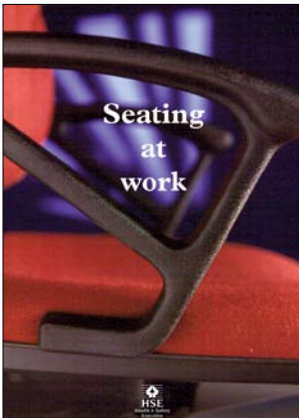


Seating at work



This is a free-to-download, web-friendly version of HSG57 (Third edition, reprinted with amendments, published 2002). This version has been adapted for online use from HSE's current printed version.

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Guidance on how to ensure the safety and suitability of workplace seating. Addressed to those responsible for health and safety at work and useful for employees, manufacturers, designers, suppliers and users of industrial and office furniture. Includes good practice workplace examples (featuring checklists and easy-glance workstation diagrams). Aspects of seating design and upholstery are explored. The advice covers the range of typical workplace seating requirements such as disability needs, foldaway chairs, gas lift technology, sliding, wheeled, suspended or tilted mechanisms. Specifics such as VDU/keyboard or checkout seating are also covered.

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This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance as illustrating good practice.

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Introduction

1 This guidance gives advice on how to ensure that seating in the workplace is safe and suitable. It also gives examples of good practice, including information on seating design and selection. It is aimed at those responsible for health and safety at work. It may also be useful to employees, manufacturers, designers, suppliers and users of industrial and office furniture. Seating in vehicles and mobile plant is not covered; information on this can be sought from the HSE booklet *In the driving seat* (see Appendix 3).

Why is seating at work important?

2 Most jobs nowadays require people to sit whilst working. This is partly due to the rapid increase in information technology and mechanisation within business and industry. Unsuitable seating can cause people to adopt awkward postures which can lead to discomfort, back pain and upper limb disorders. This may prove costly to employers in the form of staff absences, potential civil claims and lost production. Individuals also bear some of the costs in the form of suffering and lost income.

Who is responsible for seating at work?

3 Employers, the self-employed, and people in control of non-domestic premises used as a workplace have a general duty to ensure that seating is safe and that it does not pose a health risk to employees, or to others who may use their premises.

4 Employees also have duties; they are required not to endanger their own or others' health and safety whilst at work.

5 Legal requirements relevant to seating at work are listed in Appendix 1. In the main, employers are required to provide seating for employees that is suitable and safe. It should meet the needs of the individual, and the requirements of the task.

Managing the health and safety risks from seating in the workplace

6 Under the Management of Health and Safety at Work Regulations 1999 (see Appendix 1), employers are required to assess risks^(a) including those that arise from seating at work, and to have arrangements in place to protect employees' health and safety. The principles set out in paragraphs 7-12 can be used to manage health and safety in the workplace, which includes seating.

Planning

7 Planning allows employers to identify priorities and set targets for improvement. For example, employers will need to assess whether seating design is suitable and safe for the type of work being done. Employers will also need to consider any likely changes in the work conditions as this may require different seating design. The costs and benefits of different seating design may also need to be considered alongside the suitability of seating.

Organising

8 Organising involves providing staff with the necessary training and equipment to do their job safely. In practice this means that staff should be shown how to use and adjust their chairs and equipment for maximum safety and comfort. Staff also need to be aware of their responsibility towards their own, and other people's health and safety. It is important that employees notify their employers, or those responsible for health and safety, if seating is unsuitable, faulty or damaged.

9 Employers need to *include* staff in the planning and promotion of health and safety, as they are often the first to notice any health and safety hazards.^(b) Keeping staff *involved* will ensure that they are committed to improving health and safety at work.

10 Employers are required to *consult* their employees on health and safety matters. Where safety representatives have been appointed by a recognised trade union, it is a part of their function to take part in the consultation process. Where there are employees not covered by trade union appointed safety representatives, employers can consult employees directly or via representatives elected for this purpose. For more information see *Consulting employees on health and safety - a guide to the law* (see Appendix 3).

Controlling

11 Controlling health and safety risks includes setting standards and maintaining them. The standards set must be realistic and measurable. For example, those responsible for health and safety could ensure that standards on seating design and selection are maintained by following the good practice in this guidance.

- (a) A **risk** is the chance, great or small that someone will be harmed by the hazard.
(b) A **hazard** is anything that may cause harm.

Monitoring and reviewing

12 Monitoring and reviewing are also important in ensuring proper health and safety performance. Monitoring involves looking at how far set standards have been met. Reviewing involves looking at standards, planning, control and organisation, and changing them, where necessary, to improve health and safety. Feedback from users is helpful when deciding whether the seating meets good practice standards.

How to do a risk assessment

13 Under the Management of Health and Safety at Work Regulations 1999 (see Appendix 1), employers must assess risks in the workplace, including seating. A risk assessment involves identifying hazards and deciding whether enough has been done to prevent harm to people. There are five simple steps that employers can take to make sure that a proper risk assessment is done:

Step 1: Look for the hazards

It is important for employers to assess seating in the workplace to see what may cause harm or injury. For example, seating that is not adjustable may lead to common complaints, such as back pain. Usually seating needs to be looked at as part of a work system. Those responsible for health and safety in the workplace can use paragraphs 14 and 15 as a starting point when conducting a risk assessment on workplace seating.

Step 2: Decide who might be harmed

Employers must consider employees and others who may use seating in the workplace. For example, if employees are working at home, children's safety may need to be considered. Further guidance on the health and safety of homeworkers is given in *Homeworking: Guidance for employers and employees on health and safety* (see Appendix 3).

