

A Sound Working Environment in Call and Contact Centres

Advice and Guidelines. Full Text Version

*Allan Toomingas,¹ Philip Cohen,² Christina Jonsson,³ Jon Kennedy,⁴
Tommy Mases,⁵ Kerstin Norman¹ and Anita Odefalk⁶*

1. National Institute for Working Life, 2. Swedish Call Centre Federation, 3. Work Environment Authority, 4. CallCenter Institute, 5. Salaried Employees' Union HTF, 6. ALMEGA-forum for service companies

ARBETSLIVSRAPPORT NR 2006:49

ISSN 1401-2928

Department of Work and Health
Head of Department: Ewa Wigaeus Tornqvist



Arbetslivsinstitutet
National Institute for Working Life

Foreword

The Swedish National Institute for Working Life in cooperation with the Occupational Health clinic at Sundsvall hospital and the Institute for Psychosocial Medicine (IPM) accomplished during 2001-2003 studies of the working and health conditions at about thirty call centres in Sweden. The research project was partly financed by the Swedish Council for Working Life and Social Research (FAS No. 2001-2812). During this period the Swedish Work Environment Authority made inspections at more than hundred call centres in Sweden.

The reference group associated with the research project put forward the suggestion that the project might be the starting point for creating a document providing advice and guidelines for a sound working environment in call and contact centres. Also the findings from the inspections of the Work Environment Authority and the general state of knowledge within the field should be taken into consideration. The material should be practical and useful for companies and their staff and also for others interested in this topic.

A working group was formed with representatives for the National Institute for Working Life, the Work Environment Authority, Almega-forum for service companies at the Swedish Employers' Federation, the Salaried Employees' Union - HTF, the Swedish Call Centre Federation and the CallCenter Institute. At the end of 2005 the working group published the present advice and guidelines as a full text version. A shorter summarizing brochure was also published.

The material was approved by all the organizations represented. The brochure version was sent to about thirty call centre companies for comments and was modified based on these.

The present full text version gives advice and guidelines for both the physical as well as the psychosocial working conditions. Regarding the physical aspects there are chapters on office space, indoor climate, sound levels, lighting, computer equipment, furniture aso. A special chapter is devoted to vision and hearing tests. Other chapters address the organisation of work, psychosocial conditions, management aso.

Each chapter gives concrete advice and guidelines within the area. Background and motifs for the advice are given. References to applicable parts of the Working Environment Act and EU directives are given also. A selected list of publications and Internet addresses concludes each chapter.

The full text version is also found on the web-page of the Swedish National Institute for Working Life (www.arbetslivsinstitutet.se/pdf/callcentre-guidelines.pdf). The brochure is available at the Swedish Work Environment Authority (order No. ADI 607 E). It is also available on Internet (www.arbetslivsinstitutet.se/pdf/callcentre-guidelines-short.pdf).

The full text version is also published in Swedish in a printed version (Bra arbetsmiljö på callcenter - Råd och riktlinjer - Fulltextversion, Arbetslivsrapport 2006:48) as well as the summarizing brochure (Swedish Work Environment Authority Order No. ADI 607). Both are found on Internet (www.arbetslivsinstitutet.se/pdf/callcenter-radriktlinjer.pdf) (www.arbetslivsinstitutet.se/pdf/callcenter-radriktlinjer-kort.pdf)

Stockholm in November 2006

The authors through Allan Toomingas

A Sound Working Environment in Call and Contact Centres

Advice and Guidelines

Full Text Version

This document has been prepared by



The Swedish Employers' Federation -
ALMEGA-forum for service companies



The Swedish National Institute
for Working Life



The Swedish Work
Environment Authority



CallCenter Institute



The Swedish Call Centre Federation



Tjänstemannaförbundet HTF
The Salaried Employees' Union, HTF

This document can be downloaded free of charge from the website of the National Institute for Working Life:

<http://www.arbetslivsinstitutet.se/pdf/callcenter-guidelines.pdf>

Contents

Page

1.	INTRODUCTION.....	1
2.	QUALITY ASSURANCE IN THE WORKING ENVIRONMENT	5
3.	OFFICE SPACE AND ENVIRONMENT	8
A	THE WORKPLACE.....	8
B	VISUAL AND LIGHTING CONDITIONS.....	10
C	SOUND AND NOISE CONDITIONS	12
D	INDOOR CLIMATE AND AIR QUALITY.....	14
4.	FURNITURE AND EQUIPMENT.....	16
A	DESKS AND CHAIRS	16
B	COMPUTER EQUIPMENT	19
C	SOFTWARE AND SYSTEMS.....	21
5.	WORK TECHNIQUE AND HOW TO PLACE EQUIPMENT AND FURNITURE.....	23
6.	EYESIGHT AND HEARING TESTS	26
A	EYESIGHT TESTS	26
B	HEARING TESTS.....	27
7.	OTHER MEASURES FOR HEALTH PROMOTION	28
8.	WORK ORGANISATION AND PSYCHO-SOCIAL CONDITIONS.....	30
A	CALL TIME, SHIFT DURATION, INTERRUPTIONS, SHORT AND LONG BREAKS	30
B	CONTENT AND ORGANISATION OF WORK.....	34
C	THE CHANCE TO INFLUENCE.....	37
9.	SUPERVISION	40
A	KNOWLEDGE ABOUT WORK SUPERVISION AND SOUND WORKING ENVIRONMENTS	40
B	INFORMATION, EDUCATION AND TRAINING OF STAFF	42
C	QUALITY CONTROL	44
D	PAYMENT SYSTEMS.....	47

This document was produced by:

Allan Toomingas, National Institute for Working Life
Philip Cohen, Swedish Call Centre Federation
Christina Jonsson, Work Environment Authority
Jon Kennedy, CallCenter Institute
Tommy Mases, Salaried Employees' Union HTF
Kerstin Norman, National Institute for Working Life
Anita Odefalk, ALMEGA-forum for service companies

1. Introduction

Background

Employees who are well and happy with their work are a key factor in a successful company. It is important for the company to ensure that the working environment and conditions provide the right setting for employees to achieve peak performance in their work.

Apart from the personal discomfort involved, work-related problems and ill-health cost money in the form of impaired quality, productivity losses, and increased employee turnover and sick leave.

The purpose of this document is to promote knowledge about the importance of good work organisation, of good management and of good working environment in the call centre industry, and to prevent ill-health among employees. A starting point is that work management should accommodate functions and conditions of human beings, as well as those of telephones and computers. Everyone wants to do a good job. So it is essential to create the best possible environment for this to be achieved. This should be of optimal benefit to everyone concerned – the company, employees, customers and the community at large. The document describes general principles and gives specific advice on how operations can be developed to improve them further.

The overall goal is to promote long-term sustainable development in call centre work.

This publication is intended primarily for managers and supervisors in call and contact centres. It is also aimed at union and safety representatives, as well as other bodies with an influence over this type of work, such as employers' organisations, trade associations, occupational health services and government authorities at local and national level.

The advice and guidelines are based on current Swedish work environment legislation, EU directives and guidelines issued by organisations in Sweden and other countries. They are also based on surveys conducted by the Swedish National Institute for Working Life, inspections carried out by the Swedish Work Environment Authority¹ and the present state of knowledge in this field. Views have also been submitted by the Swedish Employers' Federation ALMEGA-forum for service companies, the CallCenter Institute (CCI), the Swedish Call Centre Federation (SCCF) and the Salaried Employees' Union (HTF).

The advice and guidelines presented in this document have been produced by ALMEGA-forum for service companies, the National Institute for Working Life, the Swedish Work Environment Authority¹, the CallCenter Institute (CCI), the Swedish Call Centre Federation (SCCF) and the Salaried Employees' Union (HTF).

This document

This document contains a general introductory chapter about work environment quality assurance. This is followed by chapters which give specific advice and guidelines in different areas - office space, furniture and equipment, work techniques, eyesight and hearing tests and a section on other health-promoting measures. Other chapters deal with the organisation of work, psycho-social working conditions and work supervision. In addition to the advice and guidelines in each section, there is also a reasoning with explanations about why they are important. There are also references to the wording of Swedish work environment legislation and, where applicable, to EU directives. Finally, there is a list of references to relevant documents. These include legal texts, EU directives,

¹ Former National Board of Occupational Safety and Health. Some work environment regulations referred to were issued by the former National Board of Occupational Safety and Health and have now been taken over by the Swedish Work Environment Authority.

international standards, other similar advice and guidelines for call centres and scientific publications. Where these documents are available online, the Internet address is given.

This document does *not* provide advice on topics such as fire and accident protection and how to prevent and deal with them, nor does it cover issues relating to shift work and night work. Union matters regarding conditions of employment and wage levels also fall outside the scope of this document. Problems with bullying, insults, threats and violence in employee groups and issues concerning rehabilitation and job adaptation are not referred to in this publication. Advice and guidelines on these matters can be obtained from relevant bodies, such as occupational health services, employers' organisations and trade union organisations.

Abridged version

There is also an abridged version in English of this full text document containing a summary of the advice and guidelines from all the contributing organisations, *A Sound Working Environment in Call and Contact Centres – Advice and Guidelines*. – available at <http://www.arbetslivsinstitutet.se/pdf/callcenter-guidelines-short.pdf>.

Swedish versions

There are also Swedish versions of these two documents: *Bra arbetsmiljö på callcenter - Råd och riktlinjer. Fulltextversion (full text version; Bra arbetsmiljö på callcenter - Råd och riktlinjer (short version)*.

Other published advice and guidelines for call centres

No systematic search of international literature has been made for similar advice and guidelines for call centres produced by other organisations. However, where such publications are known these appear in the reference list below. Readers should bear in mind that advice and guidelines drawn up in other countries do not always conform with Swedish legislation and conditions. The fact that they are listed here does not mean that the organisations responsible for this document have expressed an opinion for or against them.

The global union UNI (Union Network International) has compiled similar advice and guidelines for call centres entitled *UNI Call Centre Charter*. When reading UNI's advice and guidelines, it should be remembered that Sweden has a regulated labour market, in which Swedish law, agreements and standards apply.

UNI has also produced a document with the European employers' organisation European Telecommunications Networks Operators Association (ETNO). This document points out that the telecom companies' Customer Contact Centres should be subject to relevant national and EU legislation, as well as collective agreements. The fundamental work standards defined in ILO's document *Declaration on Fundamental Principles and Rights at Work* (International Labour Organisation) should be respected. Employees should be entitled to belong to a trade union and to any associated communication and information in accordance with relevant laws and collective agreements. Employee representatives should be informed and consulted in matters concerning strategies and principles.

References

- A Sound Working Environment in Call and Contact Centres – Advice and Guidelines. Stockholm: ALMEGA-forum for service companies, CallCenter Institute, National Institute for Working Life, Swedish Call Centre Federation, Swedish Work Environment Authority, Salaried Employees' Union, HTF; 2005, [<http://www.arbetslivsinstitutet.se/pdf/callcenter-guidelines-short.pdf>].

- Toomingas A, Cohen P, Jonsson C, Kennedy J, Mases T, Norman K, Odefalk A. Bra arbetsmiljö på callcenter - Råd och riktlinjer. Fulltextversion. Stockholm: ALMEGA, Arbetslivsinstitutet, Arbetsmiljöverket, CallCenter Institute, Sveriges CallCenter Förening, Tjänstemannaförbundet HTF; 2005, [<http://www.arbetslivsinstitutet.se/pdf/callcenter-radriktlinjer.pdf>]. (Swedish version of this full text document)
- Bra arbetsmiljö på callcenter - Råd och riktlinjer. Stockholm: ALMEGA, Arbetslivsinstitutet, Arbetsmiljöverket, CallCenter Institute, Sveriges CallCenter Förening, Tjänstemannaförbundet HTF; 2005, [<http://www.arbetslivsinstitutet.se/pdf/callcenter-radriktlinjer-kort.pdf>]. (Swedish version of the abridged document)

Documents on which the advice and guidelines are based

- Hanson E, Toomingas A. Kunskaper om arbetsmiljö, arbetsteknik och hälsorisker bland operatörer på callcenter företag (*Knowledge about sound work environment, work techniques and health hazards among operators at call centre companies*). Arbetslivsrapport 2005:28. Stockholm; Arbetslivsinstitutet: 2005, [http://ebib.arbetslivsinstitutet.se/arb/2005/arb2005_28.pdf]. (In Swedish with English summary)
- Johansson P, Isaksson A, Toomingas A. Arbetsförhållanden och hälsa bland manliga och kvinnliga anställda på ett urval av callcenter i Sverige. Deskriptiva enkätdata från en enkätstudie (*Working conditions and health among male and female employees in selected call centre companies in Sweden. Descriptive questionnaire data*). Arbetslivsrapport 2005:23. Stockholm; Arbetslivsinstitutet: 2005, [http://ebib.arbetslivsinstitutet.se/arb/2005/arb2005_23.pdf]. (In Swedish with English summary)
- Jonsson C. Arbetsmiljö på callcenter. Tillsynsprojekt 2002-2003 inom Arbetsmiljöverket. Rapport 2004:3. Solna: Arbetsmiljöverket; 2004, [http://www.av.se/publikationer/rapporter/2004_03.pdf]. (In Swedish only)
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. Arbete och Hälsa 2005:11. Stockholm; National Institute for Working Life: 2005.
- Toomingas A, Hagman M, Hansson Risberg E, Norman K. Arbetsförhållanden och hälsa vid ett urval av callcenterföretag i Sverige (*Working conditions and health in selected call centre companies in Sweden*). Arbetslivsrapport 2003:10, Stockholm: Arbetslivsinstitutet; 2003, [<http://www.arbetslivsinstitutet.se/publikationer/detaljerad.asp?ID=1357>]. (In Swedish with English summary)

Other similar published advice and guidelines for call centres

- Call Centre Association. CCA Standard: A framework for best practice. 2004, [<http://www.cca.org.uk/standards/Standard.asp>].
- European guidelines for customer contact centres. Union Network International (UNI), European Telecommunications Networks Operators Association (ETNO). February 2004, [<http://www.union-network.org/unitelecom.nsf/62f0816502185a8ec125701a0034378d/529f33179126df04c1256ebd0052045c?OpenDocument>].
- HSE. Advice regarding call centre working practices. Local Authority Circular Health and Safety Executive/Local Authorities Enforcement Liaison Committee; 2001, [<http://www.hse.gov.uk/lau/lacs>].
- ILO Declaration on Fundamental Principles and Rights at Work adopted at the 86th Session, Geneva, June 1998, [http://www.ilo.org/dyn/declaris/DECLARATIONWEB.static_jump?var_language=EN&var_pagename=DECLARATIONTEXT].
- Paul J, Huws U. How can we help? Good practice in callcentre employment. Analytical Social and Economic Research Ltd for the Tosca project. Brussels: European Trade Union Confederation; 2002.

