they work separately. Profiling beds may be adjusted electrically, often with a manual knee break.* Some may be entirely manual using winders (maybe more than one) and assisted mechanisms (gas spring). Controls for electric models are usually on a pendant handset. Occasionally controls are on a panel at the foot or side of the bed.

* 'Knee break' is the joint between the thigh and lower leg sections of a profiling mattress platform; as it rises or lowers, the occupant's knees flex or extend, respectively.

What to look for

- ☐ Four sections, preferably. (Three section beds tend to wedge the occupant's bottom between the top two sections)
- ☐ A backrest which does not move the occupant away from the head of the bed (the backrest slides towards the head end as it rises).
- ☐ Independent operation of as many sections as possible
- ☐ Head section high enough to support the occupant's head when sitting up
- ☐ Split mattress (made in sections) or one flexible enough to follow the contours of the bed
- ☐ Easy to use and clear controls. It is helpful if the switches can be distinguished in the dark, or by those with poor vision, and can be operated by those with weak hands
- ☐ Robust pendant handset, which is easy to attach securely to the bed when not in use
- ☐ Easy adjustment of manual controls in a good posture

! Watch points – profiling

- Long periods of sitting with bent knees could encourage contractures in some occupants
- Winder handles may be problematic: they take many turns for the profiling to reach the desired position; if not fully stowed away, they may catch against people; and they are easily lost
- Handles which wind in a vertical plane make operators stoop and twist, causing back stress

See also: backrests; height adjustment; mattress platform

Stripper

This is a pull-out platform on which to rest bedding when the bed is being made. It should slide in and out easily and be capable of use with bed extensions. It should be robust and when pulled out should not block access to brakes or any adjustment mechanisms.

See also: brakes; extensions

Tilt

This allows the bed to be tilted head down (Trendelenburg) or foot down (reverse Trendelenburg). Tilt may be manually operated from the foot of the bed (release levers or a winder handle) or may be powered. One-way tilt should adjust up to 12 degrees. For two-way tilt, one way should adjust up to 12 degrees and the other should reach at least 6 degrees. It should be possible to achieve reverse tilt on a one-way tilt bed by exchanging the head and foot ends and turning the bed round.*

Watch points – tilt

- Some tilt mechanisms mean that operators take part of the weight of the occupant plus the bed, when the mechanism is released. This strain is potentially dangerous
- Winder handles may be problematic: they take turns for the bed to reach the desired position; if not fully stowed away, they may catch against people; and they are easily lost
- Handles which wind in a vertical plane make operators stoop and twist, causing back stress

See also: bed ends; extension

Underbed mechanisms

These are in the space between the mattress platform and the floor. They include any stand on which the platform rests, and any mechanisms attached to it for adjusting the bed.

What to look for

- ☐ Easy access and enough clearance for items such as portable hoists, cantilever tables at all height settings
- ☐ Easy access to adjustment controls (e.g. footpumps), at all height settings
- ☐ No trailing wires, on which portable hoists or other equipment could catch
- ☐ Easy cleaning
- ☐ Easy access for maintenance

See also: height adjustment

* British Standards Institution, *British Standard Specification for Hospital Bedsteads*. BS 4886: 1988.

Weight capacity

This is the maximum safe load for the bed. It should be stated clearly by the manufacturer, preferably on the bed itself. Staff should be aware of weight capacity. Most hospital beds in the UK take 140 to 180 kg (22–28 stone). However, there are heavy duty beds which take more weight. (See *What types of bed are there?*, page 21). Divans generally take less weight. An extra pair of legs or skids in the middle of a divan can increase its capacity but may interfere with hoist access. Divans are unsuitable for very heavy occupants.

How can an existing bed be upgraded?

Some of the features of more sophisticated beds can be added separately to the simpler nursing or domestic beds. Generally the purpose of these is to increase the independence or comfort of the occupant or to make the tasks of caring or giving treatment easier for the operators. There will be a limited number of accessories which may be used at the same time, since some attach to the same part of the bed.

The accessories discussed in this section are:

- **Back support**
  - adjustable angle headboard
  - electric backrest
  - folding backrest
  - mattress inclination
  - pneumatic backrest

- **Height adjustment**
  - bed blocks

- **Height variability**
  - bed lift

- **Mobility**
  - bed rail (grab rail)
  - leg lifter (getting legs into bed)
  - lifting pole (monkey pole)

- **Profiling**
  - profiling platform

- **Other**
  - bed board
  - leg elevator
  - safety rail (cot side)
  - turning assistor

Back support

Back supports provide a simple and relatively inexpensive solution if the problem is not long term. They allow one partner in a double bed to sit up while the other is lying down. They are easy to store.

Adjustable-angle headboard

This can be fitted to a divan bed, and operates as a pull-out backrest (see page 27). Being padded, it can be comfortable and can be supplied with armrests. It cannot be adjusted by the occupant in the bed, and it may be awkward for staff to adjust whilst supporting the occupant.

Folding backrest

This is a hinged frame, which may be covered in fabric. It rests on top of the mattress and can be placed at a variety of angles to provide a backrest.

Electric backrest

Similar to a folding backrest, but powered and adjustable from in bed by a hand-held switch.