Step 3: Evaluate the risks

Employers need to consider whether existing seating poses a health or safety risk to employees. If it does, they must take action to remove, reduce or control the risk. To help assess the risks see paragraphs 14 and 15. If there is no risk present, then no action needs to be taken. For example, if the seating is suitable and safe, it meets the needs of the user and is fit for the task at hand, then no further action is needed.

Step 4: Record the findings

Employers who have five or more employees are required by law to record the significant findings from a risk assessment. They also need to record their health and safety arrangements so that:

- people in the workplace are informed about the hazards and are better placed to deal with them;
- safety representatives can use this information to carry out their duties;
- any action that is taken can be referred to if, in the future, a similar hazard needs to be addressed.

Step 5: Review the assessment regularly

It is important for employers to check the risk assessment from time to time, especially if there are any changes, for example to work procedures or equipment. The assessment needs to take into account any new hazards that may cause harm to the health and safety of employees, or others affected by the change in working conditions. A review may find that the special needs of an individual have changed, as in the case of a pregnant worker, and this may lead to the employer providing more suitable seating.

Assessing whether seating design is suitable and safe

14 When choosing or assessing seating design employers need to consider the needs of the individual, the type of work being carried out and the dimensions of the workstation. There are simple basic checks to ensure that seating is safe and suitable:

- Is the chair comfortable for the intended period of use?
- Is the lower back adequately supported?
- Is the upholstery sufficiently supportive and comfortable?
- Are edges sufficiently padded and shaped to prevent uncomfortable pressure on the thighs?
- Does the chair have adequate types and ranges of adjustment?
- Is the height adjustable to allow work to be carried out at or below elbow height?
- Does the backrest adjust sufficiently in height and depth to allow the user to gain support?
- Are armrests suitable for the task and workstation?
- Do the armrests allow the user to bring the chair far enough forward?
- Do the armrests allow adequate arm movement?
- Are footrests required and, if so, are they suitable?
- Are there special requirements for a chair at this particular workstation?
- Are there special user requirements?
- Are there special task requirements?

The above items should be considered both when choosing new seating and when assessing existing seats.

15 More information on how seating can meet the needs of the task is provided in paragraphs 23-54 which give examples of seating and workstation layout. Paragraph 16 recommends the simple steps that can be taken by those responsible for health and safety in the workplace, whether or not their risk assessment shows that further action is required.

Action to be taken

16 Common sense steps that can be taken to encourage comfort, suitability and safety are listed as follows:

- Follow manufacturers' and suppliers' recommendations.
- Follow seating design and selection recommendations given in paragraphs 23-54.
- Train individuals on how the seating should be adjusted to meet their needs and task requirements.
- Seek advice from safety representatives and consult with employees.
- Ask individuals if they have special seating needs and take action to improve comfort and safety.

- Ensure chairs are adjusted to suit the users, for example the seat height and/or backrest position should allow the user to comfortably and safely carry out their work.
- Ensure that the backrest is used to support the back and that the worker is not perched on the edge of the seat.
- Supply a footrest if workers' feet cannot touch the ground.
- Provide seats with or without armrests, depending on which option is more comfortable for the worker.
- Encourage workers to take adequate rest breaks or rotate tasks if the seating or the workstation does not allow for movement.
- Change the seating design and/or workstation if, after a risk assessment, one or both are found to be unsuitable or unsafe.
- Maintain seating so that it is adequately clean, the upholstery is in good condition and the adjustment mechanisms work properly.

17 Manufacturers and suppliers can take action by ensuring that they supply seating and equipment that is suitably designed and intended for its purpose. They can also provide clear, simple instructions on how the seating can be adjusted and maintained, as well as solutions to common problems associated with the seating design.

Individuals with special needs

18 The Workplace (Health, Safety and Welfare) Regulations 1992 (see Appendix 1) require employers to take into account those employees with special needs. The aim should be to avoid employee discomfort and to promote well-being. For example, pregnant workers may require seating that can be adjusted without requiring awkward, bent postures. Workers with back problems or other mobility difficulties may have similar needs.

19 The Disability Discrimination Act 1995 places a duty on employers to make reasonable adjustments to the workplace or employment arrangements so that a disabled person is not at any substantial disadvantage compared with a non-disabled person. This might include considering appropriate seating provision for disabled employees where necessary. Further guidance is given in the *DfEE Disability Discrimination Act 1995 Code of Practice for the elimination of discrimination in the field of employment against disabled persons or persons who have had a disability* (see Appendix 3).

20 Some people will have particular difficulties in getting out of a chair, they may need a higher than normal seat, which may result in the work surface needing to be raised. Armrests and a forward-tilting seat can also make rising easier.

21 Workers using wheelchairs may need to have the workstation access widened and the height of their workstation modified.

22 Workers who suffer from back, shoulder or neck pain may need a high supportive backrest.

Good practice

Seating design

Seat (see figure 1(a))

23 The seat needs to adjust in height to meet the needs of a range of users. The size of the seat needs to be wide enough to seat big people comfortably and deep enough to support the legs of tall people, but not so deep that shorter workers cannot use the backrest. The surface of the seat should not be hollowed or deeply shaped, as this makes it harder to get up or change position. The front edge of the seat needs to be rounded-over and well-padded to prevent it digging into the thighs.

