
Ergonomic Checkpoints in Health Care Work

Prepared by the Human Ergology Society
In collaboration with the International Ergonomics Association



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Foreward

The International Ergonomics Association (IEA) is extremely pleased to be a collaborator on this vital project with the Human Ergology Society, with which we have enjoyed a mutually beneficial long-term relationship.

This project is important for several reasons. First, it addresses a concern that is, or will be one day, a cardinal concern for all of us. There can be no more compassion expressed than when one person cares for another who needs assistance. The great anthropologist, Margaret Mead, once asserted that the first sign of civilization was a healed human femur. It showed that one person had enough compassion to feed, nurture, and comfort another who had suffered a traumatic injury. This mark of a civilized society is expressed in care given for a short time or permanently, for minor or life-threatening conditions. We know first hand from caring for family and friends, the toll it takes and the difference proper health care services can make to human well-being. In one form or another, as giver or receiver, we will all confront this valuable expression of compassion.

Second, this project aligns with the IEA Strategic Plan components to: 1) contribute to the development of federated societies; 2) advance the science and practice of ergonomics at an international level; and 3) enhance the contribution of the ergonomics discipline to global society. This project contributes to all three goals. We are pleased to be working with the Human Ergology Society, an affiliated member society, to advance the practice of ergonomics internationally. When Professors Horino and Tachi first approached me about this effort in Beijing, we were enthusiastic about supporting this project. We knew that the Working Group and its leadership would produce a meaningful document. The following year, in a visit to the Human Ergology Society meeting in Nagoya, Japan, we had the pleasure of meeting with several members of the Working Group on Health Care Work Checkpoints. They were enthusiastic and confident about this project, and they fulfilled their promise to the IEA or themselves.

Third, this document builds on the IEA publications on encouraging practical applications of ergonomics in a participatory, easy-to-use checkpoints format. The first of these, *Ergonomic Checkpoints*, was published in 1996 by the ILO and was followed by a second edition of the same name in 2010. In 2011 the IEA, together with the ILO, published *Ergonomic Checkpoints in Agriculture*. *Ergonomic Checkpoints in Health Care Work* builds on the same tradition of the previous three publications, and, taken together, form a coherent body of work that takes application of the science of ergonomics to a broad international audience. Together with our organizational partners and many dedicated individuals, we believe this is a way that ergonomics can make a unique contribution to improving system effectiveness and human well-being simultaneously.

Finally, this publication builds on the highly successful tradition pioneered by Dr. Kazutaka Kogi in participatory, action-oriented methodology. Kogi and his colleagues have used this same technique in a systems approach to effect change across a range of applications in diverse regions of the world. This is arguably the most effective ergonomics intervention in history. Through the various applications, thousands of people have had their lives improved through simple, easy-to-understand, locally adopted methodologies. At the same time, the attention paid to the human, social, and organizational dimensions make it a robust method for effecting change. We are extremely confident that this participatory checkpoint strategy will be able to improve the lives of caregivers and especially those who benefit from their work. The scientific-based ergonomic principles coupled with the compassion and care needed to provide these services, illustrate how ergonomics can make a difference in system effectiveness and well-being.

We are indebted to the Human Ergology Society, the Working Group on Health Care Work Checkpoints, and the many individuals who contributed to produce this valuable work. It has been our privilege to collaborate on this project.

Andrew S. Imada
President (2009-2012)
International Ergonomics Association

Preface

Health Care work is playing a vital role in protecting and promoting the health, safety and well-being of people. Health Care services are conducted in a large variety of work situations. Improving Health Care workplaces from an ergonomic point of view is very important for securing the quality of care services and enhancing the roles of Health Care workers. Health Care workers, including a large number of health care and nursing personnel and other care providers, are faced with various health and safety risks at work. Many of these risks and the quality of services are closely related to the ergonomic aspects of their work. The broad-ranging impacts of Health Care work need to be addressed by implementing multifaceted ergonomic measures for improving the conditions and quality of work. This manual summarizes practical ergonomic measures useful for improving Health Care work based on good ergonomic practices reported from various care services in different countries.

The Health Care work checkpoints compiled in this manual represent practical improvement actions from ergonomic points of view that have proven effective in improving Health Care work in many field studies. Recent experiences gained by ergonomic interventions in Health Care workplaces in many countries indicate that there are common applicable checkpoints in managing ergonomics-related risks and improving the quality of care work. It is useful to present practical improvement options in these checkpoints in real care services. A special emphasis is placed on presenting easy-to-apply checkpoints that are readily applicable in varying situations.

In collaboration with the International Ergonomics Association (IEA), a Working Group on Health Care Work Checkpoints has been organized by the Human Ergology Society, an affiliated society of the IEA. The Working Group, consisting of ergonomics researchers and practitioners, collected many examples of good practices in ergonomics application in Health Care workplaces and developed a new series of ergonomic checkpoints in Health Care work. The Working Group selected 60 checkpoints in ten technical areas essential for improving Health Care work.

For each of these checkpoints, practical types of improvement options were assembled based on recent field experiences and study results. Special attention has been given to the checkpoints and their improvement options so that they can be effectively applied in participatory, action-oriented training of Health Care workers for improving their workplaces.

The experts who participated in the Working Group were: Takeshi Ebara, Kazutaka Kogi, Kazuo Maie, Sayuri Minoda, Satomi Mizuno-Lewis, Miwa Nagasu, Noriko Nishikido, Minako Sasaki, Norihide Tachi, Chihiro Takezawa, Etsuko Yoshikawa, Toru Yoshikawa (Chair), Desmond Lewis, and Masanori Yoshino.

In compiling the checkpoints, the format for presenting ergonomic checkpoints used in the previous IEA/ILO publications “Ergonomic Checkpoints” (1996, 2010) and “Ergonomic Checkpoints in Agriculture” (2012) has been adopted. The editing principles of this manual are the same as in these previous publications based on close IEA/ILO collaboration during the last two decades. This was made possible by reflecting the experiences of the Working Group members in applying the IEA/ILO Checkpoints in participatory work improvement, training. In editing the manual, the advice and inputs from Kazutaka Kogi was helpful, as he had been involved in editing the IEA/ILO Checkpoints.

In October 2016, the Manuscript Review Workshop on Ergonomic Checkpoints in Health Care Work was held in Toulouse, France, on the occasion of the 5th Healthcare Systems Ergonomics and Patient Safety Conference. The purpose of this one-day workshop was to review the Draft Ergonomic Checkpoints prepared as a contribution to the IEA and to advise any amendments required. Participants of this review workshop were Sara Albolino, Melissa Baysari, Pascal Etienne, Pierre Falzon, Marijilke Melles, Vanina Mollo, and Giulio Toccafondi from the IEA Healthcare Ergonomics Technical Committee as well as Yumi Sano and Etsuko Yoshikawa from the Human Ergology Society.

They reviewed several main areas where the contribution of ergonomics to working conditions was assessed to be most important for Health Care workplaces. As a result of this workshop, of the original 60 items, 56 items were retained. Two new items were created by merging several previous items and two items were moved to another appropriate technical area. The Checkpoints document was revised according to their suggestions and comments about some illustrations, titles of checkpoints, and sentences (patient handling, illustration of machine safety, following WHO rules, etc.). The newly developed items relate to patient safety and psychosocial risk management.

An emphasis is placed on presenting simple, low-cost improvements that are practicable in both industrialized and industrializing countries. These improvements are based on recent experiences in the Asian network for improving Health Care work involving the Working Group members and in training workshops on improving Health Care work in various care services. The improvement options and the illustrations in the manual reflect good practices identified through these recent experiences. These include: optimizing workloads and work methods, improving the workplace environment, providing comfortable facilities, and improving work organization. The simple improvements are also useful for improving the safety and well-being of the clients of Health Care services.

It is hoped that Health Care workers and their managers will use the Checkpoints to detect causes of health and safety risks at work and to take effective measures to improve the conditions and quality of care services. As it is critical to the success of any workplace improvement process to link it to overall management of work-related risks and working conditions, it is suggested to utilize the checkpoints as part of comprehensive workplace improvement policy and programmes.

Prof. Kazuo Maie
President (2010-2014)
Human Ergology Society

Needless to mention, the active participation of workers, their representatives, and the trade unions are essential in the workplace improvement process. The checkpoints listed in this publication are good practices for Health Care organisations in general, but they must be linked to the specifics of the organisations and the particular problems. Tailor-made strategies and approaches have to be adopted in planning and conducting ergonomic improvements in real work settings.

We are grateful for the support and encouragement given to the development of this manual from the Officers and the Executive Committee of the IEA. We would like to thank, in particular, Dr. Andrew S. Imada, Former President; Prof. Klaus J. Zink; and Former Vice President, Treasurer, and Prof. Eric Min-yang Wang, President of the IEA (2009-2012), for their critical and useful advice. This manual is expected to complement the IEA activities in the improvement of workplace conditions and in the prevention of health and safety risks at work in many countries around the world. We are indebted to the extensive support given to the Working Group by partner organizations of the Asian network and by the workers and managers of health and nursing-care facilities where the preliminary checkpoints were applied and tested.

Experiences and feedback in the application of the checkpoints listed in this manual in different types of workplaces will be extremely useful for further improvement of this publication. We sincerely hope that the manual will be improved and revised in the future through the workplace application and use of the checkpoints in different countries and services.

Dr. Toru Yoshikawa
Chair
Working Group for Health Care
Work Checkpoints

Contents

Foreword	ii
Preface	iii
How to use the Health Care work checkpoints	vii
Ergonomics checklist in Health Care work	xi
Materials storage and handling (checkpoints 1-6)	1
Machine and hand-tool safety (checkpoints 7-12)	15
Safe patient handling (checkpoints 13-18)	29
Workstations (checkpoints 19-24)	43
Physical environment (checkpoints 25-30)	57
Hazardous substances and agents (checkpoints 31-36)	71
Infection control (checkpoints 37-42)	85
Welfare facilities (checkpoints 43-48)	99
Preparedness (checkpoints 49-54)	113
Work organization and patient safety (checkpoints 55-60)	127
Annexes	141
Annex 1: Using Ergonomic checkpoints in Health Care work in participatory training	
Annex 2: Workplace checklist in Health Care work	
Annex 3: Examples of improving Health Care work	

How to use the Health Care Work Checkpoints

Health Care work is gaining importance for the health, safety, and well-being of people and their families in both industrialized and industrializing countries. This manual presents simple and easy-to-apply measures to improve Health Care work in different work situations. The 60 checkpoints included in this publication are based on the recent experiences in implementing ergonomic improvements at Health Care workplaces. The improvement actions suggested by these checkpoints reflect a number of underlying ergonomic principles that have proven applicable in real workplaces. The manual is suited to learning practical ergonomic improvements necessary for Health Care work.

The Health Care work addressed by this manual concerns a broad range of care services, such as health care, nursing care, care services for elderly people, care services for people and children with disabilities, personal care services, and other forms of care work conducted by direct contact with clients. The checkpoints in the manual are based on good practices reported from these various forms of care services. As the checkpoints were compiled and edited by examining typical improvement options found in these good practices, the options contained in the selected 60 checkpoints provide useful guidance for planning and implementing ergonomic improvements for enhancing health, safety, and well-being of Health Care workers and their clients.

The compiled checkpoints cover ten technical areas for improving Health Care work from ergonomic points of view. Usually, in planning improvement actions at a Health Care workplace, multiple aspects of the care work are addressed. For example, improvements in materials handling, workstation design, and workplace environment as well as teamwork arrangements are addressed together. Therefore, the ten areas covered by this manual provide an overview of available improvements for people to select priority improvements from multiple areas.

Each checkpoint explains a typical action based on ergonomic principles for improving Health Care work. Six such typical actions are pointed out in each of the ten technical areas. Each action

presented by the title of the checkpoint is explained by “Why,” “Risks/symptoms,” “How,” “Some more hints,” and “Points to remember.” In this way, several easy-to-apply options are presented for accomplishing that particular action. All these options in the various checkpoints represent many good practices identified by field surveys conducted by the expert group. Users of the manual can choose practical options for improving existing conditions and reducing related risks from ergonomic points of view. The options are based on four underlying principles: (1) Immediate solutions need to be developed with the active involvement of managers and workers; (2) A clear focus is placed on low-cost improvements that can be undertaken by group work for planning and implementing priority improvements; (3) Multifaceted action is necessary to ensure that improvements are sustained over time; and (4) A stepwise improvement process builds upon simple, locally adjusted improvements.

The options in the manual are useful for selecting practical improvements that can be practical in existing conditions of Health Care work. The illustrations in each checkpoint depict good examples typically found in Health Care settings.

Therefore, the checkpoints represent simple, low-cost improvements readily applicable in different Health Care work situations. The simple nature and low cost of the improvements greatly help people take initiative for improving existing working conditions. As various options are explained, the users of the manual can relatively easily select and plan immediate, feasible improvements. Because the checkpoint titles and corresponding options are based on typical good practices in Health Care settings, the users are guided to follow the good practices by voluntarily selecting ergonomic improvements applicable in local conditions. By looking at multiple areas, the users are encouraged to take multifaceted actions according to each local situation.

The usefulness of an action-oriented manual containing practical checkpoints has been demonstrated through various international projects; in particular, by the collaboration of the International Labour Office (ILO), the International

Ergonomics Association (IEA), and other international organizations. Examples include IEA/ILO “Ergonomic Checkpoints” (published by the ILO in 1996, and its second edition in 2010) for industrial settings and IEA/ILO “Ergonomic Checkpoints in Agriculture” (published by the ILO in 2012). These publications are based on the practical improvements achieved through the application of the WISE (Work Improvement in Small Enterprises) approach for small and medium-sized enterprises and the WIND (Work Improvement in Neighbourhood Development) approach for small-scale agricultural farms. It is remarkable that through the collaboration of the tripartite ILO constituents, professional bodies, occupational safety and health practitioners and workplace ergonomists, these Ergonomic Checkpoints have found their use in a number of countries in a large variety of work settings. The checkpoints in this manual have been developed along the same lines. Further, the experiences in developing “Ergonomics Guidelines for Occupational Health Practice in Industrially Developing Countries” (2010) by the collaboration of the International Commission on Occupational Health (ICOH) and the IEA have also been referred to. It is expected that the application of this manual will contribute to the improvement of Health Care working conditions in many countries.

There are three ways of using this manual:

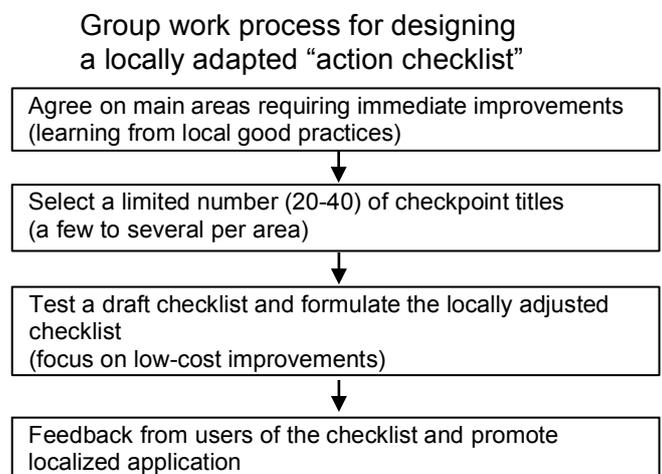
- (1) applying selected checkpoints in the manual to the Health Care workplace by means of a locally adapted, handy “action checklist”;
- (2) utilizing ready-to-use information sheets consisting of selected checkpoints; and
- (3) organizing a workshop for training Health Care workers in planning and implementing immediate workplace changes.

(1) Applying a locally adapted “action checklist” based on selected checkpoints

In applying the manual to a particular workplace, it is advisable to select 20-40 checkpoint items considered important for that workplace. Usually, the limited number of items is suitable for action-oriented application of the checkpoints. In selecting these 20-40 items, it is useful to cover several technical areas so that the users of the checklist can look at a broad range of available improvements. The “action checklist” simply lists the titles of the selected checkpoints, and its users can respond to each item by ticking “Yes” (meaning the action is proposed) or “No” (meaning the action is not proposed as the existing conditions do not require the action). After

answering all the items of the checklist, the users may select several “Yes” items as requiring “Priority.” Usually, such an “action checklist” can be used in the case of a walk-through survey of a particular workplace or, in the case of joint deliberation, of existing conditions of Health Care work. In either case, copies of the corresponding pages of the selected checkpoint items may be distributed for use by the participants of the walk-through, joint deliberation or a training workshop for improving Health Care work.

The whole process of designing and utilizing a locally adapted checklist may be summarized as follows:



It should be noted that a locally adapted checklist formulated in this way is used for finding readily practicable improvements rather than for making a complete appraisal of the ergonomic conditions of the workplace in question. This is because it is better to make stepwise progress in improving various ergonomic aspects.

Therefore, we recommend designing a relatively short checklist comprising about 20-40 items, instead of a lengthy checklist comprising all the relevant items of this manual. At first glance, a lengthy checklist may be more comprehensive, but may not be used by workers due to the more complicated structure. A short and handy checklist is far more suited to voluntary use.

A typical example of a short 30-item “action checklist” for examining Health Care work, with corresponding small illustrations, is attached to this manual as an Annex. Additional items reflecting the particular situation of Health Care work may be added by expressing each item in the action form. We recommend a locally adapted

checklist for users to select multiple local improvement actions feasible in the local situation. In applying the “action checklist,” ask people to find existing good examples, as they are helpful in subsequent discussions. The results of the checklist application should be discussed in small groups first and then in a discussion with all participants or group representatives. The group work of people using the “action checklist” is essential for identifying locally practicable priority.

It is important to keep in mind that there is always a need to look at multiple aspects of the workplace conditions. This is the reason why it is advisable to select a few items from several technical areas in the manual, such as materials storage and environment, particular hazardous agents, welfare facilities, and work organization. Depending on the local circumstances, items from other areas may also be added.

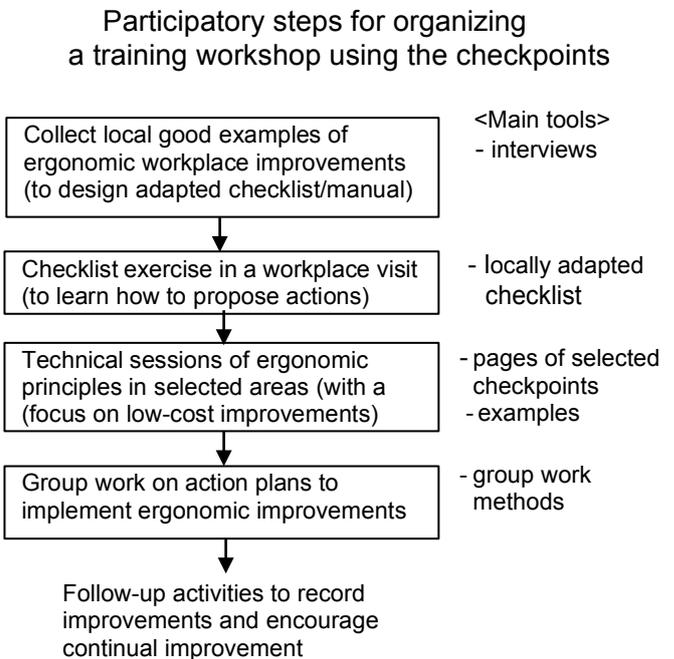
(2) Making ready-to-use information sheets

For preparation of information sheets, a limited number of checkpoints can be chosen by making use of this manual. The simple, uniform structure of each checkpoint is beneficial for this purpose. Depending on the local situation of the Health Care work for which the information sheets are produced, it is recommended to compile locally applicable checkpoints from several technical areas if possible, it is useful to edit the pages of the checkpoints by adding remarks and examples reflecting local conditions. This can be relatively easy, as the checkpoints focus on simple and practical improvement options. For example, handy brochures may be created mentioning good examples achieved locally in line with these practical options.

(3) Organizing training workshops for immediate workplace changes

A practical way of utilizing the manual is to organize a training workshop for planning and implementing ergonomic improvements relevant to the particular Health Care work. This manual and an action checklist designed locally can be provided to the participants as training tools. The purpose of such a training workshop is to learn locally feasible actions that can improve existing conditions of Health Care work. A short-term workshop, such as a half-day, one-day or two-day workshop, is quite suitable for training Health Care workers in the planning and implementation of locally feasible ergonomic improvements.

Recent experiences in participatory action-oriented training of Health Care workers have shown the effectiveness of a short-term training workshop. Typically, a 1-day or 2-day workshop consists of the following sessions:



It is important to serially organize group discussion sessions. Each technical session (about 1-1.5 hours) should preferably consist of (a) a presentation by a trainer of basic ergonomic principles while referring to local good examples, (b) discussion in small groups about existing good examples and necessary improvements and (c) presentation of group results. In this way, the participants can learn the practical methods to apply the checkpoints and propose practicable improvements that have real impacts.

The “action checklist” adjusted to the particular training participants and the selected checkpoints pages of the manual can be used in the training workshop as action-oriented training tools. In the same context, this manual can be used in short training workshops as guidance material encouraging simple, low-cost improvements feasible in each local situation.

The following practical hints may be presented for implementing ergonomic improvements by using an action checklist and copies of corresponding checkpoints in this manual. It is useful to keep in mind that practical workplace improvements can

be expedited by applying the action-oriented tools described above.

a) Try to use a brief “action checklist” for taking a fresh look at workplace conditions. A checklist comprising selected checkpoint titles in their action form can help people examine existing working conditions in a systematic way. The action form of the check items is useful for guiding people in looking at good examples and locally feasible improvements.

b) It is highly recommended to learn from good examples done in local workplaces. Locally achieved examples of ergonomic improvements demonstrate not only their benefits but also their feasibility. These good examples can encourage Health Care workers to make voluntary actions. It should be emphasized that looking at good achievements rather than pointing out weaknesses always promotes positive and constructive thinking leading to concrete improvements.

c) It is advisable to focus on improvement ideas in multiple technical areas as suggested by the checkpoints in this manual. By looking at multiple areas, Health Care workers can easily identify practical improvements that are applicable in their local situation.

d) It is necessary to develop improvement ideas that can work in the local context. Good examples learned from local workplaces can help select locally feasible improvements and avoid resistance of local people. This can be helpful for securing sustainability of the proposed improvement measures.

e) It is useful to always rely on group work. Group discussions help people exchange positive experiences about how to identify locally feasible solutions and prioritize actions reflecting different experiences. Planning improvement actions through group work can lead to balanced considerations. This is best done by organizing group work on different aspects of the Health Care work as described in this manual. A good way to facilitate effective group discussion is to discuss and agree on three good examples already achieved at the workplace and three opportunities for improvement. These points should be used for discussing priority actions to be taken jointly.

f) It is important to promote stepwise progress in improving existing conditions. Usually there are

many constraints in improving Health Care work, and it is useful to start from simple, easy-to-apply improvements and proceed to make more improvements step by step. In group work, workers can agree on both short-term and long-term improvement plans without much difficulty, rather than concentrating on only immediate priorities. Ideas that can meet immediate local needs should be first put into practice on a short-term basis. Once small but effective improvements are achieved, people become confident in taking the next steps that may need more time and costs. This stepwise progress should be a key guiding principle.

g) An important follow-up activity is to link the positive results gained with existing occupational safety and health activities. Each workplace should have a clear occupational safety and health policy and established risk management procedures. Ergonomic improvements can be proposed and undertaken as an essential part of such comprehensive work-related risk management activities.

h) It is necessary and helpful to organize follow-up activities for recording and reporting accomplished improvements and for further encouraging sustained improvement activities by Health Care workers. For example, achievement workshops can be held for presenting improvements done in different workplaces, disseminating good practices locally achieved, and commending good achievements.

Finally, it is important to exchange the locally achieved positive experiences among different Health Care workplaces. It is recommended to report the achieved improvements to other workers and other workplaces or to relevant meetings and conferences. Existing networks of Health Care workers or sectoral, national, regional, and international networks can cooperate in exchanging experiences and good practices.

ERGONOMIC CHECKLIST in HEALTH CARE WORK

How to use the checklist

This checklist contains the titles of “Ergonomic Checkpoints in Health Care Work.” There are 60 items on the list. You may use all of the items or your own list containing only those relevant to your workplace. Usually, a checklist of about 30 items suitable for your workplace is easier to implement.

1. Knowing the workplace

Make sure that the users of the checklist know about the main tasks and daily workloads, the number of workers (male and female), the hours of work (including breaks and overtime, shift) and any important occupational problems. A brief meeting with the manager or a representative of workers is useful for this purpose.

2. Defining the workplace to be checked

Define the work area to be checked in consultation with the manager and other key persons. In the case of a small facility, the whole workplace can be checked. In the case of a larger facility, particular work areas can be defined for separate checking.

3. Initial walkthrough

Read through the checklist and spend several minutes walking through the Health Care workplace before checking items on the checklist.

4. Writing your check results

Read each item carefully. Look for a way to apply the principle. If necessary, ask the manager or workers questions.

- If the measure has already been taken properly or it is not needed, mark NO under “Do you propose action?”
- If you think the measure would be worthwhile, mark YES.
- Use the space under “Remarks” to describe your suggestion and its location.

5. Selecting priorities

Before you finish, look again at the items marked YES. Choose a few items where the benefits seem to be the most important. Mark PRIORITY for these items.

6. Group discussion about the checked results

Discuss the checked results jointly with other members who have taken part in the walkthrough. Agree on the existing good examples and on the actions to be taken on the basis of the checklist application. Communicate with the manager and workers about the proposed solutions and follow up on implementing these actions.

Materials storage and handling

1. Ensure that transport routes are even, not slippery, and without obstacles.

Do you propose action?

NO YES PRIORITY

Remarks _____

2. Use multi-level shelves or racks and small containers to minimize manual transport of materials.

Do you propose action?

NO YES PRIORITY

Remarks _____

3. Make labels and signs easy to see, easy to read and easy to understand.

Do you propose action?

NO YES PRIORITY

Remarks _____

4. Use carts, hand-trucks and other wheeled devices convenient for moving materials.

Do you propose action?

NO YES PRIORITY

Remarks _____

5. Provide conveniently placed waste containers.

Do you propose action?

NO YES PRIORITY

Remarks _____

6. Rearrange the layout of the work areas so that the need to move materials is minimized.

Do you propose action?

NO YES PRIORITY

Remarks _____

Machine and hand-tool safety

7. Use properly fixed guards to prevent contact with dangerous parts of machines and tools.

Do you propose action?

NO YES PRIORITY

Remarks _____

8. Establish safe handling procedures of sharps and use necessary safety devices and safe disposal containers.

Do you propose action?

NO YES PRIORITY

Remarks _____

9. Provide a "home" for each tool used for health care.

Do you propose action?

NO YES PRIORITY

Remarks _____

10. Ensure safe wiring connections for machines, tools, and equipment.

Do you propose action?

NO YES PRIORITY

Remarks _____

11. Use warning signs that users understand easily and correctly.

Do you propose action?

NO YES PRIORITY

Remarks _____

12. Inspect and maintain machines and tools regularly.

Do you propose action?

NO YES PRIORITY

Remarks _____

Safe patient handling

13. Establish safe and reliable procedures for transferring people.

Do you propose action?

NO YES PRIORITY

Remarks _____

14. Secure trained staff and necessary transfer devices such as wheelchairs, and make sure that the space and routes for transfer are safe and clear.

Do you propose action?

NO YES PRIORITY

Remarks _____

15. Use transfer equipment that is safe, easy to apply, and reassuring for patient handling.

Do you propose action?

NO YES PRIORITY

Remarks _____

16. Utilize safe and reassuring lifting devices when lifting patients.

Do you propose action?

NO YES PRIORITY

Remarks _____

17. In patient handling, explain the procedure to the patient being transferred and conduct handling actions while saying each action in a clear voice and obtaining cooperation of the patient.

Do you propose action?

NO YES PRIORITY

Remarks _____

18. When a vehicle is used for safe patient handling, ensure that the vehicle and its driver can conduct the transfer in a safe and reassuring manner.

Do you propose action?

NO YES PRIORITY

Remarks _____

Workstations

19. Place frequently used materials, tools, and controls within easy reach.

Do you propose action?

NO YES PRIORITY

Remarks _____

20. Adjust the working height for each worker at elbow level or slightly below it.

Do you propose action?

NO YES PRIORITY

Remarks _____

21. Allow workers to alternate standing and sitting as much as possible and provide good adjustable chairs with a backrest.

Do you propose action?

NO YES PRIORITY

Remarks _____

22. Make different devices and controls easy to distinguish from each other.

Do you propose action?

NO YES PRIORITY

Remarks _____

23. Attach markings or colours on items and equipment to help workers understand what to do.

Do you propose action?

NO YES PRIORITY

Remarks _____

24. Provide clear instructions and information necessary for safe and efficient care work and for safe medication.

Do you propose action?

NO YES PRIORITY

Remarks _____

Physical environment

25. Provide sufficient lighting for workers so that they can work efficiently and comfortably at all times.

Do you propose action?

NO YES PRIORITY

Remarks _____

26. Provide local lights for precision work.

Do you propose action?

NO YES PRIORITY

Remarks _____

27. Protect the worker from excessive heat and cold.

Do you propose action?

NO YES PRIORITY

Remarks _____

28. Use air-conditioning systems to provide an indoor climate conducive to the health and comfort of people.

Do you propose action?

NO YES PRIORITY

Remarks _____

29. Ensure that the physical environment at visited homes and other facilities is safe and comfortable for persons cared for and care workers.

Do you propose action?

NO YES PRIORITY

Remarks _____

30. Use partitions, curtains, and other arrangements for protecting the privacy of persons cared for.

Do you propose action?

NO YES PRIORITY

Remarks _____

Hazardous substances and agents

31. Isolate or cover noisy machines or parts of machines.

Do you propose action?

NO YES PRIORITY

Remarks _____

32. Label and properly store containers of hazardous chemicals to communicate warnings and to ensure safe handling.

Do you propose action?

NO YES PRIORITY

Remarks _____

33. Protect workers from chemical risks so that they can perform their work safely and efficiently.

Do you propose action?

NO YES PRIORITY

Remarks _____

34. Protect workers from ionizing radiation during care work.

Do you propose action?

NO YES PRIORITY

Remarks _____

35. Provide safe shielding from lasers and ultraviolet, infrared, and other hazardous radiations.

Do you propose action?

NO YES PRIORITY

Remarks _____

36. Keep air quality clean and healthy without harmful effects on persons cared for and care workers.

Do you propose action?

NO YES PRIORITY

Remarks _____

Infection control

37. Establish hand hygiene procedures and hygienic washing facilities.

Do you propose action?

NO YES PRIORITY

Remarks _____

38. Promote infection control measures to eliminate or reduce chances of infection during care work.

Do you propose action?

NO YES PRIORITY

Remarks _____

39. Provide appropriate types of vaccination programmes for care workers with higher risks of infection at work.

Do you propose action?

NO YES PRIORITY

Remarks _____

40. Select and use personal protective equipment adequate for protecting potential infections.

Do you propose action?

NO YES PRIORITY

Remarks _____

41. Establish procedures for protecting persons cared for and care workers from infected persons.

Do you propose action?

NO YES PRIORITY

Remarks _____

42. Establish and apply emergency infection control plans including a business continuity plan (BCP).

Do you propose action?

NO YES PRIORITY

Remarks _____

Welfare facilities

43. Provide and maintain clean toilets, washing facilities, and changing rooms to ensure good sanitary conditions.

Do you propose action?

NO YES PRIORITY

Remarks _____

44. Provide drinking facilities and hygienic eating areas.

Do you propose action?

NO YES PRIORITY

Remarks _____

45. Provide refreshing resting facilities and, for night shift workers, restful napping facilities.

Do you propose action?

NO YES PRIORITY

Remarks _____

46. Ensure proper use and maintenance of personal protective equipment including adequate instructions, adaptation trials, and training.

Do you propose action?

NO YES PRIORITY

Remarks _____

47. Organize informal or social gatherings and recreational activities often for appropriate occasions.

Do you propose action?

NO YES PRIORITY

Remarks _____

48. Ensure there are adequate facilities for meetings and training.

Do you propose action?

NO YES PRIORITY

Remarks _____

Preparedness

49. Establish emergency plans to ensure correct emergency operations, easy access to facilities, and rapid evacuation.

Do you propose action?

NO YES PRIORITY

Remarks _____

50. Mark escape routes and keep them cleared of obstacles.

Do you propose action?

NO YES PRIORITY

Remarks _____

51. Provide easy access to first-aid equipment and primary health care facilities at the workplace.

Do you propose action?

NO YES PRIORITY

Remarks _____

52. Provide enough fire extinguishers within easy reach and be sure that workers know how to use them.

Do you propose action?

NO YES PRIORITY

Remarks _____

53. Keep records of accidents and collect information about significant incidents for improving safety at work.

Do you propose action?

NO YES PRIORITY

Remarks _____

54. Promote communication and a mutually supportive climate among managers and workers and provide access to counselling about health or personal problems of workers.

Do you propose action?

NO YES PRIORITY

Remarks _____

Work organization and patient safety

55. Hold a brief meeting before work to jointly plan the work assignments and promote communication and mutually supportive climate among managers and workers.

Do you propose action?

NO YES PRIORITY

Remarks _____

56. Arrange work schedules to avoid excessive work hours and secure enough rest periods and short breaks.

Do you propose action?

NO YES PRIORITY

Remarks _____

57. Adapt facilities, equipment, and work methods to workers with disabilities so that they can do their jobs safely and efficiently.

Do you propose action?

NO YES PRIORITY

Remarks _____

58. Plan and implement practical measures to prevent work stress through cooperation of managers and workers, and organize training about these measures.

Do you propose action?

NO YES PRIORITY

Remarks _____

59. Promote safer health care services and a patient safety culture involving personnel, management, and patients.

Do you propose action?

NO YES PRIORITY

Remarks _____

60. Undertake participatory workplace improvement by learning from good practices feasible in local conditions.

Do you propose action?

NO YES PRIORITY

Remarks _____

Materials storage and handling

Checkpoints 1-6

CHECKPOINT 1

Ensure that transport routes are even, not slippery, and without obstacles.

WHY

The smooth flow of transport is important in any type of Health Care work. Transport is done frequently from the storage area to worksites and between worksites. It is essential to secure sufficient space and unobstructed routes for smooth transport.

Carrying loads on an uneven or slippery floor with obstacles is a common cause of accidents. A fall onto the floor may cause serious injuries. Health Care equipment may fall when care workers stumble or hit obstacles, and get damaged or stained. Good transport routes can prevent such accidents.

The use of carts and wheeled racks is considerably easier if the transport route surface is even and free from obstacles.

RISKS / SYMPTOMS

- slips, trips, or stumbles
- poor worksite access
- muscular strain
- serious accidents or injuries
- delayed evacuation

HOW

1. Remove sudden height differences or other stumbling hazards in transport routes.
2. If uneven spots cannot be removed immediately, use ramps, fill-ins or loading platforms.
3. Make it routine to avoid and clean spilled liquid, oil, slippery substances, or other small obstacles on the surface of transport routes. Use covered transport containers to avoid spills or drops.

4. Establish a rule to place or leave nothing in the aisles or corridors. This is best achieved by providing sufficient numbers of storage areas, racks, and waste receptacles, and by clearly defining or marking transport routes.
5. Promote the use of transport devices including carts, mobile racks, and trolleys. Large wheels are preferable to small ones except for short-distance transport on smooth surfaces.

SOME MORE HINTS

- To reduce the risk of slipping, transport surfaces can be covered with high-friction coatings. Such coatings should not affect the rolling resistance of carts, mobile racks, and trolleys.
- Adequate lighting or painting transport surfaces in bright colours makes it easy to identify unevenness and slipping risks.
- Unsuitable or low-friction footwear may cause slipping, even on good surfaces. If the slipping risk is considerable, provide workers with suitable footwear.
- The storage racks or shelves should be near the transport routes. This helps to establish the practice of keeping transport routes clear of obstacles. The provision of waste receptacles is also important.

POINTS TO REMEMBER

Clear and safe transport routes ensure a good work flow with high efficiency and prevent accidents.



Figure 1a. Provide ramps with smooth surfaces to eliminate sudden height differences.



Figure 1b. Smooth movement and transport are secured by eliminating height differences in the entrance and corridors.

CHECKPOINT 2

Use multi-level shelves or racks and small containers to minimize manual transport of materials.

WHY

The use of multi-level shelves or racks near the work sites can save time and energy spent for locating and moving materials for Health Care work.

Multi-level shelves or racks allow better use of space and organized storage of materials and equipment. They are useful for keeping things in good order when space near the work area is limited.

Shelves and racks with small containers specified for each kind of item are excellent for this organized storage. Well-arranged containers can reduce the danger of accidents and the possibility of damage.

RISKS / SYMPTOMS

- poor access to materials
- muscular strain
- accidents or injuries
- damage of materials or equipment

HOW

1. Provide multi-level shelves or racks for various specific items.
2. Make better use of limited space by fitting multi-level shelves or racks to the wall near the work area.
3. Where possible and appropriate, make racks movable by fitting them with wheels.
4. Provide a different, specially arranged place for each kind of materials, files or equipment so that access to them is easy.
5. Avoid too high or too low places for storing frequently used materials or equipment so that they can be reached without difficulty.

SOME MORE HINTS

- Use labels or other means (e.g., specific containers) to indicate specific materials or equipment.
- Provide light-weight containers and bins for storing small items. Front opening containers and bins make it easy to see and grasp the necessary items.
- Store heavy or irregularly shaped items at waist level or in a way appropriate for the next stage of transport.
- For reaching items stored above head height, use a platform step or platform ladder. Avoid carrying items using two hands when climbing down a ladder. Three points of contact for the hands and feet must be retained for safety, to avoid the risk of falling.

POINTS TO REMEMBER

Multi-level shelves and racks can keep things in good order and save time and space. Organize storage using them to reduce damage to materials and avoid accidents.



Figure 2a. Multi-level shelves for storing materials and equipment in good order. They can save space and time.



Figure 2b. Use of small containers and labels makes it easy to store and locate different items in limited space.

CHECKPOINT 3

Make labels and signs easy to see, easy to read, and easy to understand.

WHY

Labels and signs are extensively used in Health Care work. They must be easy to read, otherwise serious mistakes may occur.

People tend to read labels and signs only at a short glance. In busy Health Care work, workers often make mistakes in reading them. The resulting wrong operations may cause an accident. Labels and signs must be large and clear enough to be easily read at a distance.

Labels and signs are easy to understand when they indicate clearly what to do. This clarity of action to be taken is important to avoid mistakes and ensure safe care.

RISKS / SYMPTOMS

- poor access to materials
- muscular strain
- accidents or injuries due to mistakes
- damage of materials or equipment

HOW

1. Attach labels and signs in places where workers often look; for example, close to the workstation or work operations.
2. Locate labels and signs at a comfortable viewing angle around eye-level; i.e. optimally about 20-40 degrees below eye-level.
3. Make the lettering size large enough to be easily read at a distance.
4. Where appropriate, use different colours or shapes for different labels or signs.
5. Put labels for displays and switches near corresponding ones; i.e., immediately

above, underneath, or to the side so that it is clear which label corresponds to which display or switch. Make sure that other items do not block these labels.