Watch points – folding backrest

- May need a lot of pillows to make it comfortable, and it may be difficult to keep pillows in place
- Tends to make occupant slide down the bed, as there is no knee break
- Lacks the stability of an integral rising backrest

Mattress inclinator

A metal frame which rests under the mattress at the head end of the bed, and hinges upward to angle the head end of the mattress. It may be powered by an electric motor, or by an electric pump which inflates a series of air sacs which push the mattress up. Models are single or double bed size. It is secured to the bed by straps underneath the bed base and the motor is either attached to the side of the bed or must be kept close by. It is better than the fold-up backrest in comfort and stability, but is relatively expensive. (See Fig. 8.)

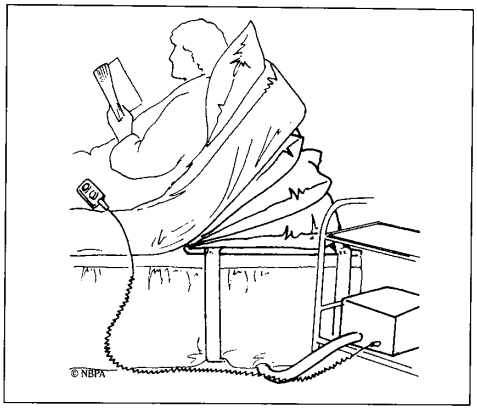


Fig. 8 A mattress inclinator

What to look for – mattress inclinator

- ☐ Angle of at least 60 degrees,* to give support when eating etc.
- ☐ Quiet in use

Watch points – mattress inclinator

- Mattress must be hinged, or flexible enough to conform with angle of inclinator
- Tends to make the occupant slide down the bed, as there is usually no knee break

* British Standards Institution. *British Standard for Hospital Bedsteads*. BS 4886: 1988.

Pneumatic backrest

This sits on top of the mattress and a pump inflates two angled air sacs to bring the occupant up to a sitting position. Its advantage is its lightness and the comfort of having no metal parts in contact with the occupant.

What to look for – pneumatic backrest

- ☐ A model which is wide enough to be stable in use
- ☐ An angle of at least 70 degrees to the horizontal to give support when eating etc.
- ☐ Room for the pump, if relevant
- ☐ If powered, quiet in use

See Fig. 9.

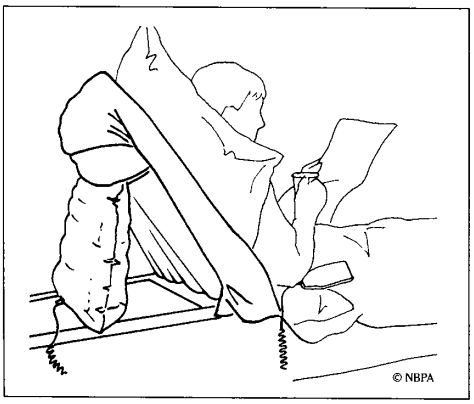


Fig. 9 A pneumatic backrest

Height adjustment

Bed blocks

These provide a semi-permanent fixed increase in height. There is a wide variety of different designs, some of which are individual and some linked together for extra stability. Some have a choice of height settings. They are an inexpensive solution, where a bed is too low for all purposes, but they do have some serious drawbacks. (See Fig. 10.)

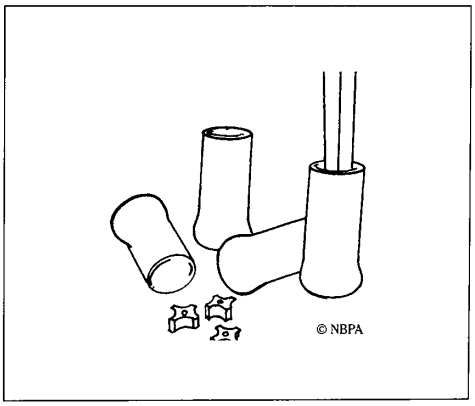


Fig. 10 Fixed-height bed blocks

Watch points – bed blocks

- Usually make the bed immobile: most designs cannot accommodate castors
- Lifting a bed onto blocks is a manual handling task which must be assessed for risk. Use of a bed jack is strongly recommended

Height variability

Bed lift

A frame on braked castors, with hydraulic or electrically powered raising action (similar to the raising mechanism of a variable height bed). It may be used under a nursing or domestic bed. The method by which the frame is secured to the bed varies from model to model. It may provide a way to make an old bed more suitable for independence or nursing care, but is unlikely to prove much cheaper than buying a variable-height bed. (See Fig.11.)

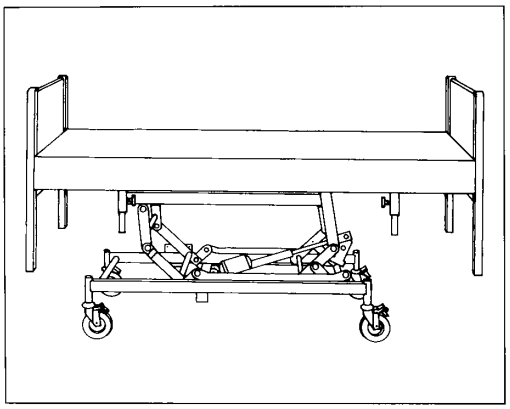


Fig 11. A bed lift

What to look for – bed lift

- ☐ Sufficient clearance beneath the frame to allow access for a hoist or cantilever table
- ☐ The lift must be compatible with the bed with which you wish to use it – some are suitable only for a particular model of bed
- ☐ Electric operation is easier than a footpump for the operator, and can also be used by the occupant

Mobility

Bed rail (grab rail)

A rail running parallel with the mattress, though not the full length of it, can be fixed beneath the mattress or positioned alongside the bed as a free-standing frame. This allows the occupant to pull themselves over on to one side, and/or to help themselves up into a sitting position on the side of the bed. Some are adjustable in height.