Backrest

24 The backrest needs to give firm support to the lower and the middle part of the back. Height adjustment is recommended unless the backrest is high and provides complete support for the back. There should be adequate space for the buttocks; this is usually achieved by leaving a gap between the seat and the backrest. Backrests which tilt with the worker, or whose angle can be adjusted, can improve comfort by providing support for the back in a range of working positions.

Armrests

25 For most jobs armrests are not essential. They can restrict arm movement, although for many jobs they can provide comfort. They should be set back from the front edge of the seat, or be adjustable to allow the chair to be drawn up close to the work surface. The height of armrests should not be too low or too high (see figure 1(b)) to cause discomfort.

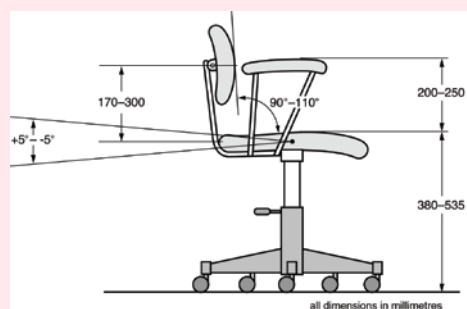


Figure 1(a) Recommended adjustability

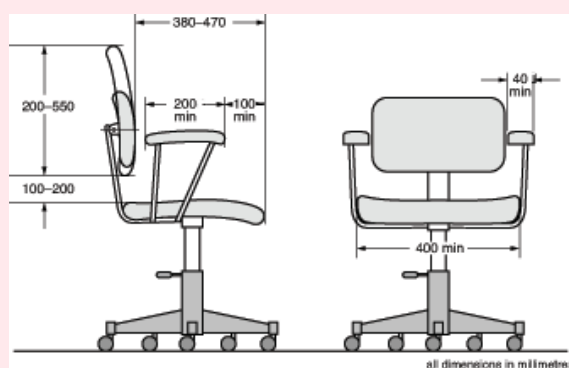


Figure 1(b) Recommended chair dimensions

Footrests

26 Any worker who cannot easily place their feet flat on the ground, when using the seat adjusted to the correct working height, needs a footrest. This should be large enough to allow for foot movement. Adjustable footrests of a selection of heights are preferred. Free-standing footrests should not be so light that they move accidentally.

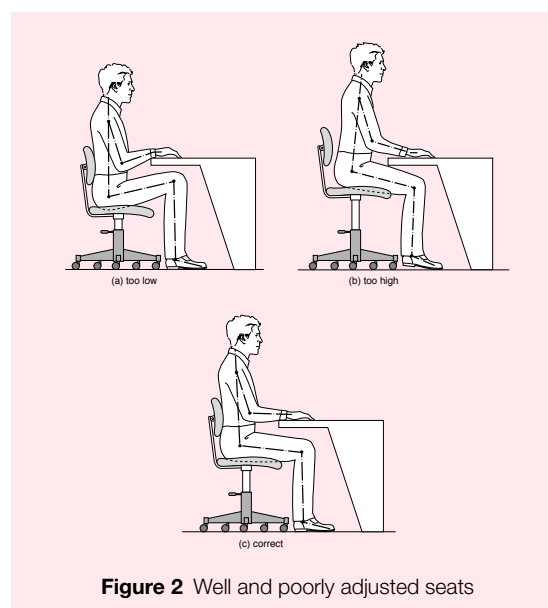
Mobility

27 Swivel-action chairs provide flexibility when the worker needs to conduct a variety of tasks and move from one location to another. Ensure that chairs with castors do not slide away too easily when the user gets up or sits down. This is a common problem when they are used on hard floors, or with chairs with a high or tilting seat. Different types of castors are available for different floor types, such as hard floors and carpeted floors. In certain situations glides are safer to use than castors. Ensure that the correct ones are chosen to meet workplace needs. Some seating is designed so that a brake is applied when the chair is sat on, or when the user gets up.

Adjustability

28 The commonest adjustments included in seating design are seat height, backrest height and tilt. In some chairs the seat and backrest can tilt forward together; this feature can reduce neck discomfort and also improve the worker's reach over the work surface. Some backrests can be adjusted backwards and forwards to change the depth of the seat to meet individual needs. Armrests can be designed to be adjustable to aid work that requires a steady arm position, and to provide for a better match between the needs of the user, their workstation and the task (see figure 2).

29 Adjustment controls should be easy and convenient to use from a sitting position, especially where the workspace is confined. Controls must be sturdy and reliable. For example, when adjustments are made they must be able to withstand the worker's weight to prevent a slip or failure which may lead to an injury. Mechanisms need to be designed to prevent workers from trapping their fingers when making adjustments to the seating.



Gas lift chairs

30 Some pedestal chairs have compressed gas in a cylinder under the seat to enable seat height adjustment. Care should be taken with these chairs. There have been incidents where the cylinder has failed through metal fatigue, causing parts to be forcefully expelled. The following guidelines apply to all gas pedestal chairs:

- if the seat wobbles suddenly, or tips, do not examine it or try to fix it. Contact the supplier or manufacturer immediately to ensure that the chair receives expert attention;
- nobody weighing more than 100 kg (16 stone) should use a gas lift chair unless it has been specially designed to accommodate heavier people safely;
- the chair must not be misused, and it should be well-maintained (see paragraphs 44 and 45 on seating maintenance);
- the supplier should be contacted if any defect is noticed and before having the chair renovated.