6. Use a clear and short message for each item. Avoid confusing and long messages.
7. Make sure that labels and signs use languages that can be understood by the corresponding workers. Where there is more than one language group, it may be necessary to use different languages in labels and signs.

SOME MORE HINTS

- Avoid using similar names or messages for indicating different medicines or items. This is particularly important if the medicines or actions taken have different effects. Try to use different shapes and colours or change the text.
- Make sure that the labels and signs used will remain visible for a long time. Where necessary, use plastic or other long-lasting plates.
- Labels with 1 cm high lettering are normally sufficient at workstations. Larger labels are needed when signs have to be read at a distance.
- When indicating a required operation, start the message with an action verb so that workers know exactly what to do (e.g., "Wear a N95 respirator," or "Danger-Watch the corner").

POINTS TO REMEMBER

Easy-to-understand labels and signs can prevent mistakes. Make them large enough, locate them where workers look, and make the messages short and clear.

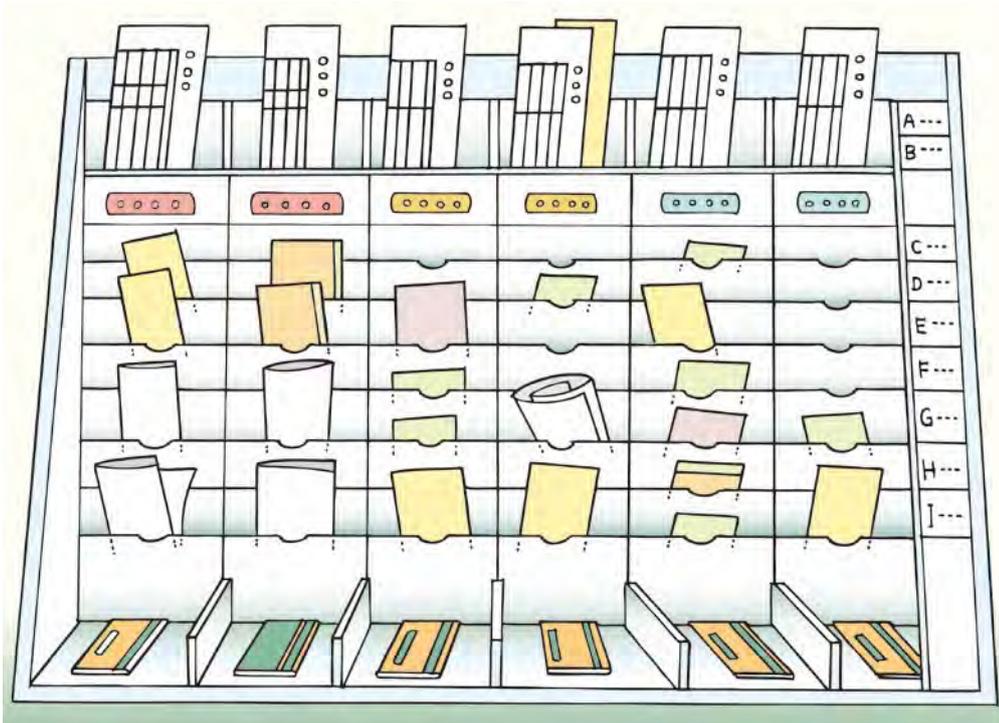


Figure 3a. Use labels so that it is easy to identify the items corresponding to particular labels. Use different colours if useful.

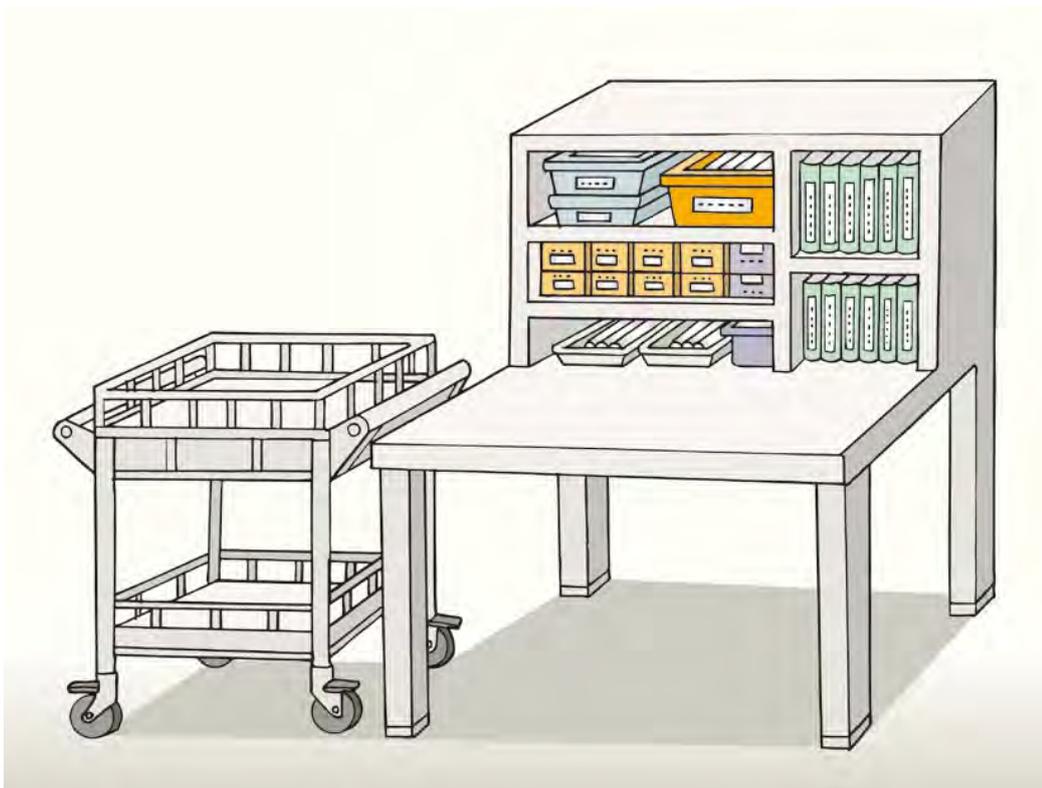


Figure 3b. Attach labels to containers having different items so that it is clearly visible which container corresponds to which items.

CHECKPOINT 4

Use carts, hand-trucks, and other wheeled devices convenient for moving materials.

WHY

Health Care workers often move a variety of materials, equipment, and tools for conducting care work. Moving many items manually not only consumes a lot of effort and time, but also often leads to accidents. All this can be avoided by using "wheels."

By using carts, trolleys, and other mobile devices, the number of trips can be reduced. This can improve efficiency and safety.

Well-arranged trolleys or mobile devices help care workers sequence tasks efficiently and without mistakes.

RISKS / SYMPTOMS

- muscular strain
- low-back pain
- upper-limb disorder
- injuries at work
- damage of material of equipment

HOW

1. Examine tasks for moving materials, equipment, and tools in care work. Use appropriate carts, trolleys, or other moving devices for these tasks when they are conducted frequently.
2. Arrange the way that materials, equipment, and tools are placed on the carts, trolleys, or moving devices so that they are easy to locate and handle.
3. Use pallets, bins, or containers that can be loaded easily onto a cart, trolley, or mobile device. Design special ones for different purposes so that their contents

are protected from damage and are easy to inspect and use.

4. Inspect each cart, trolley, or mobile device at regular intervals to ensure that necessary items are in place in sufficient numbers.

SOME MORE HINTS

- Make sure transport routes are clear and free from obstacles at all times. Clear transport routes are essential for moving around safely.
- Choose wheels of a larger diameter, especially when moving materials a long distance or on uneven surfaces. If possible, adopt rubber wheels or casters to reduce noise.
- Provide suitable stop mechanisms for each cart, trolley, or mobile device so that it is kept stable during care work.
- Attach labels of appropriate size to different items or groups of items to make it easy to identify them.

POINTS TO REMEMBER

Reduce the number of trips during care work by using carts, trolleys, or mobile devices. This makes work more efficient and safer.

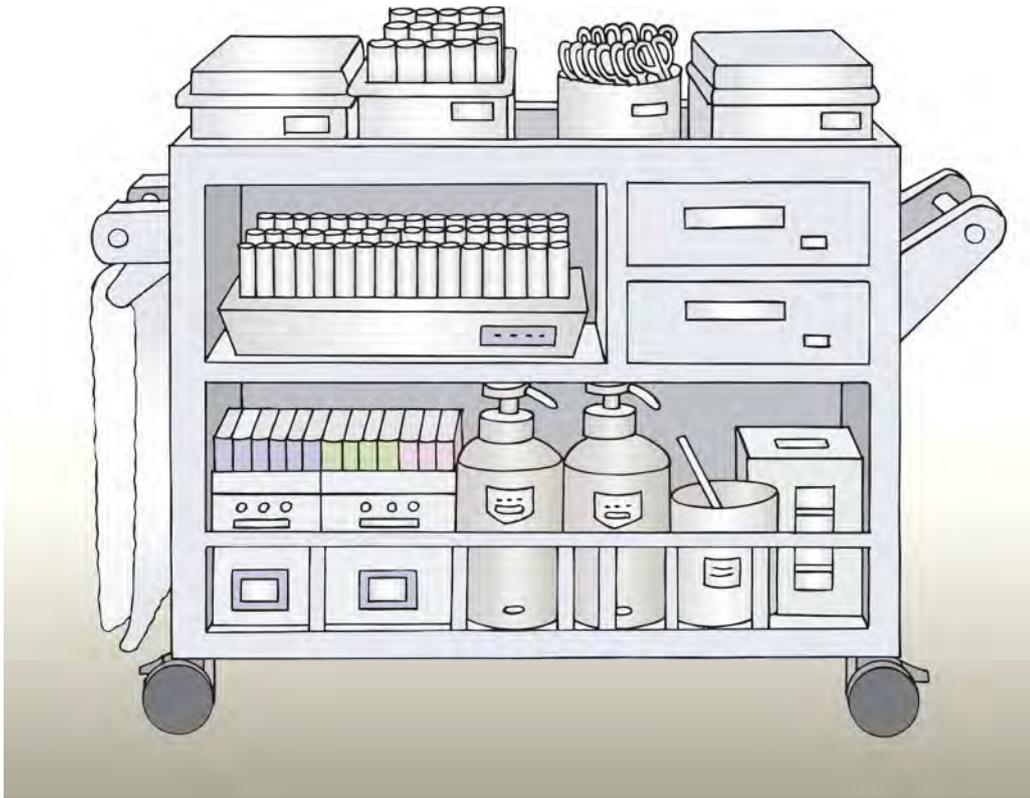


Figure 4a. Well-arranged cart for medical treatment materials.



Figure 4b. A cart designed for special purposes of particular health care work.

CHECKPOINT 5

Provide conveniently placed waste containers.

WHY

Waste and contaminated materials should be placed in designated containers to avoid misuse or unexpected contamination.

Waste and spills of liquid on a table or floor not only represent a source of mishandling and a hindrance to the smooth work flow, but are also an important cause of accidents. Good workplace housekeeping and safety are difficult without providing waste containers in convenient places.

Conveniently placed, easy-to-empty waste containers help to create free and safe spaces and reduce incidents and accidents.

RISKS / SYMPTOMS

- muscular strain
- low-back pain
- material spillage
- slips, trips, or stumbles
- injuries of a hand/arm/leg/foot
- unexpected contamination

HOW

1. Provide waste containers suitable for each type of waste; open box-type or cylinder containers or bins for waste, litter, and rubbish; closed containers for liquids; isolated waste containers for hygienic substances; and appropriate racks or platforms for longer or large waste (such as sheets and linens).
2. Put wheels under waste containers so that the waste can be pushed to places of disposal frequently and easily.
3. If liquid or some part is spilled or drops from a device, construct removable trays or sacks underneath the object.

4. Consult with workers about the best place to set and the way to empty waste containers at appropriate intervals.
5. Assign the responsibility of emptying waste containers to one person or rotate it among a group of workers.

SOME MORE HINTS

- Simple hygienic metal/plastic waste containers placed at appropriate work places can help maintain good and safe workplace housekeeping.
- A vacuum cleaner is a good and convenient waste container for small and dry particles. Wet waste requires a special vacuum cleaner. (Consult your dealer.)
- Separate waste containers depending on the hygienic risks.
- Heavy or large waste can be handled more efficiently if the container can be moved easily and can be opened easily at the appropriate height; e.g., from the side of the container at wrist height.
- Waste stored neatly and cleanly can be recycled.

POINTS TO REMEMBER

Well-organized waste storage is necessary for good workplace housekeeping and for preventing contamination.

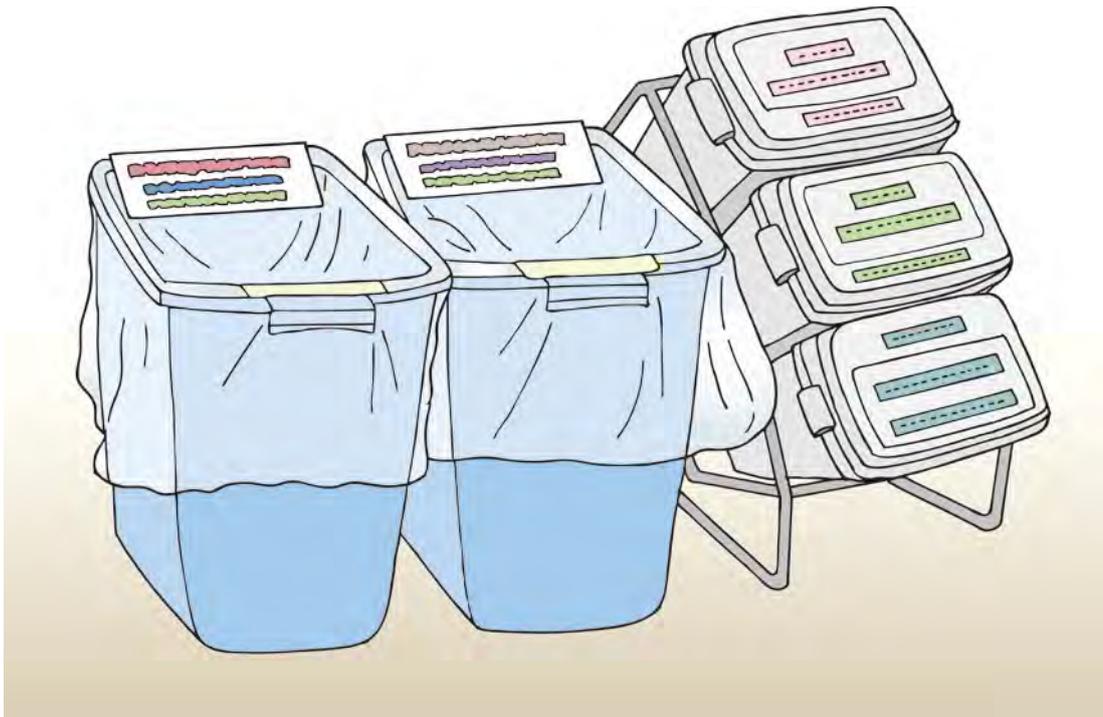


Figure 5a. Provide conveniently placed, easy-to-empty separate waste containers.



Figure 5b. A separate impenetrable container for used sharps and needles.

CHECKPOINT 6

Rearrange the layout of the work areas so that the need to move materials is minimized.

WHY

Often workstations and equipment are installed after each other as care services expand, and their existing positions are not necessarily suitable for easy and efficient work. This can be improved by changing their layout.

Time needed to perform a task can be greatly reduced by relocating the places of equipment, machines, or materials. This lessens workers' time and fatigue, allowing more efficient working.

Good layout of the work area is beneficial for preventing accidents or unnecessary contamination caused by moving materials.

RISKS / SYMPTOMS

- repetitive strain
- excessive fatigue
- low-back pain
- increased injury rates
- unexpected contamination
- stress-induced disorder

HOW

1. Discuss among workers how moving equipment and materials can be improved by changing the layout in the work area. Find a better way of moving equipment and materials within each care work area and between different work areas.
2. Arrange the locations of equipment, instruments, and materials so that a series of several operations can be done while minimizing the movement of the work items.
3. Arrange the locations of storage facilities, large instruments, and workstations according to the sequence of work done.

This can avoid the unnecessary movement of people and materials.

4. When a sequence of care tasks is done in the same work area or in nearby work areas, combine operations whenever possible to reduce the need for moving or carrying materials between operations.

SOME MORE HINTS

- Use pallets or small containers of work items so that multiple items coming from one location or workstation can be moved easily to the work area.
- Ensure that transport routes are clear when rearranging the layout of the work area.
- Make sure there is sufficient space for conducting all kinds of safe care work.
- Discussion involving care workers is essential in rearranging the layout of the facilities, equipment, and work areas. Make sure that the changes done will not hamper the smooth flow of work.

POINTS TO REMEMBER

Minimize the need to move or carry materials by improving the layout of the work area. Relocation of equipment, instruments, or materials can often make the work easier.



Figure 6a. Rearrange locations of work tables and equipment for better teamwork.

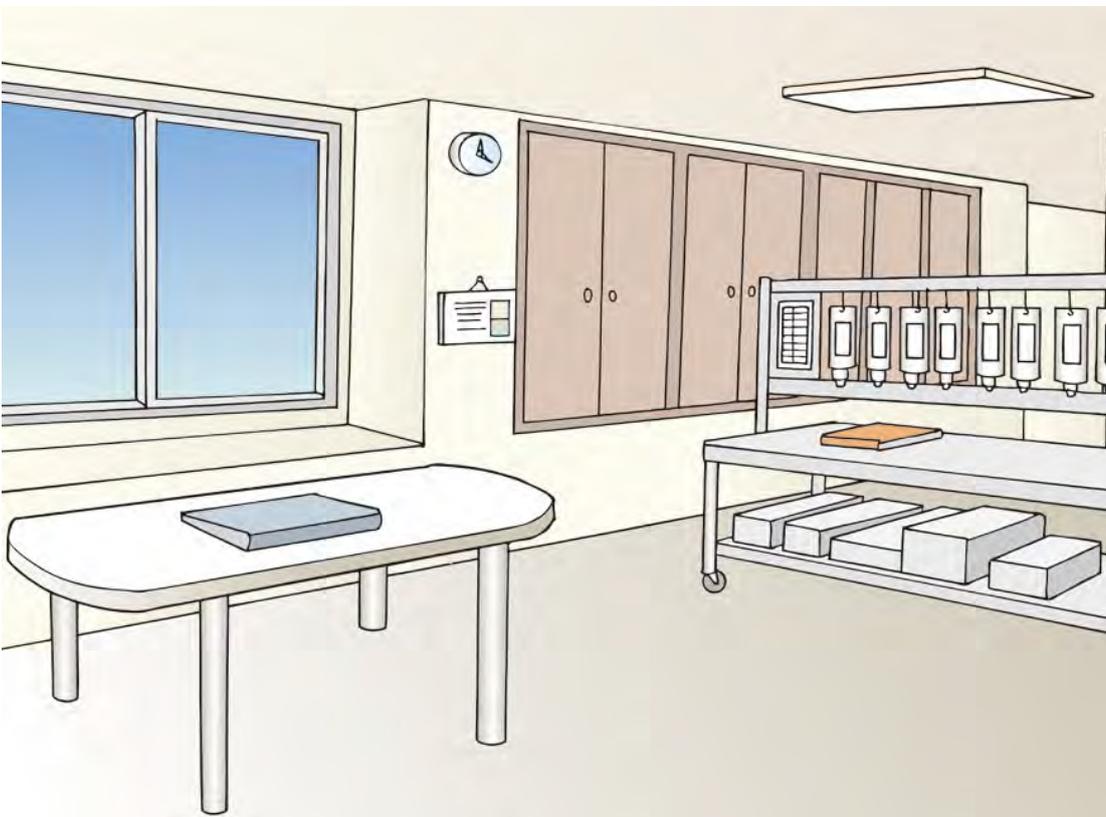


Figure 6b. Improved layout in a nursing station based on discussion among the care personnel using the station

Machine and hand-tool safety

Checkpoints 7-12

CHECKPOINT 7

Use properly fixed guards to prevent contact with dangerous parts of machines and tools.

WHY

When working near moving parts of a machine or medical equipment, workers are at risk. Injuries may occur from power transmission parts (such as gears, shafts, cooling fans, or wheels) or from the point of operation. The best protection against the risk is by preventing contact through mechanical means, not by instructing health care workers or caregivers to avoid it.

The potential for contracting diseases such as hepatitis B, hepatitis C, or HIV/AIDS through needle-stick injuries is high for medical staff and health-care workers. Safer needles that have built-in safety devices can reduce the infection risk of health-care workers.

RISKS / SYMPTOMS

- serious injury or accidents
- occupational infectious diseases

HOW

1. Provide a fixed guard attached to the machine or equipment to prevent contact with moving or dangerous parts. The guard must be practical to use.
2. If the machine guard hinders manual operation, or if workers cannot see the task clearly, they will most likely remove the guard. Redesign these guards, or use guards made of see-through material.
3. Examine the possibility for hands or other body parts to be caught or nipped by a machine or piece of equipment during care operations (e.g., by rotating parts, doors, tools,..). Prevent such a situation by attaching appropriate guards or stoppers, or by an interlocking mechanism.

4. Put up fixed barriers in places where contact with moving parts of the machine is possible, even though this danger is not readily visible. Erect appropriate guards to prevent the hands or clothing from being caught in the place where the rotating parts and "nip points" exist.
5. Purchase and introduce safer needle devices with guards to decrease needle-stick exposures.

SOME MORE HINTS

- Manufacturers of medical equipment usually supply machine guards. Sometimes these are impractical, and you may find that it is necessary to design your own guards.
- When there is a plan to introduce new sharp tools or devices, discuss proper guards with all related staff before implementing the plan.
- Rubber surgical gloves can provide a personal guard and minimize exposure to contaminated blood infection through percutaneous injuries involving needles.

POINTS TO REMEMBER

Machine guards and safer tools/devices with guards are important to protect workers from accidents or infection-related injuries.



Figure 7a. Ensure that adequate types of fixed guards are used for the cutting of plaster casts.

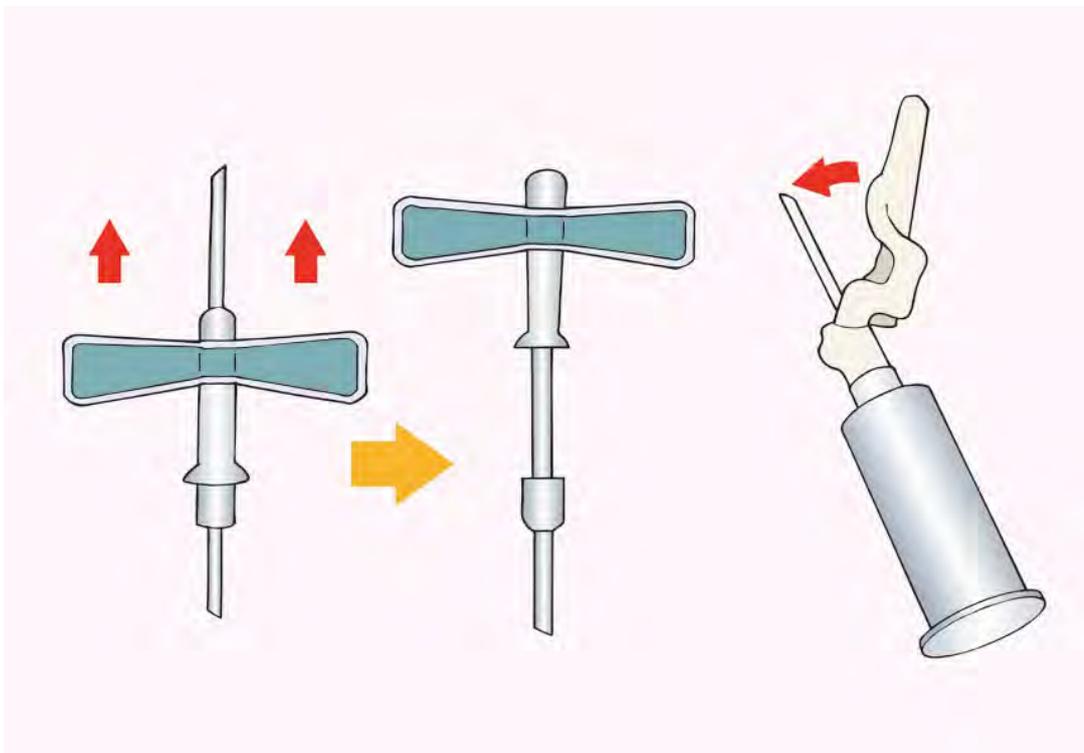


Figure 7b. Safer needles that have built-in safety guard devices, such as a winged (butterfly) needle, can help prevent injuries before, during and after use.

CHECKPOINT 8

Establish safe handling procedures of sharps and use necessary safety devices and safe disposal containers.

WHY

In health-care situations, care workers frequently handle sharps, such as needles and scalpels, so they have a high risk of needle-stick injuries, cuts, and other injuries.

It is important that prevention measures correspond to the risk. Risk levels vary between care tasks; the places of blood exposure, such as operating rooms; and procedures such as dialysis. Many of the injuries caused by sharps handling are preventable by employing measures appropriate to the kind of procedures and equipment in use.

RISKS / SYMPTOMS

- needle stick
- cuts and other injuries
- contamination from blood or fluid

HOW

1. It is essential for all care staff to follow the safety procedures in the handling of sharps and to conduct regular worksite visits by safety managers, occupational safety and health staff, or the Infection Control Team (ICT).
2. Dispose of sharps in the sharps container immediately after their use with possibility of contamination with blood or body fluids. The user must avoid temporarily keeping the sharp or leaving it without appropriate disposal procedures.
3. Make sure sharps-disposal containers are provided during sequential care tasks (e.g., in treatment rooms, operating

theatres, bedside tasks, sharps handling near a trolley).

4. Where appropriate, introduce safety devices such as syringes that have an automatic cover for the needle tip.
5. Conduct education and workshops with all members of staff to establish and follow safety procedures and management of sharps, including correctly using disposal containers and safety devices.
6. Cooperate through good teamwork for preventing sharps injuries by discussing smooth work flow by team members.

SOME MORE HINTS

- It is important to adopt appropriate safety protocols at your workplace and to follow them. The risk of infection is reduced because medical staff will have better knowledge to manage sharps.
- Review duty activities to avoid being engaged in multiple tasks, such as drawing blood, giving injections, and setting up intravenous drips. Concentrate on one task at a time to reduce incidents of medication errors and needle-stick injuries.
- Do not set up the sharps container in a patient room. Instead, use a portable sharps container and take it on rounds.
- Appoint someone in charge of arranging the exchange of the sharps container before it is full.

POINTS TO REMEMBER

The handling procedures for sharps should clearly show how to protect oneself from the danger of needle stick, cuts, and other injuries. The use of safety devices such as sharps-disposal containers also helps prevent injury and infection.



Figure 8a. Make sure sharps-disposal containers are provided during sequential care tasks.



Figure 8b. Conduct training workshops to establish and follow safety procedures and management of sharps.

CHECKPOINT 9

Provide a “home” for each tool used for health care.

WHY

A large variety of tools are used in health care work. If each tool has a home (i.e., a special and permanent place allocated to it), care workers can find the tool quickly and will likely use the right tool at all times. It is an effective way to prevent this time loss.

A designated location of tools is a great help for safe and secure care work.

Tools stored in their special places can be seen at a glance, which makes it easy to take inventory. This is convenient for maintaining good flow of work

RISKS / SYMPTOMS

- tool damage
- hand/arm injuries
- lost tools
- loss of time
- mistakes leading to incidents or accidents

HOW

1. Examine various tools used in care work and discuss whether it is useful to designate storage places for the tools. There are various means of providing a home for each tool, which might include designating a special shelf, a drawer, an easy-to see container, a tool trolley, a suspension from an overhead structure, or a tool board.
2. The most appropriate means should take into consideration the size, shape, and weight of the tool.
3. The more frequently a tool is used, the closer its home should be to the worksite where it is used. When care workers set up a “home” for each tool, it is important to identify work schedules as well as

details of their activities and tasks.

4. In the case of a tool board, the outline of each tool can be drawn to show where it should be placed. Alternatively, labels can indicate where each tool goes.

SOME MORE HINTS

- When a worker or a group of workers frequently changes worksites, portable toolboxes, tool trolleys, or mobile tool storage racks should be used.
- A series of small tools or similar-type tool parts can be stored in special bins, trays, or inserts, with labels clearly indicating each item. The necessary parts can then be taken out at a glance and put back easily.
- It is necessary to designate special locations for personal protective equipment used in care work.

POINTS TO REMEMBER

Having clearly designated storage locations of tools used in care work helps maintain tools in an orderly manner. Workers can save time searching for instruments.

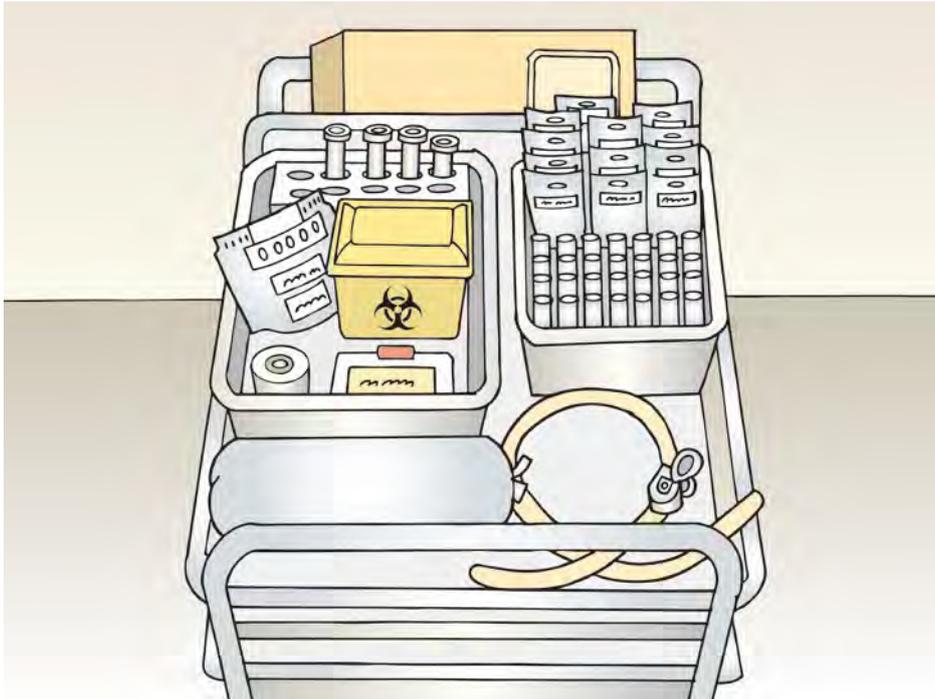


Figure 9a. Provide a home close to the worker who frequently uses the tools. Homes for tools used less frequently can be placed around the workstation.



Figure 9b. The outline of each tool should be drawn on the tool board to show where it should be placed, which helps maintain order and immediately reveals if any tools are missing

CHECKPOINT 10

Ensure safe wiring connections for machines, tools, and equipment.

WHY

Wiring connections are a major source of accidents due to electricity, in particular electric shocks. Special care must be taken to prevent irregular wiring and damage to connections. Cables that are not tidied can cause false steps and disturb the use of mobile racks or pushcarts.

As new instruments and equipment are introduced to care work, awkward connections or unsafe wiring often result in accidents, and work interruptions may occur due to such situations.

Good maintenance of wiring and connections can minimize loss of time and interruptions due to equipment failure. Good maintenance can also reduce electrical accidents.

RISKS / SYMPTOMS

- electrical shock
- electrocution
- equipment failures
- slips, trips, or stumbles
- fire

HOW

1. Provide a sufficient number of socket outlets for wiring connections in order to minimize contacts of workers and patients with cables. If necessary, use an additional multi-plug socket block.
2. Insulate or guard electrical terminals. Ensure that all wiring connections are appropriate. Plugging too much electrical equipment into one socket can lead to overload and overheating.
3. Use only prescribed connections and eliminate unauthorized wiring. Never use exposed connections. Inform and train

workers about the use of appropriate wire gauges that match the electric power required for machines, equipment, and lighting units.

4. Provide proper grounding for machines and equipment. Make it a rule to inspect it regularly and replace frayed cables quickly.
5. Provide an emergency plug source for preventing unexpected disconnection of a life-supporting system
6. Protect cables, especially those temporarily placed on the floor, from being stepped upon by workers or wheeled over by transport equipment. Place a stable protective cover where there is such a danger.
7. Put colour-coding labels and signs on multi-plug sockets in order to distinguish the connected equipment easily.

SOME MORE HINTS

- Protect electric circuits and cables from accidental leakage or spillage of liquids.
- Establish for each workplace a programme of regular inspection of electric circuits and portable electrical equipment.
- Remember that laws and regulations include requirements concerning electric installations. Carefully study them with workers with a view to following them precisely.

POINTS TO REMEMBER

Safe wiring and electrical connections result in less chance of fires and time lost due to machine failures or injury of workers.

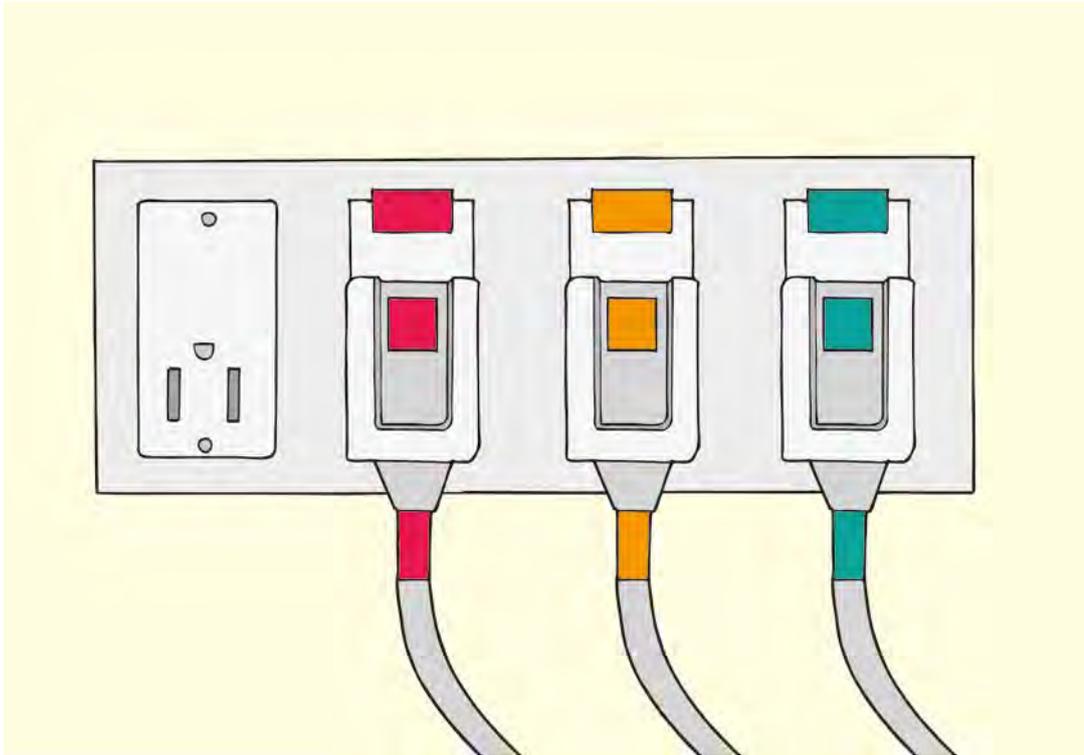


Figure 10a. Colour-coding labels and signs can easily distinguish the connected equipment.

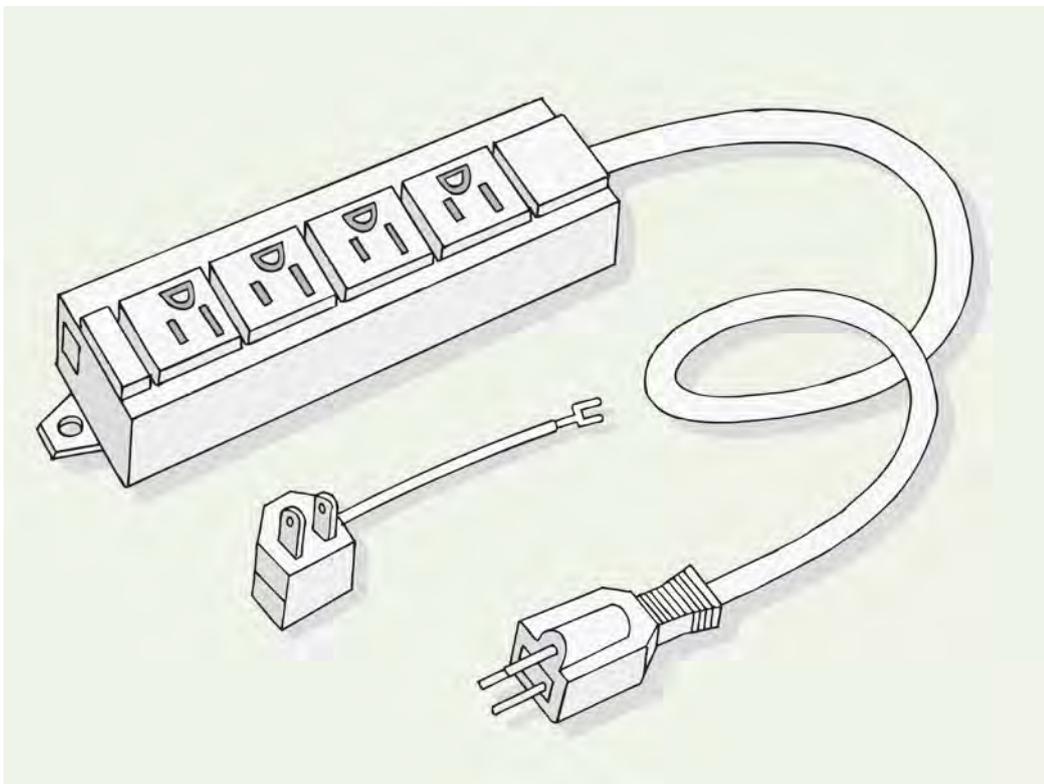


Figure 10b. Use of multi-sockets with grounding contact is good way to prevent damages by electrical overload to machines or equipment.

CHECKPOINT 11

Use warning signs that users understand easily and correctly.

WHY

Warning signs are used to alert workers to hazards. It is important that the signs can be easily read and understood.

It is necessary to convey what the hazards are and what a person should do to avoid them.