- Queensland Government. A guide to health and safety in the call centre industry. The State of Queensland Department of Industrial Relations; 2003, [http://www.dir.qld.gov.au/pdf/ir/callcentres_code2001.pdf], [<http://www.dir.qld.gov.au/industrial/law/codes/callcentres/intro/index.htm>].
- Sust Ch, Lorentz D, Schleif HD, Schubert P, Utsch A. Callcenter-Design – arbeitswissenschaftliche Planung und Gestaltung von Callcentern. Schriftenreihe der Bundesanstalt für Arbeitsschutz und Arbeitsmedizin. Dortmund/Berlin; 2002. *(In German only)*
- UNI Call Centre Charter, [<http://www.union-network.org/UNISite/Events/Campaigns/CallCenter/CallCentresCharter.html>].

2. Quality Assurance in the Working Environment

Advice and guidelines – ensuring quality in the working environment

Companies and organisations normally consider it a priority to achieve good quality in their business operations. The working environment and other working conditions are an integral part of any successful quality programme. In this way, employees are able to achieve and maintain a high level of quality in their work.

Systematic work environment management involves focusing on and examining physical, psychological and social working conditions in everyday work, identifying risks and scope for improvement, and evaluating and acting on these. Companies with 10 or more employees must under Swedish law maintain written documentation of systematic work environment management. At a call centre this may include better distribution of work tasks and shift duration, better utilisation of operators' skills, provision of development of leadership and knowledge levels, improvements in work techniques and reduction of disturbing noise levels.

Examine

Supervisors, operators, work environmental and safety representatives should together examine the physical, psychological and social working conditions in order to identify scope for improvement. By applying creativity and imagination, they can identify risks and opportunities, some obvious, others less so. Methods that can be used to examine working conditions include work environment inspection rounds, staff meetings, individual discussions, interviews or written questionnaires, and measurement of factors such as sound levels and ventilation in the office. A number of different methods often need to be used to identify which improvements can be made to the business.

Evaluate

Supervisors and operators should work together to evaluate identified risks and areas for improvement and establish their order of priority. Prioritise first those considered most serious to employees' health and to the quality of business operations.

When changes to operations are planned (prior to a new assignment or organisational change, for example), it is particularly important to consider their implications for the business as a whole. This may involve assessing factors such as how the workload is affected by a new assignment and what expertise it requires.

Implement and document

It may be a good idea to have an action plan to prioritise the required measures:

- What measures need to be taken?
- When are they to be implemented?
- Who will see that they are carried out?
- Document any decisions made.

Follow up

No quality programme is complete without following up and evaluating the results of the implemented measures. Were the measures adequate or does more need to be done?

Keep the quality wheel turning!

Successful quality work never ends. For this reason, systematic work environment management forms an integral part of everyday work.

Roles, responsibility and knowledge

The employer has the ultimate responsibility for the working environment and working conditions. The employer is responsible for ensuring that surveys, risk assessment, and action plans all materialise, and that measures are carried out.

Employees are responsible for participating in the company's work environment activities. They must follow the employer's instructions on how to carry out work in such a way as to maintain good health.

Under the provisions of the Swedish Work Environment Act, the employer, in cooperation with employees and their representatives, has to incorporate systematic work environment management as an integral part of everyday work. Good systematic work environment management requires focus and commitment on the part of employer and employee, and a willingness to resolve issues together. To assume responsibility and be motivated to do so, all parties involved need to have relevant knowledge and the opportunity to influence and participate. It is important that managers and supervisors are knowledgeable about how call centre working conditions – such as quantity of work and deadlines – have a physical and psychological effect on employees. Employees and safety representatives are often well informed about exactly what is involved in their work. Their experience is invaluable in surveys and assessments of the working environment. The employer is responsible for ensuring that employees have sufficient knowledge about risks involved in their work, signs of incipient ill-health and how equipment is to be used. If employees are knowledgeable about the risks involved in the work, they will be better equipped to help prevent them.

Job adaptation and rehabilitation

The purpose of the advice and guidelines in this document is to prevent ill-health among employees. However, ill-health can still occur for various reasons. It may be caused or exacerbated by the work itself and may impede or prevent performance of work. The Swedish Work Environment Authority's provisions on Job Adaptation and Rehabilitation (AFS 1994:1), state that the employer is responsible for organising and managing job adaptation and rehabilitation for employees. This is to facilitate a return to work and resumption of duties for those affected by illness or disability and any associated impairment of work ability.

Occupational health services

Occupational health services or similar resources can be engaged to conduct surveys, risk assessment, measures and analyses when the company does not itself have sufficient expertise. Insist that the occupational health provider has adequate breadth and depth of expertise to handle the issues that apply to call centre work.

Explanation

Quality assurance in the working environment is economically advantageous!

Systematic management of the working environment has its rewards. It helps to keep down the company's costs relating to factors such as sick leave and employee churn. The cost of having one person off sick for a week can amount to 1000 Euro or more. A large proportion of the company's overall costs relates to direct expenses in the form of sick pay and holiday contributions. Other costs, such as overtime payments, production losses, and impaired quality and customer service standards, vary from company to company. Consequently, the cost of a person being off sick for a week can be considerably higher for some call centres. On the other hand, it can be expensive for the company where there are on-the-job productivity losses and quality impairment caused by lack of satisfaction or health among employees, who are consequently unable to produce of their best.

Reducing ill-health and sick leave is also economically beneficial to the individual and the community at large.

Systematic work environment management makes it possible to maintain quality assurance and ensure that working conditions are adapted to people's various physical and psychological circumstances. And in doing so, opportunities are created for employees to give their best performance at work. Experiments with quality circles at call centres show that positive results are gained by involving employees in quality activities, in terms of both job satisfaction and production.

A quality-assured workplace also enhances the capacity to recruit and retain qualified personnel.

What does the law say?

The Swedish Work Environment Authority's provisions on Systematic Work Environment Management (AFS 2001:1) state that the employer is responsible for implementing systematic work environment management. This should be incorporated as an integral part of everyday work and cover all physical, psychological and social conditions that have a bearing on the working environment at a call centre. There should be a written work environment policy describing the requirements of working conditions conducive to the prevention of illness and injury and the attainment of a satisfactory working environment. The employer must give employees and safety representatives the opportunity to participate in systematic work environment management activities.

The Work Environment Act, §4, states that employees should participate in work relating to the work environment and in the implementation of the measures needed in order to establish a healthy work environment. They should follow instructions, use the safety equipment and exercise such other precautions as are needed for the prevention of illness and accidents. The Work Environment Authority's provisions on Ergonomics for the Prevention of Musculoskeletal Disorders (AFS 1998:1 §7) state that employees should observe employers' instructions as to the avoidance of physical strain that may be dangerous to health or unnecessarily tiring. Any employee considering that a task may entail such strain should notify this to their employer.

Article 3 of EU directive 90/270/EEC also states that the employer should evaluate work environment conditions, and take appropriate measures where risks are identified.

References

- Arbetsmiljöverkets författningssamling Arbetsanpassning och rehabilitering AFS 1994:1 (*Provisions of the Swedish National Board of Occupational Safety and Health on Job adaptation and rehabilitation*). Stockholm: Arbetsmiljöverket; 1994, [http://www.av.se/regler/afs/1994_01.pdf]. (In Swedish only)
- Arbetsmiljölagen i lydelse från 1 juli 2004 (*The work environment Act as stated 1st July 2004*). Stockholm: Arbetsmiljöverket; 2004, [<http://www.av.se/regler/arbetsmiljolagen/default.shtm>]. (In Swedish only)
- Provisions of the Swedish National Board of Occupational Safety and Health on Ergonomics for the Prevention of Musculoskeletal Disorders. AFS 1998:1. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9801.pdf>].
- Provisions of the Swedish National Board of Occupational Safety and Health on Systematic work environment management AFS 2001:1 Stockholm: National Board of Occupational Safety and Health; 2001, [<http://www.av.se/dokument/inenglish/legislations/eng0101.pdf>].
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- Workman M, Bommer W. Redesigning computer call center work: a longitudinal field experiment. J Organiz Behav. 2004; 25:317-337.

3. Office Space and Environment

A The Workplace

Advice and guidelines – see that office space is suited to the requirements of the business and the needs of the employees

Open-plan layouts, booths and separate rooms all have their pros and cons. Select an open-plan solution if it is important to have rapid contact between staff, open general communication and an overview of the premises. Select separate rooms if freedom from disturbance and concentration on the task in hand are important. It is advantageous if employees have the opportunity to have a say in the type of premises in which they work.

Noise interference can be reduced by suitable sound-absorbent acoustic measures and screening (see chapter 3C). Glare and reflection can be reduced by appropriate positioning of workstations² in the office and by shading light sources or indirect room lighting (see chapter 3B).

Daylight is an important asset in maintaining daily rhythm and alertness. However, bright sunlight needs to be screened by blinds or curtains.

It is an advantage if there are dedicated areas for relaxing and eating where employees can take their breaks and eat their meals. Special “quiet rooms” and somewhere to lie down may be needed for those who need to rest and recover e.g. if they have a headache.

It may be a good idea to bring in expertise (occupational health services, for example) during new construction or conversion work.

Explanation

Open-plan solutions can give an overview and allow social interaction, which may be stimulating if the work itself is less absorbing. On the other hand, open-plan layouts often mean that those who work in them are disturbed by other activities, light and noise. The more concentration required, the greater the problems of disturbance. People’s voices have a particularly disruptive effect on the power of concentration. It has been found that in open-plan office layouts it is very difficult completely to eliminate the disturbance from other’s voices using acoustic measures such as screens. The drawback of separate rooms is that an employee can feel left out and on their own when dealing with a difficult customer or if in need of help from a colleague or supervisor. Many people feel stimulated by working in a large group.

There is a greater risk of disturbing glare and Visual Display Unit (VDU)-reflection in an open-plan layout. With open-plan solutions it is also more difficult getting an indoor climate that suits everyone.

It has also been observed that people who work where there is disturbing sound are less likely to adjust and vary their work posture. There are indications that open-plan solutions lead to higher levels of stress.

Different individuals have different needs of being on their own and are to varying degrees disturbed and interrupted by other activities, noise and voices.

² **Workstation** = desk, including other equipment and furniture, at which the individual performs his or her work.

Work location = the address where the company (call centre, for example) conducts its operations.

Workplace = general expression that can refer to the work location, a specific area within the company, or an individual person's place in the premises.

What does the law say?

The Swedish Work Environment Authority's provisions on Workplace Design (AFS 2000:42 §§6 and 7) state that office space must be suitably dimensioned, designed and equipped for the work concerned. There are also regulations concerning staff areas, rest rooms, clothing lockers so on. (§§92-110). There must be sufficient daylight and it must be possible to have a view outdoors. (§11). Windows must be equipped with adjustable shades to block out daylight. The premises and equipment must be designed so that unnecessary glare and reflection do not occur on the VDU.

EU directive 90/270/EEC contains similar requirements and also says that there must be sufficient space for users to vary their work posture and working movements.