Upholstery

31 The seat, armrests and backrests should be well padded to ensure that the worker's body does not press uncomfortably on the frame of the chair. Corners and edges of chairs should be well padded to reduce the likelihood of damage. Padding needs to be firm rather than soft, and of good quality to ensure that the chair remains comfortable for a reasonable time. If flexible polyurethane foam is used, it should comply with the requirements in BS 3379, or an equivalent standard.

32 Chair covers need to be non-slip, easy to clean or wash, and of a fabric which 'breathes' (permeable to moisture). Good-quality, durable covers will aid comfort and prolong the service life of the chair. Moulded armrests can be a good alternative to the upholstered sort. Chairs with removable covers are useful in dirty and dusty environments because they can be washed and cleaned regularly. Alternatively, PVC-covered or moulded plastic chairs can be used since they may be easily wiped down or spot cleaned, although they are less comfortable to sit in for long periods particularly in warm or humid atmospheres, or in very warm or cold conditions.

33 To ensure that upholstery does not present an unacceptable fire risk, seating should meet BS 5852: 1990 listed in Appendix 2.

Durability

34 Seating at work needs to be strong and stable since it is used for long periods. It is recommended that chairs pass the tests laid down in BS 5459 (see Appendix 2) or an equivalent standard. This helps eliminate any design or manufacturing weakness which may cause failure or possible injury.

Planning the workstation

35 Workstation design should be based on a careful assessment of all aspects of the job, and any special needs of the individual worker. Ensure that each task can be carried out safely, comfortably and as efficiently as possible.

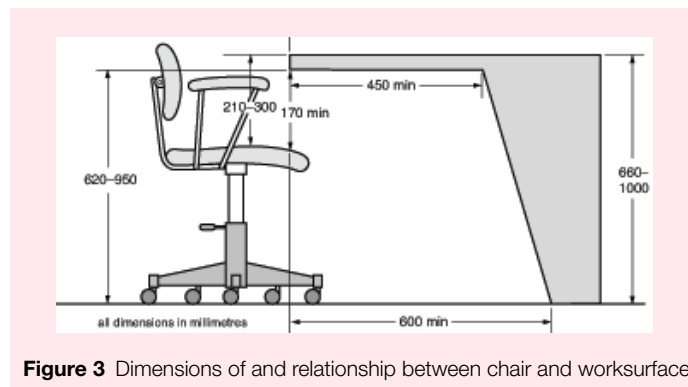


Figure 3 Dimensions of and relationship between chair and worksurface

36 A well-designed workstation allows the worker to be seated at a comfortable height and position in relation to the work (see figure 3). Recommended dimensions for seat height are in this guidance (see figure 1(a)). Work and equipment that is used frequently needs to be placed within easy reach to prevent awkward stretching and twisting which could lead to back pain or injury (see figures 4 and 5). The height of the workstation and seat should ensure that hand work can normally be done at elbow level or below to prevent tiredness from constant raising of the forearm. Some high-precision tasks which require close hand-eye coordination will require a higher hand position: if such work is carried out for any length of time special arrangements to support the arms may also be necessary.

37 If any lifting is required, the equipment and workstation should be arranged to allow the object to be kept close to the body, and to keep twisting or stretching to a minimum. Lifting even fairly light objects when seated should be kept to a minimum as this can place a strain on the back. Further guidelines for lifting loads are covered by the Manual Handling Regulations 1992 (see Appendix 1).

38 Work surface thickness should be the minimum necessary to provide adequate strength. A typical maximum is 30 mm. Surfaces thicker than this tend to restrict the number of people who can sit comfortably at the workstation because it does not provide sufficient clearance for the thighs while allowing the hands to be at around elbow height. The workstation also needs to be sufficiently sized to allow the work equipment to be used safely. For instance, there should be enough space to place equipment such as visual display units at the appropriate distance, whilst still allowing room for using hands.

39 Lighting in the workplace also needs to be suitably positioned and sufficient for the task to prevent workers from taking up awkward postures in order to see properly. Further guidance on lighting can be found in HSE's booklet *Lighting at work* (see Appendix 3)