Warning signs that are easy to understand and help take necessary actions can reduce accidents due to misunderstanding warnings. Moreover, productivity will increase as time is saved.

RISKS / SYMPTOMS

- serious injuries or accidents
- electrocution
- exposure to hazardous agents
- delayed evacuation

HOW

1. Examine facilities and equipment for care work to know if appropriate warning signs are in place in a sufficient number and in an easy-to-understand manner. Discuss locations and types of necessary warning signs.
2. Warning signs should be placed where workers will frequently see them; for example, near the workstation or the front of the work area.
3. Use characters that are large enough to easily read at a distance.
4. Where hazards are serious, post warning signs that contains the following four essential elements:
 - (a) A signal word: to convey the gravity of the risk; for example, "Danger," "Warning," or "Caution." "Danger" is the

most severe signal word, while "Caution" is the least severe.

- (b) The hazard: the nature of the hazard.
 - (c) The consequences: what could possibly happen if the warning is ignored.
 - (d) Instructions: what are the appropriate measures to take to avoid the hazard.
5. As it is clear that a sign will work with the instrument display and with labeling which tools are which, place the label immediately above, on the side, or just below the instruments. Make sure the label is not obscured by other factors.

SOME MORE HINTS

- Warning signs that indicate the operations that needs to be carried out when necessary should immediately be understood as to what workers need to do. Use a verb that represents an action.
- Short messages are more effective than long ones.
- Warning signs placed too low can easily collect dust or oil; use a material such as plastic or steel for signs so that they will last for a long time.

POINTS TO REMEMBER

Place easy-to-understand warning signs where care workers and clients can readily see them. Ensure that a necessary number of warning signs with simple messages are placed in appropriate locations.



Figure 11. Warning signs should use short messages that indicate the nature and gravity of the hazards and what workers should do and should not do.

CHECKPOINT 12

Inspect and maintain machines and tools regularly.

WHY

Tools, machines, and equipment that do not work properly increase work interruptions and thus affect care quality and safety.

Poorly maintained machines and tools can cause injuries or accidents. Their regular maintenance should be part of good care services. Cooperation of all workers in this respect has positive effects on care quality and human relations.

RISKS / SYMPTOMS

- serious injury or accident
- electrocution
- unnecessary work interruptions
- low quality of care
- damage of equipment and materials
- fire or explosion

HOW

1. Select and install reliable and safe machines and tools. Instruct all workers to replace a failed machine and tool quickly.
2. Make it a rule to inspect machines or tools regularly. Some tools can be inspected by workers themselves, while others should be inspected by qualified personnel.
3. Designate key personnel to be responsible for inspecting the machines and logs.
4. Provide spare parts or a spare tool on site, where necessary.
5. Train care workers about proper maintenance procedures of machines and tools. Make sure that machine troubles or tool damages are reported immediately and take necessary measure are taken.

SOME MORE HINTS

- Maintenance time (the time taken to inspect and fix a tool) is usually small compared to the time taken to find that the tool does not work, to find the problem, and (especially) to obtain the repair parts.
- Increased downtime (time taken to locate the fault, obtain parts, and carry out repairs) means decreased work time for the tool. Reduce this downtime by arranging replacement of parts/modules in advance.

POINTS TO REMEMBER

Well-maintained machines and tools increase safety, accuracy, and quality of care work. Regular maintenance and quick repair or substitution can reduce incidents and accidents.

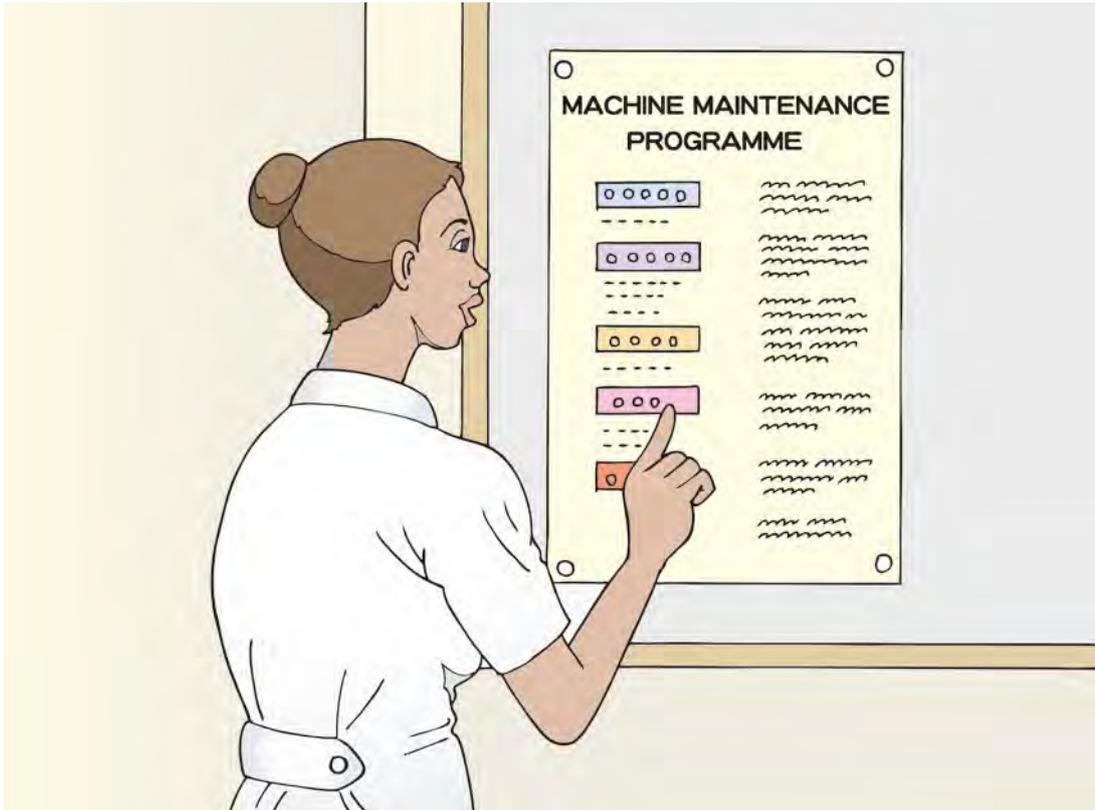


Figure 12a. Make known to all workers concerned the machine maintenance programme in operation.

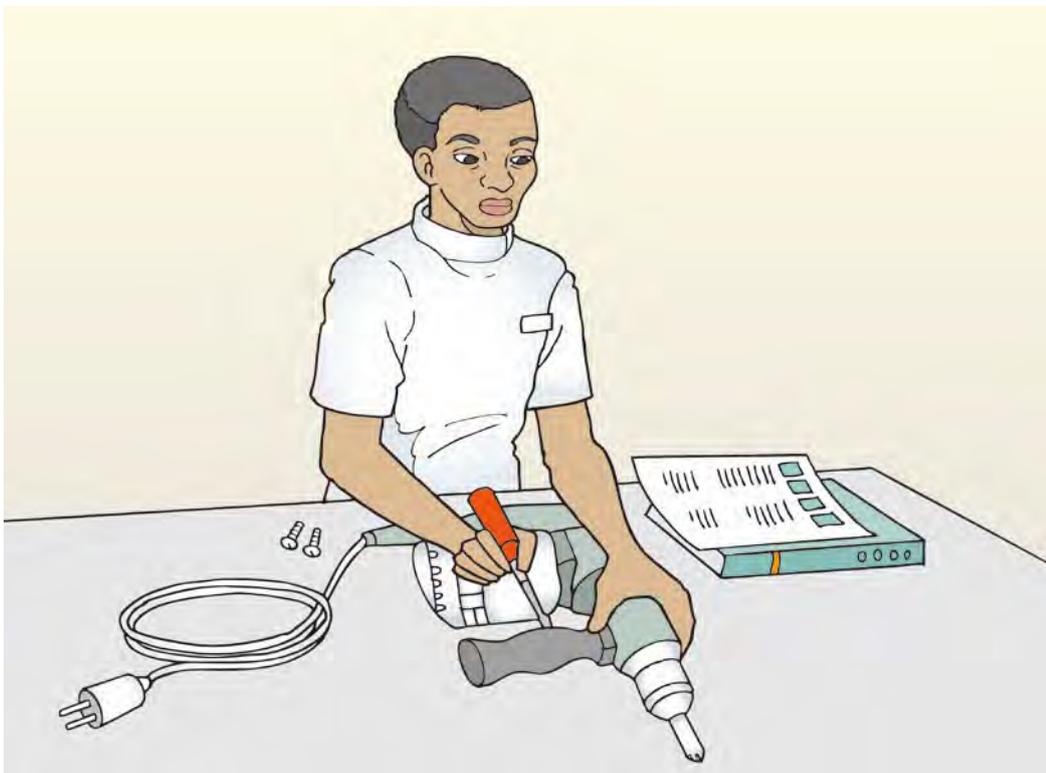


Figure 12b. Regular maintenance and inspection should be provided by qualified personnel.

Safe patient handling

Checkpoints 13-18

CHECKPOINT 13

Establish safe and reliable procedures for transferring people.

WHY

Safe patient handling is an ordinary duty for health-care workers. For safe transferring of people, it is important to develop and share procedures with all members of the team. The established procedures should cover any situation that may arise in doing safe patient-handling tasks.

There are various forms of transfer work. Priority must be given to the safety and comfort of people being transferred and the prevention of health risks to care workers. Care workers may suffer musculoskeletal disorders and work stress if the transfer tasks cause excessive strains to them.

In establishing locally effective procedures, it is necessary to involve health-care workers who have experience and knowledge about existing transfer conditions.

RISKS / SYMPTOMS

- falls and serious injuries
- musculoskeletal disorders
- low-back pain
- stress at work
- discomfort for clients

HOW

1. Review the safe patient handling tasks done by care workers and discuss practical measures to minimize risks encountered during the transfer tasks. It is useful to learn good transfer practices from experienced workers.
2. Ensure that the transfer procedures listed below are well established and known to all workers engaged in transfer tasks.
 - Clarify who does what
 - Maintain the safety of patient handling during all stages of transfer
 - Secure the comfort and cooperation of the person being transferred

- Avoid excessive strain on care workers particularly muscular/postural strains
 - Ensure compliance with relevant regulations
 - Use equipment safely and appropriately.
 - Be aware of changes in patient conditions
 - Communicate with the person being transferred.
3. These procedures include safe patient-handling techniques that are workable to avoid excessive musculoskeletal strains of care workers.
 4. Offer appropriate support for both workers and managers, if necessary, with guidance from experts or assistance from co-workers.
 5. Periodically discuss suggestions with workers and managers about improving transfer procedures. Based on the discussions, select the most practical and effective solutions.

SOME MORE HINTS

- Ensure that there is enough space to use the required equipment.
- Improve tasks that may cause undue strains during transfer. Enforce the following of procedures even during minor emergencies, or if time is limited. Make modifications to the procedures whenever necessary.
- Encourage the person being transferred to assist care workers if they are able.
- If speed is essential as in an evacuation, use common sense to minimize risks of injury; e.g., by dragging and pulling rather than lifting.

POINTS TO REMEMBER

In establishing transfer procedures to prevent risks and excessive strains, involve care workers in identifying any potential risks of injury to clients or themselves.

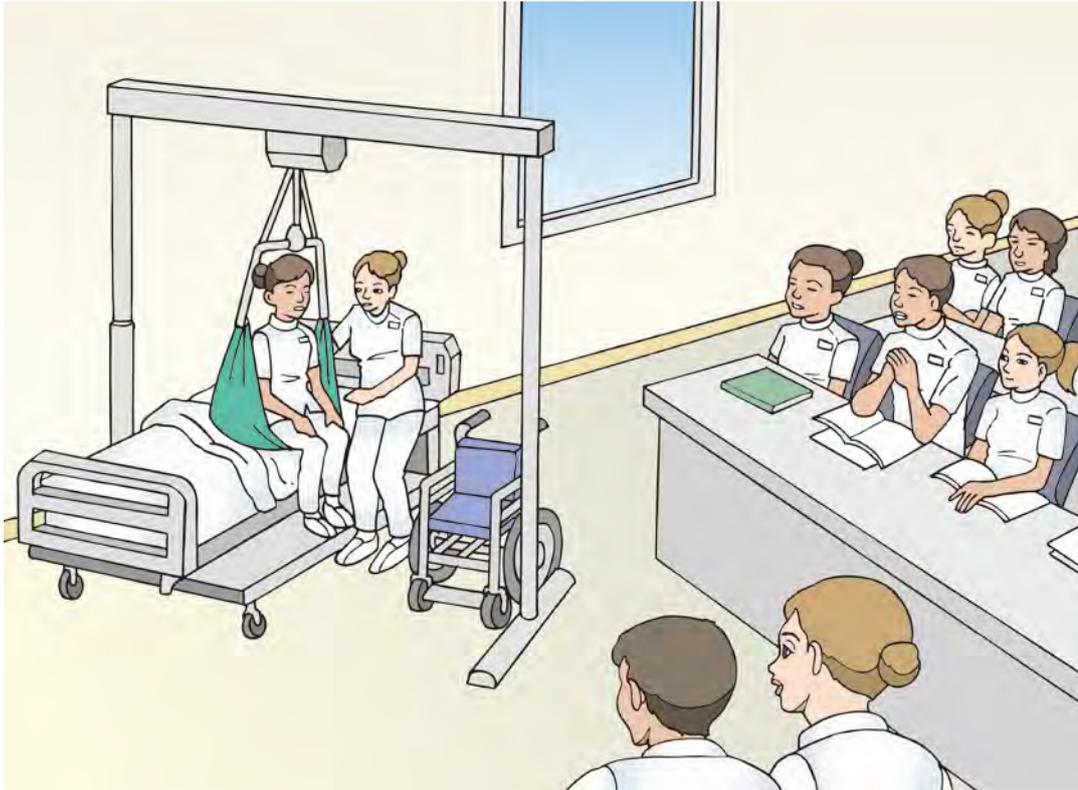


Figure 13a. Provide regular training on procedures relating to people-handling.

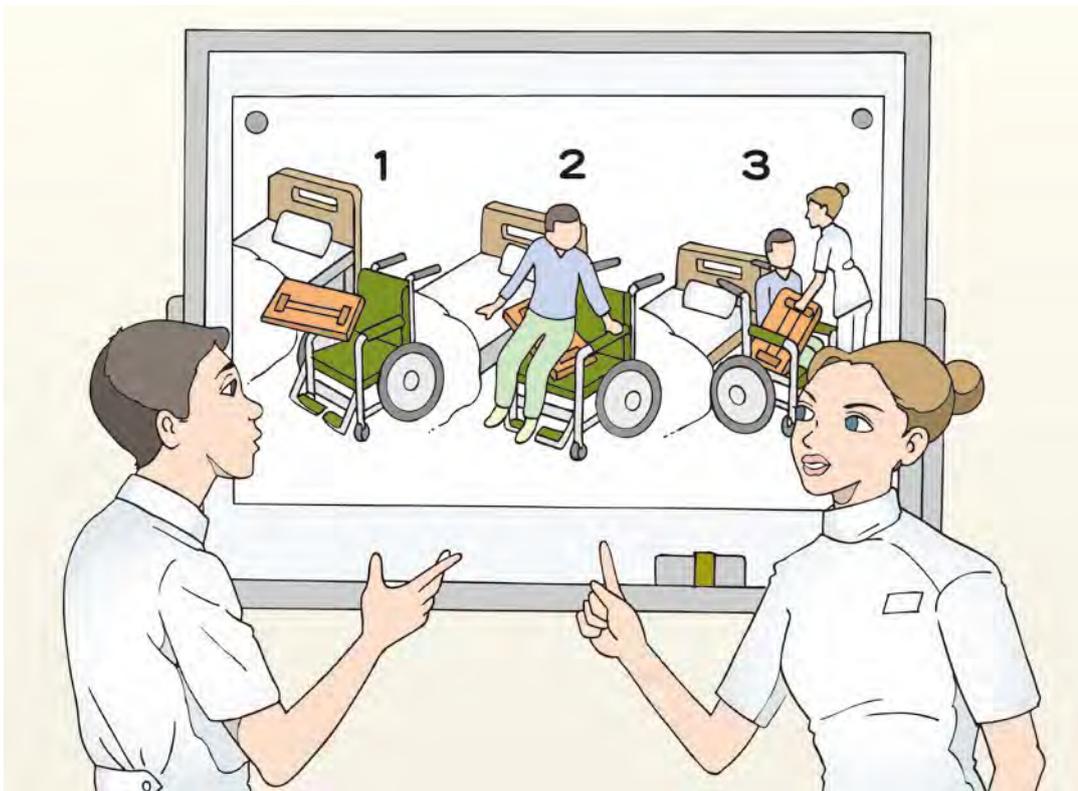


Figure 13b. Share information regarding devised methods of appropriate handling of the individual patient.

CHECKPOINT 14

Secure trained staff and necessary transfer devices such as wheelchairs, and make sure that the space and routes for transfer are safe and clear.

WHY

Safe patient handling requires appropriate equipment and adequate numbers of staff to cope with the number of people being cared for. Only with adequate equipment, can workers avoid dangerous transfer techniques.

Care workers should be well trained in the use of transfer equipment and associated devices. Training in real practice is essential.

In order to make safe transfer, it is necessary to arrange the transfer areas appropriately, and to have experienced workers who understand all aspects of the procedure.

RISKS / SYMPTOMS

- falls and serious injuries
- musculoskeletal disorders
- low-back pain
- excessive physical strains
- discomfort for clients

HOW

1. Examine the need to provide transfer equipment and associated devices, such as sliding boards and sheets, for ensuring the safe transfer of people. If additional equipment is required, make a plan to provide the lacking equipment.
2. Stow equipment in a place easily accessible at any time.
3. Arrange the environment for safe transfer. Ensure there is adequate space for the transfer actions. Check that the floor is not wet or slippery and there are no obvious obstructions, or hanging articles such as tubes or electrical cords. Ensure splints, braces, casts, and devices to be handled

with the person being transferred are properly handled during the transfer.

4. Assessment should be made of the client's physical condition before attempting transfer. Modify the tasks or routes if necessary.
5. Train all care workers attending safe patient-handling tasks in safe and proper transfer. This training should include practice in real situations. Consider the opinions of workers in further improving the transfer techniques used.
6. Seek assistance and cooperation of people being transferred by ensuring that they are prepared and understand the procedures.

SOME MORE HINTS

- To keep the designated transfer route safe, provide adequate signage that this way must be kept clear at all times.
- Care workers doing transfer tasks should wear clothes that do not hinder their movement during people-handling.
- In busy times, reschedule people-handling tasks if possible to guarantee appropriate numbers of available staff.
- When a person might be making involuntary or unexpected movements or may be uncooperative while being transferred, select the appropriate method of transfer and obtain help from other care workers who are prepared to react to sudden movements.

POINTS TO REMEMBER

Ensure that the transfer routes are without obstructions or undue height differences. Secure trained staff and necessary transfer equipment for safe transfer at all times.

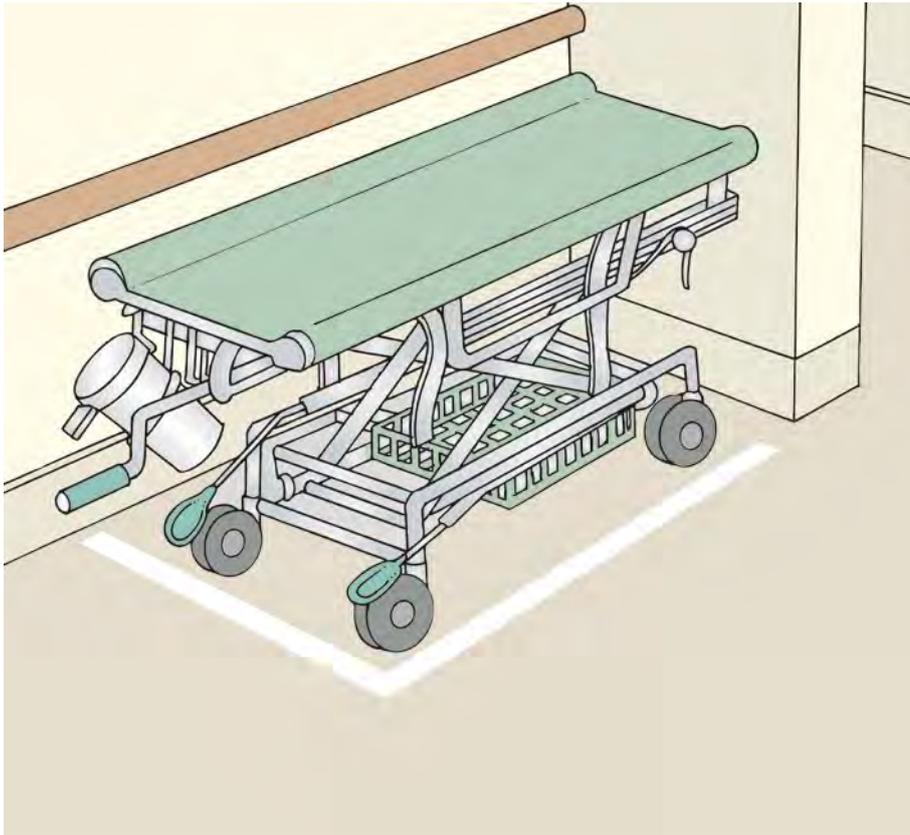


Figure 14a. Store equipment in readily accessible places.

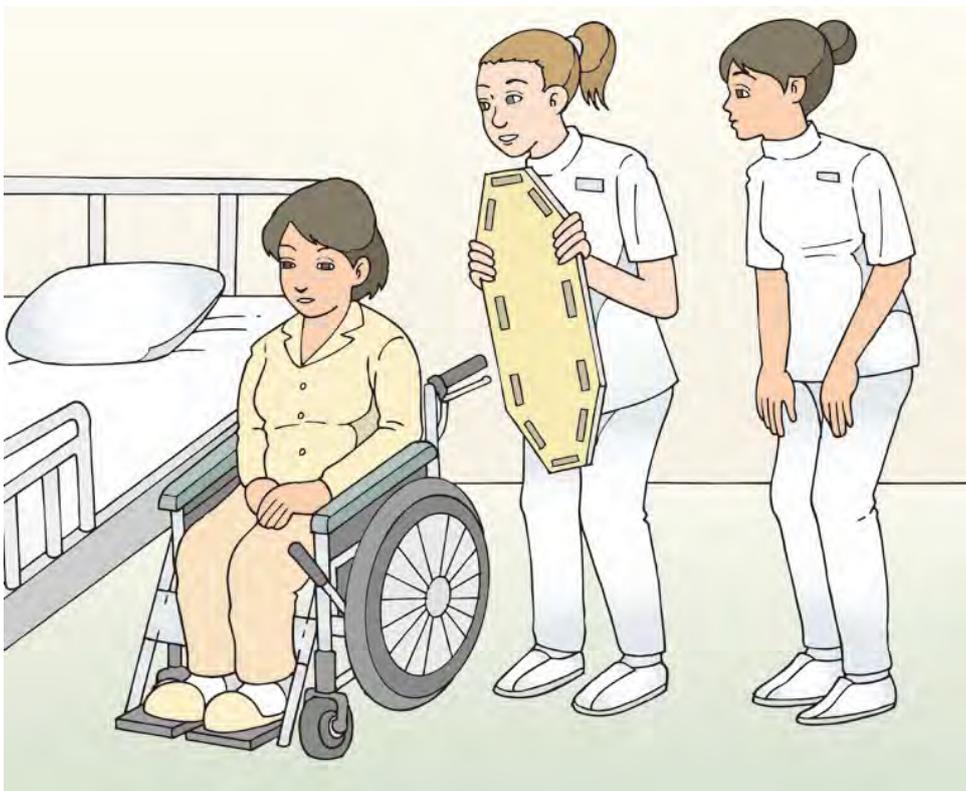


Figure 14b. Ensure that there are adequate staff members for each task and that the appropriate procedure is applied for each patient.

CHECKPOINT 15

Use transfer equipment that is safe, easy to apply, and reassuring for patient handling.

WHY

The purpose of using transfer equipment is not only to transfer safely and efficiently but also to promote client independence.

The use of appropriate patient-handling devices is secured by involving care workers in selecting and maintaining the equipment.

Care workers must have regular training in order to update their knowledge of equipment and so that they understand the correct procedures and precautions.

RISKS / SYMPTOMS

- serious injury or accident
- wrong operation
- uncontrolled emergency
- undue strains at work

HOW

1. Care workers must understand how to operate transfer equipment and be able to judge the appropriateness of the equipment for the task. Care workers should assess the condition of the person being transferred and choose the equipment accordingly, explaining what is required of the person while carrying out the procedure.
2. Management should organize training sessions to upgrade care workers' transfer skills and knowledge.
3. Use only transfer equipment specifically designed for the tasks that are performed.
4. Transfer equipment must have regular maintenance and checks to ensure good working order. It is important to appoint someone in charge of regular maintenance and record the activities done.

5. Recognize and make note of the useful life of transfer equipment and replace it at the recommended time.

SOME MORE HINTS

- All new care workers should be given the opportunity to attend training in the operation and maintenance of transfer equipment.
- When care workers become aware of any defect in equipment, report the defect immediately and cease using the equipment.
- Be aware that there are two sides to the sliding sheet, only one being the slippery side. Make sure that the sheet is used appropriately so that the sliding can be accomplished without strain for the worker.
- Discuss with management a plan for purchasing people-handling equipment, analysing the advantages and disadvantages of different devices.
- Seek expert advice on the requirements and the conditions in the workplace, and of the client.
- Consider the functionality, the flexibility, the cost, the cost of maintenance and repairs, and whether the equipment is really needed.

POINTS TO REMEMBER

The appropriate selection and proper use of transfer equipment is critical for safety and comfort of safe patient handling. Comprehensive training of care workers is essential.

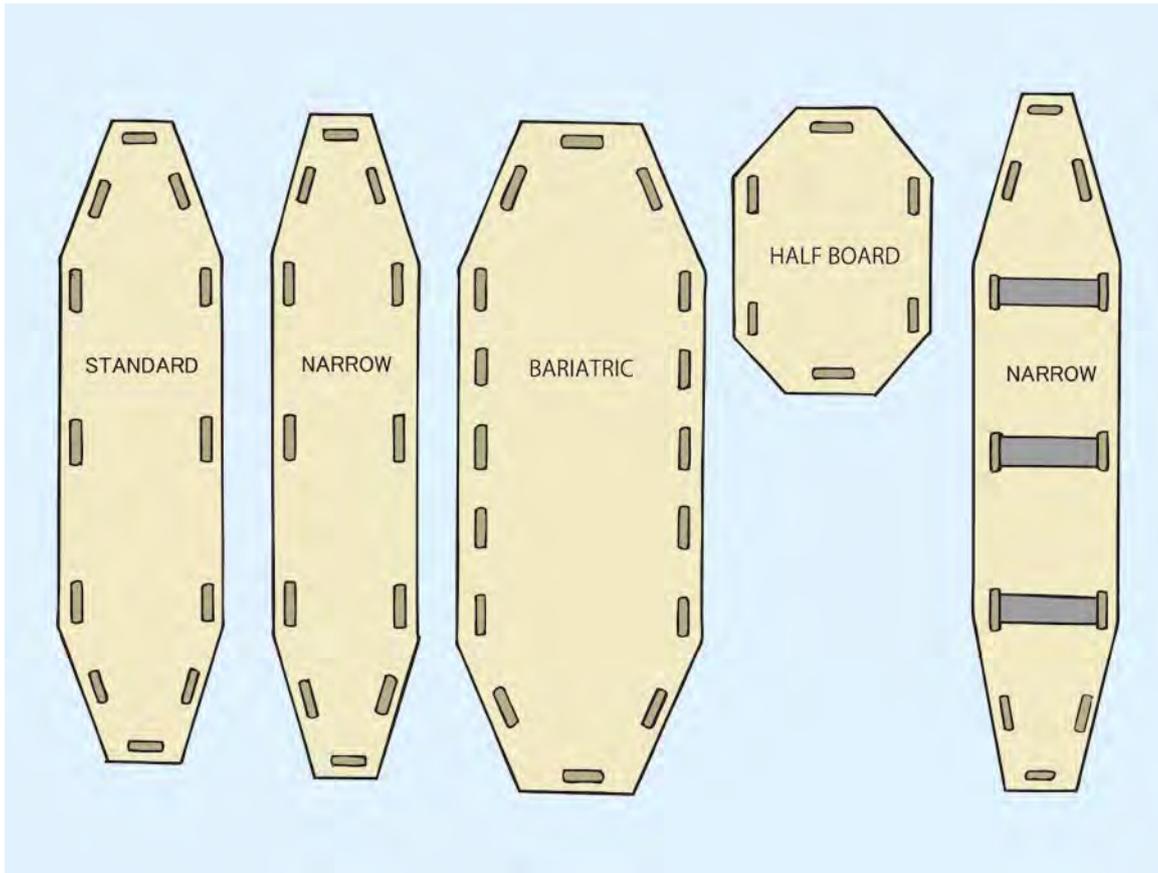


Figure 15a. There are many different types of people-handling equipment, it is important to know how to use whatever is used in the workplace and to be aware of functional aspects, such as how the hoist battery is recharged.



Figure 15b. Select and use equipment that suits the person's condition and functional ability.

CHECKPOINT 16

Utilize safe and reassuring lifting devices when lifting patient is involved.

WHY

To alleviate the need for strenuous work when assisting a client from a bed to a wheelchair or stretcher, consider the use of lifting devices. Manual lifting of clients often causes excessive strains on care workers. Over time, these excessive strains may lead to cumulative musculoskeletal disorders. Appropriate lifting procedures must be employed.

The choice and appropriate use of lifting devices are critical for safety and comfort of people being transferred.

RISKS / SYMPTOMS

- serious injury or accident
- musculoskeletal disorder
- uncontrolled emergency
- undue strains at work

HOW

1. Select the appropriate lifting equipment considering the condition of people to be transferred.
2. Check the weight limitation of the lifting equipment against the weight of the person to be lifted.
3. Consider the person's condition and choose the appropriate sling for the lifting equipment for the person's safety and comfort.
4. Consider the position of the bed in relation to the transfer equipment for minimizing the movement of the care workers and the person being transferred.

5. While the patient is being lifted, care workers should stand close, offering support and reassurance to make the person feel less anxious.

SOME MORE HINTS

- Train care workers in proper procedures for handling the person to be transferred and lifted.
- Proper team work is important when lifting of the person is difficult or challenging.
- Be aware of the hoist's emergency stop button. Avoid touching the button during ordinary operation of the hoist, but be ready to press the button anytime for emergency.
- A battery-powered electric hoist has the benefit that it can be used without a power point. Make sure the battery is regularly charged.
- Ensure that the floor is clear of small particles that can suddenly hinder the wheels, such as dropped cloths and hairpins.
- Have a checking system in place to confirm the completion of regular maintenance as scheduled.

POINTS TO REMEMBER

Select and use lifting devices appropriate for the condition of the person to be transferred. Training of care workers in lifting procedures and good team work is essential for safe lifting.



Figure 16a. Be sure that you are in the client's field of view during the time they are being hoisted in order to provide the client reassurance and feedback.



Figure 16b. Be certain that appropriate equipment is chosen for the person and the task.

CHECKPOINT 17

In patient handling, explain the procedure to the patient being transferred and conduct handling actions while saying each action in a clear voice and obtaining cooperation of the patient.

WHY

It is important to explain what the care worker will be doing in order to obtain cooperation of the person being transferred.

For this, it is important that the care worker has both appropriate knowledge of transfer techniques and has up-to-date information about the mental and physical condition of the client.

Equipment used for transfer needs to be regardful of the person's maintenance of their present function as well as the gradual physical rehabilitation of the person, under the advice of the appropriate care manager. To make the best of using transfer equipment, the care worker must explain the need for cooperation from the person being transferred.

Transfer equipment reduces the strain imposed by caring for people, for family caregivers and care workers.

RISKS / SYMPTOMS

- falls
- muscular strain
- low-back pain
- injury to clients

HOW

1. Check the present state of the mental and physical condition of the person before transfer. This knowledge is essential for the choice of appropriate method and equipment for the task.
2. Before the transfer, try to gain consent from the person for the way you intend to

make the transfer, and gain approval for what equipment you will be using.

3. If the person agrees and is able to cooperate, explain what you will require of the client before the transfer, such as how you want them to bend, stand, and lock their knees. You should explain it again at each stage while the transfer is taking place.
4. There are different stages requiring close cooperation of the person; e.g., raising the upper torso first, and bringing the lower torso around to the side of the bed. The same is true whether the person can stand freely or requires assistance in changing the position.

SOME MORE HINTS

- Care workers should record notes about the level at which the client was able to function during the procedures of transfer.
- The assistance required by the client may change due to mental or physical conditions. Therefore, you need to assess them before attempting the transfer.
- You should also record changes in the client or other information that you can share with other team members.
- For reassuring safety, you need to stand close to clients and talk to them while transfer is taking place. Observe the person's face and skin colour during the transfer.

POINTS TO REMEMBER

When you transfer a client, the client must understand your explanations clearly. At the time of transfer, you need to establish a cooperative relationship with the client.

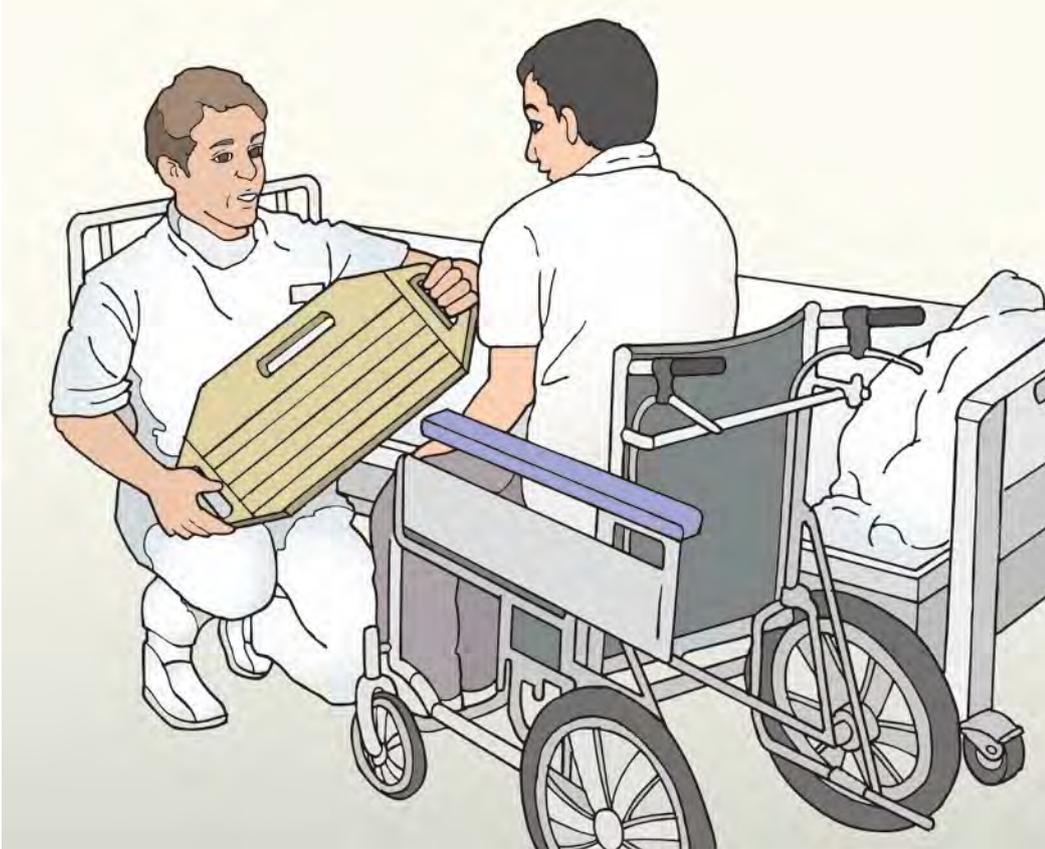


Figure 17a. Explain to the client the need for them to move cooperatively when you transfer.



Figure 17b. Stand close to the client and talk in a friendly manner during the transfer.

CHECKPOINT 18

When a vehicle is used for safe patient handling, ensure that the vehicle and its driver can conduct the transfer in a safe and reassuring manner.

WHY

Care workers may need to use different types of vehicles for client transfer with wheelchairs. Special attention must be paid to the safety and comfort of the client.

The driver must be trained and qualified about client transfer with wheelchairs. It is important that the whole procedures of client transfer and transport are safe and comfortable for clients.

It is important to use appropriate vehicles that meet statutory requirements.

When vehicles are used just for care workers, also make sure that priority is given to transport safety.

RISKS / SYMPTOMS

- vehicle accidents
- musculoskeletal injuries
- falls and serious injuries
- uncontrolled emergency

HOW

1. Discuss safety measures required in the use of vehicles for client transfer. Agree on appropriate procedures for the vehicle use.
2. Plan the safest possible route to the destination.
3. Ensure that the vehicles used are kept tidy with sufficient room inside for positioning and securing the person.
4. If a lift is fitted to the vehicle, utmost care should be taken for the safe use of the lift and for preventing musculoskeletal injuries.

5. Check that the qualification of the driver covers the statutory requirements for transporting clients. The driver needs to be authorized by the workplace or service to drive on behalf of the client, and be covered by proper insurance.
6. All vehicles used must undergo specified maintenance as well as meet statutory requirements for any passenger transport vehicle, such as regular safety inspections, insurance, and registration.
7. The vehicle's wheelchair lift should be maintained by a properly qualified technician as often as the manufacturer recommends. The maintenance schedule should be recorded in the vehicle logbooks.

SOME MORE HINTS

- Discuss coping procedures if clients become sick while being transported.
- Establish emergency plans for events such as car accidents or traffic jams.
- If no lift is available, then a ramp can assist wheelchair access. The vehicle should have wide doorways on both sides to facilitate access, and sliding doors or doors that stay open without having to be held open by the worker.

POINTS TO REMEMBER

To improve the safety and ease of transport, ensure that the vehicles used is suited to the purpose, and that the drivers are properly qualified to transport health-compromised clients.



Figure 18. Service the vehicle's wheelchair lift as often as the manufacturer recommends. Record the maintenance in the vehicle logbooks.

Workstations

Checkpoints 19-24

CHECKPOINT 19

Place frequently used materials, tools, and controls within easy reach.

WHY

Human care workers usually have materials, tools, and/or controls that they frequently handle during daily work. These items placed within easy reach of workers help to eliminate unnecessary muscular movement and lessen risks of stress and fatigue while working.

Easy-to-reach materials, tools, and controls will make work easier and increase efficiency and productivity.

Cluttered workshops in which tools, controls, and materials are scattered around are stressful for workers. Workers will spend more time finding the tools and will make frequent trips carrying the items.