References

- Arbetsmiljöverkets författningssamling Arbetsplatsens utformning AFS 2000:42 (*The Work Environment Authority's provisions on Workplace Design*). Stockholm: Arbetsmiljöverket; 2001, [http://www.av.se/regler/afs/2000_42.pdf]. (*In Swedish only*)
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- Brunnberg H, Karlqvist L. Arbete och trivsel i ett öppet landskap. Utvärdering av ett flexibelt kontor på en socialförvaltning (*Work and satisfaction in an open plan office. Evaluation of an flexible office at a social security centre*). Stockholm: Stockholms läns landsting. 1999. (*In Swedish only*)
- Evans, Johnson. Stress and open-office noise. *Journal of Applied Psychology*. 2000; 85(5):779-783.
- Loewen L, Suedfeld P. Cognitive and arousal effects if masking office noise. *Environment and Behavior*. 1992; 24:381-395.
- Oldham GR. Effects of changes in workspace partitions and spatial density on employee reactions: a quasi-experiment. *J Applied Psychol*. 1988; 73(2):253-258.
- O'Neill MJ, Carayon P. The relationship between privacy, control and stress responses in office workers. *Human Factors and Ergonomics Society 37th Annual Meeting*. 1993.
- Rissler A, Elgerot A. Omställning till arbete i kontorslandskap. Betydelsen av arbetets art för psykofysiologiska anpassningsreaktioner (*Adaptation to an open plan office. The influence of the nature of work for physiological adjustments*). Stockholm: Psykologiska institutionen, Stockholms Universitet. 1980:1-47. (*In Swedish only*)
- Sundström E, Town J, Rice R, Osborn D, Brill M. Office noise, satisfaction, and performance. *Environment and behaviour*. 1994; 26:195-222.

3. Office Space and Environment

B Visual and Lighting Conditions

Advice and guidelines – good visual and lighting conditions are conducive to comfort and good performance

Computer work – at call centres, for example – places a strain on the eyesight. An appropriate lighting level can minimise the risk of eye problems. A general illumination level of around 300-500 lux has proved suitable for computer work.

With open-plan layouts it is recommended that light fittings are used which fully or partly give indirect light, in other words light is directed up to the ceiling and then reflected and directed down to the workstations. In premises where direct light is used, in other words the light is directed downwards, it is important that the light fittings are equipped with shielding for diffusion and positioned immediately above or to the side of the computer operator. As the positioning of these fittings is critical, light fittings should also be adjusted when workstations are moved. Care should be taken with fittings that have a floodlighting effect, such as spotlights or downlights, which can lead to irritating glare.

An extra desk-lamp is recommended at workstations where factors such as visual impairment, e.g. due to age, mean that the individual needs brighter light than that provided by general lighting. An extra reading light may also be necessary when work is demanding on the eyesight to read text in documents etc.

Suitably designed premises, light fittings and positioning of the workstations can minimise the risk of troublesome glare and VDU-reflection.

To reduce the risk of eye strain, it is a good idea to give the eye muscles an opportunity to relax by focusing on something at least 5-6 metres away, preferably out of a window.

It is a good idea to bring in lighting expertise when the office is being built or converted.

Explanation

In various studies, some one in four call centre operators have reported eye problems. This can be because working with a VDU is a strain on the eyes, combined with less than optimal visual conditions or optical defects in the individual. For optimum visual conditions, the lighting environment should be suited to the work in hand and the eyes should not become tired from constantly focusing on objects at a short range (documents, screen) or be troubled by glare or reflection. The individual's vision should also be optimal, with or without suitable glasses. Poor visual conditions can result in unsuitable work postures, eye and neck complaints, or headaches and tiredness. They can also result in poor work performance.

If the general lighting is too bright for computer work, there may be problems of glare and eye strain when the eyes peer at the less intensely lit screen. On the other hand, if the general lighting is too dim, it may be difficult to read documents that are used in call centres. Operators can also become tired and sleepy in lighting conditions that are too dim. A suitable illumination level is usually specified as 300-500 lux.

General lighting often comprises ceiling fittings. Their task is to direct and distribute the light in the room. They should be designed in such a way as to avoid glare. Light fittings with indirect lighting reduce the risk of visually disturbing reflection and glare. Another advantage of indirect lighting is that workstations can be moved without having to move the fittings.

See also the chapter on eyesight tests for individuals with vision impairment (chapter 6A).

What does the law say?

In accordance with the Swedish Work Environment Authority's provisions on Work with Display Screen Equipment (AFS 1998:5) §3, room lighting must ensure satisfactory lighting conditions in the room and an appropriate contrast between the VDU and the background environment, taking into account the operator's capacity, the vision requirements of the VDU work and the nature of the work. The room lighting must not impede the reading of the display screen. A desk light must be provided if needed.

A display screen workstation must be designed in such a way that there is no disturbing glare and reflection from the surrounding environment. This should be achieved by co-ordinating workplace and workstation layout with the positioning and technical characteristics of the artificial light sources. Windows need to be fitted with a suitable system of adjustable shades to reduce the glare of strong daylight on the workstation. Desk surfaces must where necessary have low-reflection surfaces for the avoidance of disturbing reflection.

Visual and lighting conditions should not give rise to unsuitable work postures.

Similar requirements are specified in the Minimum Requirements annex to EU directive 90/270/EEC.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- CIBSE. Lighting guide LG3. The visual environment for display screen use. London: The Chartered Institution of Building Service Engineers; 1996.
- EN 12464-1. Light and lighting - Lighting of work places - Part 1: Indoor work places. Brussels: European Committee for Standardization 2002.
- Kroemer KHE, Grandjean E. Fitting the task to the human. London: Taylor & Francis; 1997.
- Ljus & Rum, planeringsguide för belysning inomhus (*Light & Room, guide for planning of indoor lighting*). Stockholm: Ljuskultur; 2003. (*In Swedish only*)
- Newsham GR, Veitch JA. Lighting quality recommendations for VDT offices: a new method of derivation. *Lighting Res Technol.* 2001; 33(2):97-116.
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. *Arbete och Hälsa* 2005:11. Stockholm; National Institute for Working Life: 2005.
- Starby K. En bok om belysning (*A book on lighting*). Ljuskultur: Stockholm; 2003. (*In Swedish only*)
- Veitch JA, Newsham GR. Preferred luminous conditions in open-plan offices: research and practice recommendations. *Lighting Res Technol.* 2000; 32(4):199-212.

3. Office Space and Environment

C Sound and Noise Conditions

Advice and guidelines – minimise disturbing noise and optimise hearing conditions

Call centre work is demanding on the hearing. Telephone calls with customers normally make up a large proportion of the working day. Telephone equipment that works well with good sound quality is therefore necessary for the work to be performed well. Telephone equipment should be equipped with noise-reducing devices to prevent potentially damaging noise or noise which is unpleasantly loud. For some people, a headset with one or two earpieces works best. Most people prefer a personal headset.

To ensure that customer calls can be heard clearly, the noise level in the office should not be disturbingly loud. Noise levels over 55 dBA should therefore be avoided. If the work demands a high degree of concentration, even levels of 40-45 dBA can be disturbing.

Most problems relating to noise disturbances in call centres arise in open-plan layouts (see chapter 3A). Noise interference can be minimised by applying appropriate sound-absorbent measures to ceiling and walls, adding sound-absorbent screens between workstations and using soft materials, such as curtains, hangings and runners, in the office,

Explanation

Many call centre operators are disturbed by high noise levels. The most disturbing noise at a call centre is normally the sound of other operators' customer conversations.

Disturbing noise can have a negative effect on work performance. Not unexpectedly, studies have revealed that more complex work tasks which involve having to process information aurally and orally are most affected by disturbing noise. Noise from other people's conversations is particularly disturbing, according to a large number of studies. Work which requires a high level of concentration can be disturbed by noise levels over 40-45 dBA. Speech comprehension can be disturbed at levels over 55 dBA. This applies particularly to those with impaired hearing or those whose work involves the use of a foreign language.

High noise levels can necessitate raising of the voice, which increases the risk of throat or voice problems in the long term. Disturbing noise can also cause mental tiredness and diminished motivation to perform well. These side-effects can be considerable, even though the operator may not actually feel disturbed during work.

Sudden loud noises from telephone systems (headsets) can arise due to various technical problems. In extreme cases these can result in hearing problems or other discomfort. Telephone equipment should therefore be fitted with devices to reduce high noise levels.

What does the law say?

The Swedish Work Environment Authority's provisions on Workplace Design (AFS 2000:42 §§34 and 35) state that working premises must be suitably designed and equipped, taking into account their purpose, sound properties and any noise sources. The workplace must be planned and arranged so that exposure to noise is reduced to the lowest practical level and as few people as possible are exposed to noise. The Work Environment Authority's provisions on Noise (AFS 2005:16) specify a limit of 40 dBA as the maximum sound level in office premises where there is a need for steady concentration or undisturbed telephone calls.

References

- Arbetsmiljöverkets författningssamling Arbetsplatsens utformning AFS 2000:42 (*The Work Environment Authority's provisions on Workplace Design*). Stockholm: Arbetsmiljöverket; 2001, [http://www.av.se/regler/afs/2000_42.pdf]. (In Swedish only)
- Arbetsmiljöverkets författningssamling – Buller AFS 2005:16 (*The Work Environment Authority's provisions on Noise*). Stockholm: Arbetsmiljöverket; 2005, [http://www.av.se/regler/afs/2005_16.pdf]. (In Swedish only)
- ISO/TR3352 Acoustics – Assessment of noise with respect to its effect on the intelligibility of speech. Geneva: International Organization for Standardization; 1974.
- Kjellberg A, Landström U. Noise in office: Part II – The scientific basis (knowledge base) for the guide. *International Journal of Industrial Ergonomics*. 1994; 37:1261-1267.
- Kjellberg A, Landström U, Tesarz M, Söderberg L, Åkerlund E. The effects of non-physical noise characteristics, ongoing task and noise sensitivity on annoyance and distraction due to noise at work. *Journal of Environmental Psychology*. 1996; 16:123-136.
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. *Arbete och Hälsa* 2005:11. Stockholm; National Institute for Working Life: 2005.
- O'Neill MJ. The relationship between privacy, control and stress responses in office workers. *Human Factors and Ergonomics Society 37th Annual Meeting* 1993.
- Wittersch T, Wyon DP, Clausen G. The effects of moderate heat stress and open-plan office noise distraction on SBS symptoms and on performance of office work. *Indoor Air*. 2004; Suppl 8:30-40.

3. Office Space and Environment

D Indoor Climate and Air Quality

Advice and guidelines – good ventilation and indoor climate are conducive to comfort and good performance

A good indoor climate and air quality in the workplace enhances comfort and creates an optimum environment for good work performance. This requires, among other things, that the construction, dimensioning and maintenance of the ventilation system must take into account the type of work that is performed. It is a good idea to improve the ventilation over and above the minimum hygiene requirements. It is also important that the filters in the ventilation system are changed regularly. An air flow up to 25 l/s per person in the office and carbon dioxide levels below 800 ppm have been shown to give increased comfort and fewer problems with the eyes and the air passages. Optimal air quality and indoor climate can improve performance. Air temperature should be between 20 and 24° C, air-flow speed below 0.15 m/sec and humidity between 30 and 60% relative humidity.

If flexible working hours are used at the workplace, the ventilation system should be adapted so that there is sufficient ventilation during all working hours.

Good office cleaning routines and dust-free offices are also conducive to comfort and freedom from illness, such as problems with the air passages.

It is a good idea to bring in expertise (occupational health services, for example) when the office is being built or converted.

Explanation

Good ventilation and indoor climate are necessary to create well-being. At call centres the main source of poor air is the large number of people gathered in the same room and the large amount of heat-generating equipment in use. When people breathe out, carbon dioxide is produced. The quality of the air and the efficiency of the ventilation system can be assessed by measurement of carbon dioxide in the air. The concentration is normally specified as ppm (parts per million).

In the Nordic climatic zone, indoor air is very dry in winter when cold and relatively dry outside air is taken in and heated up. Warm and dry air can be troublesome to the eyes and air passages, particularly during work at display screens and when the voice is used a lot.

Studies have revealed that dust levels in offices can be reduced by introducing good cleaning routines. Eye and throat complaints were reduced after the introduction of better cleaning routines.

It is virtually impossible to create an indoor climate that suits everyone, as individual preferences vary.

What does the law say?

Regulations relating to ventilation and room temperature can be found in the Swedish Work Environment Authority's provisions on Workplace Design (AFS 2000:42 §§18-33). The general guidelines state that ventilation must not fall below 7 l/s/person. The carbon dioxide content should be below 1000 ppm.

The air temperature should be between 20 and 24°C during wintertime and 20-26 °C during summertime for sedentary work. High air temperatures (>22°C) should be avoided in winter as they can give rise to troubles caused by dry air. Air-flow speed should not exceed 0.15 m/s in order to avoid draughts.

There are methods for calculating the optimal room temperature at which as few people as possible are dissatisfied (PPD = Predicted Percentage Dissatisfied). The PPD value at a workplace should be below 10%.