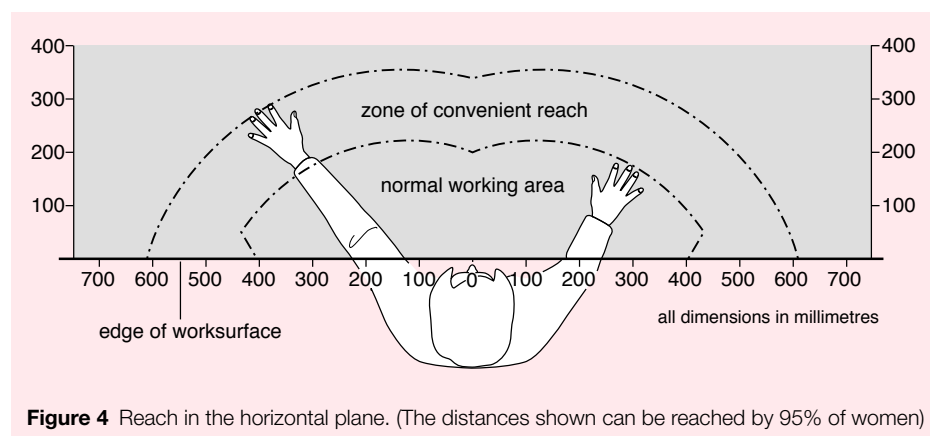
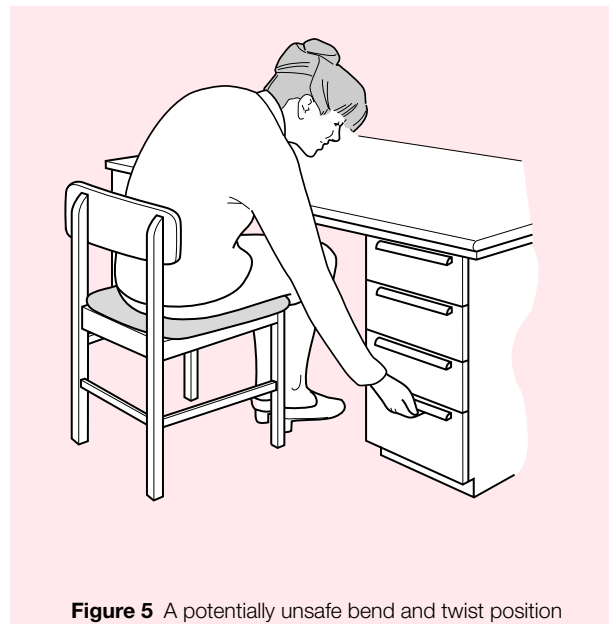
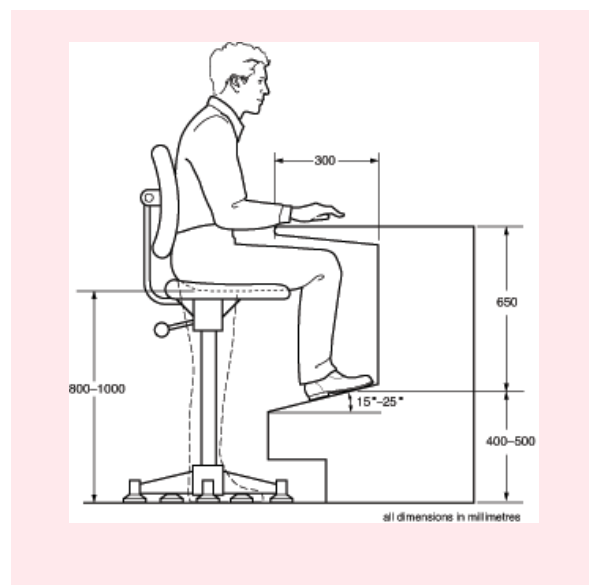


Figure 4 Reach in the horizontal plane. (The distances shown can be reached by 95% of women)



Should people sit or stand?

40 People find it more comfortable to sit rather than stand whilst working, unless the type of work requires constant stretching or twisting to reach or lift objects (see figure 6). Employers therefore need to ensure that work is organised to allow people to be seated wherever possible. In circumstances where sitting is not possible, for instance where work has to be done over a large area or where constant handling of heavy objects cannot be avoided, standing may be preferable. In this case, employers need to ensure that workers take adequate rest breaks and that suitable comfortable seating is provided during those breaks.



41 Standing or sitting for long periods can lead to discomfort and may result in long-term health problems, so it is important that workers have the opportunity to change position, stand up and move around. If possible the workstation and seating design should allow for free movement. If this is not possible, an employer can provide opportunities for movement by giving employees a variety of tasks or introducing task rotation, or by ensuring that employees take adequate rest breaks away from the workstation.

Prevention is better than cure

42 Employers need to be able to spot the signs that suggest seating is uncomfortable. For example, people may use cushions of their own or makeshift footrests. Simply asking employees if their seat is comfortable is sometimes enough to assess whether a problem exists. It is better for employers to take the initiative in providing suitable seating, and not wait until complaints are received or until workers take time off with back pain. Employees also need to play their part by telling their employers, or those responsible for health and safety, if seating is unsuitable or unsafe.

Selection of seating

43 Paragraphs 14 and 15 cover the steps that an employer can take when selecting seating. This can involve carrying out user trials. For example, people of different shapes and sizes could try out a sample seat for a period. Some suppliers may be willing to supply seating on approval. Nevertheless, it is recommended that employees and safety representatives are consulted on any changes to be made to the workplace or workstation, and this includes seating.

Seating maintenance

44 To ensure that seating is safe and has a good service life, it must be treated properly. It is bad practice to put undue pressure on the armrests by sitting on them, or leaning too heavily over them. Rocking backwards and forwards may cause damage or cause the seat to become unsafe, as may standing on it to move furniture or equipment.

45 Employers need to ensure that seating remains in a clean, safe condition. It is good practice to check seating regularly for signs of damage or excessive wear. Particular attention should be paid to the adjustment mechanisms, which should be serviced or repaired as necessary. Unsafe seating should be removed or made safe.