RISKS / SYMPTOMS

- muscular strain
- upper-limb disorder
- stress-related disorder
- injuries at work
- accidents

HOW

1. Place all frequently used materials, tools, and controls within easy reach of workers (usually within the length of the forearm, 20-40 cm from the front of the work surface). Workers should be allowed to reach all necessary items without bending, leaning forward, or stretching their arms or bodies.
2. Small materials and items should be organized in containers or pallets. This manner can make workers more comfortable.
3. Materials, tools, and controls with less frequent use can be located in places somewhat more distant from the worker,

even in places outside the workstations. But they should be placed in conveniently designed racks or shelves near the workstation.

SOME MORE HINTS

- Observe each workstation carefully. You may need to look at each worker for several minutes or more to understand their job cycles. Find whether some workers have to frequently bend, lean forward, or stretch their body trunk to grasp materials or tools.
- There must be good examples in your workplaces. For example, workstations where workers can grasp necessary materials easily or conveniently place small materials containers to avoid confusion and mistakes. Identify these good examples and learn from the workers who developed them.
- Discuss with your workmates more efficient workflow that can reduce workers' stress and pains by conveniently placed materials, tools, and controls. Simple changes of the location of frequently used items or the introduction of item containers may drastically eliminate the stress of workers.

POINTS TO REMEMBER

Materials, tools, and controls placed within easy reach of workers are effective for relieving the muscular strain and stress of workers and improving work quality.



Figure 19a. Place materials and tools in accordance with frequency of use.



Figure 19b. Place frequently used materials and tools within easy reach.

CHECKPOINT 20

Adjust the working height for each worker at elbow level or slightly below it.

WHY

Working at the elbow level or slightly lower than the elbow level is usually easier and more effective for workers to handle items. By working at elbow height, muscles of workers' shoulder and low back can be less stressed. This will help workers to be more efficient and develop better work skills. Further, appropriate working height is important for improving safety at work.

Many workers develop low-back pains and shoulder pains because of strenuous work postures. These muscle pains will disturb workers' daily life as well as working life. The severe muscle pains prolong workers' sick leaves from the workplace, and the situation may potentially affect workers' income or job security.

RISKS / SYMPTOMS

- muscular strain
- upper-limb disorder
- shoulder pain
- back pain
- injuries at work
- accident

HOW

1. Because every worker has a different body size, every workstation needs to be adjusted to the individual body size. When purchasing and introducing new workstations, the work height should be adjusted to each worker's elbow height.
2. When a workstation or a work table is used by many workers, provide a foot platform for small workers and an item stand for tall workers to adjust their work height to their elbow level.

3. If the work needs more muscle strength, working at slightly lower than elbow level may be necessary.
4. For workers engaged in precision jobs, the work surface may be a little higher than their elbow height.

SOME MORE HINTS

- Check workstations to identify the necessity of height adjustment.
- Obtain information at the workplace concerning shoulder and back pain developed during daily work among workers. Discuss the cause of the pain with colleagues.
- Plan how to adjust workstations to their elbow height. Shop floor meetings and safety and health committees should be used for practical discussion.
- Collect necessary materials for adjusting the workstations. Just pieces of wood, steel, or plastic materials may be helpful for improving the work height.

POINTS TO REMEMBER

Working at elbow height decreases workers' muscular discomfort and prevents pains of the neck, shoulder, and low back. Also, working at elbow height or slightly below it can increase efficiency and quality of work.



Figure 20a. Use a table of suitable height for standing workers to ensure an appropriate work height at around elbow level.

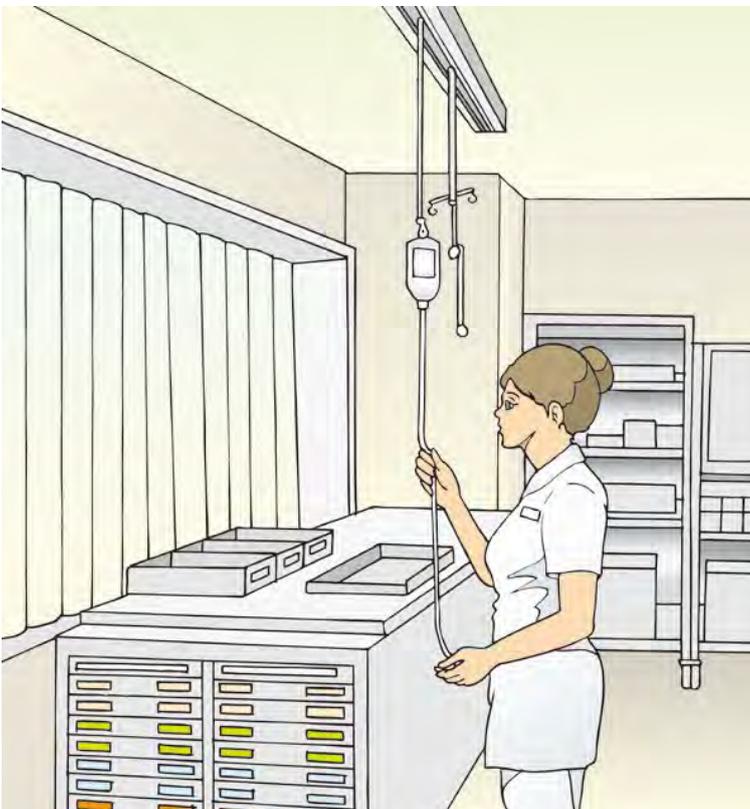


Figure 20b. Special arrangements for intravenous drip infusion sets while keeping a natural standing posture.

CHECKPOINT 21

Allow workers to alternate standing and sitting as much as possible and provide good adjustable chairs with a backrest.

WHY

Alternating standing and sitting while working is much better than keeping the same posture for a long period of time. It is less stressful, reduces fatigue, and improves morale. And the quality of work will be improved.

Changing work posture may mean combining different tasks. This can facilitate communication and acquisition of multiple skills for better teamwork.

Keeping the same work posture is tiring and tends to increase mistakes. By providing chances for occasional sitting or standing, the work becomes better organized.

RISKS / SYMPTOMS

- repetitive
- monotony
- excessive fatigue
- low-back pain
- upper-limb disorder
- making wrong operations

HOW

1. Assign combined work tasks so that the worker can do these different tasks by alternating standing and sitting at work. For example, preparation or attending the client while standing and sitting, using hand tools while standing, and recording while sitting.
2. Rotate the jobs carried out by one worker so as to allow each worker to alternate standing and sitting from time to time.

3. When the main tasks are done while standing, then allow for occasional sitting (e.g., for watch keeping, recording, or after serial tasks). When many tasks are done in a sitting posture, insert opportunities for occasional standing; e.g., for inspection or for collecting materials or information.
4. Minimize bending postures while working. Various tools or adjustable devices will help you avoid unnatural postures.

SOME MORE HINTS

- If the same work table is used for both standing and sitting work, particular care is needed to provide a higher working surface for standing work and to avoid too high a working height for seated work.
- If it is difficult to introduce the new routine of alternating standing and sitting, try such changes by providing standing workers with chairs or high stools for occasional sitting and by providing sitting workers with an additional space where some secondary tasks can be done while standing. This trial may facilitate a new routine.
- Multiple skills are increasingly necessary for health care work. In arranging multi-skilled work to be done by a group of care workers, it becomes possible to combine standing and sitting tasks for each individual worker.

POINTS TO REMEMBER

Assign different work tasks to create opportunities to alternate standing and sitting for increased efficiency and comfort.



Figure 21a. Provide sitting workers with good adjustable chairs with a backrest and opportunities to do secondary tasks while standing.



Figure 21b. Provide standing health care workers with chairs or stools for occasional sitting.

CHECKPOINT 22

Make different devices and controls easy to distinguish from each other.

WHY

Health care workers deal with a variety of devices and equipment related to the patient's life. For prevention of medical accidents, it is important to easily identify different devices and controls and distinguish them from each other. If controls look similar, health care workers will make mistakes.

Human error is possible in every process of health care. We recommend using low-cost technology applying ergonomics to prevent workers from executing the wrong action. Devices with different purposes should be labelled, separated, or specifically arranged so that an error should be difficult to make.

RISKS / SYMPTOMS

- activating a wrong control
- performing a wrong operation
- connecting a wrong device
- experiencing a medical accident

HOW

1. Make different devices and controls easy to distinguish from each other by locations labels and use of colours.
2. Provide easy-to-understand dosage and instructions for each operational switch of medical instruments that are used in the patient's home.
3. Use coloured syringes for drugs that must not be administered to the patient, such as disinfectants.

4. Locate labels and signs in places where people often look; for example, close to the production process or in front of each operator.
5. The effectiveness of warning signs can be enhanced by symbols. Examples of good warning signs include:

DANGER!
HIGH-VOLTAGE WIRE
CAN KILL!
STAY AWAY!
ONLY FOR DOCTOR USE

SOME MORE HINTS

- Make labels or tags for the lines when infusion lines are multiple so that each set of line and bottles are easy to match for connecting procedures.
- Attach a guard or different-colour labels for mechanical infusion pump system equipment to prevent unexpected operation because the alarm system may shut down when the pump machines are switched off.
- Use different sizes of routes for connecting the ports of the digestive tract or gastrostomy and the blood vessels. For tube feeding, use the catheter tip.
- When indicating a required operation, start the message with an action verb so that people know exactly what to do (e.g., "Turn off lights," "Hook the sling," not "Turn off lights if not necessary" or "Danger - Watch the Crane")

POINTS TO REMEMBER

Coding of controls (by colour, size, shape, label, and location) can prevent operator errors and reduce the time for the operating procedure.

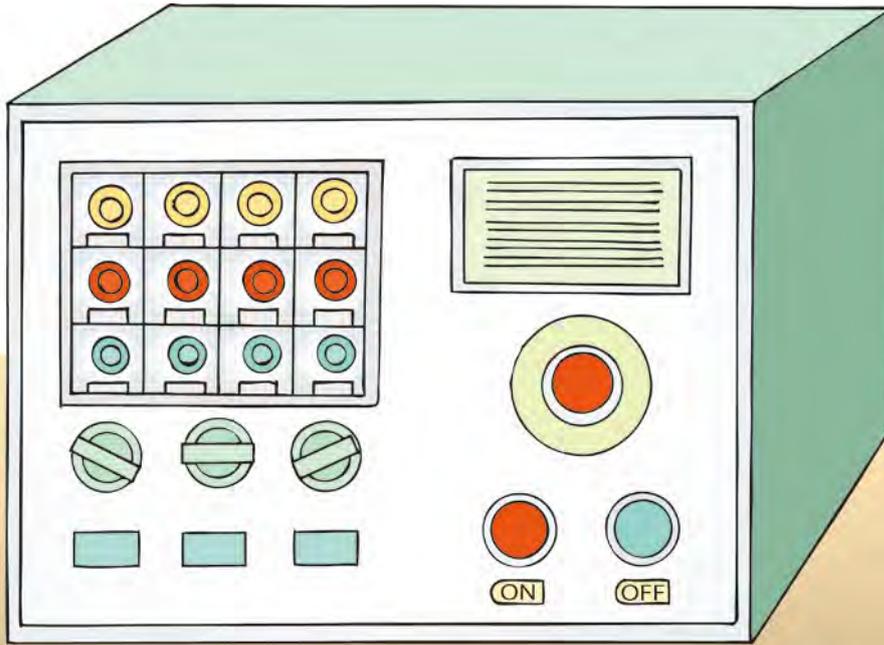


Figure 22a. Labels and signs should be easy to see and easy to read.

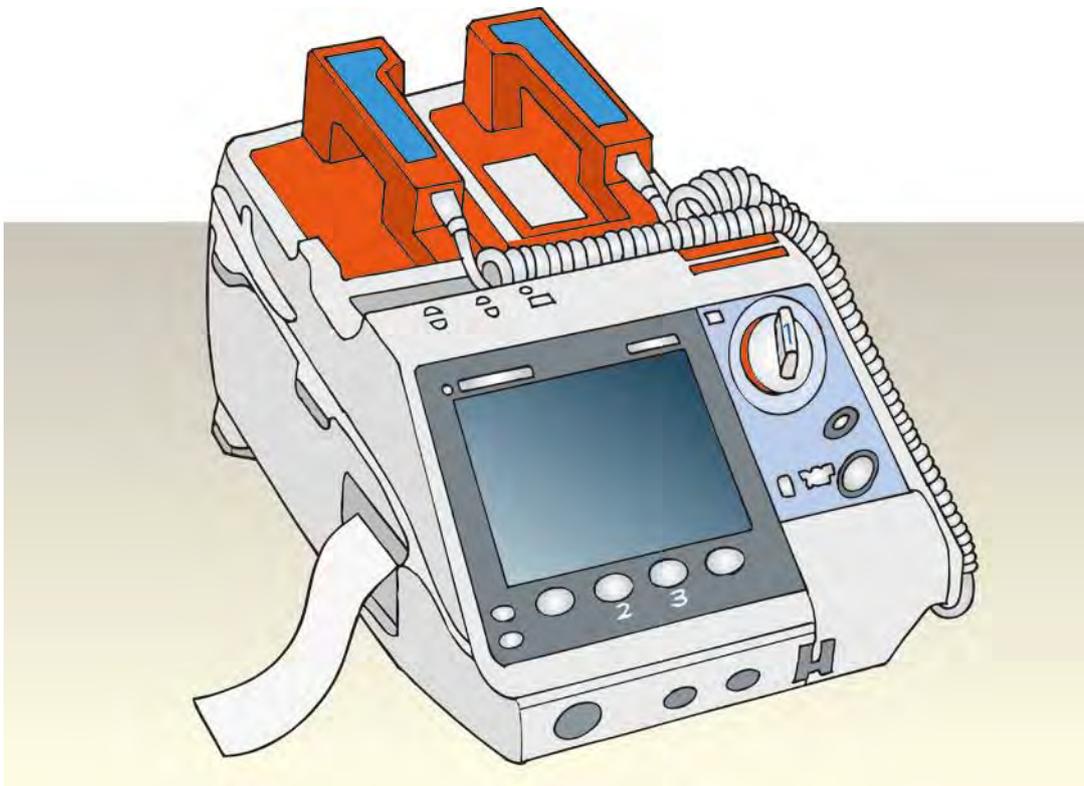


Figure 22b. Numbers (1, 2, 3) assigned to controls of a defibrillator so that the user can use it in the established sequence.

CHECKPOINT 23

Attach markings or colours on items and equipment to help workers understand what to do.

WHY

Health care workers are responsible not only for their own safety and efficiency but also for the safety of their clients. A mistake in their work may lead to disadvantages for both workers and clients. To avoid such mistakes, all items and equipment should be clearly distinguished from each other by attaching markings and colours.

These markings help workers avoid mistakes and increase their safety and efficiency of work as well as their clients' safety.

Inappropriate markings or colours may induce dangerous situations both in workers and clients. It can be risky for workers to operate equipment without appropriate easy-to-understand markings and signs with colours. It is important to examine carefully existing markings or colours attached on items so that appropriate markings or colours can help workers avoid mistake in handling items or prescriptions to clients.

RISKS / SYMPTOMS

- accidents both for workers and clients
- injuries at work
- stress-related disorder
- poor quality of work

HOW

1. Marking and colours attached to items and equipment should be clearly distinguished from each other.
2. Attach markings and colours for every items or equipment and make them clearly visible by using big letters or outstanding colours.

3. All markings and signs must be written in the local languages. Markings and signs of imported items or equipment are usually written in English or the manufacturers' languages, which local workers may not be able to read. In that case, markings or signs in the workers' local languages must be attached.

SOME MORE HINTS

- Check how markings and colours are written on equipment in the workplace. Switches and buttons on equipment should be added with appropriate markings and colours with clearly understandable instructions.
- Attach labels of appropriate size to different items or groups of items to make it easy to identify them.

POINTS TO REMEMBER

Markings and colours attached to equipment or items help workers know what they are and how to handle. The markings and colours should be clearly distinguishable by workers. Markings must be written in local languages that every worker can understand. This potentially prevents accidents for both workers and clients, and increases efficiency and quality of work.



Figure 23. Use different colours, sizes, or shapes for written medical directives or prescriptions.

CHECKPOINT 24

Provide clear instructions and information necessary for safe and efficient care work and for safe medication.

WHY

For safe operation of health care work including medical care, clear instruction is essential. These various tasks are done in a serial manner in accordance with the diagnostic process, interview of the patient, development of the care plan, preparation of therapeutic or care procedures, informed-consent procedures, and evaluation of the treatment or care. These serial tasks are often combined as multiple patients are cared for. It is important to organize work tasks in advance and manage group work at various stages. Proper and clear instructions are important to secure the quality of care and avoid medical errors.

RISKS / SYMPTOMS

- serious injury or accident
- making wrong operation
- uncontrolled emergency
- medical error

HOW

1. Develop documented standard care procedures. For example, directions for prescriptions by nurses, catheter insertion, diaper-changing. These are based on scientific guidelines of medical treatments and rules such as standard precautions for infection control in health care facilities.
2. Add markings to indicate the point or ranges where a certain action is always necessary.
3. Use colour coding. For example, green areas or numbers mean acceptable. Red may mean unacceptable.

4. Special care should be taken to avoid mistakes in medication, care procedures, and clients safety. Get feedback from care workers about avoiding mistakes in medication and care work.
5. Develop a schedule of routine inspection, cleaning, and preventive maintenance.
6. Designate key personnel to be responsible for inspecting medical equipment and logs.
7. Train workers to perform inspections in their own work area and report deficiencies.

SOME MORE HINTS

- Develop a list for each section with the need of instructions and discuss with the workers.
- New devices and equipment are often introduced to health care work. Make sure that the instructions provided are clear and appropriate for their safe and efficient usage by care workers.
- Cooperation of all workers is necessary for making instructions and information necessary for care work up-to-date and easy to understand.

POINTS TO REMEMBER

Proper instructions and information help promote safe and efficient care work as well as safe medication.

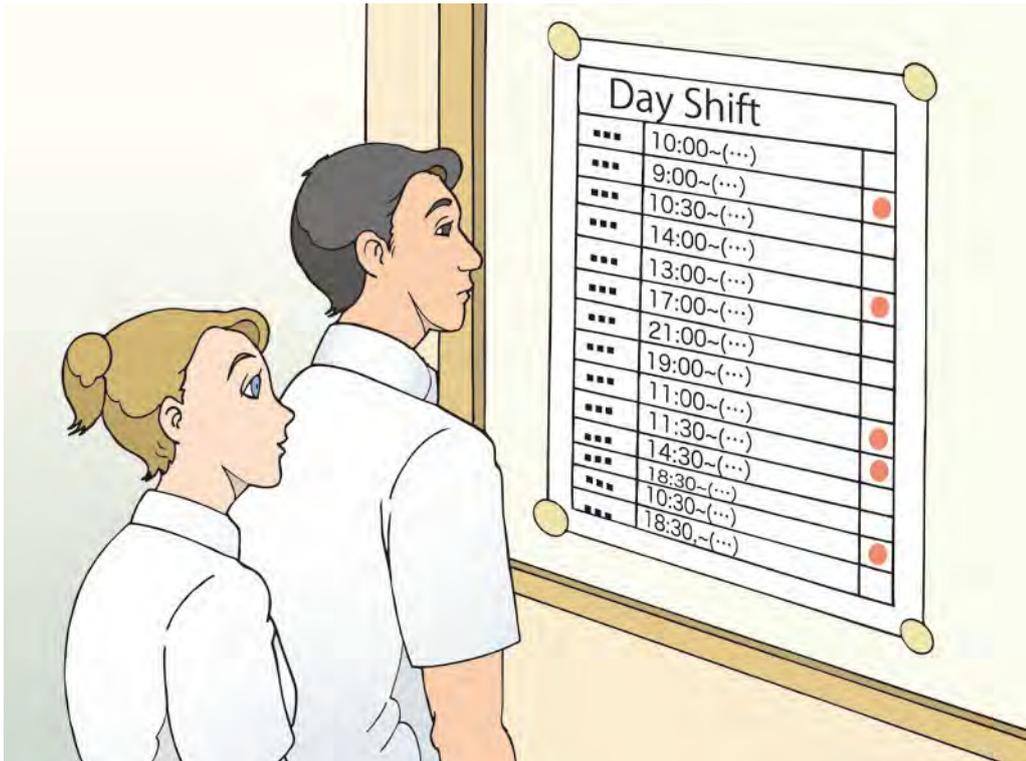


Figure 24a. Provide the written document clearly indicating each assignment for individual staff members.



Figure 24b. Nurses sharing daily tasks for assigned to each patient can be listed in the assignment table within electrical medical records.

Physical environment

Checkpoints 25-30

CHECKPOINT 25

Provide sufficient lighting for workers so that they can work efficiently and comfortably at all times.

WHY

Sufficient lighting improves workers' comfort and care performance, making the workplace a pleasant place to work. Adequate and good-quality lighting helps workers to see work items quickly, clearly, and in sufficient detail as the tasks require.

Sufficient lighting reduces work errors. It also helps to reduce the risk of accidents. It is necessary to provide sufficient lighting for older workers and elderly clients.

RISKS / SYMPTOMS

- eye strain
- slips, trips, or stumbles
- wrong operation
- excessive fatigue
- serious injuries or accidents

HOW

1. Combine the use of natural light (through windows and skylights) and artificial lighting, as this is usually the most pleasant and cost-effective.
2. Examine the care work situations requiring sufficient lighting in view of the nature of the tasks performed at various work situations. For example, more light is needed for seeing smaller objects or reading instructions or work done in the dark-coloured background.
3. If appropriate, change the positions of lamps and the direction of light falling on objects. It is also useful to try to change the positions of workstations or care work done to obtain better lighting from windows or existing lamps.

4. Consider the age of care workers and their clients. Older people need more light. Take into account the types of work requiring sufficient lighting for workers and clients.
5. The level of lighting also depends on the time available for seeing objects. The faster the task (e.g., identifying labels or medicines, doing serial care operations), the more and better arrangements for lighting are required.
6. Clean windows and remove obstacles that prevent the entrance of daylight, while taking into account the heat of sunlight and ultraviolet radiation.

SOME MORE HINTS

- Regularly maintain the existing lighting equipment. Clean lamps, fixtures, and reflectors, as well as windows, ceilings, walls, and other interior surfaces. Change worn-out bulbs and tubes. If possible, change to LED (light-emitting diode) lights, as they are eco-friendly.
- Light-coloured walls reflect more light and provide better lighting conditions and good workplace atmosphere.
- Most people over the age of 40-50 need glasses. Regular vision checks are recommended as part of the workers' health programme.
- Increase the use of daylight and provide an outside view, if possible.

POINTS TO REMEMBER

There are various ways to improve lighting. The use of daylight reduces the electricity budget and is environmentally friendly. Provide sufficient and good-quality lighting at minimum cost.

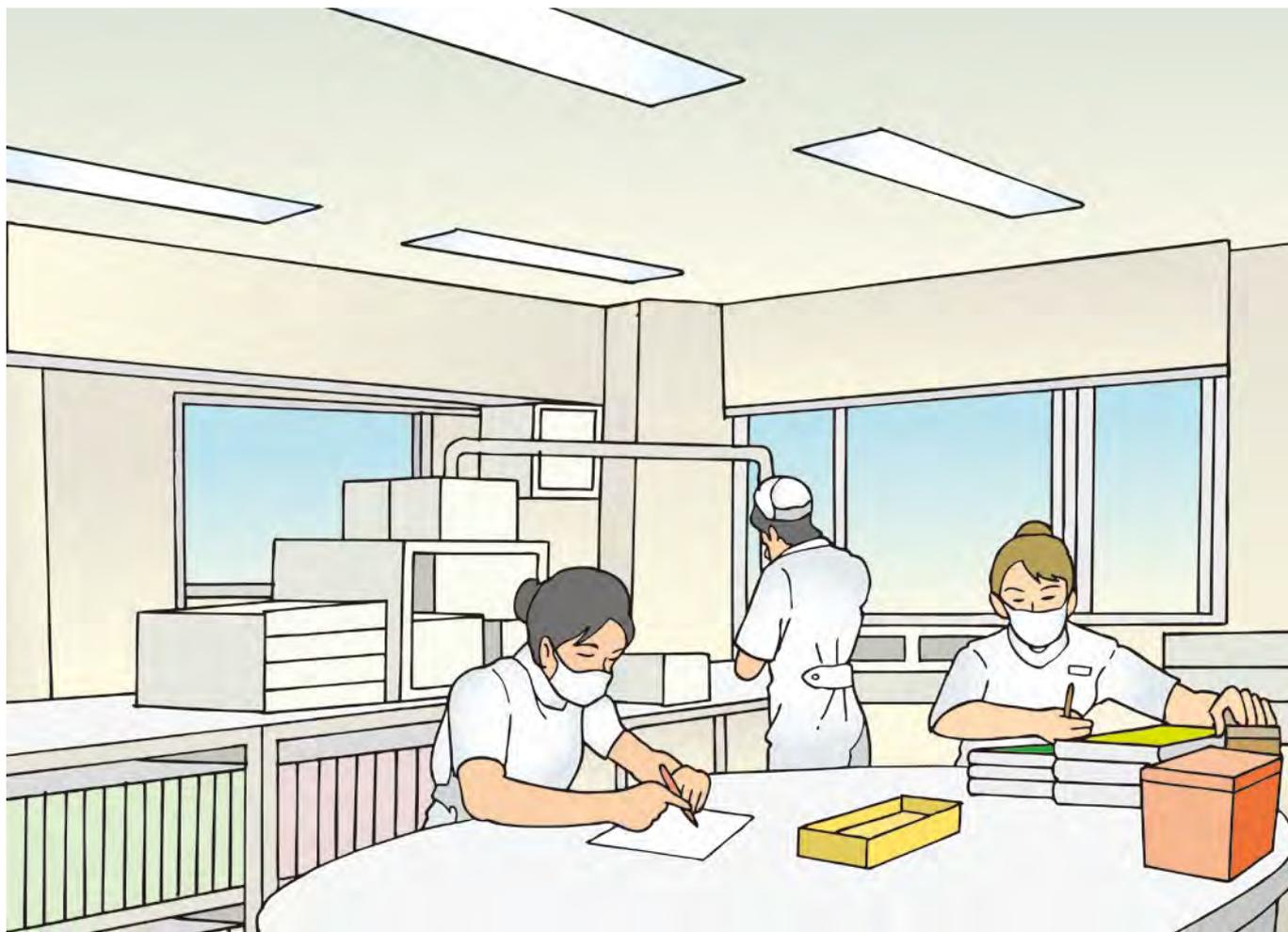


Figure 25. Combine the use of natural light and artificial lighting.

CHECKPOINT 26

Provide local lights for precision work.

WHY

Precision or visual inspection work is often done by health care workers. More light is required for such work than for normal work. Usually, appropriately placed local lights can improve the safety and efficiency of precision or inspection work.

A combination of general lighting and local lights helps to meet the specific requirements of different jobs and helps to avoid disturbing shadows.

RISKS / SYMPTOMS

- eye strain
- wrong operation
- glare or disturbing shadow
- serious injuries or accidents

HOW

1. Discuss among health care workers in which occasions local lights are needed to ensure safe and good quality work. Discuss whether improved general lighting or changing the working positions can be considered instead of using local lights.
2. Place local lights near and above precision and inspection work. The local lights having a proper shield should be placed in a position where they will create neither glare nor disturbing shadows. No naked bulb should be used as a local light.
3. Where appropriate, use local lights that are easy to move and arrange in the desired positions. Local lights that are easy to change light direction are often useful.
4. Use daylight-type bulbs or tubes (e.g., white fluorescent bulbs or tubes) especially for colour-depending tasks, and

use LED (light-emitting diode) lights for energy saving with less ultraviolet and infrared radiation.

5. Always ensure a good combination of general and local lights so that each workstation has an appropriate contrast between the work-point and the background.

SOME MORE HINTS

- Make sure that local lighting does not make the worker's shadow at the position where precision or inspection work is done.
- When using a local light, mount it on a rigid isolated structure instead of placing it on a vibrating or easily movable area. Small LED lights attachable to stable positions of existing equipment or facilities may be useful.
- Use deep lampshades for local lights and paint the inner edge of the shades in a dark matte colour to prevent bright reflections. LED lights with controlled light direction are useful.
- Local lights with filament tubes produce heat, often resulting in discomfort for workers. Use fluorescent or LED lights instead.

POINTS TO REMEMBER

Local lights, properly placed, can ensure quality work and reduce electrical energy costs.



Figure 26a. Place local lights near and above precision work.



Figure 26b. Use local lights that are easy to move and arrange in the desired positions.

CHECKPOINT 27

Protect the worker from excessive heat and cold.

WHY

Working under excessive heat can influence productivity and quality of care work and may increase errors and accidents. Heat stress increases fatigue and may lead to heat-induced illnesses. It is important to protect workers against excessive exposure to heat in hot seasons and where heat-producing machines or processes exist.

Isolation or insulation of hot machines and facilities can reduce both warming-up of workrooms and heat radiation. This should always be kept in mind in addition to installing ventilation systems.

Cold environments may increase safety risks and health disorders for workers and produce a decrease in work quality.

Repeated exposure to a cold work environment can increase the risk of musculoskeletal disorders. Protection from excessive cold is necessary to protect workers from these safety and health risks.

RISKS / SYMPTOMS

- thermal discomfort
- heat stress or cold stress
- frostbite
- musculoskeletal disorders
- stress-induced disorders
- increased injury rates

HOW

1. Regularly monitor thermal conditions and workers' responses to them. Make sure that care work is not done under excessive heat or cold by adequate insulation of workrooms, ventilation systems and protection from sources of heat or cold.
2. Locate sources of heat or cold (machines and processes) outside or at least near the exterior so that heat or cold does not

have too great an effect. Insulate hot or cold parts by using appropriate insulating materials.

3. Use shields (heat barriers) between workers and hot machines or other radiant heat sources.
4. In the case of cold processes, insulation is the most efficient way to protect workers from injuries and heat loss.
5. When workers are exposed to excessive heat or cold by entering into hot or cold rooms, arrange for work schedules so that the effects by heat or cold are minimized.
6. Protect workers from the sun, heat, and cold winds by providing adequate clothing and personal protective equipment for the hot or cold environment.

SOME MORE HINTS

- Health care work is carried out in various situations, and therefore it is necessary to combine multiple measures to protect workers from excessive heat or cold.
- In tropical conditions, personal protection from heat is less efficient, and the main emphasis should be on adequate ventilation, isolation, or insulation of heat sources and better work schedules such as limiting heat exposure time.
- It is necessary to involve workers in knowing what is needed to prevent many associated problems including workload and schedules, maintenance of physical fitness, intake of adequate fluids, and protective equipment.

POINTS TO REMEMBER

Multifaceted measures are necessary to protect care workers from exposure to excessive heat or cold. Isolation or insulation of sources of heat or cold, good ventilation systems, personal protection, and adequate work schedules are usually necessary.



Figure 27a. Use of heat-resistant gloves to block heat radiation from heat sources.



Figure 27b. Provide spot coolers for workers in the hot environment

CHECKPOINT 28

Use air-conditioning systems to provide an indoor climate conducive to the health and comfort of people.

WHY

Air-conditioning usually helps control temperature, humidity, and cleanliness of the air. Keeping an adequate range of air temperature and humidity can greatly reduce the disruptive effects of an excessively hot or cold environment. Air-conditioning is a worthwhile investment for health care work done indoors.

By selecting the range of air temperature and humidity appropriate for the type of care work, air-conditioning increases productivity, helps reduce accidents and absenteeism, and improves human relations. It is known that good air-conditioning can reduce musculoskeletal disorders.

The appropriate air temperature range may differ between different seasons. This is because people are differently acclimatized and clothed. Often cool air flow gives unnecessary chill effects and disturbs work. The air-conditioning facility must carefully be adjusted to reduce workers' discomfort.

RISKS / SYMPTOMS

- excessive heat or cold
- thermal discomfort
- poor indoor air quality
- upper-limb disorder
- stress-induced disorder
- increased injury or illness rates

HOW

1. Select an appropriate type of air-conditioning system to meet the requirements of the air-conditioned space.
2. Adjust the system parameters to the comfort of the people in the work space, not to the thermometer readings.

3. Avoid overcooling and uncomfortable draughts. Try to modify the position and parameters of the air-conditioning system and the direction of air flow by listening to the feelings of people.
4. When care work is done in different places within a day, make it easy to adjust the air-conditioning systems as appropriate.
5. In the case of a workspace contaminated with dust or chemicals, take into account their effects and provide local exhausts if needed.
6. Make sure that air-conditioning facilities are well maintained at regular intervals.

SOME MORE HINTS

- Maintain the conditioning equipment in good order, including its element for humidity.
- In some cases, spot-type air-conditioning, such as mobile spot coolers, can be used.
- Ask the opinions of care workers and the persons cared about any discomfort resulting from inadequate air-conditioning. Reflect these opinions in adjusting and maintaining the air-conditioning systems.

POINTS TO REMEMBER

Careful adjustment of the air-conditioning system functions is needed to increase the comfort of the people in the space.



Figure 28a. Make sure that the air-conditioning facilities are well maintained at regular intervals.

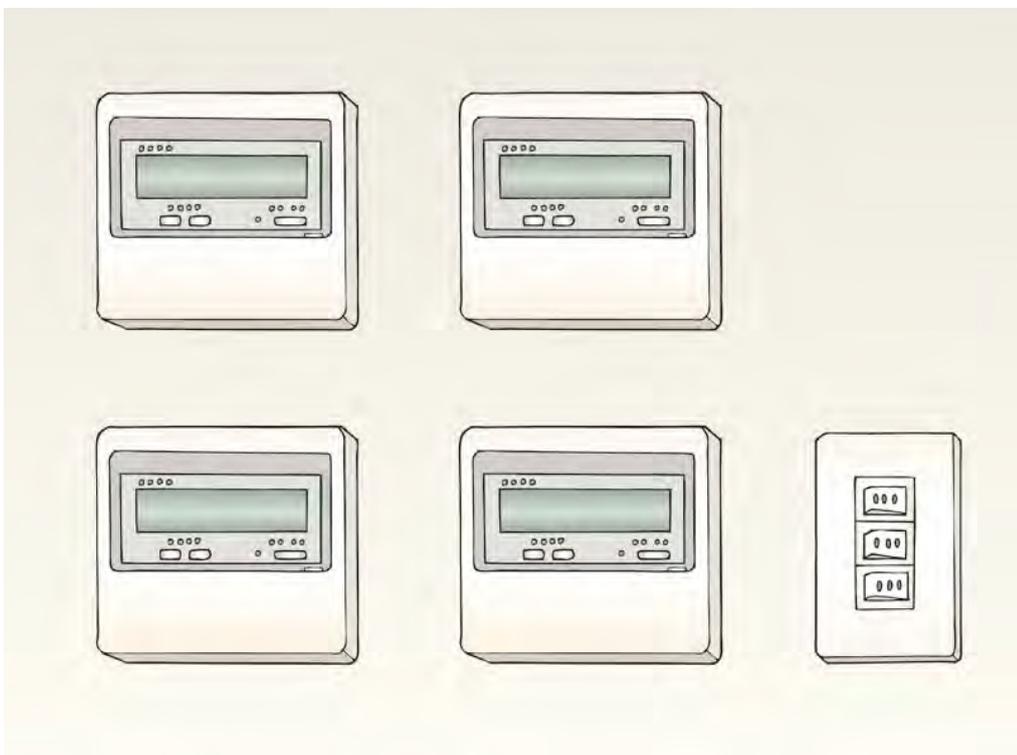


Figure 28b. Adjust the air-conditioning systems to the work operations and the preferences of clients and workers.

CHECKPOINT 29

Ensure that the physical environment at visited homes and other facilities is safe and comfortable for persons cared for and care workers.

WHY

In homes and other facilities visited by health care workers, there are often significant risks for serious injuries, such as falls and various minor injuries. It is necessary to take practical measures to prevent them.

As the physical environment varies greatly in visited homes and other facilities, cooperation of care workers, persons cared for, and their families and facility managers is essential for keeping the environment properly. We can learn from good examples in such cases.

Persons cared for often have difficulties in keeping a good physical environment in their own homes or in facilities they are staying at. Close cooperation is therefore needed between the persons cared for and care workers for adjusting environmental conditions.

RISKS / SYMPTOMS

- falls and other serious injuries
- hand and foot injuries, such as pinching
- thermal discomfort
- exposure to hazardous substances
- passive smoking

HOW

1. Examine potential injury risks due to height differences and unusual equipment. Reduce risks by practical means, such as slopes, covers, hand-rails, or warning signs.
2. Prevent risks of slipping or tripping by keeping floors, passages, and stairs free from obstacles or wet surfaces.

Provide hand rails along the stairs, slopes, or passages.

3. Discuss practical measures to improve the physical environment in which care work is done, and implement them through joint efforts of care workers, persons cared for, and their families and facility managers.
4. See to it that waste in the homes or facilities visited is properly disposed of.
5. Follow established procedures for properly dealing with human excrement.
6. Keep sanitary conditions of persons in bed, including cleanliness and ventilation.

SOME MORE HINTS

- Make sure that hands are not caught in a door or equipment during care work. Provide appropriate guards or other means to prevent hand injuries.
- Make and follow the plan to regularly clean beds and their surroundings.
- Examine whether the persons cared for are protected from undue seasonal effects or potential emergencies from fire or storms and from the event of a natural disaster.

POINTS TO REMEMBER

Homes and facilities suitable for assuring the comfort of persons cared for are also safe and comfortable for health care workers.

Support the effort of persons cared, their families, and facility managers in improving physical environment.



Figure 29. Arrange the physical environment through joint efforts of care workers, persons cared for, their families, and facility managers.

CHECKPOINT 30

Use partitions, curtains, and other arrangements for protecting privacy of persons cared for.

WHY

Protecting privacy of persons cared for is essential for their safety and well-being. It is important that information about individual privacy is protected and that care procedures and private behaviour of persons cared for are out-of-sight from other people.

Special attention should be paid to privacy protection in the places where physical or clinical examinations, personal care or sampling are conducted. Practical arrangements, such as partitions, are often useful for keeping personal behaviour or care processes out-of-sight from others.

Consistent effort must be made to protect privacy of all persons cared for. We can learn from good practices done in care facilities.

RISKS / SYMPTOMS

- violation of privacy
- humiliating sense of shame
- poor human relations
- low self-esteem and respect for others
- poor quality of care work

HOW

1. Establish a clear policy of protecting privacy of all persons cared for. Make it known to all care personnel and visitors.
2. Establish procedures for protecting privacy of persons cared for in receiving and caring for them and in dealing with individual samples and keeping individual records.
3. In places where physical or clinical examinations, personal care, or sampling are conducted, maintain the privacy of each person cared for by closing doors, by partitions or curtains,

or by other means. In places where two or more persons are cared for are in bed, use partitions, curtains, or other practical arrangements for each person.

4. When examinations, sampling, or personal care are conducted in places where other persons are present, always use partitions or curtains to keep them out of sight from others.
5. Make sure that confidential individual information and data are collected, recorded, or communicated without being seen or heard by other people.