References

- Arbetsmiljöverkets författningssamling Arbetsplatsens utformning AFS 2000:42 (*The Work Environment Authority's provisions on Workplace Design*). Stockholm: Arbetsmiljöverket; 2001, [http://www.av.se/regler/afs/2000_42.pdf]. (In Swedish only)
- ANSI/ASHRAE Standard. Thermal, environmental conditions for human occupancy. Atlanta: American Society of Heating Refrigerating and Air-Conditioning Engineers; 1992.
- ANSI/ASHRAE Standard. Ventilation for acceptable indoor air quality. Atlanta: American Society of Heating Refrigerating and Air-Conditioning Engineers; 1999.
- Bourbeau J, Brisson C, Allaire S. Prevalence of the sick-building syndrome symptoms in office workers before and six months and three years after being exposed to a building with an improved ventilation system. *Occup Env Med* 1997; 54:49-53.
- Erdman CA, Apte MG. Mucous membrane and lower respiratory building related symptoms in relation to indoor carbon dioxide concentration in the 100-building BASW dataset. *Indoor Air*. 2004; Suppl 8:127-134.
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. *Arbete och Hälsa* 2005:11. Stockholm; National Institute for Working Life: 2005.
- Seppänen OA, Fisk W, Mendell MJ. Association of ventilation rates and CO₂ concentrations with health and other responses in commercial and industrial buildings. *Indoor Air* 1999; 9:226-252.
- Skulberg K, Skyberg K, Kruse K, Eduard W, Djupesland P, Levy F, Kjuus H. The effect of cleaning on dust and the health of office workers - An intervention study. *Epidemiology*. 2004; 15(1);71-78.
- Wargocki P, Wyon DP, Sundell J, Clausen G, Fanger PO. The effects of outdoor air supply rate on perceived air quality, sick building syndrome (SBS) symptoms and productivity. *Indoor Air*. 2000; 10(4):222-236.
- Wargocki P, Sundell J, Bischof W, Brundrett G, Fanger PO, Gyntelberg F, Hansson SO, Harrison P, Pickering A, Seppanen O, Wouters P. Ventilation and health in non-industrial indoor environments: report from a European Multidisciplinary Scientific Consensus Meeting (EUROVEN). *Indoor Air* 2003; 12: 113-128.
- Wargocki P, Wyon DP, Fanger PO. The performance and subjective responses of call-centre operators with new and used supply air filters at two outdoor air supply rates. *Indoor Air*. 2004; Suppl 8:7-16.

4. Furniture and Equipment

A Desks and Chairs

Advice and guidelines – choose furniture that can be adjusted to different individuals and allow variation in the work posture

Work chair

A good work chair:

- can be adjusted for height
- has adjustable backrest and armrests
- has a rocking function

It is best if there is a choice of chairs, so that people can try out the chair that suits them best. A chair may need to be tried out for a few days to get a real idea of whether it is suitable. If the chair has armrests, these should be adjustable both in height and sideways. It is important that the armrests can be easily removed or pushed out of the way so that the chair can be brought right up to the desk.

Work desk

A good work desk:

- is easily adjustable in height, preferably electrically
- is sufficiently large – a minimum depth of 100 cm for conventional CRT screens or 80 cm for flat displays
- has a single-level desktop, without a shelf for the keyboard
- has a desktop with a medium light and matt colour
- is max. 3 cm thick at the front edge (including any edging).

A desk is not easily adjustable if each leg has to be adjusted manually to get the right level. Fasten wires and cables for the computer equipment under the desk. There are special cable trays that can be used. Cables and wires on the floor gather dust, obstruct cleaning and can cause trips and falls. They can also be damaged and therefore represent a fire or electrical hazard.

TCO-Development has produced specifications which give good guidance in choosing a work desk.

More details on suitable office furniture can be found on the website of the Swedish National Institute for Working Life.

If large investments in non-optimal furniture have already been made, these may be supplemented with some electrically adjustable desks to start with, which can be used by employees in turn. If the furniture is not ideal, it is particularly important to organise the work in such a way as to avoid health risks.

Explanation

Pain in the neck, shoulders, arms, hands or back is common among call centre operators. Studies have revealed that 75-80% of female call centre operators claim to have had trouble in these areas during the last month. These complaints may be caused by furniture and equipment not being adjusted to the individual's body measurements. People have different measurements and different needs. Consequently, it is essential to have chairs and desks that can be adjusted to the individual in order to allow satisfactory work postures and movements during computer work. Poor design and non-adjustability of the chair or desk can quickly give rise to physical problems that reduce the working capacity.

A desk that can be easily raised and lowered – electrically, for example – allows the operator to alternate between sitting and standing. This type of desk can also be easily adapted to people of different height if, for example, several people use the same workstation. A very dark or very light desktop that is shiny can cause troublesome reflection or luminance contrasts between the display screen and the background. Desktops with an anti-glare and a matt surface should therefore be selected.

The desktop should be clear and in one piece in the area where operators work with their hands, i.e. around the display screen, mouse and paperwork. This provides a flexible working area. There may be a need for a height-adjustable section of the table-top for the VDU, particularly if it is very large, so that its height can be adapted to the operator's eye level. In order to ensure a comfortable position for the legs under the desk, the desk's front edge should not be thicker than 3 cm.

If the work chair has a rocking function, the operator can vary the working position easily, e.g. when handling telephone calls. This is good for the back and neck. If the backrest is sufficiently high, this provides support for the neck, and if it is narrow, the arms can also be stretched backwards. This all increases the opportunity for important variation in work posture.

If employees are knowledgeable about the furniture and are able to adjust it themselves, they will get more benefit out of the equipment.

What does the law say?

The Swedish Work Environment Authority provisions on Work with Display Screen Equipment (AFS 1998:5) state that the workstation must be dimensioned, designed and equipped so that the operator can find comfortable work postures and vary work postures and working movements. The desk and work surface must be large enough to allow a flexible arrangement of the screen, keyboard, computer mouse or other operating device, paperwork and anything similar. The space round the keyboard and the space for a computer mouse or other operating device must be sufficient to provide support for the hands and arms of the operator.

The display screen and keyboard must be positioned so as to achieve a suitable working height and visual angle relative to the screen. The work chair must be steady and allow the operator freedom of movement and a comfortable position. The chair must be easy to adjust. The seat must be adjustable in height. The backrest must be adjustable in both height and tilt.

Similar requirements concerning desks and work chairs are specified in the Minimum Requirements annex to EU directive 90/270/EEC.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- EN ISO 9241-5 Ergonomic requirements for office work with visual display terminals (VDTs) - Part 5: Workstation layout and postural requirements. International Organization of Standardisation 1998, [<http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=16877>].
- National Institute for Working Life's webpages on computer work, [http://www.arbetslivsinstitutet.se/datorarbete/default_en.asp].

- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. Arbete och Hälsa 2005:11. Stockholm; National Institute for Working Life: 2005.
- Smith MJ, Bayehi AD. Do ergonomics improvements increase computer workers' productivity? An intervention study in a call centre. *Ergonomics*, 2003; 46(1-3): 3-18.
- TCO-development's web pages, [<http://www.tcodevelopment.com>].
- Toomingas A, Hagman M, Hansson Risberg E, Norman K. Arbetsförhållanden och hälsa vid ett urval av callcenterföretag i Sverige (*Working conditions and health in selected call centre companies in Sweden*). Arbetslivsrapport 2003:10, Stockholm: Arbetslivsinstitutet; 2003, [<http://www.arbetslivsinstitutet.se/publikationer/detaljerad.asp?ID=1357>]. (In Swedish with English summary)

4. Furniture and Equipment

B Computer Equipment

Advice and guidelines – select computer equipment that is quality-labelled and allows good work postures

VDU – the display screen

A good VDU:

- is TCO-labelled (not older than TCO99)
- has a surface with a medium light and matt colour
- is preferably a flat screen.

Please note that a TCO-labelled VDU that has been used for several years may no longer fulfil the requirements for a good screen, as VDUs suffer from wear and deterioration of image quality.

Keyboard

A good keyboard:

- is short
- is low
- is easy to type with
- has a surface with a medium light and matt colour

Computer mouse

A good computer mouse:

- is low and adapted to the size of the hand
- allows the hand to rest on it with a comfortable and straight wrist position.

It is a good idea to have several mice and other operating devices that employees can try out and select from.

More details on suitable computer equipment can be found on the website of the Swedish National Institute for Working Life.

Explanation

VDU work can cause eye strain in the long term. The results of studies show that eye problems are reported by one in four call centre operators. It is therefore important that the screen has appropriate properties and a high image quality. TCO-labelled display screens have undergone quality assessment by the independent organisation, TCO Development. The labelling requirements have gradually been raised over the years. TCO labelling should not be older than 1999 (TCO99).

Flat displays are preferable to the old CRT screens. These flat displays are lighter and occupy less space, making them easier to handle and place on the work desk. Flat displays are much less sensitive to reflection from lighting and windows, nor do they flicker. They have low energy consumption and emit less heat and electro-magnetic fields. The display screen should be capable of being lowered to a suitable height (see the section on positioning of equipment in chapter 5).

Complaints such as pains in the neck, shoulders, arms and hands are also common among call centre operators. These complaints may be caused by computer equipment not being adjusted to the individual's body measurements.

Standard keyboards are normally wide – often too wide – which means that the computer mouse is too far to the right for right-handed operators. This results in an unsuitable work posture. Both the keyboard and the computer mouse need to be placed within shoulder width. Short keyboards are

available, such as those without a numerical keypad. There are also accessories which have the input device such as a touch-pad in the middle at the front of the keyboard.

That the keyboard and computer mouse are designed to suit everyone's body measurements and working methods is a prerequisite for achieving satisfactory work postures and working movements in computer work. A computer mouse that is too large or small is a strain to use. It should fit both the left and right hand, allowing the operator to change hands. Correct working level and a low keyboard and computer mouse are important, as they allow the wrists to be kept straight while working. Keyboards and computer mice that are too high force the wrists into an unsuitable upward work posture.

Black, white or shiny keyboards or VDU-casings can produce considerable luminance contrasts or troublesome reflection. These should therefore be avoided. Select equipment with an anti-glare and matt surface.

What does the law say?

The Swedish Work Environment Authority's provisions on Work with Display Screen Equipment (AFS 1998:5) state that the VDU and keyboard must be easily readable and designed in such a way as to facilitate use. The image on the screen must be free from disturbing flicker and other forms of instability. The screen must be free from reflective glare and reflection liable to cause discomfort to the operator. The characters on the screen and keyboard must be well-defined and large, and with sufficient contrast. The distances between characters and lines must be sufficient for good readability. The brightness or contrast between the characters and the background must be easily adjusted by the operator, and also be easily adjusted to suit ambient conditions.

Similar computer equipment requirements are specified in the Minimum Requirements annex to EU directive 90/270/EEC.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- EN ISO 9241-9 Ergonomic requirements for office work with visual display terminals (VDTs) - Part 9: Requirements for non-keyboard input devices. International Organization for Standardization 2000, [<http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=30030>].
- National Institute for Working Life's webpages on computer work, [http://www.arbetslivsinstitutet.se/datorarbete/default_en.asp].
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. Arbete och Hälsa 2005:11. Stockholm; National Institute for Working Life: 2005.
- Smith MJ, Bayehi AD. Do ergonomics improvements increase computer workers' productivity? An intervention study in a call centre. *Ergonomics*, 2003; 46(1-3): 3-18.
- TCO-development's web pages, [<http://www.tcodevelopment.com>].
- Toomingas A, Hagman M, Hansson Risberg E, Norman K. Arbetsförhållanden och hälsa vid ett urval av callcenterföretag i Sverige (*Working conditions and health in selected call centre companies in Sweden*). Arbetslivsrapport 2003:10, Stockholm: Arbetslivsinstitutet; 2003, [<http://www.arbetslivsinstitutet.se/publikationer/detaljerad.asp?ID=1357>]. (*In Swedish with English summary*)

4. Furniture and Equipment

C Software and Systems

***Advice and guidelines* – select software which facilitates and increases work efficiency**

Good software helps the user to perform work tasks quickly and smoothly. This is important in order to manage communication with the customer effectively. The information presented on the screen should be clear, and easy to view and navigate. It makes things easier for the operator if as much as possible of the information needed appears simultaneously on the screen.

Avoid strong colours on the screen, particularly over large areas.

Good software allows keyboard shortcuts to be used.

More details on requirements for good software can be found on the website of the Swedish National Institute for Working Life.

Explanation

Having to move between screens or software on the computer puts a mental strain on the operator. This is particularly inappropriate in call centre work, which already involves a high level of mental strain. The operator needs to focus on the customer.

Lots of colours and aggressive colour combinations on screens give a confused impression and can reduce the comprehensibility of information. The eyes are drawn to strong colours and bold contrasts. This can cause eye strain. The number of colours should therefore be limited.

Monotonous, repetitive work with a mouse can increase the risk of problems with the neck, shoulders, arms and hands. This is particularly likely to occur if the operator repeatedly has to click and drag the mouse or make lots of selections on the screen demanding high precision manoeuvres. The operator will benefit from being able to alternate between mouse work and keyboard work (by using features such as shortcut keys). It is therefore important that the software allows for use of keyboard shortcuts.

What does the law say?

The Swedish Work Environment Authority's provisions on Work with Display Screen Equipment (AFS 1998:5 §10) state that software and systems must be suitably designed with regard to the requirements of the work to be performed and the aptitudes and needs of the operator. Software must be easy to use and, where appropriate, adaptable to the operator's level of knowledge or experience. Systems must, as far as possible, give the operators feedback with regard to the work done. They must display information in a format and at a pace adapted to the operators.

In the design and selection of software, special consideration must be paid to the ergonomic principles applying to human capacity for perceiving, understanding and processing information.