Examples of seating and workstation layout

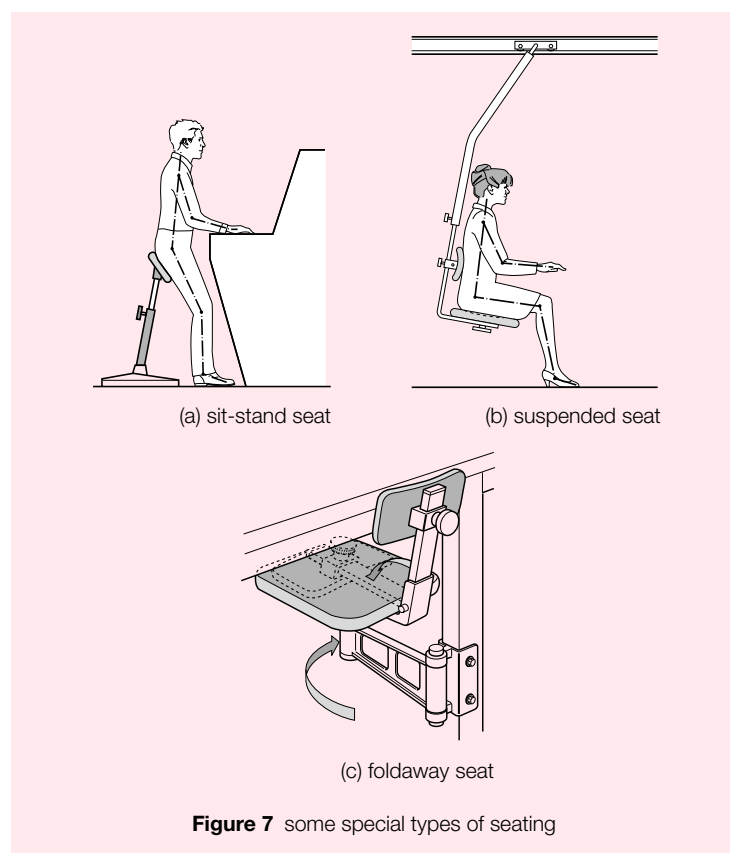
Machinery work

46 Where employees are operating or monitoring machinery it may not always be possible to provide a standard chair. Wherever possible employers need to provide some form of suitable and safe seating. Several designs may be suitable (see the following paragraphs). Chairs will need to meet the safety requirements of the task at hand. For example, chairs will need to be adjustable or of the correct height for the task to prevent workers from over-reaching, stretching and twisting. It can sometimes be advantageous for the workstation to be arranged to allow workers to sit or stand alternately. Hand controls should be within easy reach and ergonomically designed. Sufficient room needs to be provided for knees and legs.

If material needs to be fed into a machine, bending can be avoided by having the material at waist height on a rack, which can be raised as the pile of material reduces. Foot pedals need to be arranged at the same level as any footrests to prevent constant bending or lifting and lowering of the legs. Basic information on ergonomics can be sought from the HSE leaflet *If the task fits: Ergonomics at work* (see Appendix 3).

Lean-on or sit-stand seats (see figure 7(a))

47 These seats are suitable only when it is impracticable to use conventional seating, and when machinery and the workstation does not allow for knee space. Such seats should still be adjustable in height and arranged to take part of the body's weight. Particular attention should be paid to ensuring such seats are stable and comfortable under the conditions of use.



Wheeled, sliding or suspended seats (see figure 7(b))

48 These can be useful when employees need to move frequently from one machine or location to another.

Fixed, foldaway seats (see figure 7(c))

49 These may be more appropriate where space does not allow for common chair dimensions. The design can be swing-out or flap-down and can be tucked away when out of use.

Process work (see figures 8 and 9)

50 If a job involves a series of tasks, the work can be arranged in a semicircle around the worker rather than in a straight line. A swivel chair can be provided so that all points on the semicircle can be reached from a sitting position. It is easier and quicker for the work to be at close hand; turntables, jigs and holders can all be used to ensure this. Chairs with a forward-tilting seat and backrest can provide support if the task requires reaching. Using a slightly sloping work surface or sloping component trays can also provide support as well as added comfort.

Precision work

51 Workers on precision work which requires a great deal of concentration tend to lean forward and adopt a tense posture (also see figure 9). Chairs with a forward-tilting seat and backrest, and/or a work surface which slopes towards the worker help to avoid this problem and are recommended for this type of work.

Keyboard work/visual display unit (VDU) work

52 Paragraphs 14 and 15 can be followed to check that seating for keyboard or VDU work is suitable. The Health and Safety (Display Screen Equipment) Regulations 1992 (see Appendix 1) and associated guidance provide further information. In general:

- seating should be adjustable to allow the hands to work at elbow height. There should be room for the legs to fit comfortably under the desk (see figure 10);
- armrests should not prevent the user from getting close to the workstation when using a keyboard or other input device (eg mouse);
- it should be possible to place the feet flat and comfortably on the floor, otherwise a footrest should be provided;
- the backrest should be adjustable and provide adequate support for the user. The small of the back should be supported by the chair and the shoulders should be relaxed.
-



Figure 8 Workstation where a series of tasks can be arranged in a semicircle



Figure 9 Tilting seat - shown here with sloping worktop - to improve comfort and reach