SOME MORE HINTS

- Ensure that conversation in a consultation room or individual-care space is not heard by non-involved people.
- Individual samples or records must be treated in a strictly confidential manner without non-involved people seeing them.
- Provide an adequate space or room for interviews or for meeting visitors.

POINTS TO REMEMBER

Keeping the privacy of persons cared for is essential for respecting human dignity and ensuring care quality. Practical means such as using partitions or curtains and establishing procedures for protecting individual data can be effective. These means can help establish good human relations in care work.

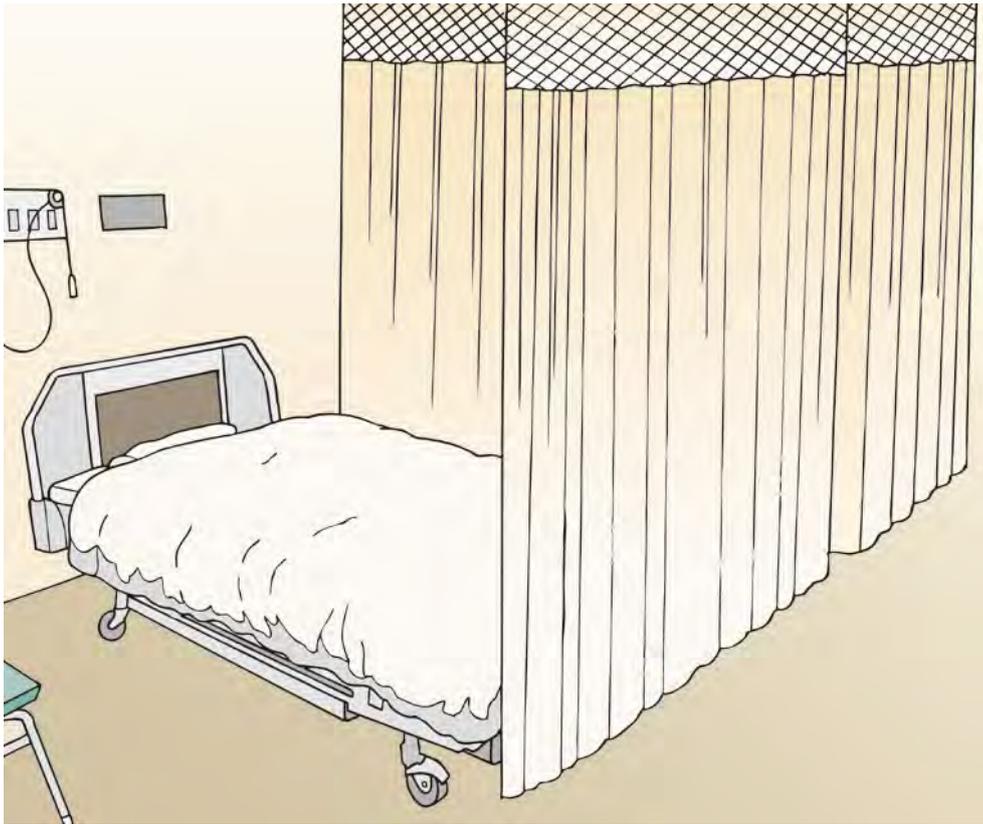


Figure 30a. Keep privacy of each person cared for by closing doors or by partitions or curtains.



Figure 30b. Make sure that confidential individual information is communicated without being seen or heard by other people.

Hazardous substances and agents

Checkpoints 31-36

CHECKPOINT 31

Isolate or cover noisy machines or parts of machines.

WHY

Health care workers may use machines which create noise. Repeated exposures to levels of noise that are too high can cause health disorders of the workers, such as hearing loss. If you stand at arm's length from your co-workers and cannot communicate in a normal tone of voice, the noise level is too high (corresponding to 85-90 dB(A) or more).

High levels of noise can cause irritation or health disorders and affect quality of care work. Such noise levels can also disturb communication with clients.

It is important to prevent these disorders and disturbances by covering noisy machines or isolating them away from places where work is actually done.

RISKS / SYMPTOMS

- hearing loss
- physical and mental stress such as irritation
- cardiovascular disorders
- poor communication
- serious injury or accident

HOW

1. Where possible, enclose entire machines that produce excessive levels of noise with appropriate structures and materials.
2. Position particularly noisy machines outside workplaces and cover them with appropriate structures.
3. Relocate particularly noisy machines so that they are at a distance from the place where care work is done.

4. Provide screens or partitions to isolate noisy machines from other workers and clients in the same place.
5. Provide earplugs or ear muffs and train workers in their proper use when engineering control of noise is not sufficient.

SOME MORE HINTS

- Change the type of machine that is particularly noisy. There are many new types which are much less noisy.
- Pay attention to the noise level of air conditioners or ventilators and other potential sources of noise.
- Where care work is affected by high levels of noise, measure the noise level periodically and ensure measures against excessive noise.

POINTS TO REMEMBER

Protection from excessive noise is crucial for maintaining quality of care and preventing health disorders. Examine periodically the potential effects of such noise by consulting care workers.

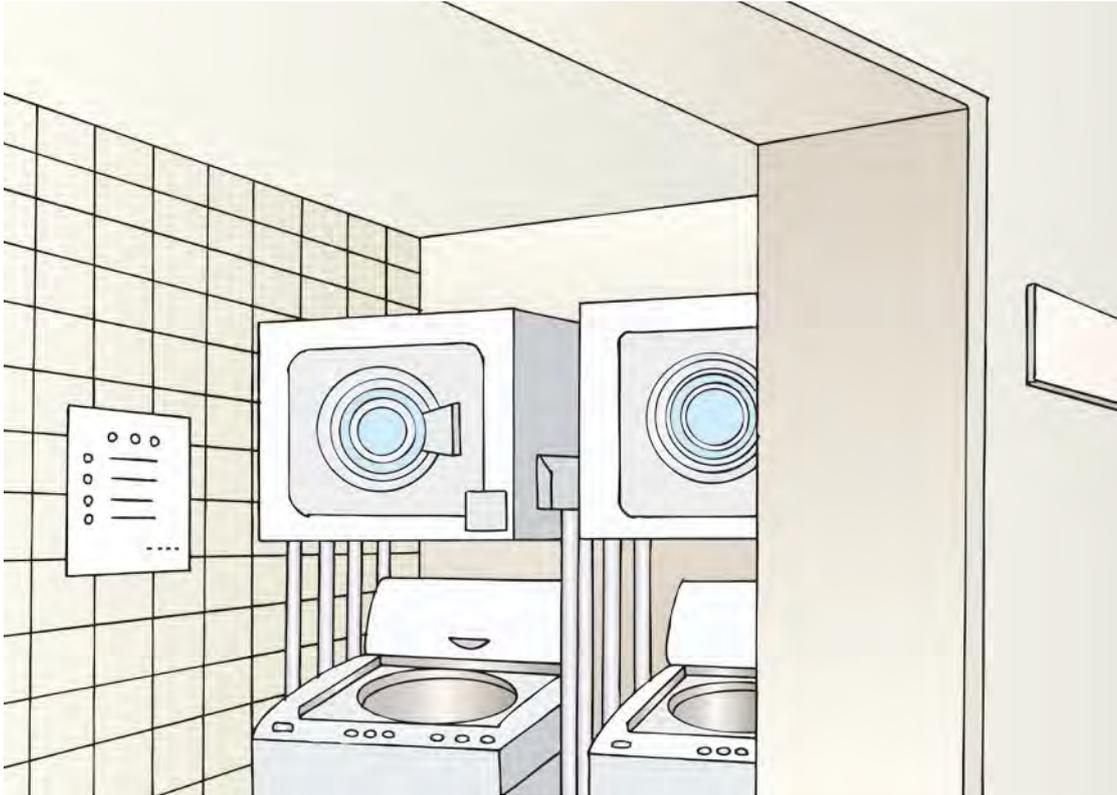


Figure 31a. Relocate particularly noisy machines so that they are at a distance from the place where care work is done.

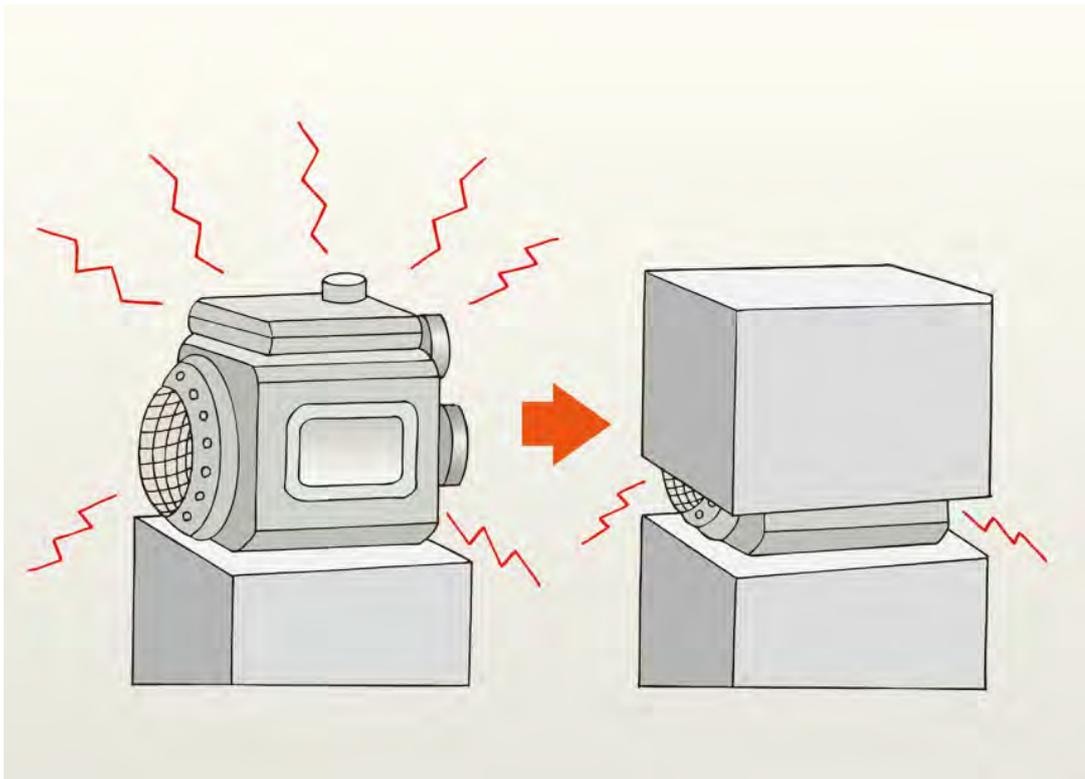


Figure 31b. Protect your ears by enclosing or covering noisy machines.

CHECKPOINT 32

Label and properly store containers of hazardous chemicals to communicate warnings and to ensure safe handling.

WHY

Health care workers often use various chemicals such as antiseptics, detergents, solvents, or drugs. Labels are necessary to communicate warnings and other important information regarding the content, use, storage, and disposal of hazardous chemicals.

Hazardous chemicals should be separated in a health care work setting because it is important to protect exposure and to avoid poisoning.

Containers used to store hazardous chemicals that may lead to irritation, toxic effects, or injuries should not be stored in locations where clients and care workers would have a chance to be exposed.

RISKS / SYMPTOMS

- acute intoxication
- chemical burn
- irritation
- allergic disorders
- large-scale casualties

HOW

1. Ensure that containers of hazardous chemicals have appropriate labels and signs that can be understood by care workers.
2. Provide relevant information on labels such as common name of product, composition, information on ingredients, instructions for use, toxicological information, and necessary protective measures.
3. Appropriate warning information should be posted prominently in locations where hazardous chemicals are stored or used.

4. Ensure that labels, signs, or warning information are in the preferred language of care workers and clients. Make sure that the hazards involved are clearly understood by them.
5. Store containers of hazardous substances in suitable locations to avoid damage to the containers, and make sure that particularly hazardous substances are kept in specially arranged, locked cabinet
6. Conduct regular checks of all containers, storage places, and hazardous work areas to ensure they are properly labelled and notified.

SOME MORE HINTS

- Special care must be taken with containers for inflammable and combustible chemicals and chemicals that may lead to toxic asphyxiation, suffocation, or anaesthetic effects.
- Obtain or purchase standard labels and signs from appropriate suppliers. Make sure that these labels and signs are suitable, in line with the GHS (Globally Harmonized Systems of Classification and Labelling of Chemicals).
- Use appropriate labelling devices to create legible and clear labels.
- Ensure that labels and signs comply with safety regulations and standards, including wording and colour.

POINTS TO REMEMBER

Labels indicating hazardous chemicals should be prominently displayed on the container or location where it is stored, and should be easily read and understood. Train workers to understand properly the standard labels and warning signs.



Figure 32a. The labels, signs, and warning information should be posted prominently in locations where they are stored or used.



Figure 32b. Ensure the labels or signs are in the preferred language of care workers.

CHECKPOINT 33

Protect workers from chemical risks so that they can perform their work safely and efficiently.

WHY

Care workers may deal with various chemicals for examinations and treatments that may possibly cause serious injuries and diseases.

It is important to understand the specific hazards of chemicals and to assess the risks of injury and disease that may be caused by them. Appropriate steps must be taken for preventing potential risks.

Common examples include antiseptics, detergents, solvents, toxic gases, and test agents. To prevent injury and disease, you must have precise information about the risks and necessary countermeasures.

RISKS / SYMPTOMS

- acute intoxication
- chemical burn
- irritation
- allergic disorders
- large-scale casualties

HOW

1. Make up a list of hazardous chemicals being used for care work tasks and a list of care workers exposed to them.
2. Discuss priorities of countermeasures to hazardous chemicals for preventing significant risks for care workers and their clients.
3. Provide each person working with hazardous chemicals with written, illustrated instructions about their safe use.
4. Provide training to workers using hazardous chemicals. Training should include precautions to be taken in their use and monitoring of health hazards.

5. If possible, enclose the source of hazardous chemicals so that workers and clients are not exposed to the chemicals or locate the care worksite as far away as possible from the sources. Where needed, install ventilation systems that can avoid unnecessary exposures.
6. If needed, provide workers with sufficient personal protective equipment (such as protective clothing, goggles, gloves, and respirators).

SOME MORE HINTS

- Assign the task of managing chemical risks to staff members knowledgeable about protective measures.
- Inform care workers and management about the latest laws and regulations regarding the use of chemicals in the workplace.
- Modification of hazardous tasks, such as using improved apparatuses for drawing blood, provision of handling manuals and labels on the equipment, and installation of personal protective equipment, can be effective in reducing risks.
- Training workers to improve skills and regular assessment of work situations are also necessary.
- Establish clear procedures for supplying and storing hazardous chemicals and drugs so as to prevent inappropriate use and unexpected loss.

POINTS TO REMEMBER

Certain dangerous chemical risks cannot be detected by human senses. Inform workers of these risks and train them about precautions. Protective measures are much less costly than compensation costs resulting from exposures.



Figure 33a. Use local ventilation systems installed near a washing machine for endoscopes.



Figure 33b. Use a draft safety chamber for mixing procedures dealing with anti-cancer drugs.

CHECKPOINT 34

Protect workers from ionizing radiation during care work.

WHY

Radioactive sources are used throughout the world for a wide variety of beneficial purposes in medicine, health care, and examination. The combination of improved health services and elder care has resulted in an increased use of radionuclides and radiation in diagnosis and treatment.

Ionizing radiation including X-rays and electromagnetic radiation, as well as medical-use isotopes, can induce acute and long-term health effects. All workers who have potential risks of exposure to ionizing radiation should be protected.

For protecting workers exposed to ionizing radiation, strict exposure monitoring and health surveillance must be in place with active participation of care workers.

RISKS / SYMPTOMS

- acute radiation injury
- skin and eye injuries
- fatal cancers
- bone marrow disorders
- reproductive disorders
- genetic effects

HOW

1. Discuss existing risks of exposure to ionizing radiation during care work such as X-ray examinations, diagnostic procedures, and specific treatment.
2. Establish procedures for protecting workers and clients from exposure to ionizing radiation and ensure compliance with these procedures with training and active participation of the workers.
3. Monitor the dose of external and internal exposure to ionizing radiation by means of personal dosimeters and confirming the

effectiveness of shielding or protective measures.

4. Minimize radiation dosage and exposure time by controlling working procedures and rotation shifts of staff members.
5. Ensure shielding of workers from X-ray exposure; a barrier wall with a lead-plated glass window for X-ray rooms; lead aprons and lead gloves; lead-plated glasses; and protection of unprotected persons near X-ray sources.
6. Display warning signs in controlled areas.

SOME MORE HINTS

- Use passive dosimeters (film badges, ring badges used for measuring beta and gamma doses to the hand) or their equivalent for long-term monitoring of workers whenever working with X-ray equipment, radioactive analysis, or radioactive materials.
- Assess the workplace of workers who use materials of ionizing radiation in medicine, such as radiation therapy, diagnostic radiology, and fluoroscopically guided interventional procedures.
- Assign a specific person to the responsibility for assuring proper maintenance of radioactive equipment.
- Follow strictly international guidelines and national regulations on ionizing radiation exposure limits.

POINTS TO REMEMBER

Exposure to ionizing radiation should be as low as reasonably practicable (ASARP) by providing appropriate control measures including shielding and reduction of exposure time. There are a series of practical measures that are effective with active participation of workers.



Figure 34a. Display warning signs referring to international standards for radioactive area controls.

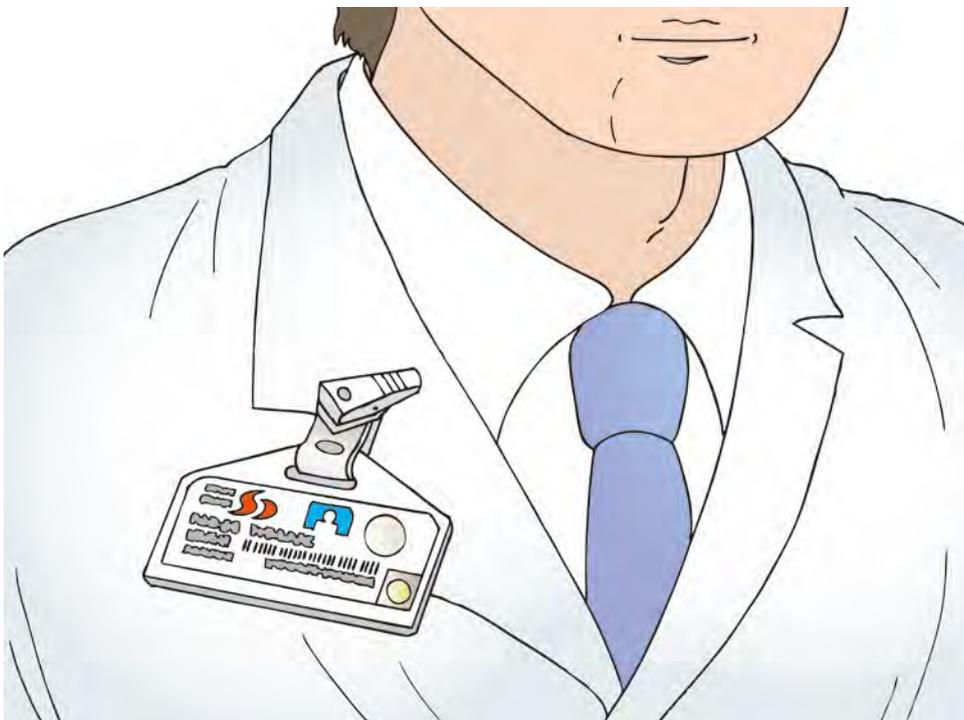


Figure 34b. Use passive dosimeters (film badges, ring badges used for measuring beta and gamma doses to the hand) or their equivalent for long-term monitoring of workers whenever working with X-ray equipment, radioactive analysis, or radioactive materials.

CHECKPOINT 35

Provide safe shielding from lasers and ultraviolet, infrared, and other hazardous radiations.

WHY

Non-ionizing radiation is found in a wide range of health care settings and can pose a considerable health risk to potentially exposed workers if not properly controlled.

Non-ionizing radiation includes the spectrum of ultraviolet (UV), visible light (VL), infrared radiation (IR), microwave (MW), radio frequency (RF), and extremely low frequency (ELF) radiation. Optical radiation comprises UV, VL, and IR, which have wavelengths between 100nm and 1mm. Lasers commonly operate in the UV, visible, and IR frequencies.

The use of non-ionizing radiation is increasing for diagnostic, preventive, cosmetic, and therapeutic purposes in medical and cosmetic treatments. Laser surgery, blue light, and UV therapies; Intense Pulsed Light sources (IPLs) are recently well known. The photo toxicity of medical UV sources used in dermatology has also long been recognized.

There are many control measures against these non-ionizing radiations for care workers.

RISKS / SYMPTOMS

- eye injury
- burn
- skin injury
- skin cancer
- accident
- fire emergency

HOW

1. Establish standard procedures for using non-ionizing radiation in care work situations. Ensure that these procedures comply with national laws and regulations.

2. Train workers about the appropriate use of non-ionizing radiation and monitor existing practices.
3. Display warning signs referring to the standard symbols of relevant radiation .
4. Use appropriate eye protection for both workers and clients, particularly when care work is associated with invisible ultraviolet or other radiation.
5. Provide appropriate guarding devices when lasers and other hazardous radiation are used, such as shielding devices and protective goggles.
6. Provide detailed guidance for individuals who work with high-power lasers in care work, such as operating room work, dermatological treatment, or estheticians.

SOME MORE HINTS

- Develop practical protocols for using non-ionizing radiations, such as “laser safety protocols”; e.g., in the operation theatre.
- Assign the responsibilities of a staff member such as “laser safety officer” in a medical facility.
- Consider using a proper exhaust system to protect workers from inhalation hazards related to smoke from surgical procedures employing laser surgery at medical and cosmetic treatments.

POINTS TO REMEMBER

With the increased use of non-ionizing radiation including lasers in the workplace, it is necessary to assess the associated risks and assign the responsibility of leading the radiation safety effort at care facilities.

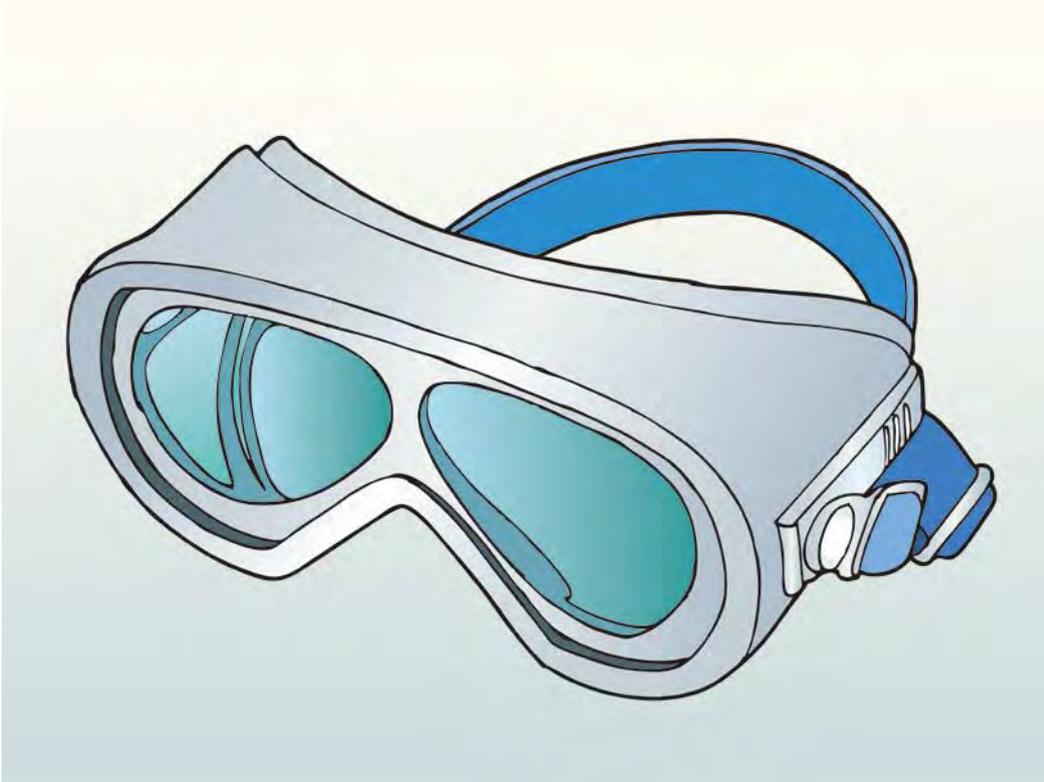


Figure 35a. Use appropriate eye protection for both care workers and patients when lasers produce invisible ultraviolet or other radiation.



Figure 35b. Display warning signs referring to standardized symbols wherever lasers are used.

CHECKPOINT 36

Keep air quality clean and healthy without harmful effects on persons cared for and care workers.

WHY

The presence of hazardous substances in both indoor and outdoor environments poses risks for health and the environment. In particular, the hospital environment requires special attention to ensure healthful indoor air quality (IAQ) to protect patients and care workers against hazardous substances, such as hospital-acquired (nosocomial) infectious pathogens, chemicals for diagnosis and treatment (anti-cancer agents), and others.

There are effective preventive measures to protect workers from poor indoor air quality. It is essential to involve workers and managers in establishing proper procedures for keeping good air quality.

RISKS / SYMPTOMS

- eye, skin, and mucous membrane irritation
- skin allergy, bronchial asthma
- sick-building syndrome
- nosocomial infectious diseases
- dust-related diseases
- poor work quality

HOW

1. Discuss existing conditions of care work facilities where clean air quality is essential for securing safety and health for both care workers and clients. Make sure appropriate preventive measures are taken in such facilities.
2. Increase openings facing the outside; for example, by opening windows and doors or creating new openings. All these help increase natural ventilation.

3. Set proper ventilation systems in workplaces using hazardous chemicals, such as pathology laboratory units, operating theaters, and intensive-care units.
4. Ensure that hazardous substances in the buildings such as polychlorinated biphenyls and equivalents (PCBs) are removed from the facility and asbestos-containing materials are properly encapsulated or removed.
5. Choose a few target products (e.g., all-purpose cleaners, floor cleaners) and work tasks with staff and suppliers to pilot environmentally preferable substitutes for performance and price.

SOME MORE HINTS

- Take control and mitigation measures covering mechanical ventilation, filtration, differential pressure control, directional airflow control, local exhaust ventilation, and ultraviolet germicidal irradiation disinfection.
- Develop an indoor air quality management plan that addresses ongoing operations and maintenance, as well as planned future upgrades related to smoking, air quality performance, systems maintenance, and systems monitoring.
- Train staff members in current good practices and continually evaluate ongoing performance.

POINTS TO REMEMBER

Control of indoor air quality is important in the care work setting for minimizing risks to both clients and care workers. Establish indoor air quality management plans with active participation of workers and management.

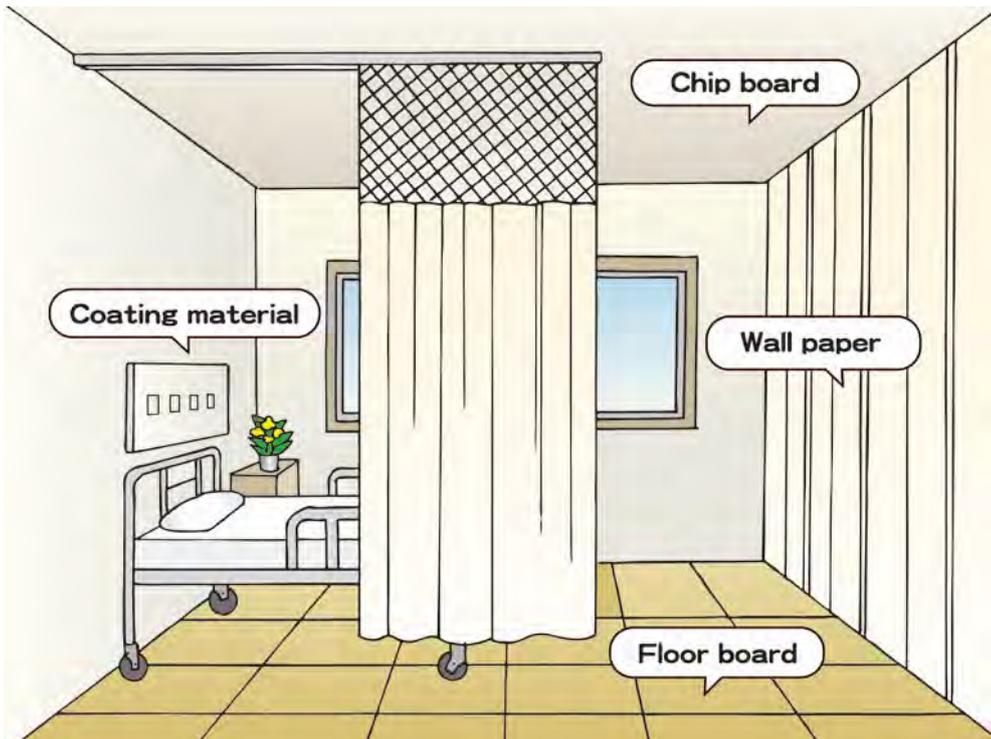


Figure 36a. Ensure building materials that may have used hazardous substances such as formaldehyde xylene and other organic substances are properly treated and maintained.

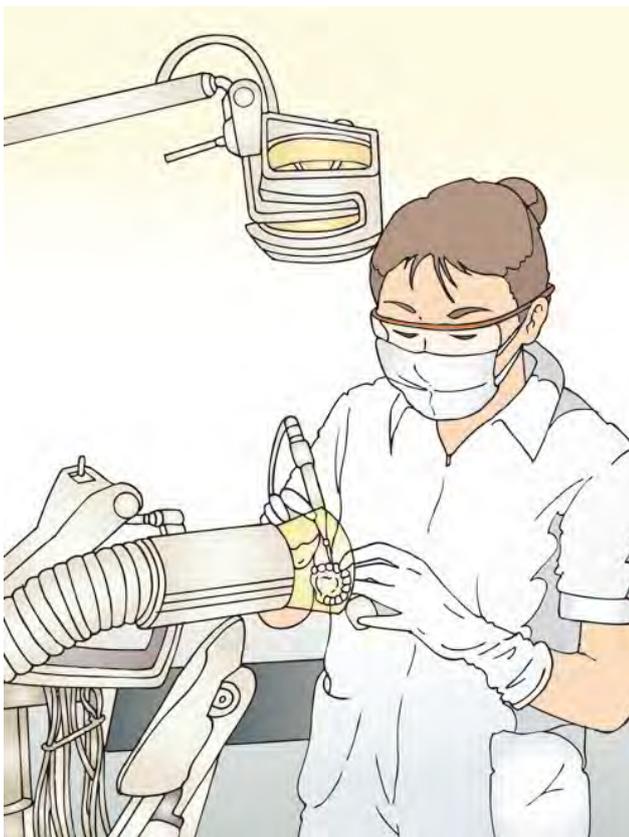


Figure 36b. Use a local exhaust to control hazardous dust from dental materials at a dental clinic.

Infection control

Checkpoints 37-42

CHECKPOINT 37

Establish hand hygiene procedures and hygienic washing facilities.

WHY

Hand hygiene is a major component of standard precautions and one of the most effective methods to prevent transmission of pathogens associated with health care.

Standard precautions are important countermeasures to reduce the risk of transmission of blood-borne and other pathogens from both recognized and unrecognized sources in health care settings. Hand hygiene and associated precautions represent the basic level of infection control precautions that must be observed as a minimum, particularly in the care of all patients and health care work.

RISKS / SYMPTOMS

- occupational infectious diseases
- airborne pathogens: influenza, measles, mumps, rubella, tuberculosis, etc.
- blood-borne pathogens: hepatitis virus (HCV, HBV) and Human immunodeficiency Virus (HIV), etc.
- contact transmission: scabies, human herpes virus, MRSA, etc.

HOW

1. Promote hand hygiene by means of a campaign to establish hand-washing procedures.
2. Ensure availability of hand-washing facilities with clean running water.
3. Perform hand washing with soap and water if hands are visibly soiled, or exposure to spore-forming organisms is proven or strongly suspected, or after using the restroom.
4. Train care workers and clients about hand hygiene practices.

5. Ensure availability of hand hygiene products (clean water, soap, single-use clean towels, alcohol-based hand rub).
6. Alcohol-based hand rubs should ideally be available at the point of care.

SOME MORE HINTS

- Risk assessment is critical. Assess all health-care activities or occasions of direct human contact in care services to determine the necessary personal protection that is indicated.
- Summary techniques of hand hygiene:
 - Hand washing (40–60 sec): wet hands and apply soap; rub all surfaces; rinse hands and dry thoroughly with a single use towel; use towel to turn off faucet.
 - Hand rubbing (20–30 sec): apply enough product to cover all areas of the hands; rub hands until dry.
- Summary indications:
 - Before and after any direct patient contact and between patients, whether or not gloves are worn.
 - Immediately after gloves are removed.
 - Before handling an invasive device.
 - After touching blood, body fluids, secretions, excretions, non-intact skin, and contaminated items, even if gloves are worn.
 - During patient care, when moving from a contaminated site to a clean body site of the patient.
 - After contact with inanimate objects in the immediate vicinity of the patient.

POINTS TO REMEMBER

Hand hygiene and the use of personal protective equipment should be guided by risk assessment and the extent of contact anticipated with blood and body fluids, or pathogens.



Figure 37a. Promote the technique of hand hygiene in all health care settings. (refer to WHO hand rubbing or hand washing standards, cited from http://www.who.int/gpsc/5may/tools/who_guidelines-handhygiene_summary.pdf)



Figure 37b. Ensure availability of hand-washing facilities with clean running water. Ensure availability of hand hygiene products (clean water, soap, single use clean towels, alcohol-based hand rub).

CHECKPOINT 38

Promote infection control measures to eliminate or reduce chances of infection during care work.

WHY

Infections are caused by pathogens that enter human bodies via various routes. Health care workers can acquire infections from, or transmit infections to, clients, patients, co-workers, household members, or other community contacts.

Transmission of infectious agents, particularly within a health care setting, requires three elements: a source (or reservoir) of infectious agents, a susceptible host with a portal of entry receptive to the agent, and a mode of transmission for the agent. Thus, when there is a risk of infection, Transmission-Based Precautions in healthcare settings should be used.

RISKS / SYMPTOMS

- occupational infectious diseases
- airborne pathogens: influenza, measles, mumps, rubella, tuberculosis, etc.
- blood borne pathogen: hepatitis virus (HCV, HBV) and Human Immunodeficiency Virus (HIV), etc.
- contact transmission: scabies, human herpes virus, MRSA, etc.

HOW

1. Promote a safety climate including the prevention of infectious diseases.
2. Develop a policy that facilitates the implementation of infection control measures by collaboration of all.
3. Set up an infection control team and support the activities of the team.
4. Prevent needle-stick and sharps injuries:
 - Avoid recapping after the use of needles and sharp devices.
 - Regularly apply safe procedures.

5. Eliminate unnecessary needles and sharps in health care.
 - Immediately dispose of used needles and other sharp instruments.
 - Install puncture-resistant sharps containers near the worksite.
 - Use approved safety devices for needle and sharps instruments.
6. Ensure respiratory hygiene and cough etiquette:
 - Persons with respiratory symptoms should apply source-control measures such as; 1) cover their nose and mouth when coughing/sneezing with tissue or a mask, dispose of used tissues and masks, 2) perform hand hygiene after contact with respiratory secretions.

SOME MORE HINTS

- Assign tasks for Infection Teams (ICT) through the discussion of the Infection Control Committee (ICC).
- Health care facilities should:
 - Post visual alerts at the entrance to health care facilities instructing persons with respiratory symptoms to practice respiratory hygiene/cough etiquette.
 - Consider making hand hygiene resources, tissues, and masks available in common areas and areas used for the evaluation of patients with respiratory illnesses.

POINTS TO REMEMBER

Implement a clear infection control policy with concrete instructions; e.g., applying source-control measures for all persons with respiratory symptoms through promotion of respiratory hygiene and cough etiquette.



Figure 38a. Round inspection to the ward by the Infection Teams (ICT) assigned through the Infection Control Committee (ICC).



Figure 38b. Stay home when a health care worker gets respiratory symptoms.

CHECKPOINT 39

Provide appropriate types of vaccination programmes for care workers with higher risks of infection at work.

WHY

Health care workers are exposed to, and transmit, vaccine-preventable diseases such as influenza, measles, rubella, and pertussis. Maintaining immunity among the health care worker population helps prevent transmission of vaccine-preventable diseases to and from health care workers and patients or other clients.

Health care facilities are encouraged to formulate a comprehensive immunization policy for all care workers directly contacting clients based on local government guidelines. Each worker should be individually assessed for specific vaccines, taking possible contraindications into account.

RISKS / SYMPTOMS

- occupational infectious diseases
- airborne pathogen: influenza, measles, mumps, rubella, tuberculosis, etc.
- blood-borne pathogen: hepatitis virus (HCV, HBV) and Human Immunodeficiency Virus (HIV), etc.
- contact transmission: scabies, human herpes virus, MRSA, etc.

HOW

1. Establish a vaccination programme for all workers relying on the guidelines suitable for the local situation.
2. Establish workplace procedures to assess those who are exposed to different kinds of preventable infectious diseases at work.
3. Provide vaccinations required for all health care workers and to other designated personnel before or within the first few weeks of employment.

4. Provide influenza vaccinations to all staff members prior to influenza endemic seasons.
5. Train workers about the need for vaccinations. The following are examples of vaccine-preventable diseases for health care workers:
 - hepatitis B
 - influenza
 - MMR (mumps, measles, rubella)
 - varicella
 - tetanus, diphtheria
 - meningococcal
6. Keep immunization records that document vaccinations given and test results for each care worker participating in the vaccination programmes.

SOME MORE HINTS

- Informed consent, preferably in writing, should be obtained before screening and vaccination. If recommended vaccines are refused, obtain signed documentation of refusal.
- If exposure to contaminated hepatitis B or airborne pathogens does occur, guidelines for post-exposure prophylaxis should be followed. Ensure that post-exposure guidelines are easily accessible 24 hours a day.

POINTS TO REMEMBER

The likelihood of contact with patients and/or blood or bodily substances determines vaccination recommendations. Follow the established guidelines for vaccination.