Watch points – bed rail

- Ensure that there is sufficient clearance under the bed for a free-standing device
- It should not interfere with the use of items such as hoists and cantilever tables

Leg lifter (getting legs into bed)

A hinged frame, working on the same principle as the inclinator is attached alongside the bed. It is a slowly rising platform which brings the occupant's legs up from a sitting position to mattress-level. Some models continue up to a vertical position, converting into a safety rail. (See Fig. 12.)

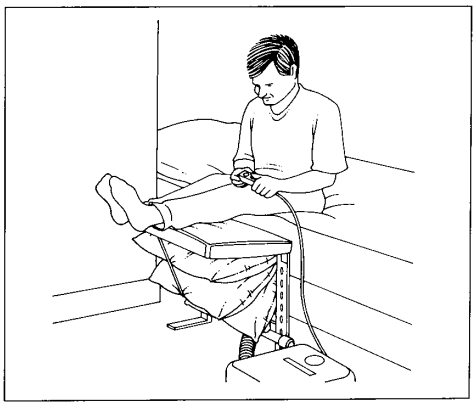


Fig. 12 Getting into bed: using a leg lifter

Lifting pole (monkey pole)

A vertical pole with gantry from which hangs a handle on a strap or chain. The occupant pulls on this to lift buttocks clear of the bed for changes of position. It may be free-standing, or attached to the bed head, wall or ceiling.

Watch points – lifting pole

- A lifting pole is only useful for those with strong upper limbs and full range of movement. It gives relatively little help to sit up from a lying position

Profiling

Profiling platform

A 4-or 5-section electrically-operated profiling platform can be fitted over certain standard bed bases, including some double beds. This allows the advantages of profiling without the full expense of a new bed. It may not be compatible with all beds.

Watch points – profiling platform

- If profiling is added to a fixed-height bed the occupant may still have trouble getting in and out, and the carer with manual handling. Variable height is usually desirable

Other accessories

Bed board

A board under the mattress can make it firmer for an occupant who has difficulty in moving on too soft a bed. A purpose-made lightweight folding board can be easily inserted. Such a board will usually reduce the conformity of the mattress, so reducing its capacity to redistribute pressure.

Leg elevator

This acts exactly like the mattress inclinator but at the foot end of the bed. It allows legs to be elevated to reduce swelling.

Safety rail (cot side)

These attach to the sides of the bed and stop the occupant from accidentally rolling or slipping off the mattress. They also provide a handhold for occupants when getting out of bed. Padding is available, usually separately. Safety rails (far side only) should be raised if a single operator is turning an occupant in bed (e.g. with a sliding sheet), or if an occupant is sitting on a bed pan. (See Fig. 4, page 25.)

They should not be used to prevent occupants from getting out of bed, since injury may occur if they try.

Types of safety rail

Safety rails may fit either side of the bed (universal), or only one (left/right fitting), or may be free standing. They may fold down flat, slide down through the attachment point, or be split into two pieces, although some must be removed for access to the occupant. Some are width and/or length adjustable. Fixed length models may come in a variety of lengths. Newer designs of nursing bed, with wooden frames, have discreet integral rails as standard.

There is risk of death from entrapment and asphyxiation of occupants where safety rails are fitted. Choose carefully and assess the occupant before fitting rails, as the size and physiological condition of some occupants may make the use of 'safety' rails actually unsafe.

What to look for – safety rail

- ☐ Height not less than 250mm
- ☐ May be lowered without the need for removal
- ☐ No obstruction to activities (e.g. bed-making), when rails are lowered
- ☐ Easy access to underbed mechanisms, when rails are lowered
- ☐ Quiet to use
- ☐ Easy to use and to see how to use
- ☐ If choosing continuous rails they should be not less than two thirds of the mattress platform length

Watch points – safety rail

- Safety rails may become too low when an overlay or thick mattress is used. Extra height rails may be available
- Rails which, when lowered, protrude above the mattress, make transfers awkward
- Lowered rails which obstruct activities may cause back stress, as it is awkward for operators to reach
- Rails which add to the bed width when they are stowed away can cause injury to occupants when getting in and out of bed

Turning assistor

On the same principle as the inclinator, this frame, hinged along its length, covers the entire mattress platform. As the set of air pockets along one side inflates, that side of the mattress is raised, transferring the patient's weight to the other side. This cannot fully turn the patient, but can relieve pressure and assist with turning.

What do beds cost?

Purchasing

To give you an indication of how much different types of beds and accessories cost to buy, we have included some approximate price ranges of different types of bed. The prices are for a single item; they normally drop as larger quantities are bought. Most manufacturers are happy to negotiate discounts. All prices are for 1998, based on items from a selection of manufacturers.