Similar software requirements are specified in the Minimum Requirements annex to EU directive 90/270/EEC.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].

- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- EN ISO 9241-12 Ergonomic requirements for office work with visual display terminals (VDTs) -- Part 12: Presentation of information. International Organization for Standardization 1998, [<http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=16884>].
- EN ISO 9241-13 Ergonomic requirements for office work with visual display terminals (VDTs) -- Part 13: User guidance. International Organization for Standardization 1998, [<http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=16885>].
- EN ISO 9241-14 Ergonomic requirements for office work with visual display terminals (VDTs) -- Part 14: Menu dialogues. International Organization for Standardization 1997, [<http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=16886>].
- National Institute for Working Life's webpages on computer work, [http://www.arbetslivsinstitutet.se/datorarbete/default_en.asp].
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. Arbete och Hälsa 2005:11. Stockholm; National Institute for Working Life: 2005.
- Smith MJ, Bayehi AD. Do ergonomics improvements increase computer workers' productivity? An intervention study in a call centre. *Ergonomics*, 2003; 46(1-3): 3-18.
- Tengblad P, Backström M, Herrman L, Hammarström O, Sandgren S. Hållbart arbete i informationssamhället. Slutrapport från projektet Callcenter i utveckling. Långsiktigt hållbart arbete med kunder på distans. (*Sustainable work in the information society. Final report from the project Call centres under development. Long-term sustainable work with customers at a distance*) Stockholm: ATK Arbetstagarkonsultation AB; 2001. (*In Swedish only*)

5. Work Techniques and how to Place Equipment and Furniture

Advice and guidelines – placing furniture and computer equipment correctly and adjusting them properly together with sound work techniques will make work more efficient and reduce the risk of problems

It is not enough to have well designed equipment to produce good computer work. If the equipment is placed, adjusted or used inappropriately, the work postures and body movements can lead to strain and pain. All users need to learn about efficient and healthy work techniques and know how the equipment should be used and why.

How to adjust the work chair and desk:

Chair

1. Adjust the work chair so that the feet maintain permanent contact with the floor and the knees and hips are at an angle of approximately 100 degrees. If the chair is too low, the operator will assume a hunched up position. If the chair is too high, its front edge will press under the thighs.
2. Adjust the backrest so that it gives good support to the lumbar region.
3. The rocking function should be set so that it balances against the body weight – not too easily, and not too firmly.

Work desk

Adjust the work desk so that the desktop is at elbow height.

Vary the work posture: stand up and work – often!

Sit in lots of different ways. It is a good idea to vary postures when seated on the chair.

Alternating between sitting and standing to work provides good variation for the body. It is helpful if the desk can be easily adjusted from a sitting to standing height. Special “standing chairs” can sometimes be useful. These are chairs that are high enough to allow work in a standing position.

It may be a good idea to introduce a rule that everyone who rarely leaves the workstation should alternate between sitting and standing several times during the working day. There are examples of call centres recommending that everyone should stand for at least a quarter of the working period.

How to place computer equipment

There should be 50-70 cm between the VDU and the edge of the desk at which the operator is sitting or standing. The distance is needed for the keyboard, to allow support for the wrists and forearms and for work materials. The top edge of the screen should be somewhat below eye level. The gaze needs to be directed slightly downwards. Ensure that the display screen is not placed right in front of a window or with a window directly behind the user’s back. The workstation should be positioned so that any windows are at the side of the person working with the VDU.

There should be approximately 15 cm between the edge of the desk and the keyboard, so that the forearms and wrists can rest on the surface between the edge and the keyboard.

The area around the mouse and keyboard should be kept free. The forearms need to be able to rest in a relaxed way on the desktop. The entire forearm should have support during mouse work.

Ensure that the mouse is used close to the keyboard – within forearm’s length and shoulder width. The mouse may also be placed in front of the operator between the keyboard and the edge of the desk.

Further details about suitable work techniques and adjustment of furniture and equipment can be found on the website of the Swedish National Institute for Working Life.

Use good speaking and voice techniques

The voice is the operator's most important tool in call centre work and is what the customer hears. The voice is subject to heavy use. Good voice and speaking techniques help to preserve the voice and enhance customer contact. Professional advice and suitable training can be beneficial in many cases. Good air quality and a suitable indoor climate are important factors in avoiding problems with air passages and speech organs (see chapter 3D). Drinking extra water is often beneficial to the health in dry air conditions, particularly in winter.

Explanation

Many call centre operators, like others who do a lot of work at computers, have problems with the neck, shoulders, arms and hands. These complaints may be caused by furniture and equipment not being adjusted to the individual's body measurements or by inappropriate working techniques. Having the correct working height, so that the operator is working in a relaxed way, and giving the wrists and forearms real support and relaxation when using a keyboard or mouse are fundamental to comfortable work postures and working movements during computer work.

A VDU that is too high will result in an inappropriately directed gaze. Think about how you read a book. You have the book on the table or you tip it and look down while reading. This is natural, as the eyes, at short distances, function best when looking down at an angle. Looking upward can also cause the eyes to become dry and irritated.

If the screen is positioned too high or low this may result in an uncomfortable crick in the neck.

Good typing techniques make work easier. It is best if the operator can type without needing to look at the keys. This is important to achieve a good pattern of movements and a relaxed work posture. Learn to use the shortcuts to cut down use of the mouse. This accelerates the work and reduces the risk of complaints such as mouse arm.

In a similar way, it is important to apply good speaking and voice techniques to avoid damage to the throat and speech organs. Studies reveal that one in three call centre operators report throat or voice problems. The risk increases if the air in the room is dry or polluted. The risk may further increase due to stress and straining of the muscles and speech organs. Speech therapists and other experts can offer preventive advice. Good voice and speaking techniques can also improve customer contact.

What does the law say?

The Swedish Work Environment Authority's provisions on Ergonomics for the Prevention of Musculoskeletal Disorders (AFS 1998:1 §6) state that the employer should ensure that the employee has sufficient knowledge about suitable work postures and working movements, the proper use of technical equipment and aids, the risks entailed by unsuitable work postures, working movements and manual handling and about early indications of the overloading of joints and muscles. Employers should also ensure that employees are given the opportunity of training in suitable work techniques for the task involved, and ensure that they follow given instructions.

See also chapters 4A and 4B on design of equipment (work desk, work chair, VDU, keyboard and mouse).

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Ergonomics for the Prevention of Musculoskeletal Disorders. AFS 1998:1. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9801.pdf>].
- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- EN ISO 9241-5 Ergonomic requirements for office work with visual display terminals (VDTs) - - Part 5: Workstation layout and postural requirements. International Organization for Standardization 1998, [<http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=16877>].
- EN ISO 9241-9 Ergonomic requirements for office work with visual display terminals (VDTs) - - Part 9: Requirements for non-keyboard input devices. International Organization for Standardization 2000, [<http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=30030>].
- National Institute for Working Life's webpages on computer work, [http://www.arbetslivsinstitutet.se/datorarbete/default_en.asp].
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. Arbete och Hälsa 2005:11. Stockholm: National Institute for Working Life; 2005.
- TCO-development's web pages, [<http://www.tcodevelopment.com>].

6. Eyesight and Hearing Tests

A Eyesight Tests

Advice and guidelines – provide regular eyesight tests

Poor vision while working at a display screen is stressful and can lead to impaired performance, in terms of both quantity and quality. Regular eyesight tests and suitable glasses for computer work can minimise these problems.

Explanation

Computer work is visually demanding. Many operators suffer eye strain, headaches or neck pains, which can be linked to demands on their vision. Eye problems can occur if the operator has defects of vision. Suitable glasses specially adapted for VDU work can in such cases be extremely helpful. After the age of 40, it becomes more difficult to see clearly at close quarters, including information on a computer screen. It is particularly important to arrange eye tests under these circumstances.

What does the law say?

The Swedish Work Environment Authority's provisions on Work with Display Screen Equipment (AFS 1998:5 §6) state that employees normally having to work with a VDU more than one hour per working day must undergo an eyesight test, and, if necessary, obtain special glasses for computer work. This test may take the form of a simple vision screening test arranged by occupational health services, which can determine whether a supplementary examination by a qualified optometrist is necessary. The rule also applies to temporary employees, such as relief staff. In practice, an eye test is only needed if the duration of their employment allows time for the test to take place and any glasses needed to be obtained.

The costs of the test and any glasses are borne by the employer. Eye tests must be repeated regularly. Every three to five years is an appropriate interval. It is a good idea to ask for advice (ask an optician with occupational medicine expertise, for example) about what is a suitable interval for a person. In addition, eyesight tests must be performed if employees develop eye problems that may be connected with the visual demands of the work.

The Swedish Work Environment Authority's website has detailed answers to questions about eyesight test requirement.

Similar requirements concerning eye tests and glasses are specified in article 9 of EU directive 90/270/EEC.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].
- Arbetsmiljöverkets webbsidor om synkontroll (*Swedish National Board of Occupational Safety and Health web-site on eyesight tests*), [<http://www.av.se/fragsvar/kontorsarbete>]. (*In Swedish only*)
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].

6. Eyesight and Hearing Tests

B Hearing Tests

Advice and guidelines – hearing tests are recommended

Hearing impairment when working in a call centre is stressful. It can have a negative effect on performance, in terms of both quantity and quality. Hearing tests for those who deal with customer calls, and suitable advice and equipment for persons with impaired hearing can ease such situations.

Explanation

Telephone work is demanding on the hearing. A large proportion of call centre work consists of listening to and understanding voices of customer and clients on the phone. High noise levels often occur at the workplace. These can interfere with comprehension of speech, particularly if the disturbance comes from other people's voices. This applies particularly to those with impaired hearing or those whose work involves the use of a non-native language. Hearing disturbances can cause tiredness and other problems. They can also have a detrimental effect on work performance. Loss of hearing can develop gradually without the person affected being really aware of the problem. Hearing tests for those who deal with customer calls could be one way of tracking and helping people with this type of problem.

There are no clear rules about hearing tests or about how often they should be repeated. A hearing test should be carried out when an employee is taken on and this should be repeated at appropriate intervals or if there are any suspected hearing problems. It is particularly important to carry out hearing tests on the over 50s, as hearing loss becomes more common as people get older.

What does the law say?

The Swedish Work Environment Authority's provisions on Job Adaptation and Rehabilitation (AFS 1994:1 §4 and §12) state that the employer should regularly identify the need for job adaptation measures among employees. The individual employee's work situation should be adapted on the basis of his or her working capacity. The employer should also take into consideration whether the individual employee has any disability.

References

- Arbetsmiljöverkets författningssamling Arbetsanpassning och rehabilitering AFS 1994:1 (*Provisions of the Swedish National Board of Occupational Safety and Health on Job adaptation and rehabilitation*). Stockholm: Arbetsmiljöverket; 1994, [http://www.av.se/regler/afs/1994_01.pdf]. (*In Swedish only*)

7. Other Measures for Health Promotion

Advice and guidelines – introduce a health programme at the company

A health programme at a call centre can encourage and help many individuals to maintain a healthy lifestyle. The health programme can cover a range of different topics such as giving up smoking, choosing healthy food and taking exercise. Good examples of health initiatives at call centres include offering fruit baskets instead of sweets or biscuits and water dispensers instead of soft drinks with sugar content. Other examples include ordering salads for lunch from a local catering firm rather than pizza slices from the freezer. Some call centres arrange various motivating and stimulating family activities during weekends and holidays. Other examples include combining sales campaigns with health campaigns. There are also call centres that provide short talks about diet, sleep, exercise and other health-promoting measures to raise awareness of these issues and give employees some ideas about the positive things they can do for their health.

Having a health programme at the company can compensate for the large amount of sedentary work at call centres. The company can help to encourage and facilitate various forms of physical activity during working hours and in leisure time. This can have a positive effect on employees' health and working capacity. One example is to alternate between sitting and standing at an adjustable work desk. Other examples include using breaks to take a stretch, and possibly adding tips on the company's intranet about suitable movements. It is also possible to use rest periods or breaks during the day. Examples include call centres which arrange lunchtime walks or workouts in the basement. Other call centres give away training cards for a local exercise centre. Another effective way to encourage regular physical activity is to make it easy for employees to walk or cycle to and from work. One way of doing so is to arrange weather-protected, anti-theft cycle parking facilities.

Giving employees small portable pedometers can encourage them to take extra steps and maybe compete between departments or other companies in the sector.

It is particularly important in the long term to target individuals who are in most need of this type of activity, but for various reasons remain in the background. Such encouragement must obviously take into account the individual's right to personal integrity.

Joint initiatives with occupational health services and local fitness and sports clubs can often make things easier. The Swedish Federation for Company Sports awards corporate health certificates and diplomas and other organisations offer full ready-to-use packages for health work in companies. These can include training programmes on diet, exercise, health, massage and so on.

Programmes to improve the individual's health behaviour should *complement but not replace* necessary health-promoting measures concerning working conditions.

Explanation

We spend half our waking hours at work during working weeks. Consequently, how this time is spent has an important bearing on long-term health and well-being. The human being is physically and mentally "designed" for regular exposure to varying loads and demands – i.e. a combination of heavy and light strain and challenges, with time to recover in between. If this balance and variation is seriously disturbed over a long period, there is a danger of ill-health, due to over-utilisation and lack of recovery or insufficient exercise and stimulation. Something that is not used will wither away. It should be remembered that this applies to both mental and physical functions – to brain cells as well as muscle cells.