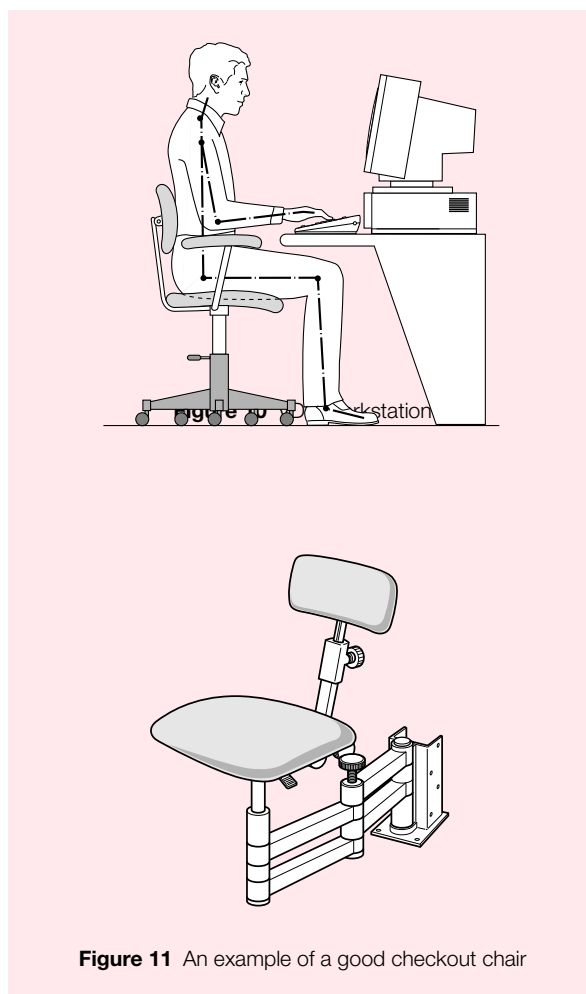


Figure 11 An example of a good checkout chair

Checkout work

53 This type of workstation can vary in design. Common problems include limited space for movement and the user having to deal with a variety of tasks. Choosing a fairly compact seating design with easily accessible adjustment controls for the seat and backrest can be a solution (see figure 11). Certain design features are important for checkout work:

- upholstery needs to be comfortable, durable and easy to clean;
- the seat should swivel, adjust in height, be well-padded, and preferably be forward-tilting;
- the backrest should be adjustable in height, depth and tilt;
- an adjustable footrest will be necessary as the chair is likely to be used by a variety of people.

54 The working area needs to be designed so that all frequent tasks are kept within easy reach (approximately 400 mm of the worker), and to allow the worker to sit close to the task without having anything pressing on the legs. Chairs should allow the worker to reach everything without strain and without having to perch on the edge of the seat. If foldaway chairs are used it is important to ensure that they are tightly secured, flexible and adjustable.

Appendix 1: Legislation

1 Legislation relating to seating at work includes the:

- **Health and Safety at Work etc Act 1974;**
- **Management of Health and Safety at Work Regulations 1999;**
- **Workplace (Health, Safety and Welfare) Regulations 1992;**
- **Health and Safety (Display Screen Equipment) Regulations 1992;**
- **Manual Handling Operations Regulations 1992;**
- **Provision and Use of Work Equipment Regulations 1998;**
- **Health and Safety (Consultation with Employees) Regulations 1996.**

2 The **Health and Safety at Work etc Act 1974 (HSWA)** places a duty on employers to ensure the health and safety of employees and others who may be affected by their work activities. In practice this means that seating should not endanger the health and safety of people at work. The HSWA also places a general duty on seating manufacturers and suppliers to make sure that their seating is safe and does not present a risk to health and safety. This responsibility includes providing instructions on using and maintaining seating.

3 **The Management of Health and Safety at Work Regulations 1999** place a duty on employers and self-employed people to assess risks to health and safety from their undertaking. This will include risks from seating. The duty holder must also identify what measures are needed to comply with health and safety requirements and make arrangements to manage these measures effectively.

4 The **Workplace (Health, Safety and Welfare) Regulations 1992: regulation 11** requires a suitable seat to be provided for each person in the workplace whose work includes operations of a kind that the work (or a substantial part of it) can or must be done sitting. The seat should be suitable to meet the needs of the individual and the task at hand. A suitable footrest must also be provided where necessary.

5 The **Health and Safety (Display Screen Equipment) Regulations 1992** seek to reduce the health and safety risks from using visual display units (VDUs) in the workplace. These set out minimum requirements for workstations, including seating. *VDUs An easy guide to the regulations* (see Appendix 3) summarises the possible risks to health that are associated with display screen equipment work, including poor seating.

The **Manual Handling Operations Regulations 1992** seek to reduce the health and safety risks to employees from handling and lifting loads. They give advice on how to handle and move loads to prevent poor posture or injury, including handling whilst seated.

6 The **Provision and Use of Work Equipment Regulations 1998** require employers to ensure that work equipment provided is maintained in an efficient state, in efficient working order and in good repair. The Regulations regard seating as work equipment.

7 The **Health and Safety (Consultation with Employees) Regulations 1996** require employers to consult their employees, or elected representatives, on matters that affect their health and safety. These Regulations apply even when employees are not represented by recognised trade unions.

Appendix 2: British Standards relevant to seating at work

British Standards are available from BSI, 389 Chiswick High Road, London W4 4AL
Tel: 020 8996 9001 Fax: 020 8996 7001
e-mail: cservices@bsi-global.com
Website: www.bsi-global.com

BS 2543: 1995	<i>Woven and knitted fabrics for upholstery</i>
BS 3044: 1990	<i>Ergonomics principles in the design and selection of office furniture</i>
BS 3379: 1991 (amend 2)	<i>Flexible polyurethane cellular materials for loadbearing applications</i>
BS 4875: 2001	<i>Strength and stability of furniture: Requirements for the strength and durability of the structure of domestic and contract seating</i>
BS 5459: 2000 (amend 2)	<i>Performance requirements and tests for office furniture: Office pedestal seating for use by persons weighing up to 150 kg and for use up to 24 hours a day, including type - approval tests for individual components</i>
BS 5852: 1990 (amend 2)	<i>Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources</i>
BS 5940: 1990	<i>Office furniture: Specification for design and dimensions of office work stations, desks, tables and chairs</i>
BS EN ISO 9241: 1999 Part 5:	<i>Ergonomic requirements for office work with visual display terminals (VDTs) Workstation layout and postural requirements</i>

Appendix 3: Useful reading

Health and Safety Executive publications available from HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 2WA.
Tel: 01787 881165; Fax: 01787 313995 www.hsebooks.co.uk