Beds

Bed type	*Height variability*	*Backrest*	*Profiling*	*No. of models*	*Price (£)* Range	Median
Domestic bed						
metal bedstead	fixed	no	no	8	50–100	60
divan	fixed	no	no	12	55–250	135
profiling divan	electric	yes	yes	17	450–2,100	800
Hospital bed						
King's Fund	variable	yes	no	14	515–880	640
'King's Fund' type	electric	yes	no	2	820–1,200	N/A
Nursing bed						
'hospital' type	fixed	yes	no	6	245–570	290
'hospital' type	manual	yes	no	8	425–830	550
'hospital' type	electric	yes	no	4	785–1,400	910
'hospital' type	manual	yes	yes	4	850–925	865
'hospital' type	electric	yes	yes	6	995–1,285	1,150
'domestic' type[1]	electric	yes	yes	7	1,000–2,300	1,600
Home care bed						
dismantle for transport	manual	yes	no	6	520–920	830
dismantle for transport	electric	yes	no	3	630–1,248	890
dismantle for transport	electric	yes	yes	8	995–2,130	1,760

Note
1 'Domestic' type ranges from a wooden frame with a metal undercarriage to a bed on wooden telescopic legs.

Accessories

Item	Type	No. of models	Price (£) Range	Price (£) Median
adjustable angle headboard	N/A	1	95	N/A
backrest	electric	1	485	N/A
backrest	folding	6	22–45	35
backrest	pneumatic	8	440–570	440
backrest	pneumatic, with knee break	2	300	N/A
bed blocks	adjustable height (increments)	14	22–25	25
bed blocks	fixed height	22	8–15	13
bed lift	N/A	5	600–2,000	770
bed rail/grab handle	detachable	6	30–75	35
bed rail/grab handle	free standing	8	30–100	75
bedboards	N/A	6	11–35	25
leg elevator	N/A	1	400	N/A
leg lifter	manual	4	10–20	10
leg lifter	powered	3	450–610[1]	500
mattress inclinator	electric	8	300–490	395
lifting (monkey) pole	detachable	3	35–85	85
lifting (monkey) pole	free standing	17	50–150	90
lifting (monkey) pole	wall/ceiling mounted	9	45–100	85
pillow securing strap	N/A	1	3	N/A
profiling platform	N/A	3	195–4,200	1,400
safety rail pads	N/A	7	35–130	60
safety rail, pair	domestic fixed length/width	8	90–610[2]	115
safety rail, pair	domestic fixed length/width, extra height	1	120	N/A
safety rail, pair	domestic length adjustable	1	80	N/A
safety rail, pair	domestic width adjustable	7	95–140	105
safety rail, pair	domestic length & width adjustable	8	75–130	75
safety rail, pair	domestic length & width adjustable, extra height	8	75–130	75
safety rail, single	domestic night	3	20–30	25
safety rail, pair	hospital drop down	1	100	N/A
safety rail, pair	hospital drop down,length adjustable	3	75–110	75
safety rail, pair	hospital fold down	5	100–210	170
safety rail, pair	hospital fold down, extra height	5	100	N/A
safety rail, pair	hospital fold down, length adjustable	5	110–120	N/A
turning assistor	N/A	2	1,400–1,600[3]	N/A

Notes
1 Most expensive model of leg lifter converts into a safety rail.
2 Most expensive model of safety rail is also a leg lifter.
3 Most expensive model of turning assistor is available for hire.

Leasing

You will need to decide whether to buy or lease your beds. Manufacturers will be able to provide details of their range of available financial terms and packages. You may be able to include a contract for maintenance, cleaning and training in the arrangement. Some will allow leasing of just one bed.

Ongoing costs

The cost of a bed does not begin and end with the purchase price. Your choice of bed may be affected by the cost of:

- maintenance and repair, including spare parts
- electricity, for powered beds
- cleaning
- wear and tear on furniture, equipment and fabric of the building.

Hidden costs

Choosing a bed which does not meet your needs also brings costs. Where there is injury, tissue damage or avoidable dependence, there are human and financial costs. The purchase price of a bed should be set against the possible costs of litigation, staff sickness, increased insurance premiums, treatment of pressure sores and increased workload (discussed in detail in *Why is the right bed important?*. See page 4). Buying a bed on the basis of its purchase price alone may not be cost-effective in the long term.

Where can you find more information?

British Surgical Trades Association

The trade association for suppliers of medical equipment in the UK, including beds and accessories. The Association can give you names and addresses of UK manufacturers and suppliers.

The Disability Information Trust

Publications provide detailed independent information on a wide range of equipment. *Furniture* has information on beds and accessories (£10 at 1998 price).

Disabled Living Centres (DLCs)

There are about forty of these in towns throughout the UK. You can call at a centre to view a wide range of equipment and get impartial advice from experts – they are staffed by health professionals such as nurses and occupational therapists. They are open to disabled people, their friends and relatives as well as to professionals and will also answer queries by telephone or letter. The Disabled Living Centres Council can put you in touch with your nearest centre.