Not all healthy activities and habits are a matter of course to everyone. Many people have an unhealthy lifestyle (smoking, diet, exercise etc), even though they know this is wrong. Experience

shows that joining a group may be helpful in such cases. Work groups are then a natural context in which people can help and support each other in adopting a healthy lifestyle. Second to the family group, work groups are the groups where people most regularly meet over a long period. And apart from the home, the workplace is the place to which most people regularly return over a long period. For this reason, the workplace and work group have, in most contexts, great potential for encouraging a healthy lifestyle. Everyone benefits from the effects of individuals who thrive and are healthy – the individual concerned, the company and society in general. A person who is healthy and satisfied is likely to do a better job than one who is ill or feeling out of sorts.

Like many of the jobs in our post-industrial society, call centre work is often carried out in a sedentary position. Long-term lack of physical activity is connected with many illnesses, both minor and serious. One particular danger of insufficient physical activity is overweight and obesity, which in turn can result in a number of other ailments. There is clear evidence that regular physical activity promotes health and well-being and accelerates the healing of various sicknesses and illnesses. Physical activity is also linked to mental functions such as memory and mental well-being. Unfit individuals are believed to be less well equipped to tolerate both mental and physical stress and strain.

Call centre work should therefore be combined with various types of regular physical activity in order to supply the body's need for activity.

There is a consensus that adults need at least 30 minutes of moderately strenuous physical activity every day. A brisk walk is an example of this type of activity. Walking or cycling to and from work or going for a walk at lunchtime may suffice in many cases. At least 40-50 minutes of more intensive physical activity at least 2-3 times a week is also needed. Examples of this type of activity include workout sessions, football, intensive gardening and country dancing. It is important that this takes place regularly and is fun.

What does the law say?

There is no legal requirement that companies must offer their employees special health-promoting activities such as stop-smoking programmes, fitness training and so on.

References

- Börjesson M, Jonsdottir I. Fysisk aktivitet som profylax och terapi vid stressrelaterade tillstånd (*Physical activity as profylaxis and therapy in stress-related disorders*). Läkartidningen. 2004; 101(15-16):1394-1400. (*In Swedish only*)
- Engström LM, Lindgärde F. Fysiskt aktiva mår bättre (*Physically active people feel better*). Läkartidningen. 2004; 101(15-16):1387-1393. (*In Swedish only*)
- Terry J, Terry P, Weiderpass E, Vaibio H. Övervikt och fysisk inaktivitet kan öka cancerrisken. Tydligt samband vid de vanligaste cancerformerna (*Overweight and physical inactivity may increase the risk of cancer. Clear relation to some of the most common types of cancer*). Läkartidningen. 2004; 101(10):894-896. (*In Swedish only*)

8. Work Organisation and Psycho-Social Conditions

A Call Time, Shift Duration, Interruptions, Short Breaks and Long Breaks³

Advice and guidelines – limit call time⁴ and vary the working period with interruptions and breaks, both long and short

Characteristic of call centre work involving customer calls is that it often requires high mental alertness. This can cause exhaustion, strain and impaired performance over a longer period. There are no defined limits to how long an operator may work on customer calls, other than what is in the Swedish Working Hours Act, as to the number of hours employees should work per working day. In addition to these requirements it can be advantageous to take the benefit of the positive effects to health and performance that can be achieved by limiting customer call time and allowing various interruptions and breaks. The advice and guidelines given here will hopefully help to achieve an ideal balance between production requirements and human capacity, which in turn will contribute towards long-term sustainable development of the business.

In general terms, it can be said that from a health perspective long uninterrupted work shifts at the computer or computer work of over 4-6 hours a day increases the risk of various types of problem.

The optimum time spent on customer calls and computer work varies according to the content of the work, organisation and various other circumstances, as well as the capacity and needs of the individual. Generally speaking, the more favourable the conditions, the more time in the working day can be devoted to customer calls. Of course, the reverse also applies. If the work as a whole allows mental and physical variation, this increases the chance of successfully devoting a large proportion of the working time to customer calls in the long term. An example of this type of variation is a call centre allowing employees to be responsible for administrative tasks, different staff activities, care of the office, coffee breaks and the environment.

Similarly, there are no defined limits relating to the duration of shifts and breaks. Here too, the optimum time is established on the basis of the content of the work, organisation and various other circumstances, as well as the capacity and needs of the individual. It can also be said, in general terms, that the more favourable the conditions, the longer a shift containing customer calls and computer work can last. Of course, the reverse also applies. From a health and performance perspective, a suitable duration of a shift requiring alertness and concentration is approximately ½ to 1 hour. After this time there should be a break or an interruption to carry out other tasks. In exceptional cases, such a shift may be extended to 2 hours. It is often more beneficial to have short but frequent breaks/interruptions (a few minutes) rather than long breaks less often.

When an operator has an interruption or is not involved in a customer call, it may be a good idea to do something that provides both physical and mental variation from customer calls. Anything that

³ **Interruption** = break from work for personal reasons (visit to the toilet, filling water bottle) or to carry out other work tasks.

Short break = shorter break from work, e.g. coffee break or stretch break. The employee may not leave the workplace. The duration of the break counts as working time.

Long break = longer break from work. Employees are free to use the time they wish and may leave the workplace. The duration of the break does not count as working time.

NB – interruptions, short breaks and long breaks allow employees both physical and mental release from their work tasks.

⁴ **Call time** = the total time spent talking to customers or clients.

Stand-by time = the total time during which the operator is ready to take calls, i.e. is awaiting the next call.

Logged in time = call time + time for administration connected with calls + stand-by time.

Working time = total time the operator is at the workplace, i.e. logged in time + short breaks, interruptions, meetings etc., but not including time for (lunch) breaks.

involves sitting should be avoided, particularly if the operator has been sitting to deal with customer calls. Use any gaps between calls as mini-breaks – go to the canteen and refill your water bottle, go and photocopy a document, empty your pigeonhole or just walk a few times round your desk. Mini-breaks away from the computer and stretch breaks at the computer (raising the shoulders, stretching or doing other movements at regular intervals) can also reduce the risk of mouse arm.

Breaks and interruptions should be taken *before tiredness and impaired performance arise*. For this reason, scheduled interruptions and long/short breaks may sometimes be necessary, during intense or stressful conditions for example. In other cases, operators should be able to determine for themselves when breaks should be taken, considering the interests of the business and the needs of the individual.

During an 8-hour working day, with a lunch break or equivalent after approximately 4 hours, there are normally 2 short breaks of 15-20 minutes. Shorter mini-breaks or interruptions could be taken once or twice an hour (e.g. 10 minutes after 1 hour or 5 minutes after half an hour).

Some call centres have experienced positive results from reducing the logged in time per day, cutting down the shift duration and adding more breaks. These call centres have reported increased well-being and efficiency among employees. Operators were able to deal with customer calls for a greater proportion of the logged in time. The actual time spent on customer calls increased even though the logged in time per day was cut down.

See also chapter 3A (rest and break areas) and chapter 7 (exercise in working hours or leisure time).

Explanation

Studies have revealed increased incidence of aches, pains and other problems among employees who spend many hours a day at the computer compared with those spending fewer hours. Mouse and keyboard work over a long period increases the risk of problems. It has emerged from a number of studies on computer work that the risk of aches and pains in the neck/shoulders and the upper extremities increases when computer work exceeds 4 hours a day. Individual studies have shown that the risk increases after as little as 2 hours a day. Fatigue and impaired performance can occur even after ½ hour to 1 hour of demanding work at the computer. Performance can be expected to fall specially when carrying out mentally demanding work in conditions where concentration is disturbed.

It is not possible to define a general limit that should not be exceeded, as the risk of problems is dependent on work content, variation and break opportunities, as well as other physical and psycho-social work environment factors.

There is little scientific data about the significance of patterns of work and breaks relating to the incidence of problems specifically in call centre work. A study at a call centre in the USA showed that long work shifts or under-staffing increased the time needed to complete post-call administration (wrap-up-time). Studies have also shown that a 10-minute break every hour reduced the risk of aches and pains and improved performance in call centre work.

Information is also available from studies of computer work carried out at laboratories or places of work. These studies have revealed that attention flags after 20-35 minutes' work. Positive results from taking breaks, both spontaneous and planned, include *less* tiredness in various parts of the body, *fewer* aches and pains and *increased* attention and productivity. Studies have also shown that tiredness and aches and pains can be more easily avoided by taking short but frequent breaks (e.g. 30 seconds to a few minutes several times an hour) rather than long, occasional breaks. It has been shown that these breaks do not have any adverse effects on production. On the contrary, several studies point towards increased productivity.

Conditions at call centres are often different from other computer work, in that short, frequent breaks can take place between calls. Whether these are beneficial because they reduce the need for concentration, or not beneficial because they require renewed attention, is an area that lacks research.

Research has not produced any clear results about whether these breaks should involve rest or some form of activity, such as stretch break exercises. However, there is reason to believe that active interruptions or breaks can be beneficial, from both a mental and a physical perspective.

It is not a good idea to wait until the body indicates it needs a break or interruption. Tiredness and impaired performance will already have set in. A similar phenomenon is the need to take in fluids regularly during physical exertion – while taking part in sport, for example. If an athlete waits until he is thirsty he will already be performing under par. Reminders about the need for variation and recovery may therefore be needed. Planned breaks and interruptions are particularly important during periods of intensive customer calls. Otherwise operators themselves should decide when interruptions, breaks and mini-breaks are taken. The operator is often in the best position to decide when they are needed. However, this must be balanced against the needs of the company.

In its *UNI Call Centre Charter*, the international trades union UNI (Union Network International) states that staff should spend no more than 60%-70% of the working day actually taking calls. The charter also states that staffing levels at call centres should be sufficient to ensure that employees are able to attend training and staff meetings, to cover for leave and other absences, and to allow employees to manage work, family and community responsibilities.

What does the law say?

The Swedish Work Environment Authority's provisions on Work with Display Screen Equipment (AFS 1998:5 §8) state that in the event of disorders resulting from work with display screens, work must if possible be arranged so that the operator can switch to other less strenuous tasks. If this cannot be arranged, the operator must have sufficient breaks in the course of work so that problems do not occur.

§15 of the Working Hours Act states that the employee is entitled to a scheduled break after 5 hours' work. The duration of the break should be not less than 30 minutes. The employee must also be able to take short breaks. The law does not prescribe the duration or frequency of the short breaks. For work that is particularly strenuous, such as production line work, planned breaks of 5 minutes every hour are recommended. Local parties can reach agreement on how long and short breaks are scheduled.

Article 7 of EU directive 90/270/EEC states that the employer must plan workers' activities in such a way that the daily work on a VDU is periodically interrupted by breaks or changes of activity, thereby reducing the workload at the display screen.

References

- Arbetstidslagen med kommentarer i lydelse från januari 2001 (*Working Hours Act with comments from January 2001*). Stockholm: Arbetsmiljöverket; 2001, [<http://www.av.se/regler/arbetstidslagen/default.shtm>]. (*In Swedish only*)
- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].

- Balci R, Aghazadeh F. The effect of work-rest schedules and type of task on the discomfort and performance of VDT users. *Ergonomics*. 2003; 46(5):455-456.
- Balci R, Aghazadeh F. Effects of exercise breaks on performance, muscular load, and perceived discomfort in data entry and cognitive tasks. *Computers & Industrial Engineering*. 2004; 46:399-411.
- Caple D. Ergonomic review of rest breaks in call centres. In: Stevenson M, Talbot J (Eds.) *Proceedings of the 37th annual conference of the ergonomic society of Australia*. Sydney: The Ergonomics Society of Australia Inc. 2001; 91-96.
- Federspiel CC, Fisk WJ, Price PN, Liu G, Faulkner D, Dibartolomeo DL, Sullivan DP, Lahiff M. Worker performance and ventilation in a call centre: analyses of work performance data for registered nurses. *Indoor Air*. 2004; Suppl 8:41-50.
- Ferreira M, Conceicao G, Saldiva P. Work organization is significantly associated with upper extremities musculoskeletal disorders among employees engaged in interactive computer-telephone tasks of an international bank subsidiary in Sao Paulo, Brazil *Am J Ind Med*. 1997; 468-473.
- Galinsky TL, Swansson NG, Sauter SL, Hurrell JJ, Schleifer LM. A field study of supplementary rest breaks for data entry operators. *Ergonomics*. 2000; 43(5):622-638.
- Gerr F, Marcus M, Ensor C, Kleinbaum D, Cohen S, Edwards A, Gentry E, Ortiz, Monteilh C. A prospective study of computer users: 1. Study design and incidence of musculoskeletal symptoms and disorders. *Am J Ind Med*. 2002; 41:221-235.
- Henning R, Jacques P, Kissel G, Sullivan A, Alters-Webb S. Frequent short rest breaks from computer work: effects on productivity and well-being at two field sites. *Ergonomics*. 1997; 40(1):78-91.
- McLean L, Tingley M, Scott RN, Rickards J. Computer terminal work and the benefit of micro breaks. *Applied Ergonomics*. 2001; 32:225-237.
- Meijman T. Mental fatigue and the efficiency of information processing in relation to work times. *Ind Ergonomics*. 1997; (20):31-38.
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. *Arbete och Hälsa* 2005:11. Stockholm; National Institute for Working Life: 2005.
- Paul J, Huws U. How can we help? Good practice in call-centre employment. Analytical Social and Economic Research Ltd for the TOSCA project. Brussels: European Trade Union Confederation; 2002.
- Punnett L, Bergqvist U. Visual display unit work and upper extremity musculoskeletal disorders. A review of epidemiological findings. *Arbete och Hälsa* 1997:16. Stockholm: Arbetslivsinstitutet; 1997.
- Tittiranonda P, Burastero S, Rempel D. Risk factors for musculoskeletal disorders among computer users. In: Chernicak M (Ed), *Office Ergonomics*. Philadelphia: Henley & Belfus; 1999, sid. 17-38.
- UNI Call Centre Charter, [<http://www.union-network.org/UNIsite/Events/Campaigns/CallCenter/CallCentresCharter.html>].
- Van den Heuvel SG, de Looze MP, Hildebrandt VH. Effects of software programs stimulating regular breaks and exercises on work-related neck and upper-limb disorders. *Scand J Work Environ Health*. 2003; 29(2):106-116.