References:
Immunization of Health-Care Personnel
Recommendations of the Advisory Committee on Immunization Practices (ACIP)
Recommendations and Reports
November 25, 2011 / 60(RR07);1-4

Vaccine	Recommendations in brief
Hepatitis B	If you don't have documented evidence of a complete hepB vaccine series, or if you don't have an up-to-date blood test that shows you are immune to hepatitis B (i.e., no serologic evidence of immunity or prior vaccination) then you should <ul style="list-style-type: none"> • Get the 3-dose series (dose #1 now, #2 in 1 month, #3 approximately 5 months after #2).
Flu (Influenza)	Get 1 dose of influenza vaccine annually.
MMR (Measles, Mumps, & Rubella)	If you were born in 1957 or later and have not had the MMR vaccine, or if you don't have an up-to-date blood test that shows you are immune to measles or mumps (i.e., no serologic evidence of immunity or prior vaccination), get 2 doses of MMR (1 dose now and the 2nd dose at least 28 days later). If you were born in 1957 or later and have not had the MMR vaccine, or if you don't have an up-to-date blood test that shows you are immune to rubella, only 1 dose of MMR is recommended. However, you may end up receiving 2 doses, because the rubella component is in the combination vaccine with measles and mumps. For HCWs born before 1957, see the <u>MMR ACIP vaccine recommendations</u> (https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mmr.html).
Varicella (Chickenpox)	If you have not had chickenpox (varicella), if you haven't had varicella vaccine, or if you don't have an up-to-date blood test that shows you are immune to varicella (i.e., no serologic evidence of immunity or prior vaccination) get 2 doses of varicella vaccine, 4 weeks apart.
Tdap (Tetanus, Diphtheria, Pertussis)	Get a one-time dose of Tdap as soon as possible if you have not received Tdap previously (regardless of when previous dose of Td was received). Get Td boosters every 10 years thereafter. Pregnant HCWs need to get a dose of Tdap during each pregnancy.
Meningococcal	Those who are routinely exposed to isolates of <i>N. meningitidis</i> should get one dose.

Recommended Vaccines for Healthcare Workers
(cited from <https://www.cdc.gov/vaccines/adults/rec-vac/hcw.html>)

Fig 39a. An example of Healthcare Personnel Vaccination Recommendations.



Fig 39b. Establish vaccination programmes for all workers relying on the guidelines suitable for the local situation.

CHECKPOINT 40

Select and use personal protective equipment adequate for protecting potential infections.

WHY

Although every attempt should be made to eliminate workplace infectious hazards by modifying health care work, there are often situations where the use of personal protective equipment (PPE) is essential. For infectious agents that cannot be eliminated, proper types of personal protective equipment must be selected and used.

A common practice should be established by following a suggested procedure for wearing and removing PPE that will prevent skin or clothing contamination. There are designated containers for used disposable or reusable PPE. Hand hygiene is always the final step after removing and disposing of PPE.

RISKS / SYMPTOMS

- occupational infectious diseases
- airborne pathogen: influenza, measles, mumps, rubella, tuberculosis, etc.
- blood borne pathogen: hepatitis virus (HCV, HBV) and Human Immunodeficiency Virus (HIV), etc.
- contact transmission: scabies, human herpes virus, MRSA, etc.

HOW

1. In using gloves:
 - Wear designated gloves when touching blood, body fluids, secretions, excretions, mucous membranes, nonintact skin.
 - Change gloves between tasks and procedures on the same patient after contact with potentially infectious material.
 - Remove gloves after use, before touching noncontaminated items and surfaces, and before going to another patient. Perform hand hygiene immediately after removal.

2. For facial protection (eyes, nose, mouth), wear a surgical mask and eye protection (eye visor, goggles) or a face shield to protect mucous membranes of the eyes, nose, and mouth.
3. Wear gowns to protect skin and prevent soiling of clothing during activities that are likely to generate splashes or sprays of blood, bodily fluids, secretions, or excretions. Remove soiled gowns as soon as possible, and perform hand hygiene.
4. Ensure safe waste management. Treat waste contaminated with blood, bodily fluids, secretions, and excretions as clinical waste, in accordance with local regulations. Discard single-use items properly. Use adequate procedures for the routine cleaning and disinfection of environmental and other frequently touched surfaces.
5. Designated containers for used disposable or reusable PPE should be placed in a location that is convenient to the site of removal to facilitate disposal and containment of contaminated materials.

SOME MORE HINTS

- Assess the risk of exposure to body substances or contaminated surfaces before any health-care activity. Make this a routine.
- Select PPE based on the assessment of the risk. Examples are clean non-sterile gloves; clean, non-sterile fluid-resistant gowns; masks and eye protection or a face shield.

POINTS TO REMEMBER

Regular and proper use of PPE is essential in health care work. There are a variety of barriers and respirators used alone or in combination to protect mucous membranes, airways, skin, and clothing from contact with infectious agents.

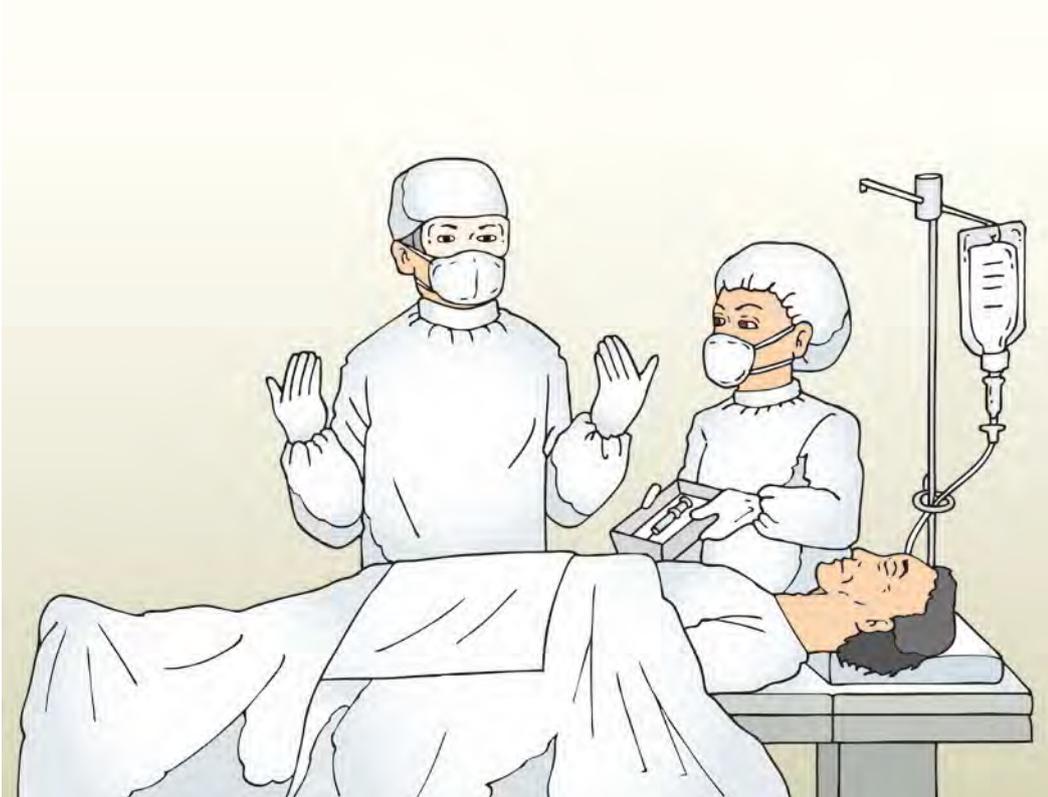


Figure 40a. For infectious agents that cannot be eliminated, proper personal protective equipment must be selected and used.



Figure 40b. Provide fitting test training for all health care workers.

CHECKPOINT 41

Establish procedures for protecting persons cared for and care workers from infected persons.

WHY

Health care facilities are often the place where patients are treated. Thus health care workers have potential risks of infection both from infected patients and workers. It is necessary to establish procedures for protecting persons cared for and care workers.

Post-exposure prophylaxis (PEP) is one of the prophylactic treatments to be started immediately after exposure to a pathogen (such as a disease-causing virus), in order to prevent infection by the pathogen and the development of disease. PEP protects care workers from unintentional exposure from infectious agents such as HIV and Hepatitis B. Within the health sector, PEP should be provided as part of a comprehensive universal precautions package that reduces staff exposure to infectious hazards at work.

Facilitating the use of these preventive measures in a practical way is essential.

RISKS / SYMPTOMS

- occupationally acquired infectious diseases
- rabies
- airborne pathogen, tuberculosis, etc.
- blood borne pathogen, hepatitis B virus,
- Human Immunodeficiency Virus (HIV)

HOW

1. Inform and train workers about how to protect workers from infected sources that may occur in health care facilities.
2. Establish Post-Exposure Prophylaxis (PEP) procedures that are taken immediately after exposure to a pathogen such as Hepatitis B and HIV.

3. Provide Hepatitis B immunoglobulin (HBIG) and/or Hepatitis B vaccine as PEP in various post-exposure settings.
4. Establish PEP procedures for HIV.
5. Encourage workers to report their exposure event of contamination by blood or bodily fluids to a consulting staff member at the health care facilities.

SOME MORE HINTS

- Provide preventive measures to all health care workers, such as preventing needle sticks and other sharps injury.
 - do not recap, bend, break, or hand-manipulate used needles.
 - if recapping is required, use a one-handed scoop technique.
 - use safety devices when available
 - place used sharps in a puncture-resistant container.
- Provide PEP for preventing the outbreak of rabies after a bite by a rabid animal. Patient resuscitation includes the use of a mouthpiece, a resuscitation bag, or other ventilation devices to prevent contact with mouth and oral secretions.

POINTS TO REMEMBER

The timely facilitation of immunologic (immunoglobulin or vaccine) or antimicrobial prophylaxis is essential for individuals who have been exposed to certain infectious diseases.



Fig 41a. Encourage workers and make it easy for them to report their exposure event of contamination by blood or bodily fluids to a consulting staff member at the health care facility.



Fig 41b. Inform and train workers how to protect workers from infected sources.

CHECKPOINT 42

Establish and apply emergency infection control plans including a business continuity plan (BCP).

WHY

Particularly in health care facilities, there is a need to eliminate or minimize the risk of transmission to health care workers and others coming into contact with a suspected or confirmed infection case.

There are many practical ways for health care facilities to prepare themselves for future emergencies such as pandemic human influenza, acute hemorrhagic fever, and other emergency infectious diseases. If you have an effective preparedness plan, you can better protect care facilities and workers. Your facility continuity plan in a pandemic situation would benefit the whole society.

Commitment and leadership of top management are most important to develop a workable business plan and receive full cooperation from workers.

It is essential to keep workers informed about the Pandemic Human Influenza situation and the progress of the company plan. It is therefore imperative to have a business continuity plan to ensure management of services and sustainability of production regardless of external factors.

RISKS / SYMPTOMS

- occupational infectious diseases
- sick leaves, absenteeism of workers
- lack of materials from supply chains
- emergency crisis

HOW

1. State to all staff of your health care facility that management will make an emergency preparedness plan for future emergencies such as Pandemic Human Influenza. Tell them that management welcomes their ideas for developing the

plan.

2. Organize a committee to prepare the plan. Define who should do what until when regarding your plan that should cover key aspects for keeping your business running under a pandemic or emergency condition. The plan should include supplies of medicines, care materials, available cash for emergency, transportation means, and essential medical care for your patients.
3. Your plan should provide practical ways to protect your workers. This aspect will include promotion of personal hygiene habits, medical care, and task sharing.
4. Plan procedures for dealing with secondary infection at your facilities.

SOME MORE HINTS

- For the preparedness plan, develop a concise draft plan first, and revise it step-by-step whenever you have received updated information and new ideas.
- Use the Occupational Safety and Health Committee as a practical means to keep updating the plan. Designate staff members who will play key roles in collecting updated information and make the existing plan stronger.
- Collect and learn from preparedness plans from other health care facilities. You can also share your BCP to help others.

POINTS TO REMEMBER

It is important to develop a business continuity plan (BCP) to deal with emergency situations for saving lives of both patients and workers



Figure 42. Use the Occupational Safety and Health Committee as a practical means to keep and update the business continuity plan.

Welfare facilities

Checkpoints 43-48

CHECKPOINT 43

Provide and maintain clean toilets, washing facilities, and changing rooms to ensure good sanitary conditions.

WHY

Welfare facilities such as washing facilities, lockers, and clean toilets can produce a good working atmosphere among health care workers. These basic facilities, sufficient in number and kept clean and hygienic, represent the "face" of your workplace.

Washing facilities and toilets should be conveniently located near working areas. These facilities help maintain good sanitary conditions and prevent chemicals from being absorbed through the skin or being ingested during breaks.

Good lockers and a clean changing room are essential for secure storage and use of clothing and other personal belongings. They also help care workers in dealing with many risks and maintaining proper personal hygiene.

RISKS / SYMPTOMS

- poor mental and physical health
- poor personal hygiene
- infectious diseases
- theft or property damage

HOW

1. Provide washing facilities, toilets, and lockers or changing-rooms near the worksite. They should be sufficient in number and meet hygienic standards.
2. Make plans for improving existing facilities for health care workers. Keep in mind that many improvements can be made at relatively low cost.
3. There are legal requirements, different from country to country, and the minimum levels that are commonly applied are: one

toilet for up to five men and two for six to 40 men; one separate toilet for up to five women and two for six to 30 women; one wash-basin for every 15 workers.

4. Provide changing-rooms with lockers and showers for men and women separately, if working conditions are hot and dirty or if they require uniforms, protective clothing, or dealing with hazardous substances.
5. Make sure that washing facilities, toilets, and changing rooms are well-maintained regularly. Establish practical arrangements to clean and maintain all these facilities.

SOME MORE HINTS

- Welfare facilities should give a high priority to the health of health care workers. Lack of sanitary facilities can be a main source of problems.
- All users of these facilities should try to keep them tidy, especially in sanitary toilet facilities.
- The design of sanitary facilities makes a large difference to the cost and effort of cleaning. Use floors and walls made of durable materials that are easy to clean (e.g., tiles). Drainage requires proper attention.
- Lockers should be located in convenient places near work areas so that clothes and personal belongings can be kept safe from damage and theft. They should be provided for men and women separately.

POINTS TO REMEMBER

Essential facilities such as washing facilities, toilets, and changing areas are particularly important for health care workers. Make sure that these facilities serve their purposes and are kept clean, because they can produce a good atmosphere for the workplace and reduce fatigue.

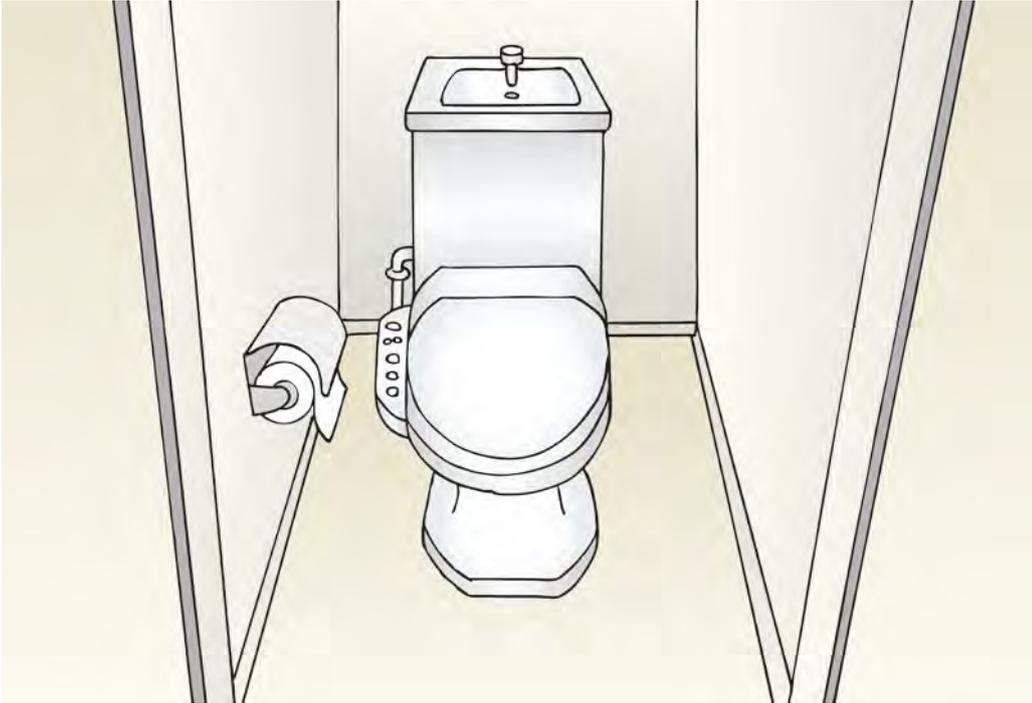


Figure 43a. Providing and maintaining hygienic toilet facilities, together with good washing facilities, is particularly important for health care work.



Figure 43b. Arrange for gender-separated changing rooms with lockers and clothes racks allocated to individual workers.

CHECKPOINT 44

Provide drinking facilities and hygienic eating areas.

WHY

Good drinking facilities and hygienic eating spaces are essential, because they can do much to prevent fatigue and maintain workers' health. Health care workers particularly appreciate these facilities.

Especially in a hot or cold environment, facilities for refreshing drinks help workers prevent fatigue and recover from work.

Private spaces appropriately located in the workplaces may also need to be provided for women who are breastfeeding.

RISKS / SYMPTOMS

- poor mental and physical health
- excessive fatigue
- lack of communication
- increased risks of infectious disease
- exposure to hazardous chemicals

HOW

1. Provide drinking facilities near each work place for health care workers, away from places where water or beverages may be contaminated by dust, chemicals or infectious agents (e.g., not in washrooms or toilets).
2. Provide an eating area or room where workers can eat food in a comfortable, relaxing atmosphere. It should be placed away from their workstations and free from disturbances such as noise, dust, chemicals, or infectious agents.
3. Keep hygienic conditions in all these facilities. In an eating space, provide easy access to clean water for washing and drinking. Conveniently located waste bins are also helpful.

4. A clean, quiet, and private area should be provided in the workplace when women are breastfeeding.

SOME MORE HINTS

- Both cool and hot water and beverages can refresh health care workers greatly. If a water-cooling device is not available, set water containers in cooler places in the working areas.
- It is helpful to reduce fatigue, if you can have warm meals and snacks during breaks. For health care workers, it is advisable to set up the eating area or room in such a way that it can be upgraded to contain kitchen facilities where workers can prepare drinks or heat food by themselves.
- There are various inexpensive ways of providing drinking facilities and eating areas. Solutions suited to the workplace could be found by group discussion among workers.
- If workers share the space by eating in different sittings, a 25 m² room for 50 workers is sufficient to set up an eating area.
- Putting bright paint on the walls and setting up some green plants and flowers near drinking facilities or eating areas can produce a good atmosphere.

POINTS TO REMEMBER

Choose types of arrangements suited to your workplace for drinking and eating for all health care workers. This greatly helps to reduce fatigue, increase productivity, and promote good health conditions.

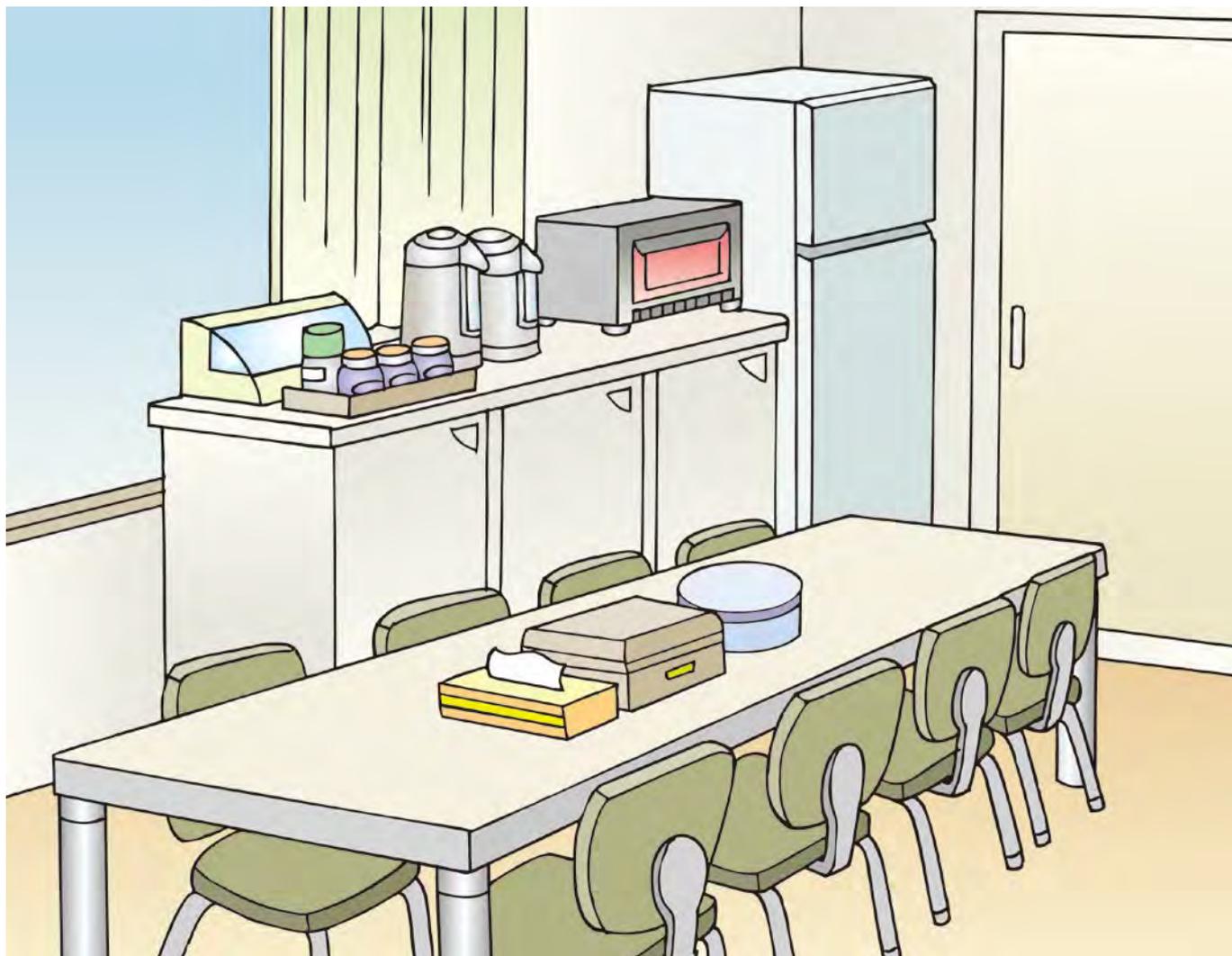


Figure 44. Provide a hygienic and relaxing space for drinking and eating. Make sure such a space is available for health care workers.

CHECKPOINT 45

Provide refreshing resting facilities and, for night shift workers, restful napping facilities.

WHY

Health care workers need separate resting facilities where they can rest, relax, and refresh or eat and drink in order to recover from fatigue and keep good health. These facilities should be separated from care work areas.

Getting away from the noisy, polluted, or busy workstation helps workers recover from fatigue and get ready for continued quality work.

Comfortable furniture, refreshing drinks, and a relaxing atmosphere are important for resting facilities for workers. Proper ventilation and green plants are likewise necessary. Resting effects are enhanced when facilities are arranged by reflecting the opinion of workers who use them.

RISKS / SYMPTOMS

- excessive fatigue
- poor worker health
- increased injury or illness rates
- stress-induced disorder

HOW

1. Provide resting corners or rooms separate from work areas and free from disturbances such as noise, dust, chemicals, or infectious agents.
2. Provide comfortable furniture and a refreshing atmosphere for effective relaxation during resting periods. At a minimum, a table and comfortable chairs or sofas are needed, together with clean drinking water and refreshing drinks.
3. Make sure that hygienic toilets and washing facilities are located near the resting facilities.

4. Plant green trees and place flowers in or around resting corners or facilities. Pictures or other decorations on the wall may help. Create a pleasant environment.
5. Provide separate and comfortable napping facilities for night-shift workers. Discuss the requirements for such facilities with workers and improve the facilities for ensuring restful sleep with quiet and sufficiently dark environment.

SOME MORE HINTS

- Use local and low-cost materials to provide a refreshing resting facility. This refreshing atmosphere can be created in the resting facility by hearing the opinions of workers who use it.
- If appropriate, a simple canopy outside the buildings may provide a shady relaxing area for occasional resting, especially if there are trees and breezes.
- Make sure that the resting facilities are available for workers who may use them, in turn if needed.

POINTS TO REMEMBER

During rest breaks, health care workers are not just idle but recovering from fatigue and getting ready for continued quality work. Comfortable resting facilities away from care work areas greatly help reduce fatigue.



Figure 45a. Comfortable, hygienic, and refreshing resting facilities separate from work areas are essential for health care workers.



Figure 45b. Napping facilities are necessary for night-shift workers to ensure a comfortable environment and restful conditions for sound sleep.

CHECKPOINT 46

Ensure proper use and maintenance of personal protective equipment including adequate instructions, adaptation trials, and training.

WHY

Proper use of personal protective equipment (PPE) is very important in any form of health care work. Health care workers are constantly exposed to various kinds of safety and health risks. It is essential to ensure proper use of PPE for all work tasks that require their use.

Selection of adequate types of PPE should be done based on established guidelines and good practices in health care situations.

Action-oriented training, including PPE use trials, is essential for ensuring proper use of PPE in various health care settings. It is particularly important to ensure fitting of the PPE used, such as fitting of masks for respiratory protection.

RISKS / SYMPTOMS

- serious injury or accident
- exposure to hazardous chemicals
- exposure to infectious agents
- aggravated physical effects
- hearing loss
- poor worker health

HOW

1. Provide not only the right kind of personal protective equipment but also types and sizes to fit each health care worker. Too tight or too loose equipment, for example, does not provide effective protection. This applies to all kinds of PPE, such as:
 - gloves
 - shoes or boots
 - hats
 - gowns or aprons
 - eye wear
 - ear protectors
 - masks or respirators

2. Provide users of PPE with sufficient information about risk factors at work. In selecting adequate types of PPE, make sure they correspond to established guidelines and are suited to the work done.
3. Train health care workers about proper use of PPE provided including PPE use trials. It is particularly important to ensure fitting of the masks or respirators used for adequate respiratory protection. Workers should be made aware of significant health effects resulting from non-use of PPE, such as serious infection, hearing loss, infertility, or chronic illness.
4. Always examine whether PPE is properly used by individual workers in the kind of work for which it is provided. Where necessary, organize special training sessions for retraining the workers.
5. Make sure that the PPE used is well maintained and replaced when needed.

SOME MORE HINTS

- Distribute manuals or guides about properly using PPE and about health effects by non-use of PPE.
- Designate a person responsible for the maintenance of PPE.
- Where respiratory protectors are used, provide a sufficient number of replacements and instruct workers about replacement requirements.

POINTS TO REMEMBER

Convince health care workers to use their personal protective equipment properly at all times when it is needed. This requires well-informed training including PPE use trials.



Figure 46a. Make sure that provided personal protective equipment is properly used, for example, by means of a fitting test for respirators.



Figure 46b. Designate a person responsible for ensuring good maintenance and use of PPE and retrain workers involving the person.

CHECKPOINT 47

Organize informal or social gatherings and recreational activities often for appropriate occasions.

WHY

Frequent informal communication between managers and workers and among workers, such as personal talks and joint activities, promotes cooperation at the workplace. Examples include informal meetings and parties, sports events, excursions, and volunteer activities.

Informal communication improves mutual understanding through discussion about common work/life issues. This obviously helps develop personal relations and partnership in health care teams.

The joint planning and execution of informal activities promote intimate communication that helps prevent stress at work.

RISKS / SYMPTOMS

- poor communication
- poor understanding
- excessive fatigue
- psychosocial stress
- inefficiency of work

HOW

1. Encourage informal talks among health care workers and their managers and among workers in the same team. They can communicate freely on different occasions during and outside work hours.
2. Organize informal gatherings, such as various meetings, voluntary training sessions, and parties, with the cooperation of managers and workers. Informal relations can develop through

Joint participation. Where appropriate, some of these may be held during work hours.

3. Encourage organization of recreational activities, sports events, excursions, competitions, and other cultural events.
4. Disseminate information about informal gatherings and events through various means. It is helpful to make it clear that organization of informal activities is encouraged as part of the workplace policy.

SOME MORE HINTS

- Provide a notice board or a website facility for distributing information about informal gatherings or events.
- Make use of appropriate occasions of informal talks between managers and workers or among team members; for example, after formal meetings or between work sessions.

POINTS TO REMEMBER

Provide occasions of informal communication between managers and workers and among workers, such as informal gatherings, parties or recreational events.

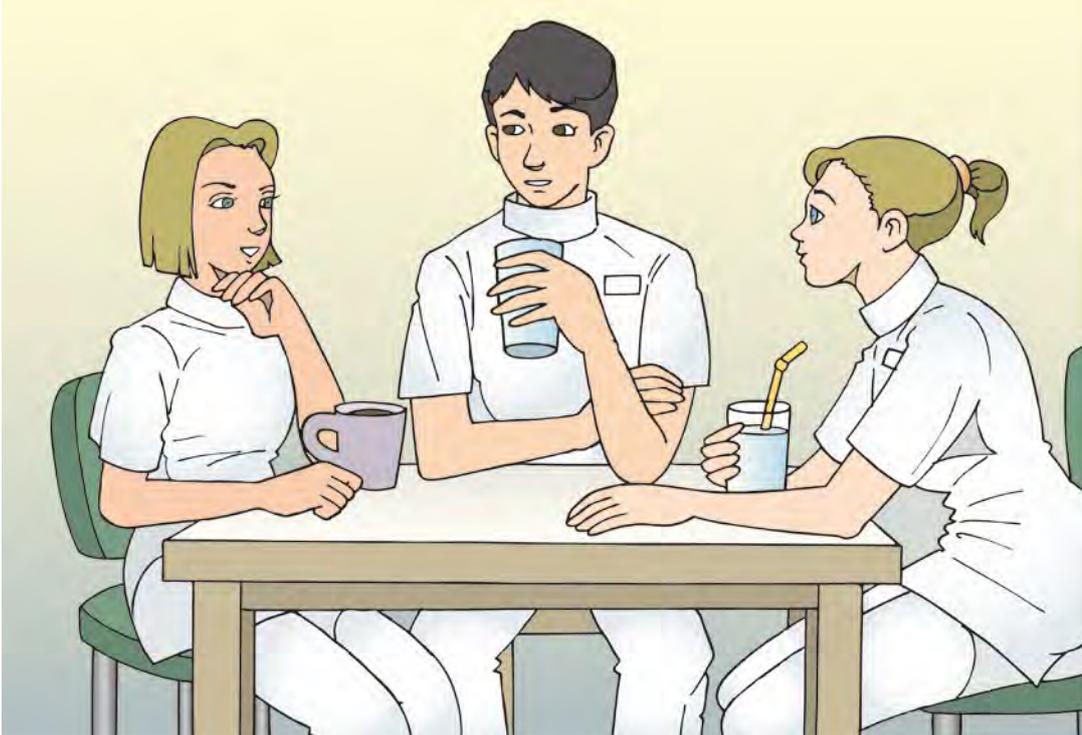


Figure 47a. Provide occasions for informal talks between managers and workers and among workers during and outside work hours.

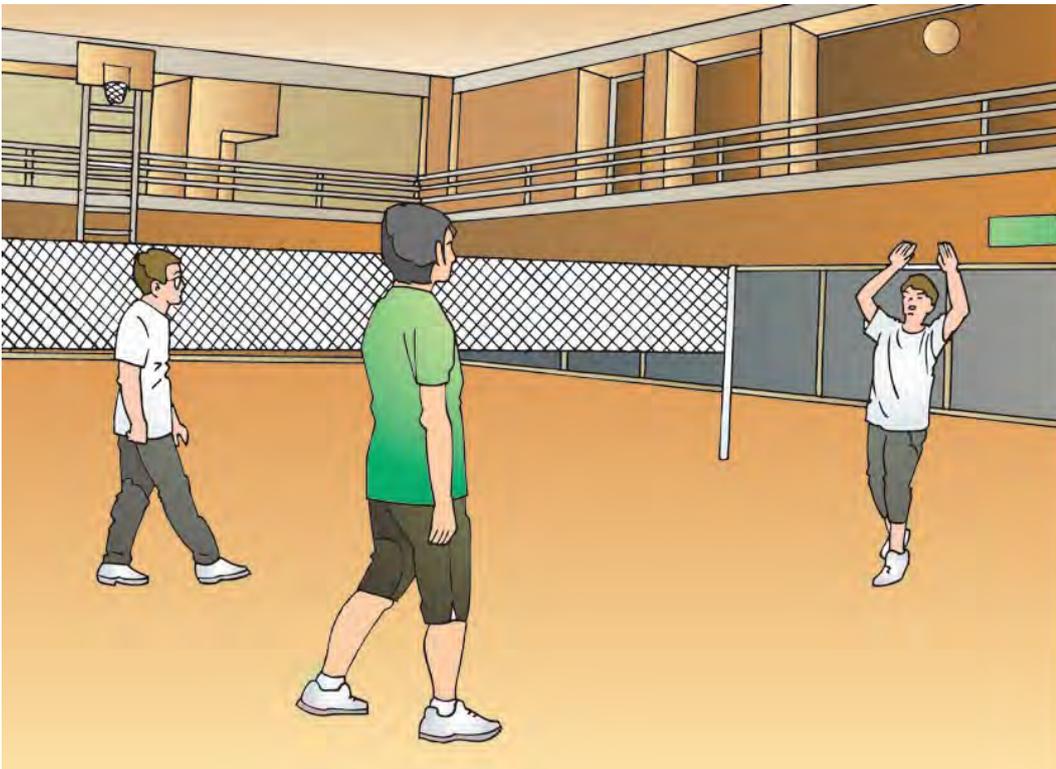


Figure 47b. Provide support for planning and organization of informal meetings and recreational activities involving different care workers.

CHECKPOINT 48

Ensure there are adequate facilities for meetings and training.

WHY

It is important to share the goals of tasks and work procedures by holding meetings and training sessions in order to prevent accidents and errors and improve work efficiency.

Providing a good place for health care workers to meet and receive training will allow them to exchange ideas that are important to improve the quality of care.

It is important to secure meeting and training time to discuss measures to prevent work-related injuries and diseases.

RISKS / SYMPTOMS

- poor communication
- lack of understanding
- increased injury or accident rates
- poor worker health

HOW

1. Provide a suitable place for meeting and training near the workplace.
2. Ensure that the space for meeting and training is large enough and equipped with comfortable furniture.
3. Provide a good environment for meeting and training. The area should have low noise levels that allow easy listening and discussing.
4. Provide multimedia equipment and resources such as microphones, whiteboards, video equipment, and projectors.

SOME MORE HINTS

- Provide a space for short meeting in addition to a large meeting place for workers.

- If it is difficult to establish enough facilities for meeting and training, consider another place for rent or a facility of the joint ownership among other enterprises.
- Themes for training should be discussed involving concerned workers; e.g., patient safety in medication, handling new machines, needle-stick injury prevention.

POINTS TO REMEMBER

If a meeting or training is important enough for health care workers to take time off from their work, then it should be held in a place where people feel that worthwhile things will happen.

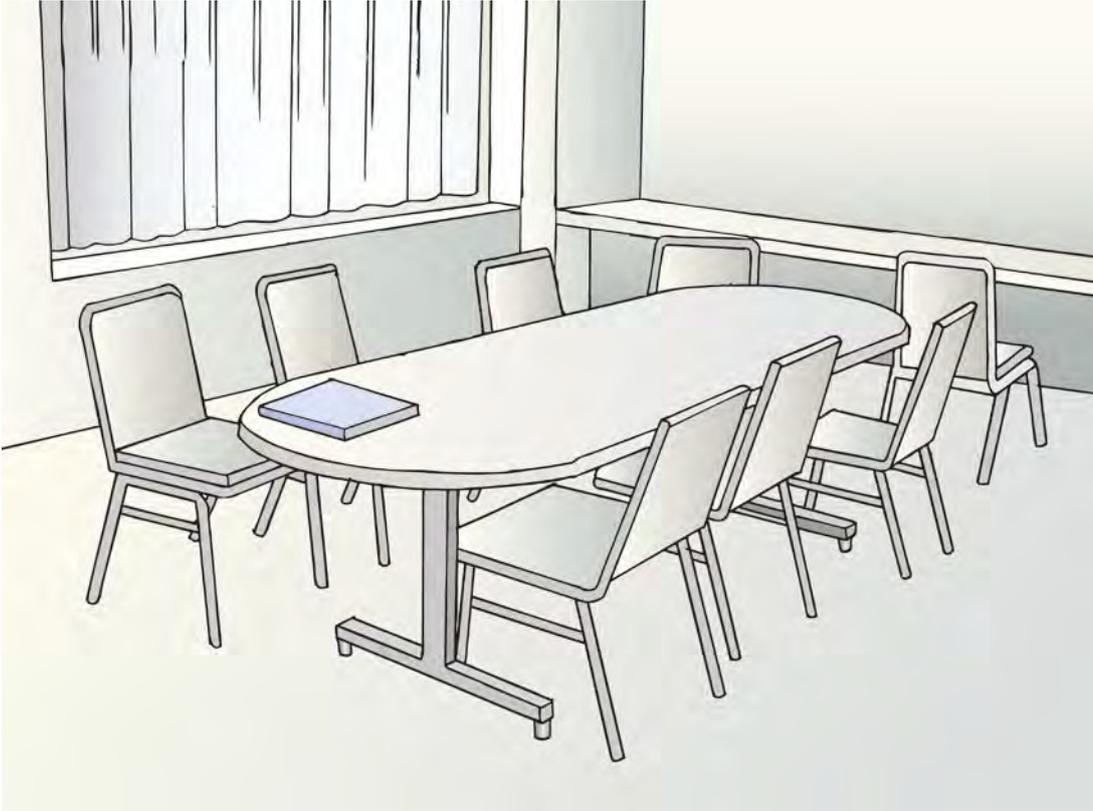


Figure 48a. Provide a place for meetings and training with enough space and furniture for workers to feel comfortable.



Figure 48b. Provide multimedia equipment and resources for meeting and training.

Preparedness

Checkpoints 49-54

CHECKPOINT 49

Establish emergency plans to ensure correct emergency operations, easy access to facilities, and rapid evacuation.

WHY

An emergency may happen at any time. In order to be prepared for it, all health care workers in the workplace should know what to do in such an emergency.

Emergency plans are essential in any type of health care workplace, since good emergency plans can minimize the consequences of a potential emergency. They can even prevent a serious accident. Health care workers need to place priorities on action in any emergency.

When people suddenly face an emergency, it is not easy to recall these priorities. Health care workers need to be instructed in advance and trained repeatedly to respect these priorities for emergency action when they have to evacuate from the workplaces safely.

RISKS / SYMPTOMS

- making wrong operation
- poor communication
- uncontrolled emergency
- delayed evacuation
- serious accidents or injuries

HOW

1. Establish a good emergency plan considering potential risks, such as fires, accidents, earthquakes, and other events. Identify, by group discussion, hidden risks and do reasonable guess work about the nature of potential risks. Consider different types of action that should be taken in each type of emergency.
2. Make emergency actions and evacuation procedures known to all people

concerned. Train repeatedly those who may engage in emergency operations and first aid. Conduct evacuation drills.