Disabled Living Foundation (DLF)

The DLF has a helpline which can provide information about beds, mattresses and related equipment, and which can give contact details for a range of disability organisations. The line is open to all. It also produces the *Disabled Living Foundation Data-Off-Line (CD-ROM)* and the *Hamilton Index*, which contain full details of many products. The *Hamilton Index* is updated on a sixteen month rotational basis. Parts may be obtained individually, at £8 each (1998 price). Most DLCs will have a copy or, along with occupational therapists, will know where one may be accessed. The sections which relate to beds are:

- Part 1: Section 3 *Beds and Bed Accessories*
- Part 2: Section 9 *Pressure Relief*
- Part 4: Section 20 *Manual Handling, Hoists and Lifting Equipment.*

Exhibitions

All Round Ability Exhibition

Details available from *Maria Adderley & Associates Ltd.*

Care-Xpo

Details available from *Image Exposure Ltd.*

Disability Scotland

Details available from *Disability Scotland.*

EMAP Health Care Exhibitions

Organise annual exhibitions including equipment in Glasgow, Belfast and London.

Independent Living Exhibition/Independent Living North West

Exhibitions with displays from suppliers and disability organisations, held regionally several times a year. Entrance free. Details available from *Independent Living.*

Infodex

For the disabled, the elderly and carers. Details available from *Infodex.*

Naidex Care Management Exhibition

Exhibition of equipment and services for disability. Held annually at the NEC in Birmingham. Details available from *Reed Exhibitions Co. (UK) Ltd.*

National Care Homes Exhibition/Northern Care Homes Exhibition

Commercially run exhibition of equipment for care homes. Details available from *DMG Trinity Ltd.*

Royal College of Nursing Annual Congress

This has a trade exhibition alongside.

West Midlands Mobility Roadshow

Details available from *DMP Promotions (UK) Ltd.*

Medical Devices Agency (MDA)

This government agency produces evaluative reports on equipment, including foam mattresses, alternating pressure mattress overlays, static mattress overlays and moving and transfer equipment. Reports are free of charge to health care professionals, otherwise costing between £20 and £35 per report (1998 price).

The Adverse Incident Centre gathers and investigates reports of incidents concerning medical devices. If a problem is found with a device, the centre distributes a hazard

warning. You can contact them to find out about any which may have been issued in relation to beds, accessories and pressure relieving devices. It is important to report any adverse incidents which you experience with equipment to the MDA.

Other sources

These include: trade press (e.g. *Caring Times* and *This Caring Business*); manufacturers' literature; manufacturers' representatives; adverts in professional journals; health libraries; and local shops specialising in equipment for the disabled.

Contact details for the above are given in Appendix 4.

Chapter 4

Choosing

Having chosen the type of bed you need, you should shortlist suitable models for closer inspection. To help you with this, see *Where can you find more information?* (page 54) for details of sources.

If you cannot find a bed which meets your needs, a manufacturer may be willing to alter a design (especially if you are likely to place a large order). However, make sure there will be no problems with repairs or spare parts.

Which bed is best?

Having decided upon one or more model(s), ask the supplier if you are able to have the bed on a trial basis. Prior to trial by staff and/or occupants, you must ask the manufacturer or supplier to sign an indemnity form. If you fail to do this, you will not be covered if an accident occurs. Usual safety checks must still be made, even if the bed is only on short-term loan.

For a checklist of people to consult, see *Whom to consult* (page 19).

Getting a demonstration

One home manager we consulted did this: when she had shortlisted some models, she invited the manufacturers' representatives to come and give a demonstration. She invited staff, residents, and as many other colleagues as possible (such as community nurses and physiotherapists), to attend, ask questions and give feedback.

Conducting a small trial

Once in use, ask everyone who will use them, including occupants, to comment on good and bad points. Make sure you try all necessary interfacing equipment or furniture to see if they are compatible.

Are there problems in terms of ease of use, safety, manual handling, tissue viability, infection control and independence? The manufacturer may be able to help with amendments or you may need to find a different model.

Conducting a larger scale trial

If you are a chain of homes needing to obtain a larger number of beds, you will need to consult widely, and it may be best to form a working party of representatives from a number of homes.

Consider how long the trial should last and how you will collect opinions (e.g. interview, questionnaire, comment sheet attached to the bed).

Training

It will not be obvious to everyone how to make the best use of a more sophisticated bed than they may be used to. Staff will need training, particularly with regard to using the bed to facilitate occupant independence.

Find out about the quantity and quality of instructions supplied with the bed. Does the manufacturer offer videos or training packages? Can they offer training within the purchase price of the bed?

Chapter 5

Learning from your choice

Having obtained your bed(s), it is important to evaluate your choice in order to learn from it, and where possible, to pass on your experiences to others to whom it may be useful.

Complete this once the bed(s) have been in place long enough for you to be able to make a judgement on performance, but not so long that you have forgotten what life was like before you had them.

Evaluating your choice

How good has your choice proved to be? Think about the following:

What has changed since you made your selection?

Consider any change in circumstance, regarding:

- condition of the occupants for whom the bed was intended
- operator capabilities (e.g. staffing levels)
- the environment.

Were your original expectations realistic?

Consider whether:

- problems and priorities were correctly identified
- hopes and expectations were realistic
- what was important then remains so now.

How well has the bed solved the problems which were identified?

This is in relation to:

- occupant independence
- occupant comfort and tissue viability
- reduced musculoskeletal stress of operators
- time taken for certain tasks.

How is the bed now performing?

Consider the following:

- in what ways has it been successful?
- how could it do better?
- are all the chosen features used?