8. Work Organisation and Psycho-Social Conditions

B Content and Organisation of Work

Advice and guidelines – the work’s content, degree of complexity and variation should be adapted to the capacity and development needs of the individual.

In a well functioning call centre, the content and degree of difficulty and complexity of work tasks are adapted to the needs and capacity of the individual operator. It is advantageous if the company has a selection of different jobs, such as different customer tasks, which operators can try out in consultation with their supervisor. It is also useful if there are incoming and outgoing calls, service-based work and sales tasks to choose from. Try to provide work tasks that can gradually become more demanding as individuals develop in their work.

Good call centre work also allows both physical and mental variation to suit the individual’s own needs and capacity. Working days that are dominated by short-cycle and monotonously repetitive customer calls can in time result in problems with employee motivation.

The work tasks do not have to be confined to customer calls, but can also include other jobs in the company, such as planning, training and practical service work.

Some call centres have combined customer calls with other types of customer work, such as filling envelopes or packing goods. Others have allowed employees to assume responsibility for some of the actual operations and care of the office, such as cleaning, post sorting and arranging coffee breaks and snacks. In a similar way, employees could also be able to take on responsibility for some of the administration, planning and follow-up. Call centres in banks, pharmaceutical distributors and healthcare centres have allowed their staff to switch between customer service work and work in the bank, pharmacy and nursing departments.

If the call centre company only has one type of customer work, this makes both the business and the individual vulnerable, which may be perceived as stressful and insecure.

Allowing the call centre operator to switch between call centre work and other types of work is one way of accommodating the need for physical and mental variation when this cannot be arranged otherwise.

It is a challenge for companies, government authorities and other organisations with call centre operations to be creative and try out different ways of introducing optimal variation in the work.

Explanation

A basic rule for all work is to avoid or cut down work tasks that involve close control, a high level of restriction or monotonous routine work. Instead, the work should be organised in such a way as to satisfy people’s need for variation and recovery. Many of the work tasks that were once part of office work involved natural interruptions and variation from sedentary work. These tasks, which include internal and external communication, searching for and obtaining information and sending faxes, can now be performed on the computer. This, and the restriction of being tied to the telephone, has resulted in call centre operators carrying out most of their work without leaving the workstation. The consequence can be a long period of sedentary work, often with stressful work postures and a lack of variation and natural breaks, unless the operator deliberately gets up or changes the work posture in some other way.

Work tasks that are similar and monotonously repetitive with short intervals seldom produce a high level of job satisfaction. Instead, they increase the risk of developing stress reactions, physical and

mental exhaustion and ill-health. Only allowing operators to see a small part of the operations rather than the business as a whole may result in a lack of understanding of the company's business and needs. This type of work is rarely stimulating for the individual and therefore not beneficial to the company either. Inability to see the whole picture can also easily result in sub-optimisation and a failure to identify with the organisation. Conversely, too many new and difficult jobs can trigger feelings of inadequacy and stress.

Most people want to do a good job in which they can take pride. Different individuals have different talents and preferences with regard to the content of call centre work. People are more likely to do a good job if what they are asked to do is suited to their individual capacity and needs. Some people are happier doing service-oriented work involving incoming calls, such as helpdesk work. Others may be more adept at calling customers and selling goods or services. Working outside one's own area of expertise can be stressful and result in feelings of inadequacy and stress, particularly if salary is linked to performance. The organisation and development of the individual operator's work should therefore be regularly reviewed in discussion, such as a performance appraisal, between the operator and supervisor.

In its *UNI Call Centre Charter*, the global union UNI (Union Network International) specifies as a minimum standard that employees must receive regular, broad based, accredited skills and product training.

What does the law say?

The Swedish Work Environment Authority's provisions on Work with Display Screen Equipment (AFS 1998:5 §7) states that display screen work which is closely controlled or restricted in a physical or mental respect or is monotonously repetitive may not normally occur. Closely controlled work means that the employee is unable to control his or her own working hours, work tempo or working methods. Restricted work means that employees must remain at their workstation for a large part of the working day in order for the work to proceed – it is difficult for individuals to leave the workstation when they want and need to. Monotonously repetitive work means that the operator carries out one or more work tasks with similar working movements which are repeated over and over again for a large part of the working day.

Article 7 of EU directive 90/270/EEC states that the employer should plan the worker's activities in such a way that the daily work with a VDU is periodically interrupted by breaks or changes of activity, thereby reducing the workload at the screen.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- Holman D. Call centres. In: Holman D, Wall T, Clegg C, Sparrow P, Howard A (Eds): *The new workplace. A guide to the human impact of modern working practices*. West Sussex: Wiley&Sons; 2003.
- Johansson G, Aronsson G, Lindström BO. Social, psychological and neuroendocrine reactions in highly mechanised work. *Ergonomics*: 1978; 583-599.

- Melin B. Mentala löpande band och risken för kognitiv överbelastning (*Mental assembly lines and the risk of cognitive over-loading*). I: von Otter C (red) Ute och inne i svenskt arbetsliv. Forskare analyserar och spekulerar om trender i framtidens arbete (*In and out in Swedish work-life. Scientists analyse and speculate about trends in future work*). Stockholm: Arbetslivsinstitutet; 2003; 235-251. (*In Swedish only*)
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. Arbete och Hälsa 2005:11. Stockholm; National Institute for Working Life: 2005.
- UNI Call Centre Charter, [<http://www.union-network.org/UNISite/Events/Campaigns/CallCenter/CallCentresCharter.html>].

8. Work Organisation and Psycho-Social Conditions

C The Chance to Influence

***Advice and guidelines* – organise work so that everyone can have a say in where, when, how and at what tempo it is carried out**

If employees are able to control and have influence over the scheduling of their working time and breaks, both long and short, they will be in a better position to adapt the work to their own capacity and needs. Scheduling systems which involve employees booking themselves in, in consultation with supervisors, are usually very popular. It should be remembered that even with this type of system, it is not always possible to accommodate everyone's shift preferences. Similarly, it can be effective if call centre operators are able to be flexible with regard to the time needed for wrap-up work. It can be helpful if operators can influence the tempo of their work. One way of achieving this is by letting them indicate when they are ready for the next call/customer task.

It is advantageous if operators are given a selection of different work tasks and customer work. Avoid work tasks being monotonously dominated by a rigid script and wording.

The work environment provisions which state that work may not normally be closely controlled, restricted in a physical or mental respect or monotonously repetitive should be used as a basis. If this cannot be avoided, any risks to health should be mitigated by work rotation, expanding the work, introducing breaks, or other measures to inject variation into the work.

Work is considered closely controlled if employees perform work tasks for a large part of the working day with little or no opportunity to influence:

- timetable and work tempo.
- the order in which work tasks are performed.
- the way in which work tasks are performed
- the timing of breaks and recovery periods.

Restricted work means that the employees must remain at the workstation for a large part of the working day in order for work to carry on – it is difficult for individuals to leave the workstation when they want or need to.

Monotonously repetitive work means that the operator carries out one or more work tasks with similar working movements which are repeated over and over again for a large part of the working day. Computer work in general can be monotonously repetitive if it involves a great deal of input work with the keyboard or many repetitive mouse movements, as is the case with some software that requires a large number of manoeuvres with the mouse.

If work at a call centre is closely controlled, restricted in a physical or mental respect or monotonously repetitive for a large part of the day, it needs to be changed. This can be achieved by introducing other work tasks and activities or arranging more breaks. Often a combination of these measures is needed.

All computer work, call centre work included, often involves working in a sedentary position tied to the workstation. Consider different ways to break this pattern. One example is to provide the opportunity to alternate between sitting and standing during customer calls by using desks that are adjustable in height.

Explanation

Call centre work, like any work with customers, is often controlled by the flow of customers with regard to working hours, tempo and when long/short breaks can be taken. Current technology requires call centre operators to be tied to the workstation during the period when they are handling customer calls. There are also often quite rigid procedures and scripts on how the customer call is to be conducted, which leaves little scope for operators to put creative input into their work.

Consequently, call centre work can become closely controlled and restricted in a physical or mental respect.

The lack of opportunities to control their own work (working hours, for example) is cited by many call centre employees as a serious drawback of the job.

Giving operators the chance to control their own work has proved to be an important measure for combating employee dissatisfaction. What is more, it is often easier for employees to cope with demanding situations if they can draw up their own strategy for dealing with them. This also includes allowing employees control over their own working hours and work tempo. However, this is not always possible. In some cases, call centre operators have to follow a script and selected wording rigidly for legal reasons. This type of closely controlled work should be alternated with other tasks that allow employees to be creative.

Most call centre work tasks can only be performed at the workstation. This results in restriction of movement and often involves long periods of sedentary work, which can cause physical strain and ill-health. Opportunities for physical variation should be encouraged in order to counter these risks. One solution is to provide work desks that can be easily adjusted in height for sitting and standing work. Wireless headsets can increase mobility at the workstation even while talking to the customer.

In its *UNI Call Centre Charter*, the global union UNI (Union Network International) specifies as a minimum standard that employees should have influence over the scheduling of working hours, to allow them to manage family and social responsibilities. Changes in company policy and product development must be communicated prior to implementation so that employees can increasingly participate in key decisions.

What does the law say?

The Swedish Work Environment Authority's provisions on Work with Display Screen Equipment (AFS 1998:5 §7) states that display screen work which is closely controlled or restricted in a physical or mental respect or is monotonously repetitive may not normally occur. Similar regulations for all work, not just display screen work, are specified in the Work Environment Authority's provisions on Ergonomics for the Prevention of Musculoskeletal Disorders (AFS 1998:1 §4).

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Ergonomics for the Prevention of Musculoskeletal Disorders. AFS 1998:1. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9801.pdf>].
- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].

- Bain P, Watson A, Mulvey G, Taylor P, Gall G. Taylorism, targets and the pursuit of quantity and quality by call centre management. *New Technology, Work and Employment*. 2002; 17(3): 170-185.
- Karasek R, Theorell T. *Healthy work: Stress, productivity and the reconstruction of working life*. New York: Basic Books; 1990.
- Norman K, Nilsson T, Hagberg M, Wigaeus Tornqvist E, Toomingas A. 2004. Working conditions and health among female and male employees at a call center in Sweden. *American Journal of Industrial Medicine* 46 (1):55-62.
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. *Arbete och Hälsa* 2005:11. Stockholm; National Institute for Working Life: 2005.
- Sprigg C, Smith P, Jackson P. Psychosocial risk factors in call centres: An evaluation of work design and well-being. London: Health & Safety Executive; 2003.
- Tengblad P, Backström M, Herrman L, Hammarström O, Sandgren S. Hållbart arbete i informationssamhället. Slutrapport från projektet Callcenter i utveckling. Långsiktigt hållbart arbete med kunder på distans. (*Sustainable work in the information society. Final report from the project Call centres under development. Long-term sustainable work with customers at a distance*) Stockholm: ATK Arbetstagarkonsultation AB; 2001. (*In Swedish only*)
- Theorell T. (Ed) Psykosocial miljö och stress (*Psychosocial conditions and stress*). Stockholm: Studentlitteratur; 2003. (*In Swedish only*)
- Toomingas A, Hagman M, Hansson Risberg E, Norman K. Arbetsförhållanden och hälsa vid ett urval av callcenterföretag i Sverige (*Working conditions and health in selected call centre companies in Sweden*). Arbetslivsrapport 2003:10, Stockholm: Arbetslivsinstitutet; 2003, [<http://www.arbetslivsinstitutet.se/publikationer/detaljerad.asp?ID=1357>]. (*In Swedish with English summary*)
- UNI Call Centre Charter, [<http://www.union-network.org/UNISite/Events/Campaigns/CallCenter/CallCentresCharter.html>].
- Zapf D, Isic A, Bechtoldt M, Balu P. What is typical for call centre jobs? Job characteristics, and service interactions in different call centres. *European Journal of Work and Organizational Psychology*. 2003; 12(4): 311-340.