3. Also through group discussion, establish what priority actions should be taken in each type of emergency. These may include emergency operations, assistance procedures for clients, shut-down procedures, calling in outside help, first-aid, and evacuation methods. This discussion must involve supervisors, health care workers, and safety and health personnel in the workplace.
4. Make sure that all on-site first-aid facilities (e.g., a list of telephone numbers, emergency treatment equipment, first-aid boxes, means of transport, protective equipment) and fire extinguishers are clearly marked and located in places that are readily accessible. They should be updated from time to time.
5. It is especially important to know the likelihood and foreseen consequences of fires, explosions, serious releases of hazardous substances, and other potential causes of serious injuries, such as falls or being struck by objects.

SOME MORE HINTS

- Inform all people who may concern how to evacuate safely.
- Make sure information among all health care workers about the special needs of people who need assistance in evacuation.

POINTS TO REMEMBER

Make sure all health care workers in the workplace clearly know what they should do in an emergency situation. Serious accidents can be prevented by good emergency plans.



Figure 49a. Provide a list of telephone numbers, emergency treatment equipment, first-aid boxes, and fire extinguishers.

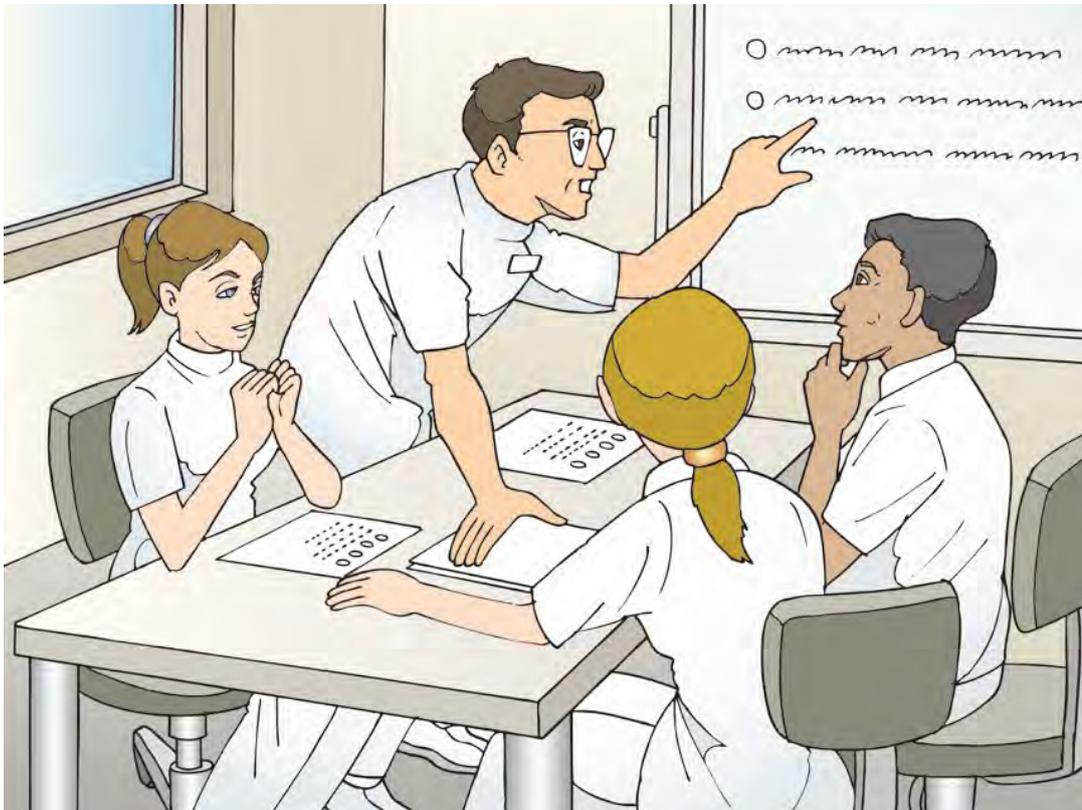


Figure 49b. Organize evacuation drills constantly.

CHECKPOINT 50

Mark escape routes and keep them cleared of obstacles.

WHY

When an emergency happens unexpectedly, evacuation of workplaces is very important for all people. By establishing an emergency action plan including evacuation, everyone should know what to do and how to evacuate safely.

The amount of time available to evacuate certainly depends on the nature of the disaster. Therefore the evacuation plan must meet the particular needs of every workplace. All health care workers, clients and visitors should be instructed in advance about how to evacuate in an emergency.

It is important to always keep escape routes clear of obstacles. These routes must be easily recognizable and simple to follow. If rarely used, these routes tend to be neglected and thus obstructed by piled-up materials or equipment.

RISKS / SYMPTOMS

- delayed evacuation
- fire or explosion
- serious injuries or accidents

HOW

1. Each workplace should develop an evacuation plan, secure evacuation routes, and inform all workers and clients about what to do in an emergency.
2. Make a sound plan about how to assist people who need help in an evacuation.
3. Ensure that at least two exit routes from fire are present in each work area. Take into account the possibility of a fire breaking out near an exit route. Check legal requirements for escape routes.
4. Firmly establish the practice of placing nothing on escape routes and of keeping

them clear of obstacles at all times.

5. The evacuation plan must indicate clearly that all persons should walk to the designated assembly location smoothly.

EVACUATION PROCEDURE:

- (1) Each supervisor should be responsible for the safe evacuation of all workers in his or her area of responsibility and ask workers to report a fire or an accident that can cause an emergency.
- (2) The supervisors in charge should: (a) direct evacuation by the safest routes; (b) check that all workers have left the department/plant; (c) proceed to the designated assembly area; (d) check the numbers of people; and (e) obey all instructions from the chief supervisors and emergency services.
- (3) Supervisors should ensure that no one returns to the plant buildings until instructed to do so.

(The evacuation procedure also includes: contact emergency services (e.g., fire brigade); make a voice announcement to evacuate the building; send staff to pre-determined points of control; leave all equipment "as is"; and close the building door after the last person.)

SOME MORE HINTS

- Evacuation plans should always include a site plan including designated assembly areas.
- People should not return to the worksite until all persons are accounted for and the site is declared to be safe and nobody should leave the assembly location in such an emergency.

POINTS TO REMEMBER

Make sure that escape routes are cleared and marked at all times. Establish good evacuation plans and make known to all people how to evacuate safely.



Figure 50a. Make escape routes and keep them clear of obstacles.

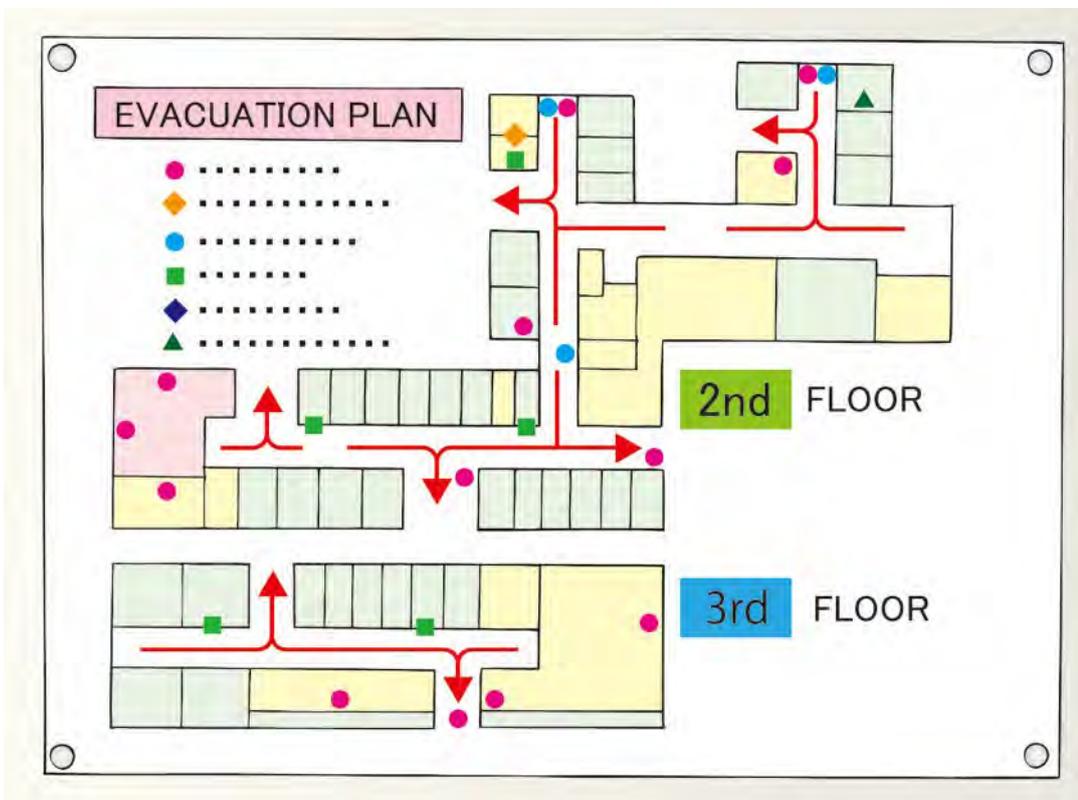


Figure 50b. Indicate evacuation plans and routes on the walls of work areas clearly to ensure safe and quick evacuation in case of an emergency.

CHECKPOINT 51

Provide easy access to first-aid equipment and primary health care facilities at the workplace.

WHY

First-aid equipment should be organized and provided at the workplace to get ready for injured or unwell workers. Adequate, rapid treatment is essential in the event of injuries due to accidents at work. Well-prepared first-aid facilities and services are needed to make good working conditions for health care workers.

Training of qualified first-aiders and preparedness for transport of injured workers in the workplace are essential.

Primary health care facilities at the workplace can help avoid delays in treating workers suffering from sudden injuries or common diseases.

RISKS / SYMPTOMS

- serious injury or accident
- delay in medical treatment
- uncontrolled emergency
- aggravated injury

HOW

1. First-aid kits must be clearly marked and located near the work area. They should be easily accessible in an emergency.
2. It is useful that the names of trained first aiders should be listed close to the kit. Identify trained workers who will be present on each shift. Provide subsequent refresher training from qualified instructors constantly.
3. Make sure that first-aid kits are stocked with clean and appropriate first-aid items in a dustproof and waterproof box. Typical basic items are the following:
 - Individually wrapped sterile adhesive dressing;

- sterile bandages, pressure bandages, dressings (gauze pads), and slings (including sufficient quantities of the different sizes and medical adhesives);
 - sterile sheets for burns;
 - cotton wool for cleaning wounds;
 - scissors, tweezers (for splinters), and safety pins;
 - an eye bath and eye wash bottle;
 - ready-to-use antiseptic solution and cream;
 - simple over-the-counter medicines such as aspirin and antacid; sterile plastic bags;
 - a booklet giving advice on first-aid treatment.
4. A responsible person should be designated to regularly check the contents of the first-aid kits and replace items that have been used.
 5. Primary health care services should be made available with qualified health care personnel.

SOME MORE HINTS

- A qualified health care worker can provide treatment using the first-aid kit in the health care room.
- Care should be taken with the provision of medication in the first-aid kits due to the potential for misuse and resultant illness.
- Provide a record-book beside the first-aid kit to record details of the incident or accident.
- An emergency plan should include how an ambulance would obtain access to the place to transport a seriously ill or injured person.

POINTS TO REMEMBER

Well-maintained first-aid kits are helpful for treating workers in an emergency. Access to a nearby clinic or hospital for serious cases is important.

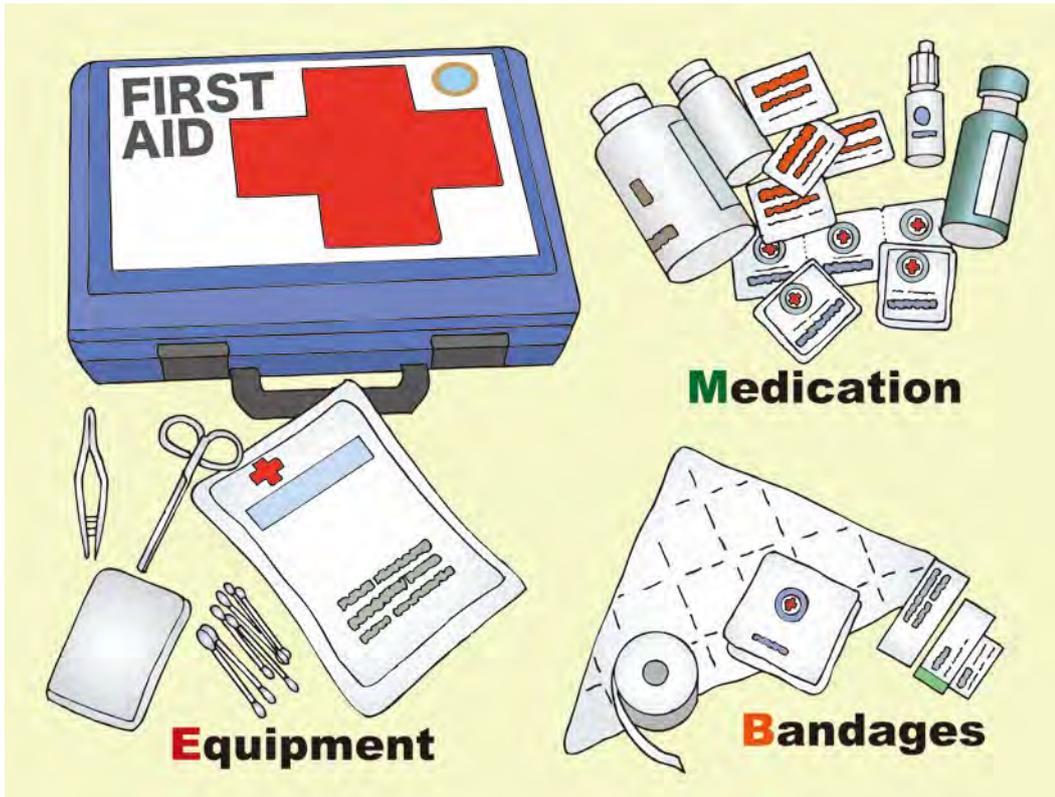


Figure 51a. First-aid kits must be clearly marked and located near the work area.

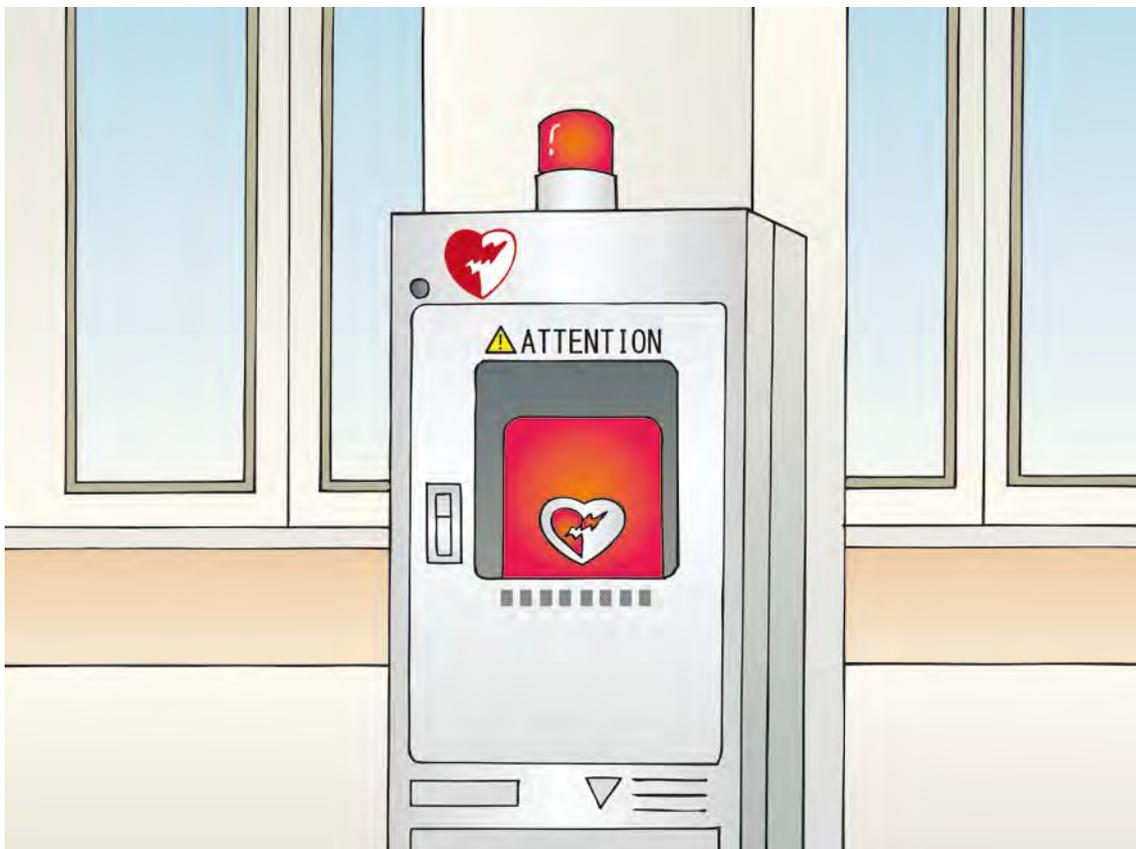


Figure 51b. A label of a first-aid kit placed on the wall of the workplace.

CHECKPOINT 52

Provide enough fire extinguishers within easy reach and be sure that workers know how to use them.

WHY

Fire may happen at any time. Early detection of a small fire and the use of portable fire extinguishers are essential among the most important fire-protection measures. Providing fire extinguishers in designated places with clear labels can greatly reduce the risk of large fires. In addition, portable fire extinguishers are effective only in the early period of fires.

It is necessary to provide a sufficient number of extinguishers appropriately distributed in workplaces. They should be easily reached and used as soon as possible. Furthermore, it is important to inform workers about how to use the fire extinguishers in the case of a fire in an emergency.

RISKS / SYMPTOMS

- large fire
- exposure to hazardous chemicals
- serious injury or accident
- delayed evacuation

HOW

1. Carefully follow fire safety regulations and the fire department's instructions.
2. Make sure that there are an enough fire extinguishers appropriately located in the different work areas.
3. Select appropriate types of portable fire extinguishers and use them around the workplace. Make sure that people fight a fire with the proper class and type of extinguishers (i.e., Class A for ordinary combustibles; Class B for flammable liquids or gases; Class C for electrical equipment; and Class D for flammable metals).

- Water extinguishers: in the case of ordinary fires;
- Multipurpose dry powder extinguishers: in the case of ordinary, oil, and electrical fires;
- Foam extinguishers: ordinary and oil fires.

4. Place fire extinguishers within about 20 m from every workplace with clear marks. It is often advisable to put them on the wall without covers so that they are visible.
5. Health care workers must be trained in the use of fire extinguishers. Usually, an extinguisher may be used by pulling the pin, aiming its nozzle at the base of the flames, squeezing the trigger while holding the extinguisher upright, and sweeping it from side to side to cover the areas of the fire.
6. Maintain fire extinguishers on a frequent basis, especially by confirming the date of expiration. Make sure that pins, nozzles, and nameplates are intact and no extinguishers are missing or empty.

SOME MORE HINTS

- Ensure regularly that all health care workers know the proper use of fire extinguishers.
- Fire drills should be scheduled and regularly conducted to test the emergency action plan. The plan must be known by all people including fire-fighting procedures and evacuation.

POINTS TO REMEMBER

Maintain sufficient number of fire extinguishers with clear labels and set up them within easy reach in the health care workplace. Train health care workers about how to use them as part of an emergency action plan.



Figure 52a. Provide enough fire extinguishers at clearly designated places near work areas.

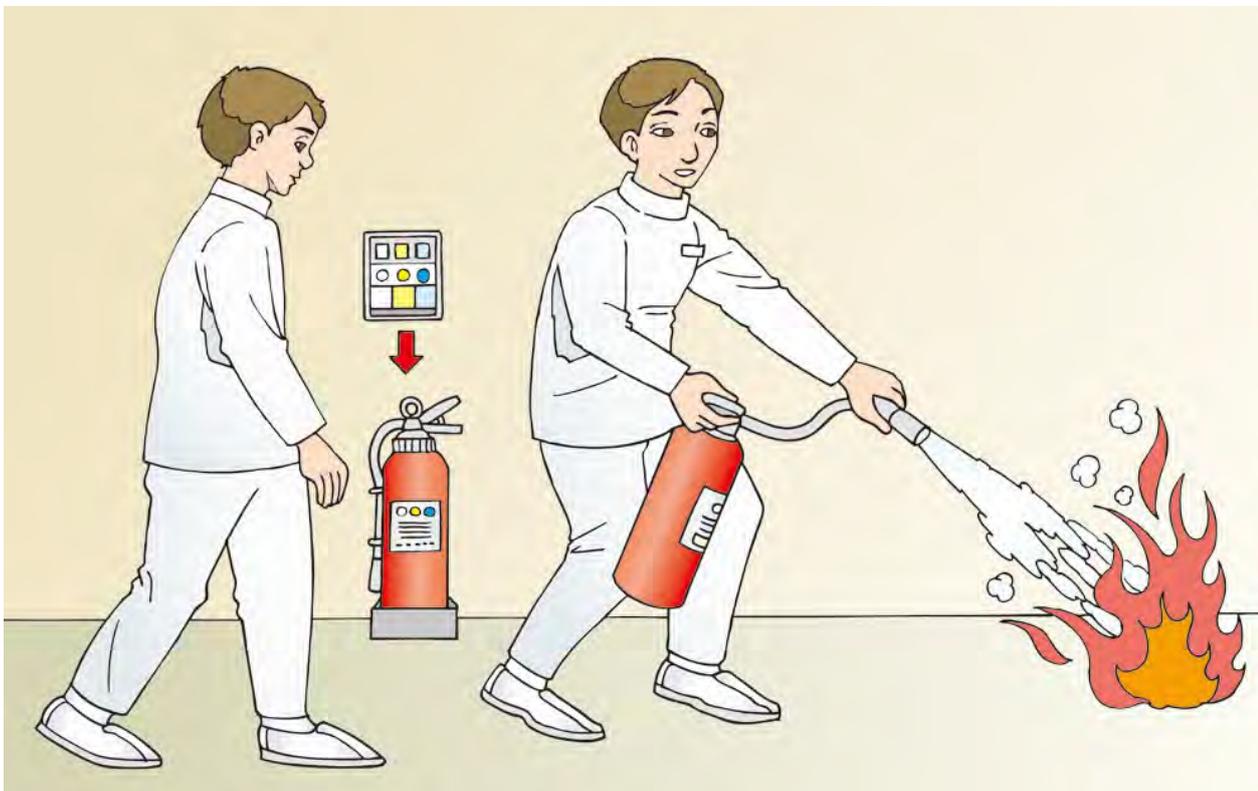


Figure 52b. Conduct drills regularly for workers about the proper use of fire extinguishers including necessary maintenance arrangements.

CHECKPOINT 53

Keep records of accidents and collect information about significant incidents for improving safety at work.

WHY

To identify risks and hazards, it is important to keep records of accidents and collect information about significant incidents. Health care workers are in the best position to find and implement control measures to reduce the risks.

Continued attention to information about significant incidents as part of risk-management duties can contribute to the reduction of accidents.

RISKS / SYMPTOMS

- poor communication
- increase of accident rates
- serious injury or accidents

HOW

1. Provide accident report forms, and examine how to keep them appropriately when reported.
2. Collect information about significant incidents from each workplace regularly and continuously. It is important to decide and to implement the way of practical use about the collected information.
3. Share the collected information, such as significant incidents or the results of an analysis, to all workers.

SOME MORE HINTS

- Accident report forms should be simple and easy to write for health care workers. It is also possible to get useful information from other facilities.
- Promote worker participation in reporting accidents and risky incidents by

collaborating with worker representatives and trade unions.

- The collected information should be discussed by involving managers and workers and used for assessment of risks.
- Not only collecting information and analysis but also implementation of control measures to reduce risks are important.

POINTS TO REMEMBER

In order to establish procedures for collecting information about accidents and incidents as a sustainable system, it is important to make step-by-step progress. First, establish the way of collecting the information effectively. Next, decide better use of the collected records. And then, implement practical improvements for safety at health care workplaces.

INCIDENT/ACCIDENT REPORT FORM

Name _____

Position _____

Date of Incident _____ Time of Incident _____ AM/PM

Place of Incident _____

Description of Incident (What happened) _____

What injury, if any, was caused? _____

What property damage, if any, was caused? _____

Names of others involved _____

Names and address of witnesses _____

Do you have any injury _____

Did you require medical attention? _____

Figure 49a. Provide a simple incident / accident report form.

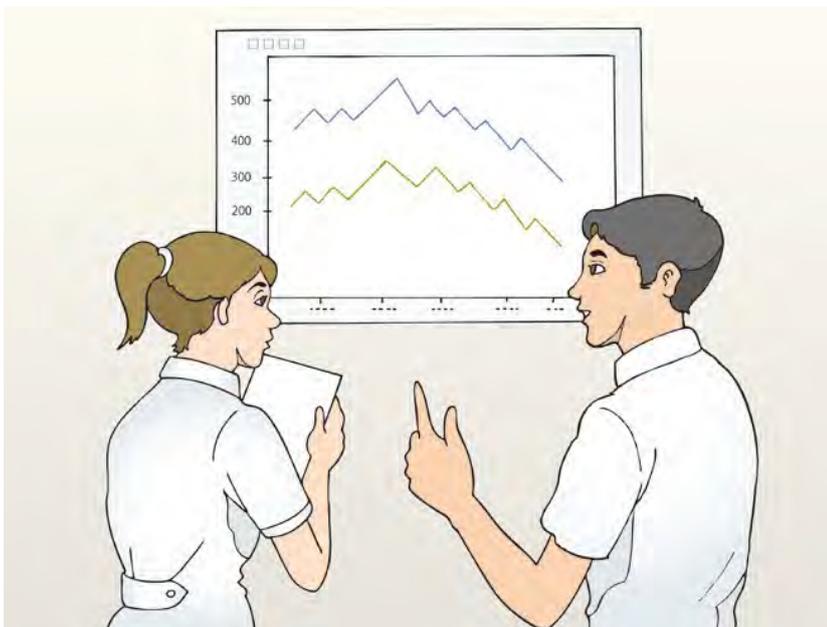


Figure 49b. Share the collected information, such as significant incidents or the results of an analysis, to all workers

CHECKPOINT 54

Promote communication and a mutually supportive climate among managers and workers and provide access to counselling about health or personal problems of workers.

WHY

Health care workers usually work in a team, and it is important to know what others are doing or thinking and how they can cooperate with each other.

Poor communication often leads to delays in work or low quality of services, and even to mistakes and accidents.

Appropriate procedures for communication about securing patient safety are essential throughout health care work.

People are busy completing their assigned tasks, and tend to be isolated from others. Therefore concrete opportunities must be created and built into daily work in order to facilitate communication and mutual support.

RISKS / SYMPTOMS

- poor communication
- excessive fatigue
- psychosocial stress
- inefficiency of work

HOW

1. Arrange work procedures so that members of the work team or section have enough chances to communicate from time to time. Encourage casual talks. Avoid totally isolated work as much as possible.
2. Organize brief meetings, if appropriate, before every shift, to deliver instructions, exchange the day's work plans, and have a question-and-answer session.
3. Discuss measures to enhance patient safety involving all members in the team and patients. Change care procedures, if

necessary, according to the discussion results.

4. Provide adequate opportunities for training and retraining workers within daily work. This helps improve communication and mutual support.

SOME MORE HINTS

- Use various media such as newsletters, leaflets, updated instructions, posters, and occasional verbal presentations to increase communication.
- Provide changing rooms, rest areas, drinking facilities, and eating areas for joint use so as to give workers more chances to talk to each other.
- Provide possibilities for acquiring multiple skills, and encourage occasional job rotation. This helps increase communication and creates a mutually supportive atmosphere.

POINTS TO REMEMBER

Allow more occasions for communication among workers. This enhances workers' sense of working as a team and can lead to improved work quality and efficiency.



Figure 54a. Provide sufficient opportunities for workers to communicate with each other and solve work problems jointly.

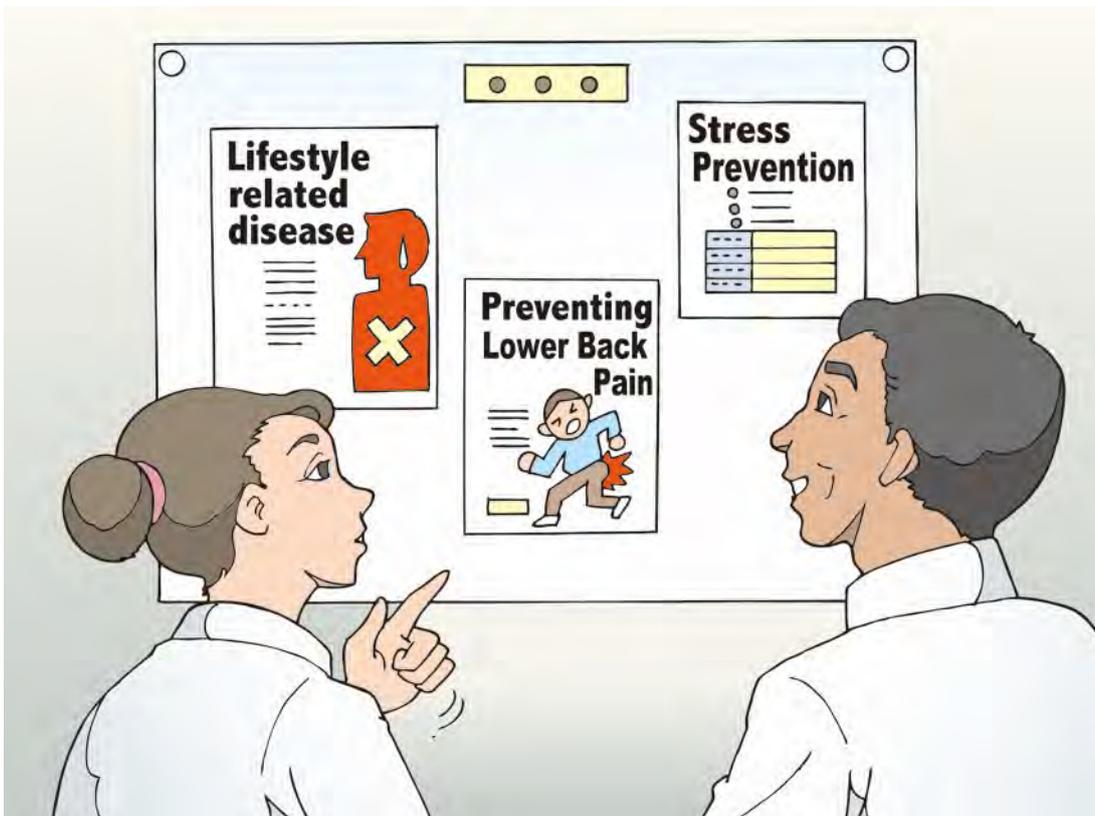


Figure 54b. Make use of notice boards, leaflets, newsletters and e-mails for providing necessary information to all workers.

Work organization and patient safety

Checkpoints 55-60

CHECKPOINT 55

Hold a brief meeting before work to jointly plan work assignments and promote communication and a mutually supportive climate among managers and workers.

WHY

Various tasks of health care are assigned to care workers with different backgrounds and experiences. Before the daily work starts, it is important to hold a brief meeting to reconfirm and appropriately arrange these various tasks for the day.

This meeting is helpful for workers in sharing their daily workload and avoiding excessive work tasks for particular workers. Through such a meeting, it is possible to prevent excessive fatigue and stress.

By making it routine to plan the day's work through a brief meeting, better teamwork arrangements and good cooperation of team members can be achieved.

RISKS / SYMPTOMS

- poor communication
- excessive fatigue
- psychosocial stress
- inefficiency of work

HOW

1. By holding a brief meeting before work, check the daily workload and procedures that may lead to excessive fatigue or stress. Examine whether the workload and procedures are appropriate in terms of the skills and daily burden of workers. Make it a daily routine to talk about work problems and safety and health at work.
2. Involve all workers in the brief meeting, and jointly exchange information related to the smooth execution of the day's work.
3. When new or non-routine work is foreseen, consult with each other about:
1) how fast the work is done, 2) in what

order and where the work is done, and 3) how work is shared. Discuss any problems in advance.

4. Make sure that the plan of daily work assignments is known to all workers. Arrange the daily work to avoid being excessive for particular workers.
5. Provide adequate opportunities for training and retraining workers within daily work. This helps improve communication and mutual support.

SOME MORE HINTS

- In arranging work assignments, it is always helpful to know the work problems affecting workers. Collect information about the problems from workers concerned so that they can be solved in advance.
- In addition to the daily briefing meeting, discuss work assignments in regular meetings involving workers and supervisors. Small-group discussion is useful to freely discuss work problems.
- Ask for the advice of senior workers who have experience in solving similar problems.
- Use various media such as newsletters, leaflets, updated instructions, posters, and occasional verbal presentations to increase communication.

POINTS TO REMEMBER

Talk clearly and freely about work problems at a daily brief meeting and arrange for appropriate work assignments of both workers and supervisors. This makes the daily work comfortable and efficient and helps avoid excessive fatigue for certain workers.



Figure 55a. Hold a brief meeting before work and make sure that work assignments are proper and without excessive workload.



Figure 55b. For new or non-routine tasks, discuss in advance who, where, how fast, and in what order the work is done

CHECKPOINT 56

Arrange work schedules to avoid excessive work hours and secure enough rest periods and short breaks.

WHY

Inappropriate work schedules or too-long working hours potentially induce excessive fatigue. As health care work cannot be easily interrupted, good planning of working schedules is very important to prevent fatigue-related disorders such as musculoskeletal, cardiovascular, or mental diseases. To avoid this situation, it is important to arrange work schedules to secure sufficient resting periods between work shifts or breaks at regular intervals.

Insufficient resting periods or too-long hours of work may raise the possibility of accidents. At the same time, the efficiency and quality of work will be lowered.

Excessive fatigue can be prevented by taking frequent short breaks at intervals of a few hours within daily work. Further, weekend holidays and paid annual leaves should be properly taken for recuperation.

RISKS / SYMPTOMS

- excessive fatigue
- musculoskeletal disorders
- cardiovascular disorders
- psychosocial problems
- accidents
- inefficiency of work

HOW

1. Identify possible options for improving working time arrangements. It is helpful to organize group discussions that involve workers or their representatives.
2. There are various ways of changing working time arrangements. Appropriately arrange the work system considering the following events:
 - change in starting/finishing times,

- sufficient between-shift periods
- inserting rest breaks
- allocating holidays regularly
- flex-time or varying shift length
- adequate shift-work systems,
- part-time work
- job sharing

3. Compare possible options by knowing how both business requirements and workers' preferences can be accommodated. Then agree on concrete plans.
4. It is necessary to get feedback from workers when introducing new arrangements. Well-informed agreement among workers and managers is essential. Negotiation before implementation is always indispensable, and further adjustments are, as a rule, needed.

SOME MORE HINTS

- Both business requirements (operating time, staffing levels, and health-care plans) and workers' preferences (change in working hours, holidays, weekends, family responsibilities) must be duly taken into account. This needs careful planning.
- It is often useful to set up a planning team including workers concerned. The practical options presented can be used as a basis for further consultation.
- It is usually preferable to introduce new working-time arrangements on a trial basis. Joint evaluation by both management and workers should be done before settling the final change of work schedules.

POINTS TO REMEMBER

Inadequate work schedules affect work life seriously. Consulting the workers concerned gives better results, meeting both business requirements and workers' preferences.

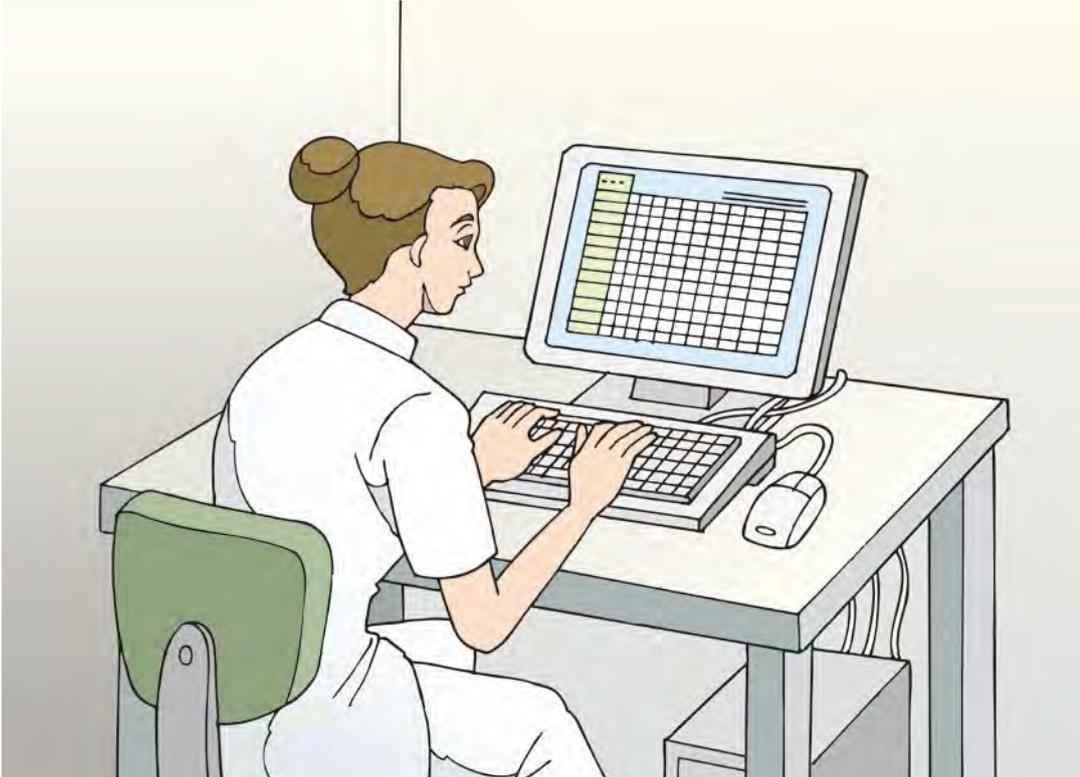


Figure 56a. Look for various options of working time arrangements including work hours, resting periods, breaks, and holidays.



Figure 56b. Frequent short breaks at intervals of at least a few hours can help avoid excessive fatigue and health problems

CHECKPOINT 57

Adapt facilities, equipment, and work methods to workers with disabilities so that they can do their jobs safely and efficiently.

WHY

Workers with disabilities share all important tasks in health care. They may have different physical and mental capacities compared with other workers, and often require certain changes in workplace arrangements and adequate support.