Passing on your experiences to others

There are a number of people who will be interested to hear of your experiences. This may mean passing on information informally (e.g. talking to colleagues, within the home, or from other homes); formally within your own organisation (e.g. meetings of any staff groups, to report on your exercise, your line manager or senior manager, newsletters, networking. It may mean disseminating it at a local level (e.g. meetings of your branch of the National Care Homes Association, or similar organisation, manufacturers, other local groups (e.g. Relatives Association or disability groups), or nationally (e.g. National Care Homes Association, or similar organisation, disability groups, manufacturers, professional associations).

Conclusion

The equipment we use has an important impact upon the quality of the care we give. Even the most skilled and caring of staff cannot entirely compensate for the difficulties posed by unsuitable equipment. Asking them to try may put their health at risk.

When the King's Fund bed was introduced to hospitals in the 1960s it turned the hospital bed from an immovable item of furniture into a system for the care, treatment and transport of occupants, which took the needs of staff seriously. Many beds exist now which have even improved upon that specification, but it remains a benchmark. Unfortunately, although nursing and residential homes now have to care for increasingly ill and dependent residents, many remain in a situation not unlike that of hospitals before the King's Fund bed, with fixed-height beds which are not able to meet the complex needs of residents and staff.

The technology for making beds which 'do more' for both occupant and operator has become better and cheaper. Designs are being re-thought and new beds are becoming available now which in appearance have little in common with the hospital bed as it is commonly known. The vision and resources of those providing services will, it is to be hoped, make full use of what is available for the benefit of all.

We hope that twenty years from now, a bed *without* electric variable height and profiling will be as rare in nursing homes and most residential homes as is a fixed height bed in a hospital now. We hope this will have had a significant impact upon the rates of staff injury and of pressure sores. We hope that then every occupant will be as free as their personal capabilities allow to position themselves for comfort and to move independently in and around the bed, with the aid of the simple technology which a bed can offer.

Appendix 1

Suggested further reading

Department of Health. *Pressure Sores: A key quality indicator*. London: Department of Health, 1993

The Disability Information Trust. *Furniture*. Oxford: The Disability Information Trust, 1997

The Disability Information Trust. *Hoists, lifts and transfers*. Oxford: The Disability Information Trust, 1996

Disabled Living Foundation. *DLF Hamilton Index. Part 1, Section 3: Beds & bed accessories*. London: Disabled Living Foundation, September 1997

Disabled Living Foundation. *DLF Hamilton Index. Part 4 Section 20. Manual handling, hoists and lifting equipment*. London: Disabled Living Foundation, May 1997

Disabled Living Foundation. *DLF Hamilton Index. Part 2 Section 9. Pressure relief*. London: Disabled Living Foundation, 1998

Health Services Advisory Committee. *Manual Handling in the Health Services*. Suffolk: HSE Books, 1998 (This replaces Health Services Advisory Committee. *Guidance on Manual Handling of Loads in the Health Services*. London: HMSO, 1992)

Health & Safety Executive. *Management of Health & Safety at Work Regulations 1992 – Approved Code of Practice*. L21 HSE Books, 1992

Health & Safety Executive. *Manual Handling Operations Regulations 1992 – Guidance on Regulations*. L23 HSE Books, 1992

Health & Safety Executive. *Workplace (Health, Safety & Welfare) Regulations 1992 – Approved Code of Practice and guidance*. HSE Books, 1992

Jones JAR, McNair B, Mitchell JC. *Choosing Beds for Hospitals: A guide*. London: King's Fund, 1998

Medical Devices Agency. *Evaluation: Foam mattresses*. No. PS1, 1993

Milne J. *Assessment of chair and bed raising systems: raising units, sleeves/leg extenders, blocks, made to measure raisers*. Disability Equipment Assessment Programme, Medical Devices Agency, 1989

Mitchell JC, Jones JAR, McNair B, McClenahan JW. *Better Beds for Health Care: Report of the King's Fund Centenary Bed Project*, London: King's Fund, 1998

Mitchell JC, McNair B, Jones J. *Choosing Health Care Beds for Use at Home: A guide for users and professionals*. London: King's Fund, 1998

National Back Pain Association/ Royal College of Nursing. *The Guide to the Handling of Patients – Introducing a safer handling policy*. 4th edn. Teddington: NBPA, 1997

Nuffield Institute for Health/University of York NHS Centre for Reviews & Dissemination. *Effective Health Care: The prevention and treatment of pressure sores*. 1995

Smith G, Seccombe I. *Manual Handling: Issues for nurses*. Brighton: The Institute for Employment Studies for the RCN, 1996

Tarling C, Burns N. Let the bed take the strain. *Professional Nurse* 1994; August:759–63

Appendix 2

Testing foam mattresses

Visual inspection

- Is cover split or perforated?
- Does core show signs of staining, dampness or obvious compression set?

Hand compression assessment*

This is a test for whether the mattress is 'bottomed-out' or 'grounded':

1. Using both fists and, starting at the foot end of the bed, press down using full body weight
2. Move the hands up the entire length of the bed repeating the hand compression
3. Note any variation in the density of the foam, including whether the base of the bed can be felt through the foam

If the base is felt through the foam, the mattress is 'bottomed-out'. If it is, the pressure applied to the occupant's tissues is likely to be nearly the same as if he or she were lying directly on the mattress platform.

Some experts suggest sitting on the mattress, rather than using the hands, to feel for 'bottoming-out'.