In the driving seat Leaflet INDG242 HSE Books 1997 (single copy free or priced packs of 10 ISBN 0 7176 1314 3)

Management of health and safety at work Management of Health and Safety at Work Regulations 1999 Approved Code of Practice and guidance L21 (Second edition) HSE Books 2000 ISBN 0 7176 2488 9

Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice L24 HSE Books 1992 ISBN 0 7176 0413 6

VDUs: An easy guide to the regulations HSG90 HSE Books 1994 ISBN 0 7176 0735 6

Display screen equipment work. Health and Safety (Display Screen Equipment) Regulations 1992. Guidance on Regulations L26 HSE Books 1992 ISBN 0 7176 0410 1

Manual handling. Manual Handling Operations Regulations 1992. Guidance on Regulations L23 (Second edition) HSE Books 1998 ISBN 0 7176 2415 3

A pain in your workplace? Ergonomic problems and solutions HSG121 HSE Books 1994 ISBN 0 7176 0668 6

Lighting at work HSG38 (Second edition) HSE Books 1997 ISBN 0 7176 1232 5

Getting to grips with manual handling INDG143 HSE Books 2000 ISBN 0 7176 1754 8

New and expectant mothers at work: A guide for employers HSG122 HSE Books 1994 ISBN 0 7176 0826 3

Managing health and safety: Five steps to success Leaflet INDG275 HSE Books 1998 (single copy free)

Essentials of health and safety at work (Third edition) HSE Books 1994 ISBN 0 7176 0716 X

Five steps to risk assessment Leaflet INDG163(rev1) HSE Books 1998 (single copy free or priced packs of 15 ISBN 0 7176 1565 0)

Homeworking: Guidance for employers and employees on health and safety Leaflet INDG226 HSE Books 1996 (single copy free or priced packs of 15 ISBN 0 7176 1204 X)

Consulting employees on health and safety: A guide to the law Leaflet INDG232 HSE Books 1996 (single copy free or priced packs of 15 ISBN 0 7176 1615 0)

A guide to the Health and Safety (Consultation with Employees) Regulations 1996. Guidance on Regulations L95 HSE Books 1996 ISBN 0 7176 1234 1

Safety representatives and safety committees L87 (Third edition) HSE Books 1996
ISBN 0 7176 1220 1

Reducing error and influencing behaviour HSG48 (Second edition) HSE Books 1999
ISBN 0 7176 2452 8

If the task fits: Ergonomics at work Leaflet INDG90 HSE Books 1994 (single copy
free or priced packs of 10 ISBN 0 7176 1379 8)

Working with VDUs Leaflet INDG36(rev1) HSE Books 1998 (single copy free or
priced packs of 10 ISBN 0 7176 1504 9)

Disability Discrimination Act 1995 *Code of Practice for the elimination of
discrimination in the field of employment against disabled persons or persons who
have had a disability* HMSO 1996 ISBN 0 11 7028 606
The Stationery Office Tel: 0870 600 5522 Fax: 0870 600 5533
Websites: www.clicktso.com www.thestationeryoffice.com
Also available from local TSO shops

Literature relevant to seating at work

Branton P *Seating in industry* *Applied Ergonomics* **1(3)** 1970 159-165

Clark TS and Corlett EN *The ergonomics of workspaces and machines A design
manual* Taylor and Francis 1995 ISBN 0 7484 0320 5

Business equipment and information technology association *Modification of gas-lift
pedestal chairs A BEITA Code of Practice* BEITA 1987

Donkin, S W (DC) *Sitting on the job* 1989 ISBN 0 3955 0089 3

Fraser TM *The worker at work A textbook concerned with men and women in the
workplace* (chapter 11, 178-200) Taylor and Francis 1989 ISBN 0 85 066481 0

Grandjean E *Ergonomics in computerised offices* Taylor and Francis 1987
ISBN 0 85 0663150 0

Kroemer KHE (ed) *Fitting the task to the human A textbook of occupational
ergonomics*, (5th edn) Taylor and Francis 1997
ISBN 0 7484 066 54

Grey SM, Norris BJ et al *Ergonomics in the electronic retail environment*
International Computers Ltd 1987

Mandal AC *The seated man (homo sedens) The seated work position Theory and
practice* *Applied Ergonomics* **12(1)** 1981 19-26

Pheasant S T *Bodyspace - anthropometry, ergonomics and the design* (2nd edn)
Taylor and Francis 1996 ISBN 0 7484 0326 4

Leuder R and Noro K *Hard facts about soft machine The ergonomics of seating*
Taylor and Francis 1994 ISBN 0 8506 6802 6

Sellers D *25 Steps to safe computing* 1995 ISBN 0 2018 8366 X

Sweeney G M and Clarke A K *Office seating for people with rheumatoid arthritis,
ankylosing spondylitis, and low back pain* *Physiotherapy* 1990

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

British Standards can be obtained in PDF or hard copy formats from BSI: <http://shop.bsigroup.com> or by contacting BSI Customer Services for hard copies only Tel: 020 8996 9001 email: cservices@bsigroup.com.

The Stationery Office publications are available from The Stationery Office, PO Box 29, Norwich NR3 1GN Tel: 0870 600 5522 Fax: 0870 600 5533 email: customer.services@tso.co.uk Website: www.tsoshop.co.uk/ (They are also available from bookshops.) Statutory Instruments can be viewed free of charge at www.legislation.gov.uk/.