9. Supervision

A Knowledge about Work Supervision and Sound Working Environments

***Advice and guidelines* – company managers and supervisors should be knowledgeable about sound work supervision, the risks involved at work and how to avoid them, how to create a good working environment, and occupational health**

Supervisors have a key position in the company. A high quality of supervision is an integral part of a successful business. Supervisors are responsible for ensuring that procedures and equipment work effectively. Similarly, they have to ensure that employees can function at peak performance, so that they produce their best efforts, in both the short and the long term. It is important to be able to offer employees support in a professional and empathetic way. Good colleague support, a happy atmosphere and team spirit in the company are also conducive to good health, well-being and performance.

An employee who feels needed, but not exploited, is more likely to produce good work.

Supervision is a professional job which calls for special aptitude, skills and knowledge. Being a supervisor or middle manager is often stressful, with demands coming from every direction – company management, employees and customers. A high standard of education and training in work management enhances the supervisor's chance of doing a good job. To make a proper assessment of the effects of planned or ongoing work, knowledge is required about the relationship between work organisation, work supervision, physical and psycho-social working conditions and their effects on well-being and health. It is important that all levels of management, including first-level supervisors, are sufficiently knowledgeable about these matters.

If company management does not have all the knowledge necessary, external expertise, such as occupational health services, may be engaged.

Explanation

Studies of supervision in many contexts and industries highlight the importance of social support to the health and well-being of employees. Support from supervisors can take various forms. It may involve the supervisor offering help with instructions, advice and information. It may also involve supervisors showing their personal commitment to individual employees to further their professional development. It may even be a case of showing understanding and flexibility with regard to problems and worries at work or in employees' personal circumstances.

Being part of a community is important to people's health and well-being. A good atmosphere of cooperation at work promotes harmony and can help employees to cope with everyday demands and stress. Support from colleagues is therefore essential. The opposite scenario – being frozen out, bullied or threatened – usually results in severe problems for the victim and also the work group itself. The supervisor must take quick and decisive action in this type of situation.

In its *UNI Call Centre Charter*, the global union UNI (Union Network International) specifies as a minimum standard that managers and supervisors should support the employee's commitment to quality customer service, including providing all employees with adequate support and advice and a flexible approach to performance reviews.

What does the law say?

The Swedish Work Environment Authority's provisions on Systematic Work Environment Management (AFS 2001:1 §6) state that the employer is responsible for assessing risks at work, particularly during changes of work. §12 states that if there is not sufficient expertise in the company, the employer must engage other expert assistance.

EU directive 90/270/EEC states that employers are obliged to keep themselves informed of the latest advances in technology and scientific findings concerning workstation design so that they can make any changes necessary so as to be able to guarantee a better level of protection of workers' safety and health.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Systematic work environment management AFS 2001:1 Stockholm: National Board of Occupational Safety and Health; 2001, [<http://www.av.se/dokument/inenglish/legislations/eng0101.pdf>].
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- UNI Call Centre Charter, [<http://www.union-network.org/UNIsite/Events/Campaigns/CallCenter/CallCentresCharter.html>].

9. Supervision

B Information, Education and Training of Staff

Advice and guidelines – employees need information about the risks involved in their work, training in how to avoid them and in the use of equipment and suitable work techniques

In order to avoid health risks and so as to use equipment correctly, employees need information about the risks the work entails, what health problems may arise and how these can be prevented. Employees need regular education and training in how to use the equipment and adjust it in order to achieve good working conditions and training in suitable work techniques. Managers should satisfy themselves that employees can correctly apply knowledge and skills. Good work technique can be established by allowing regular interruptions to customer work, by alternating between sitting and standing while working, or by correctly adjusting desks, chairs and computers. There may sometimes be a need to repeat instructions and ensure that everyone can adjust their chair to the right height, for example.

If company management does not possess this knowledge, external expertise, such as occupational health services, may be brought in.

Explanation

It is not enough to have state-of-the-art equipment. Everyone needs to know how it should be used and why. Because learning is easily forgotten, there must be regular repetition and training. Supervisors must satisfy themselves that everyone really can apply their knowledge correctly. This can be done during day-to-day work or by means of specially arranged “tests”.

In its *UNI Call Centre Charter*, the global organisation Union Network International (UNI) specifies as a minimum standard that employees should receive regular, broad based, accredited skills and product training to facilitate the development of meaningful careers. Employees must also be provided with the tools to resolve the customers’ needs. Employees should also receive education and training on the introduction of new technologies, products or services that require new skills or qualifications. Training should also be provided by ergonomic consultants on how to sit at work and how to use equipment safely.

What does the law say?

The Swedish Work Environment Authority’s provisions on Ergonomics for the Prevention of Musculoskeletal Disorders (AFS 1998:1) state that the employer must ensure that the employee has sufficient knowledge concerning the risks involved at work, early indications of physical problems and how the equipment is to be used. Employers must further ensure that employees are given the opportunity of training in techniques suitable for the work to be performed. They must also ensure that instructions given are complied with.

Article 6 of EU directive 90/270/EEC states that employers must provide employees with information on all aspects of safety and health relating to their place of work. Employees must receive training in how the work is to be performed both before starting it and whenever organisation of the work is substantially modified.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Ergonomics for the Prevention of Musculoskeletal Disorders. AFS 1998:1. Stockholm: National Board of

Occupational Safety and Health; 1998,

[<http://www.av.se/dokument/inenglish/legislations/eng9801.pdf>].

- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment, [<http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>].
- Hanson E, Toomingas A. Kunskaper om arbetsmiljö, arbetsteknik och hälsorisker bland operatörer på callcenter företag (*Knowledge about sound work environment, work techniques and health hazards among operators at call centre companies*). Arbetslivsrapport 2005:28. Stockholm; Arbetslivsinstitutet: 2005, [http://ebib.arbetslivsinstitutet.se/arb/2005/arb2005_28.pdf]. (*In Swedish with English summary*)
- UNI Call Centre Charter, [<http://www.union-network.org/UNISite/Events/Campaigns/CallCenter/CallCentresCharter.html>].

9. Supervision

C Quality Control

Advice and guidelines – use call measurement and monitoring mainly for educational purposes, as well as for support and quality control

Call measurement and monitoring can be used both to develop the business and to improve call centre operators' skills. It is important for supervisors to see this from a training perspective and not as an exercise of controlling employees. Call measurement and monitoring can also be used for quality control of the business, when results are compared with defined targets.

When dealing with customers who are threatening, harassing or particularly difficult, monitoring can form important support for the operator concerned. This can be backed up with a strategy and action plan in the company for this type of situation.

Monitoring – both live monitoring and the recording of calls – is permitted in Sweden under the Criminal Code if one of the parties to the call is aware that this is happening or may happen. However, the provisions of the Data Protection Act must be adhered to if personal data is processed. Other countries may have different legislation on this point.

Call measuring and statistics involve the processing of personal data, i.e. information that can be traced to a specific person. Openly posting or following the performance of individuals in real time may be considered an invasion of their privacy. Here too, the relevant provisions of the Data Protection Act should be taken into consideration.

It is important to be clear and avoid misunderstanding about monitoring and call statistics. Explain what is happening, why it is happening and how it will be used. One way of avoiding misunderstandings is to draw up a written agreement between employer and employee about the conditions.

Dialogue and a clear policy within the company will increase understanding among all the parties involved.

Explanation

Call measurement and monitoring at call centres have been described by operators as good personal performance indicators. Monitoring has also been seen as a good way of developing customer calls. However, the disadvantage is that operators may feel they are being watched and checked up on, particularly in the case of call measurement. Operators can feel stressed, anxious or nervous about call measurement and monitoring. Call measurement emphasises quantity, and monitoring quality, of work. It is easy for the two of them to come into conflict with one another. It is important to clarify how the company aims to strike a balance between the two and achieve an optimum framework for business development without harming employee morale. Correctly used, call measurement and monitoring can be part of the company's management by objectives and perceived as a positive element of the work.

The importance of using monitoring at call centres as an educational rather than punitive tool and not allowing it to dominate has been highlighted in a number of studies. In the same way, a supportive attitude on the part of supervisors is also emphasised as being important in this context. One good idea is to let the operators to take the initiative in monitoring.

Operators may encounter customers who are threatening, abusive or unreasonably demanding on the telephone. Such situations may be alarming and stressful to the operator. It is therefore important to have good support from colleagues and supervisors. Having a well developed plan of action in the company can be helpful in handling these situations. This may include listening to the call together, discussing it, and identifying what can be learned from the call.

In its *UNI Call Centre Charter*, the global union UNI (Union Network International) specifies as a minimum standard that electronic monitoring of employees may only be allowed when the purpose is known and acceptable. Employees must know that they are being monitored. Monitoring may only occur incidentally and not continuously. Employees must be allowed access to the registered data and be able to correct inaccuracies. Tape recordings must be destroyed after a certain period.

What does the law say?

The Swedish Work Environment Authority's provisions on Work with Display Screen Equipment (AFS 1998:5 §10) state that no quantitative or qualitative control, of employees' work using the IT-system may be undertaken without their knowledge.

The Data Protection Act states that personal information must not be processed without the consent of the data subject. Employees must agree to the processing and be informed about what information is collected, its purpose and how long it will be kept.

Recording of customer calls is permitted under the Criminal Code if one of the parties to the call is aware that this is taking place, but this must still take into consideration the provisions of the Data Protection Act. A balance of interests may apply in cases where the call centre's interests outweigh the customer's integrity interests when recording a customer call.

References

- Provisions of the Swedish National Board of Occupational Safety and Health on Work with Display Screen Equipment. AFS 1998:5. Stockholm: National Board of Occupational Safety and Health; 1998, [<http://www.av.se/dokument/inenglish/legislations/eng9805.pdf>].
- Datainspektionen. Behandling av personuppgifter för kontroll av anställda (*The use of personal data for monitoring of employees*). Rapport 2003:3, Datainspektionen: Stockholm; 2003. (In Swedish only)
- Johansson P, Isaksson A, Toomingas A. Arbetsförhållanden och hälsa bland manliga och kvinnliga anställda på ett urval av callcenter i Sverige. Deskriptiva enkätdata från en enkätstudie (*Working conditions and health among male and female employees in selected call centre companies in Sweden. Descriptive questionnaire data*). Arbetslivsrapport 2005:23. Stockholm; Arbetslivsinstitutet: 2005, [http://ebib.arbetslivsinstitutet.se/arb/2005/arb2005_23.pdf]. (In Swedish with English summary)
- Norman K. Call centre work - characteristics, physical and psychosocial exposure and health-related outcomes. Thesis University of Linköping. Arbete och Hälsa 2005:11. Stockholm; National Institute for Working Life: 2005.
- Sprigg C, Smith P, Jackson P. Psychosocial risk factors in call centres: An evaluation of work design and well-being. London: Health & Safety Executive; 2003.
- Tengblad P, Backström M, Herrman L, Hammarström O, Sandgren S. Hållbart arbete i informationssamhället. Slutrapport från projektet Callcenter i utveckling. Långsiktigt hållbart arbete med kunder på distans. (*Sustainable work in the information society. Final report from the project Call centres under development. Long-term sustainable work with customers at a distance*) Stockholm: ATK Arbetstagarkonsultation AB; 2001. (In Swedish only)
- Theorell T. (Ed) Psykosocial miljö och stress (*Psychosocial conditions and stress*). Stockholm: Studentlitteratur; 2003. (In Swedish only)

- Toomingas A, Hagman M, Hansson Risberg E, Norman K. Arbetsförhållanden och hälsa vid ett urval av callcenterföretag i Sverige (*Working conditions and health in selected call centre companies in Sweden*). Arbetslivsrapport 2003:10, Stockholm: Arbetslivsinstitutet; 2003, [<http://www.arbetslivsinstitutet.se/publikationer/detaljerad.asp?ID=1357>]. (*In Swedish with English summary*)
- UNI Call Centre Charter [<http://www.union-network.org/UNISite/Events/Campaigns/CallCenter/CallCentresCharter.html>].

9. Supervision

D Payment Systems

Advice and guidelines – production targets and payment systems should not be counterproductive to good working conditions

It is unfortunate if production targets, the company's payment system and other forms of remuneration (connected with campaigns, for example) counter the effects of the company's other efforts to create a sound working environment and promote good occupational health. A salary that is too linked to performance and results can tempt many people to work more hours and with more intensity than is healthy in the long term. This benefits neither the individual, the company nor the community. Supervisors should be aware of this type of phenomenon.

Explanation

The company's efforts to create good working conditions in order to enhance the well-being, health and work performance of its employees can be jeopardised if these come into conflict with the company's defined production targets and its payment policy. There can be a conflict in the balance between quality and quantity in production, for example.

In its *UNI Call Centre Charter*, the global union UNI (Union Network International) states that bonus payments should represent no more than 10% of gross wages. Performance targets should be based on providing high quality customer service and not solely on the quantity of calls taken or made. Pay levels should be linked to demonstrable skills.

References

- UNI Call Centre Charter, [<http://www.union-network.org/UNIsite/Events/Campaigns/CallCenter/CallCentresCharter.html>].