Water penetration test*

1. Undo zip and place a sheet of absorbent paper between cover and foam core.
2. Using fist, indent the mattress to form a shallow well and pour tap water (about half a cup) into the well.
3. Agitate the surface with the fist for approximately one minute to increase contact, then mop up water.
4. Inspect tissue for water marking.
5. Repeat procedure on reverse side of mattress.

If there is any penetration, the mattress is able to harbour bacteria from body fluids and will be prone to damage by fluid. It should not be used.

* As described by the Medical Devices Agency, *Evaluation: Foam mattresses*, No. PS1, 1993. Crown copyright: reproduced with the permission of the Controller of Her Majesty's Stationery Office.

Appendix 3

Inventory (bed and mattress)

Location	No.	Type	Manufacturer	When bought	Condition	Comments

Appendix 4

Useful addresses

Disability information

DIAL UK
National Assocation of Disablement
Information and Advice Line
Park Lodge
St Catherine's Hospital
Tickhill Road
DONCASTER
DN4 8QN
Tel: 01302 310123
Fax: 01302 310404

DIAL Scotland
Braid House
Labrador Avenue
Howden East
LIVINGSTONE
EH54 6BU
Tel: 01506 433468

The Disability Information Trust
Mary Marlborough Centre
Nuffield Orthopaedic Centre
Headington
OXFORD
Oxfordshire
OX3 7LD
Tel: 01865 227592
Fax: 01865 227596

Disabled Living Centres Council
Winchester House
Cranmer Road
Kennington Park
LONDON
SW9 6EJ
Tel: 0171 820 0567
Fax: 0171 735 0278
Website: http://www.dlcc.demon.co.uk
e-mail: dlcc@dlcc.demon.co.uk

Disabled Living Foundation
380-384 Harrow Road
LONDON
W9 2HU
Tel: 0171 289 6111
Fax:0171 266 2922
Help Line: 0870 6039177
(calls charged at 8p per minute)
Minicom: 0870 6039176
Website: http://www.dlf.org.uk
e-mail queries: advisor@dlf.org.uk

National Back Pain Association
16 Elmtree Road
TEDDINGTON
Middlesex
TW11 8ST
Tel: 0181 977 5474
Fax: 0181 943 5318

Exhibition organisers

Disability Scotland
Princess House
5 Shandwick Place
EDINBURGH
EH2 4RG
Tel: 0131 229 8632
Fax: 0131 229 5168

DMG Trinity Ltd
Times House
Station Approach
RUISLIP
Middlesex
HA4 8NB
Tel: 01895 677677
Fax: 01895 676027

DMP Promotions (UK) Ltd
Barn Cottage
38 Lawrence Close
Higham
BARNSLEY
South Yorkshire
S75 1PE
Tel: 01226 386677
Fax: 01226 390777

EMAP Health Care Exhibitions
Porters South
Crinan Street
LONDON
N1 9XW
Tel: 0171 843 4841
Fax: 0171 843 4849

Image Exposure Ltd
77-81 Bank Parade
BURNLEY
Lancashire
BB11 1TU
Tel: 01282 728200
Fax: 01282 728299

Infodex
Adbaston
Ixworth Road
HORNINGTON
Suffolk
IP31 1QX
Tel: 01359 268614
Fax: 01359 268666

Independent Living
P.O. Box 513
BRISTOL
BS99 2AH
Tel: 01275 831754
Fax: 01275 892609

Maria Adderley & Associates Ltd
209 Greenwich High Road
LONDON
SE10 8NB
Tel: 0181 293 5903
Fax: 0181 293 5895

Reed Exhibitions Co. (UK) Ltd.
Oriel House
26 The Quadrant
RICHMOND
Surrey
TW9 1DL
Tel: 0181 910 7873
Fax: 0181 910 7926

Manufacturers

British Surgical Trades Association
1 Webbs Court
Buckhurst Avenue
SEVENOAKS
Kent
TN13 1LZ
Tel: 01732 458868
Fax: 01732 459225

Professional organisations

College of Occupational Therapists
6–8 Marshalsea Rd
Southwark
LONDON
SE1 1HL
Tel: 0171 357 6480
Fax: 0171 378 1353

Chartered Society of Physiotherapy
14 Bedford Row
LONDON
WC1R 4ED
Tel: 0171 306 6666
Fax: 0171 306 6611

The Ergonomics Society
Devonshire House
Devonshire Square
LOUGHBOROUGH
Leicestershire
LE11 3DW
Tel/Fax: 01509 234904

Infection Control Nurses' Association
Contact via Royal College of Nursing
Tel: RCN Direct (information line):
0345 726100

National Back Exchange
Contact either the Disabled Living Foundation or the National Back Pain Association for details of the current membership secretary.