It is important to provide enough guidance and support to obtain sufficient work experience for fulfilling their tasks and to solve problems faced during work.

To prevent workplace risks for workers with disabilities, it is necessary to discuss with them what changes in work equipment and facilities should be introduced and how work tasks and the environment should be arranged to accommodate their needs. On-the-job training must be provided to deal with the risks.

The best way to help workers with disabilities increase their performance is to assign experienced workers to guide and support them. Through good communication between them and experienced workers, a better teamwork atmosphere may be created.

RISKS / SYMPTOMS

- increased injury rates
- stress-induced disorders
- poor communication
- poor understanding
- poor worker health

HOW

1. When workers with disabilities are newly allocated to a workplace, discuss with them how their work tasks, equipment, and facilities are arranged and provide adequate job training including the work system and support measures for them.

2. Assign appropriate workload to workers with disabilities by reviewing teamwork arrangements and their work experiences.
3. Check with workers with disabilities regarding safety and health risks at work by taking account of their knowledge, skills, and fitness. Introduce necessary risk-reducing measures and training for risk control.
4. Assign experienced workers to support workers with disabilities. They should keep daily contact with them and help them solve any problems faced.
5. Provide flexible working time arrangements to allow workers with disabilities to adjust their work pace.
6. Regularly check all aspects of work to make sure that the workload does not exceed capacities of the workers.

SOME MORE HINTS

- Create an atmosphere that enables workers with disabilities to consult easily with other workers and supervisors. Organize group discussions so that appropriate solutions to their problems can be found.
- Learn from good examples for changing workplace conditions for workers with disabilities.
- Regular consultations with workers with disabilities are essential. Other co-workers should take part in the consultations.

POINTS TO REMEMBER

Introduce necessary workplace changes for workers with disabilities, minimize risks at work, and provide on-the-job training. Experienced workers should provide support for workers with disabilities before problems become serious.



Figure 57a. With workers with disabilities, discuss workload, risk control, and necessary support measures in performing care work.

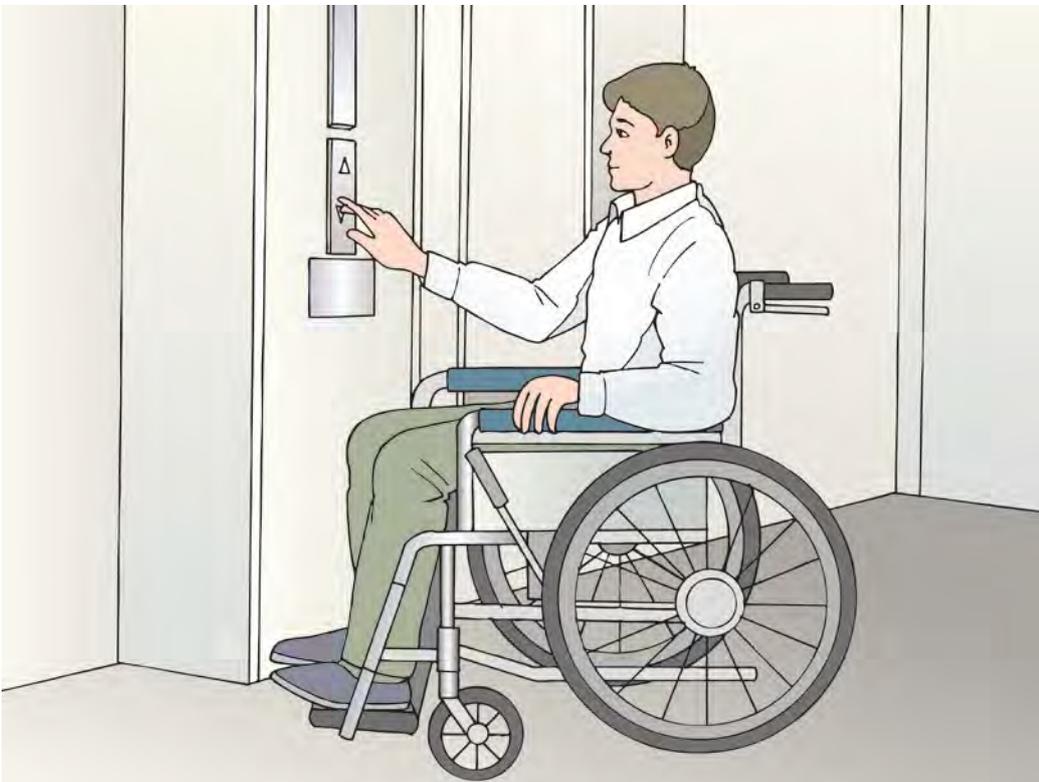


Figure 57b. Introduce changes in work equipment and facilities so that workers with disabilities can perform work and move safely.

CHECKPOINT 58

Plan and implement practical measures to prevent work stress by cooperation of managers and workers and organize training about these measures.

WHY

Health care work usually involves a large variety of tasks carried out in different sequences. These tasks require organized teamwork. To prevent work stress, it is necessary to improve the way work is organized individually and within each team.

Excessive stress at work often results from heavy work demand, externally paced work, poor human relations, or lack of social support. Well-planned teamwork and good communication can prevent work stress.

Training of both employers and workers in improving teamwork and communication can greatly help them plan and implement meaningful measures for stress reduction.

Health care workers are at a high risk of being victims of verbal and physical violence by patients and visitors.

It is important to establish procedures for preventing and controlling these violent incidents.

RISKS / SYMPTOMS

- excessive fatigue
- poor communication
- excessive physical or mental strain
- stress-induced disorders
- increased absence rates

HOW

1. Learn practical measures to reduce stress at work from good examples in your or similar workplaces. Look at multiple aspects useful for stress reduction.
2. Discuss in small groups what measures can reduce stress at your workplace. Select some feasible measures that can improve teamwork, reduce workload,

improve work environment, increase communication, and facilitate mutual support.

3. Implement the selected practical measures in a stepwise manner, and jointly confirm the benefits.
4. Establish procedures to deal with individual cases of harassment and violence occurring at care workplaces, including countermeasures, reporting, teamwork, cooperation with other facilities and agencies, and assessment.
5. Organize training sessions for managers and workers about good examples and feasible measures for stress reduction.

SOME MORE HINTS

- Learn simple and low-cost improvements that can reduce stress at work. It is always useful to plan and implement such simple measures first and then move on.
- Keep a broad scope in identifying feasible improvements. It is easier to identify a few practical measures by looking at multiple aspects of stress reduction.
- Typical stress-reducing measures include short meetings, joint task assignment, short breaks, better materials handling, good workstations, lighting and ventilation, resting facilities, and good social support.

POINTS TO REMEMBER

Learn feasible measures for reducing work stress in multiple aspects from good examples, and cooperate to plan and implement some of them in a stepwise manner.

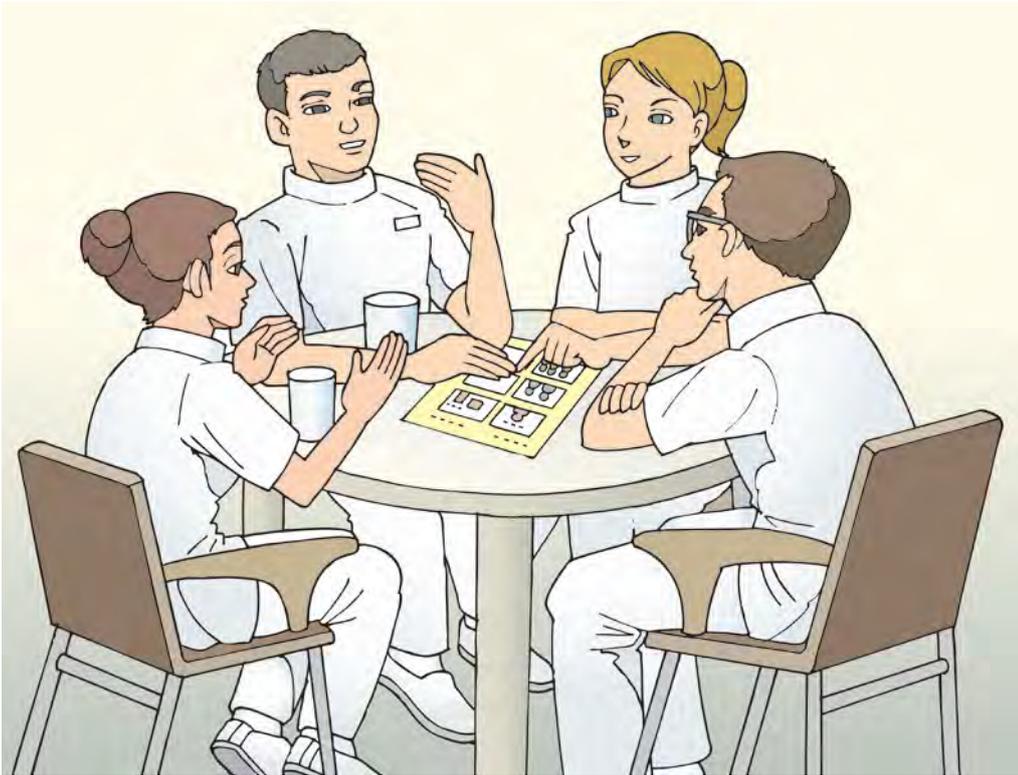


Figure 58a. Discuss in a small group practical measures that can be implemented immediately for reducing stress at work. Look at multiple aspects of stress reduction shown by good examples.



Figure 58b. Organize training sessions to learn practical measures to reduce work stress from good examples.

CHECKPOINT 59

Promote safer health care services and a patient safety culture involving personnel, management, and patients

WHY

Patient safety is a world-wide concern in all aspects of health care work in health care facilities and nursing services, and has become a public health issue. Nearly 10% of patients are reported to be affected by adverse events. The majority of these cases are preventable through adequate organizational actions, proper training, well-designed equipment, and a committed management that encourages a safety culture.

Patient safety is a fundamental component of health care work and should involve all personnel as well as the patients themselves. Good communication among the personnel and between the personnel and patients, safe equipment, and a mutually supportive climate are particularly important.

RISKS/SYMPTOMS

- Diagnosis errors
- Medication errors
- Communication errors
- Patient harms
- Infections and sepsis

HOW

1. Establish a clear policy for risk prevention and detection in all aspects of health care services provided and make it known to all personnel, patients, and visitors. This includes a policy for patient and family involvement.
2. Make sure that safe procedures are established and followed by all health care workers with necessary collaboration

of patients. Regularly review the ongoing state of safety culture and management support.

3. Re-examine the existing reporting procedures of accidents and incidents related to patient risks. Ensure that knowledge gained through the reporting procedures are reflected in day-to-day work.
4. Examine existing health care procedures with respect to the possibilities for causing errors, such as in patient identification, sampling, medication, and care-related communication. Take necessary measures to avoid potential errors.
5. At regular intervals, discuss good practices and required improvements about patient safety.
6. Make plans each year for training health care workers and patients about safe procedures. Regularly review the outcomes of training activities.

SOME MORE HINTS

- Promote clinical audits involving workers concerned and take necessary measures for patient safety.
- Discuss necessary improvements about spaces, daily practices, and work-as-done. Take necessary actions as agreed on by workers with the support of the management.

POINTS TO REMEMBER

Involve health care workers, management, and patients in reviewing the current status of patient safety and improve health care procedures and equipment as required.

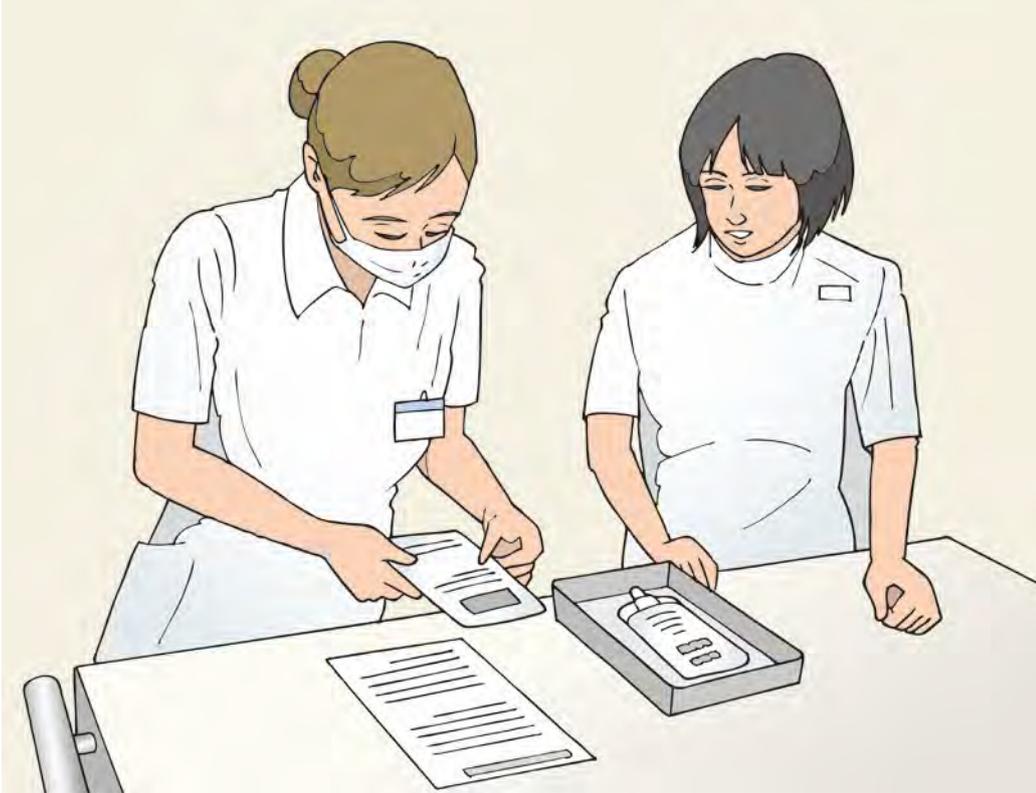


Figure 59a. Follow the practice of double-checking in medication and in patient identification

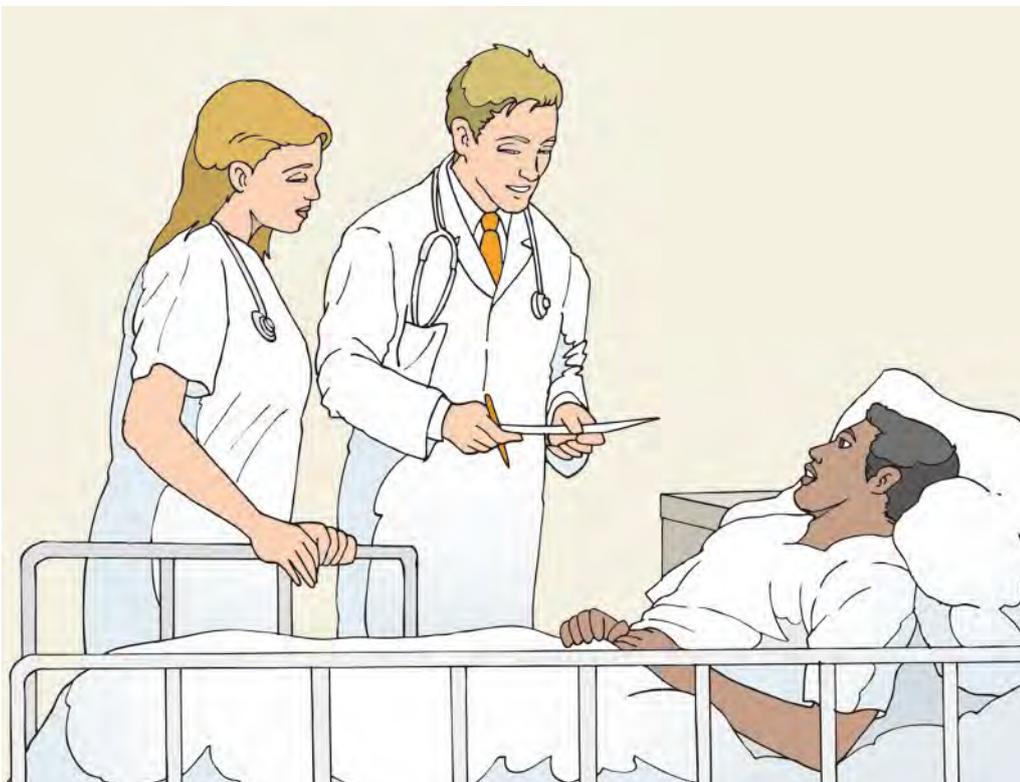


Figure 59b. Develop and always follow good practice guidance about trustworthy communication with patients.

CHECKPOINT 60

Undertake participatory workplace improvement by learning from good practices feasible in local conditions.

WHY

Many workplace improvements are done in your own workplace or in other workplaces. These good examples represent types of improvements feasible in similar health care work settings. From these examples, you can learn how your workplace can be improved.

It is not possible to solve the many different problems in the workplace all at once. Stepwise progress is always necessary. Local good examples provide good guidance for improving existing conditions with visible benefits.

While health care work varies greatly in different places, types of improvements are quite similar. It is useful to learn from good examples leading to better and safer work.

RISKS / SYMPTOMS

- poor communication
- poor quality of care work
- lack of acceptance
- increased injury or illness rates
- lack of workplace improvement

HOW

1. Check your own workplace and list good examples showing improved work methods or safe and healthy conditions. Examine how these improvements are done. Simple and low-cost improvements are particularly important.
2. Visit other health care workplaces to learn from good examples or look at manuals showing good health care practices.
3. Discuss possible improvements with a group of co-workers. Concentrate on proposing improvements that can be

done immediately and contribute to better work.

4. Learn from good examples and agree on feasible improvements. It is useful to focus on low-cost types of improvements first and proceed to more complex improvements on the step-by-step basis.
5. Carry out priority improvements and confirm the benefits. The results need to be reported to all concerned and can be used for encouraging further improvement actions.

SOME MORE HINTS

- Learn from many good examples related to multiple areas covered by this manual. This helps find feasible improvements in similar work situations in your workplace.
- Organize small-group discussions that can lead to agreeing on a few improvements feasible in existing conditions. Photographs or video recordings of good examples can expedite this discussion.
- It is always advisable to begin with simple, low-cost improvements. By implementing such improvements within a short period, people are encouraged to continue joint actions.

POINTS TO REMEMBER

Good examples found in your and similar workplaces show what is possible in local conditions. Organize group discussion to identify feasible and beneficial improvements.

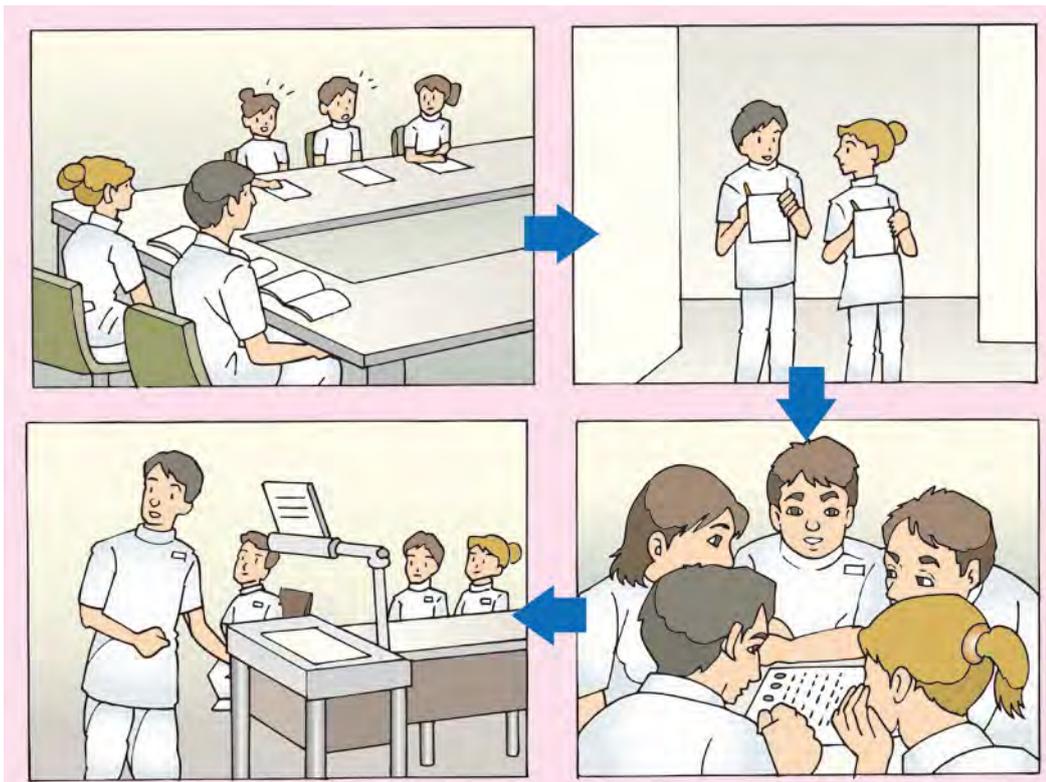


Figure 60a. Take participatory steps from planning based on good examples and workplace inspections to group discussion of feasible improvements and reporting of achievements.

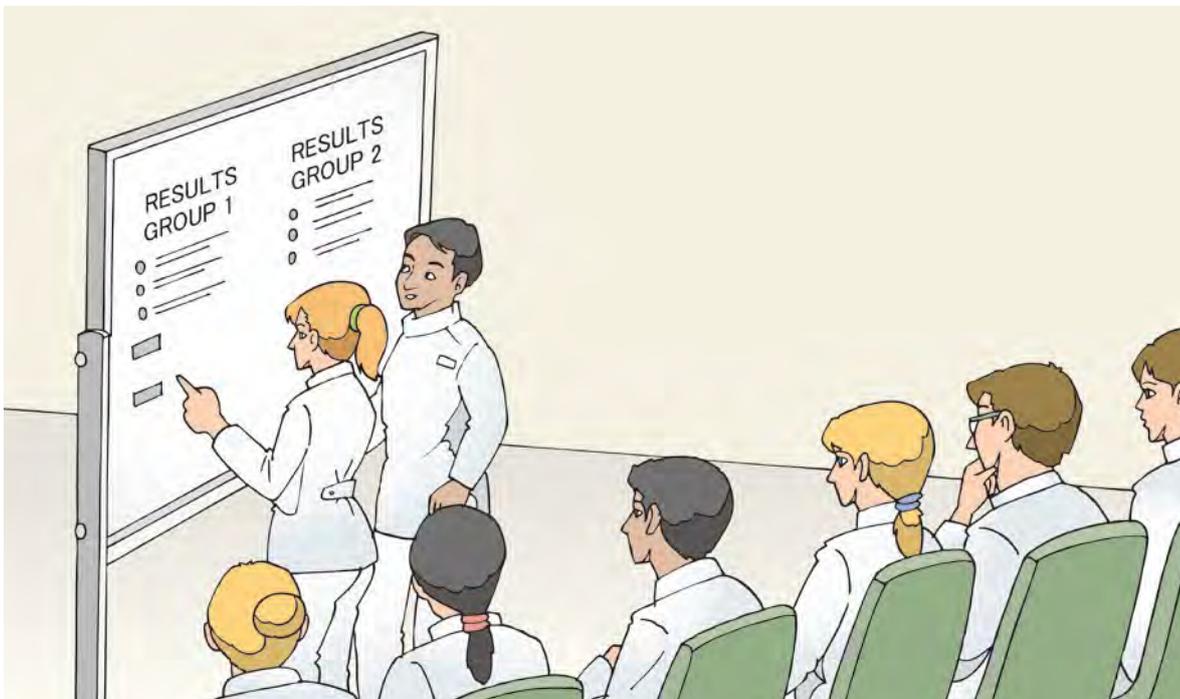


Figure 60b. Discuss the achieved results in a meeting so that continual improvement actions are encouraged.

Annexes:

Samples of locally adapted training materials

(See “Suggestions for using the manual”)

Annex 1: Using Ergonomic checkpoints in health care work in participatory training

Annex 2: Workplace checklist in health care work

Annex 3: Examples of improving health care work

Annex 1: Using *Ergonomic checkpoints* in health care work in participatory training

Experiences in using *Ergonomic checkpoints in health care work* for action-oriented training in improving safety and health at work are accumulating in different countries. Awareness is growing that safety and health at work are basic human rights and that safer and healthier working conditions of health care workers are essential for improving the quality of their work. The experiences reported from training activities clearly indicate the usefulness of training tools making full use of the practical nature of *Ergonomic checkpoints* summarized in this manual.

It is encouraging that many training programmes for improving working conditions with the support of *Ergonomic checkpoints* and related training tools have demonstrated the effectiveness of participatory steps involving managers and workers. It is useful to apply the Work Improvement in Small Enterprises (WISE) methodology developed by the ILO and similar participatory methods in implementing workplace improvements suggested by *Ergonomic checkpoints*.

With the support of the International Labour Office and the World Health Organization, participatory training programmes have been held for different groups of health care workers. Usually, these programmes utilize a set of participatory training tools comprising action checklists, local good examples and improvement manuals referring to available options. The checklists and the manuals reflect the simple, low-cost improvements included in *Ergonomic checkpoints*.

These programmes are successful when they are based on local good workplace practices. Usually, one to two-day training programmes are conducted by trained trainers. Training tools used, including action checklists and manuals, incorporate local good examples and practical improvement options in line with these examples. Through serial group work, managers and workers learn from the local good examples and plan and implement similarly practicable changes at their workplace. Typical participatory steps include checklist exercise, group discussion of local good examples and basic ergonomic principles, and group work on immediate improvement actions. Usually, a locally adapted checklist listing feasible actions is used.

The participatory steps should be practical and action-oriented. At the initial checklist exercise, participants learn how to use an action checklist adapted to the local situation. Participants are advised to focus on existing good points in workplaces instead of merely talking about problems and point out practical improvement options that are feasible in local conditions. In subsequent technical sessions, trainers

present basic improvement principles in a practical way. Since the check items in the action checklist and the basic principles related to local good examples are those extracted from *Ergonomic checkpoints*, participants are relatively easily guided to understand how to improve existing conditions and propose practicable options. Participants can understand the principles in different topic areas by means of corresponding illustrations. Through group discussions in small groups, participants identify safety and health risks and their solutions. The many manuals developed by trainers of these programmes utilize in various ways the improvement options and illustrations in *Ergonomic checkpoints*.

The technical areas covered by these programmes are similar to those covered by this manual. Usually they include: (1) materials storage and handling, (2) machine and tool safety, (3) safe patient handling, (4) workstations, (5) physical environment, (6) hazardous agents, (7) infection control, (8) welfare facilities, (9) preparedness and (10) work organization. Ergonomic measures for securing patient safety relate to these various aspects of health care work. Establishing a clear policy and procedures for safety is included in the final section regarding work organization. Usually, the use of action checklists listing locally practicable improvements and the ways to implement such improvements are learned through group discussions of locally achieved good practices and necessary changes. Presentation of local good examples in the form of illustrations and photographs can facilitate the learning process. The improvement options described in *Ergonomic checkpoints* can be utilized for this purpose.

The participatory approach suggested in *Ergonomic checkpoints* helps trainers and participants work constructively in planning and implementing necessary changes. A particular emphasis of the approach is placed on active cooperation among managers and workers. The group work methods generally used in the participatory training programmes greatly help participants apply consensus building techniques through group discussions.

In developing an action checklist adapted to the local situation of health care work, it is recommended to select about 30-40 items covering the multiple technical areas of *Ergonomic checkpoints*. An example of such an action checklist is shown in Annex 2. By looking at multiple technical areas in the action checklist, the participants can more easily identify existing good practices and locally feasible improvement actions.

The emphasis placed on basic ergonomic principles in all these technical areas is important in facilitating the planning and implementation of immediate improvements. Typical examples of these basic ergonomic principles are included in different sections of the present manual. These improvements can reduce safety and health risks at work and therefore contribute to efficient care work and safety of patients and clients. Numerous improvements reported from the training programmes are low-cost ones and useful for their use in promoting health and safety at health care work. It is important that low-cost improvements are found in each of the technical areas covered by the programmes. The action-oriented nature of these low-cost improvements is clear from the options presented in this manual.

The follow-up activities undertaken by the trainers of each programme play vital roles. They conduct follow-up visits to collect improvement examples and encourage workplace people for continuing improvement actions. Follow-up meetings in the form of achievement workshops are also useful for encouraging sustainable actions.

Examples of participatory action-oriented training programmes for health care workers are shown below in the case of one-day and two-day workshops.

In each workshop, it is suggested to utilize an action checklist listing practical improvements feasible in the local situation. Photographs showing local good examples can be used in the presentations by trainers. Extracts from *Ergonomic checkpoints* corresponding to typical improvements learned may be used as training materials.

<Sample programmes for participatory action-oriented training of health care workers>

A. One-day workshop

08:30-08:50	Orientation to the workshop
08:50-10:30	Session 1: Checklist exercise (visit to a work site followed by group discussion of the checklist results)
10:30-10:50	Tea break
10:50-12:00	Session 2: Materials handling and people transfer
12:00-13:00	Lunch break
13:00-14:00	Session 3: Workstations and machine safety
14:00-15:00	Session 4: Physical environment and welfare facilities
15:00-15:20	Tea break
15:20-16:00	Session 5: Implementation of improvements and action planning
16:00-16:30	General discussion and evaluation

B. Two-day workshop

Day 1	
08:30-08:50	Opening and orientation to the workshop
08:50-10:20	Session 1: Checklist exercise (visit to a work site followed by group discussion of the checklist results)
10:20-10:40	Tea break
10:40-12:00	Session 2: Materials handling and people transfer
12:00-13:00	Lunch break
13:00-14:30	Session 3: Workstations and machine safety
14:30-14:50	Tea break
14:50-16:20	Session 4: Physical environment
16:20-16:30	Photo-voting: selection of good practices

Day 2	
08:30-10:00	Session 5: Infection control
10:00-10:20	Tea break
10:20-12:00	Session 6: Welfare facilities and work organization
12:00-13:00	Lunch break
13:00-14:30	Session 7: Implementation of improvements
14:30-14:50	Tea break
14:50-15:40	Session 8: Action planning
15:40-16:30	General discussion and closing

Technical sessions (sessions 2-4 of the one-day workshop and sessions 2-6 of the two-day workshop) consist of a presentation by the trainer, group discussion of good points and necessary improvements at the work site visited and presentations of the group discussion results.

Depending on the local situation, the training sessions may be organized as separate sessions on different days. Usually, group discussion is done to identify good points and necessary improvement actions at the work site visited.

The exchange of positive experiences through networking arrangements is also gaining importance. Especially, inter-country networks are useful for developing improvement databases and promoting the exchange of training tools and materials. This exchange is greatly helped by the practicality and action-oriented style of *Ergonomic checkpoints*. It is hoped that participatory action-oriented training will assist health care workers in various countries in achieving safer, healthier and more productive work.

Annex 2: Workplace checklist in health care work

Action checklist for decent health care work

Prepared by the Human Ergology Society

In collaboration with the International Ergonomics Association

How to use the checklist

- 1 Read through the checklist and spend a few minutes walking around the workplace before starting to check
- 2 Read each item carefully. Look for a way to apply the measure. If necessary ask the manager or workers questions. If the measure has already been applied or it is not needed, mark NO under "Do you propose action?" If you think the measure is worthwhile, mark YES. Use the space under REMARKS to put a description of your suggestion or its location.
- 3 After you have gone through the whole items, look again at the items you have marked YES. Choose a few where the benefits seem likely to be the most important. Mark PRIORITY for these items.
- 4 Before finishing, make sure that for each item you have marked NO or YES, and that for some items marked YES you have marked PRIORITY.

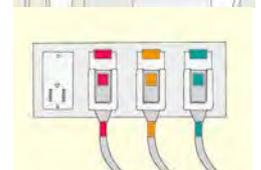
A. Materials storage and handling

- 1 **Secure transport routes without obstacles, even and not slippery.**
Do you propose action?
 No Yes Priority
Remarks _____
- 2 **Use multi-level shelves or racks and small containers in order to minimize manual transport of materials.**
Do you propose action?
 No Yes Priority
Remarks _____
- 3 **Use carts, hand-trucks, and other wheeled devices convenient for moving materials.**
Do you propose action?
 No Yes Priority
Remarks _____



B. Machine and hand-tool safety

- 4 **Use properly fixed guards to prevent contact with dangerous parts of machines and tools.**
Do you propose action?
 No Yes Priority
Remarks _____
- 5 **Establish safe handling procedures of sharps and use necessary safety devices and safe disposal containers.**
Do you propose action?
 No Yes Priority
Remarks _____
- 6 **Ensure safe wiring connections for machines, tools and equipment.**
Do you propose action?
 No Yes Priority
Remarks _____



C. Safe patient handling

- 7 **Secure trained staff and necessary transfer devices such as wheelchairs and make sure that the space and routes for transfer are safe and reassuring.**

Do you propose action?

No Yes Priority

Remarks _____

- 8 **Utilize safe and reassuring lifting or transferring devices when lifting of the person transferred is involved.**

Do you propose action?

No Yes Priority

Remarks _____

- 9 **In person transfer, explain the procedure to the person transferred and conduct the transfer while saying each motion in a clear and firm tone of voice and obtaining cooperation of the person.**

Do you propose action?

No Yes Priority

Remarks _____



D. Workstations

- 10 **Place frequently used materials, tools and controls within easy reach.**

Do you propose action?

No Yes Priority

Remarks _____

- 11 **Adjust the working height for each worker at elbow level or slightly below it.**

Do you propose action?

No Yes Priority

Remarks _____

- 12 **Attach clear markings or signs on items and equipment to help workers understand what to do.**

Do you propose action?

No Yes Priority

Remarks _____



E. Physical environment

- 13 **Provide sufficient lighting for workers so that they can work efficiently and comfortably at all times.**

Do you propose action?

No Yes Priority

Remarks _____

- 14 **Use air-conditioning systems to provide an indoor climate conducive to the health and comfort of people.**

Do you propose action?

No Yes Priority

Remarks _____

- 15 **Use partitions, curtains and other arrangements for protecting privacy of persons cared.**

Do you propose action?

No Yes Priority

Remarks _____



F. Hazardous substances and agents

- 16 **Isolate or cover noisy machines or parts of machines.**

Do you propose action?

No Yes Priority

Remarks _____



- 17 **Label and store properly containers of hazardous chemicals to communicate warnings and to ensure safe handling.**

Do you propose action?

No Yes Priority

Remarks _____

- 18 **Provide safe shielding from lasers and ultraviolet, infrared and other hazardous radiations.**

Do you propose action?

No Yes Priority

Remarks _____

F. Infection control

- 19 **Establish hand hygiene procedures and hygienic washing facilities.**

Do you propose action?

No Yes Priority

Remarks _____



- 20 **Ensure regular and proper use of personal protective equipment (PPE) adequate for protecting potential infections.**

Do you propose action?

No Yes Priority

Remarks _____



- 21 **Establish procedures for protecting persons cared and care workers from infected persons.**

Do you propose action?

No Yes Priority

Remarks _____



G. Welfare facilities

- 22 **Provide and maintain clean toilets, washing facilities and changing rooms to ensure good sanitary conditions.**

Do you propose action?

No Yes Priority

Remarks _____



- 23 **Provide refreshing resting facilities and, for night shift workers, restful napping facilities.**

Do you propose action?

No Yes Priority

Remarks _____



- 24 **Organize informal or social gatherings and recreational activities often at appropriate occasions.**

Do you propose action?

No Yes Priority

Remarks _____



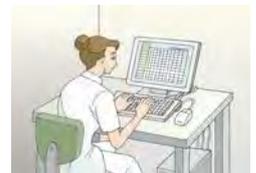
H. Preparedness

- 25 **Provide enough fire extinguishers within easy reach and be sure that workers know how to use them.**
Do you propose action?
 No Yes Priority
Remarks _____
- 26 **Establish emergency plans to ensure correct emergency operation, easy access to facilities and rapid evacuation.**
Do you propose action?
 No Yes Priority
Remarks _____
- 27 **Promote communication and mutually supportive climate among managers and workers and provide access to counselling.**
Do you propose action?
 No Yes Priority
Remarks _____



I. Work organization and patient safety

- 28 **Arrange working schedules avoiding excessive work hours and securing enough resting periods and short breaks.**
Do you propose action?
 No Yes Priority
Remarks _____
- 29 **Plan and implement practical measures to prevent work stress by cooperation of managers and workers and organize training about these measures.**
Do you propose action?
 No Yes Priority
Remarks _____
- 30 **Promote safer health care services and a patient safety culture involving the personnel, the management and the patients.**
Do you propose action?
 No Yes Priority
Remarks _____



J. Others

- 31
Do you propose action?
 No Yes Priority
Remarks _____
- 32
Do you propose action?
 No Yes Priority
Remarks _____
- 33
Do you propose action?
 No Yes Priority
Remarks _____

Annex 3: Examples of improving health care work

(1) Vietnam, South East Asia



1. Small inclination instead of stairways.



2. Multi-level shelves.



3. Use mechanical means to reduce the manual lifting.



4. Provide a "home" for each medical instrument.



5. Provide good medicine cabinets and a home for each kind of medicine.



6. Improve ventilation systems to ensure workplace air quality.



7. Provide sufficient lighting so that care workers can work efficiently and comfortably.



8. Provide hygienic washing facilities.



9. Establish safe handling procedures of sharps and use necessary safety devices and safe disposal containers.



10. Provide personal protective equipment that gives adequate protection.



11. Use a notice board for sharing necessary information.



12. Ensure electrical circuits are enclosed, insured and properly fused.

(2)Japan, East Asia



1. Clear and clean transport routes without obstacles.



2. Marked clear routes easy to understand.



3. Home with clear signs for keeping wheelchairs.



4. Instructions for medical equipment.



5. Place frequently used materials, tools, and controls within easy reach.



6. Handmade small boxes for keeping patient information in each ward.



7. Separate places arranged for each kind of materials, needles, or equipment so that access to them is easy.



8. Small containers and labels for making it easy to store and locate different items.



9. Labels for distinguishing different types of syringes.



10. Remove unnecessary documents on the wall.



11. Easy-to-empty containers to separate infectious wastes.



12. Mechanical lifter for transferring a patient to the bed.



13. Save space by removing infrequently used materials at the intensive care unit.



14. Group work for discussing improvements in patient safety.



15. A seminar for staff members for sharing up-to-date information.

(3) Uganda, Africa



1. Clear and clean transport ways.



2. Multi-level shelves and labels.



3. Well-organized storage.



4. Rearranged office table.



5. A hand-truck with a clear layout of materials.



6. Installed mosquito-net for the observation room of post-deliver patients.



7. Well organized stock room with labels for medical consumables.



8. Stock yard for oxygen gas bombs with proper guarding.



9. Waste containers labelled and sealed for infectious agents.



10. A repaired tap for hand-hygiene practice.



11. Re-stored medical records of maternity by the order of date.



12. Information notice board for healthcare workers and patients