National Care Homes Association
45–49 Leather Lane
LONDON
EC1
Tel: 0171 831 7090
Fax: 0171 831 7040

Royal College of Nursing
20 Cavendish Square
LONDON
W1M 0AB
Tel: RCN Direct (information line):
0345 726100

The Tissue Viability Society
Glanville Centre
Salisbury District Hospital
SALISBURY
SP2 8BJ
Tel: 01722 336262 (ext. 4087)
Fax: 01722 425263

Safety and evaluation

HSE Books
PO Box 1999
SUDBURY
Suffolk
CO10 6FS
Tel: 01787 881165
Fax: 01787 313995

Evaluative reports

Medical Devices Agency
Evaluative reports
Room 2/S05
Crown Buildings
Kingston By-Pass
SURBITON
Surrey
KT6 5QN
Tel: 0181 268 4488
Fax: 0181 268 4496
Website: www.medical_devices.gov.uk

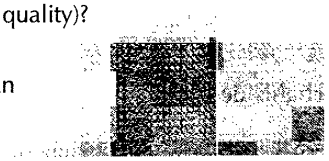
Adverse incidents

Medical Devices Agency
Adverse Incident Centre
Hannibal House
Elephant and Castle
LONDON
SE1 6TQ
Tel: 0171 972 8080
Fax: 0171 972 8109

Appendix 5

Checklist for beds brought into a home by residents

	Yes	No
Can you get a hoist underneath the bed, and use it?		
Is the top of the mattress high enough that operators do not have to stoop significantly to attend to the occupant, or to make the bed?		
Can the bed be moved easily by one person (consider its weight, handholds and the presence of castors, and their quality)?		
Is the mattress of a quality and condition that is safe for an occupant at medium risk of pressure sores?		



If the answer to any of these questions is 'no', the bed should not be accepted into the home. This checklist suggests no more than an absolute minimum standard. It is to be hoped that individual homes will set their own, higher, standards. Appendix 6 makes some positive suggestions about what should be recommended to residents and their relatives.

Appendix 6

Suggestions for residents or their relatives purchasing a bed to bring into a home

Any bed purchased for use in a nursing home, and preferably any residential home which accommodates elderly or disabled people, should pass the test outlined in Appendix 5. In addition, anyone purchasing a bed should take into account the following points:

'Nursing type' beds, which incorporate many of the useful features of hospital beds, are ideal, and need not look like hospital beds. Although such beds cost more than ordinary divans, they are well worth the expense in terms of the positive impact they can have upon the lives of residents and upon the safety of staff. Additional features, such as safety sides, can be easily added if and when the need arises.

Highly desirable features include:

- **Height adjustability** – gives more independence and safety to the occupant, and is *much* safer for staff
- **Cleanability** – more pleasant, and more hygienic
- **Manoeuvrability** – easier and much safer for staff
- **Mattress** – suitable for medium-risk occupant; reduces risk of pressure sores if resident is bed-bound at any time.

Also consider:

- profiling is very comfortable and helpful for the resident and safer and easier for staff (a rising backrest is a useful second best)
- does the resident need a waterproof mattress cover? If so, breathable, two-way stretch fabric is more comfortable and reduces the risk of pressure sores.

Appendix 7

Choosing features of a nursing bed

For each feature that you require, work from left to right and tick the type and option which you prefer.

	Possibilities		
Feature	**Type**	**Options**	
Backrest	rising ☐ pull-out ☐ part of profiling ☐	electric ☐	manual ☐
Bed ends	headend ☐ headend & footend ☐ none ☐	detachable ☐	reversible ☐
Brakes	central ☐ individual ☐	electric ☐	manual ☐
Castors	4 castors ☐ 2 castors and 2 legs ☐ no castors ☐	non-retractable ☐	retractable ☐
Extension	detachable ☐ integral ☐		
Height	adjustable ☐ fixed ☐ variable ☐	electric ☐	manual hydraulic ☐ manual mechanical ☐
Mattress platform	mesh ☐ perforated ☐ slatted ☐ solid ☐		

Feature	Possibilities			
	Type	**Options**		
Profiling	3 sections ☐ 4 sections ☐ 5 sections ☐	electric ☐	electric with manual knee break ☐	manual ☐
Safety rails	detachable ☐ integral ☐	left/right ☐ universal ☐	continuous ☐ split ☐	fold flat ☐ slide down ☐ fold flat ☐ fold under ☐
Tilt	one way ☐ two way ☐	12/6 degrees min. ☐	12/12 degrees min. ☐	
Weight capacity		up to 140 Kg ☐	140 to 180 Kg ☐	over 180 Kg ☐

Notes

Also decide whether you want a bed stripper.

What makes a better bed for health care?

In the 1960s the King's Fund caused a major stir when it developed a new specification for hospital beds. Manufacturers implemented the specification as 'The King's Fund Bed', which was revolutionary in its time, and a major step forward for patient care in hospitals.

Today, more than thirty years later, and in its Centenary year, the King's Fund revisited health care beds. Our research shows that consideration of needs for modern health care beds cannot be limited to their use in hospitals. Nor can a single type of bed meet the wide range of requirements in hospitals, nursing and residential homes, and people's own homes. Rather, the need is for information and practical help to choose the most appropriate bed for use in different circumstances, and to improve the process of specification and design of better beds by providing feedback from users.

Choosing Beds for Nursing and Residential Homes is a practical guide which provides needed information and a systematic process for choosing or upgrading beds, taking into account the needs of residents, carers, and other staff. It is invaluable for home managers, and for relatives and carers who may wish, or be asked, to supply a suitable bed for a new resident on admission.

Other reports in the series are:

Choosing Beds for Hospitals: A guide
Choosing Health Care Beds for Use at Home: A guide for users and professionals
Better Beds for Health Care: Report of the King's Fund Centenary Bed Project

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