



International
Labour
Office
Geneva

Global Manual for WISE

Work Improvements in Small Enterprises



Global Manual for WISE

Work Improvements in Small Enterprises

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Preface

The Global Manual for WISE (Work Improvements in Small Enterprises) is designed to help employers and workers in small enterprises in the manufacturing sector create safe, healthy and productive workplaces. In this manual they will find many practical ideas for improving key aspects of production such as materials handling, workstations and work tools, machine safety, working environment, the control of hazardous agents, provision of welfare facilities, and improvements in work organization. The emphasis of the manual is to provide easy-to-apply and low-cost solutions using locally available materials. The methodology also seeks to promote collaborative action between employers and workers in implementing low-cost measures at the workplace.

This manual has built in years of ILO experience in supporting Member States in the improvement of working conditions in small enterprises. It is a revised version of the first WISE manual "ILO action manual of higher productivity and a better place to work - Practical ideas for owners and managers of small and medium-sized industrial enterprises -" developed by Mr J. E. Thurman, Mr A.E. Louzine and Dr K. Kogi in 1988 in the framework of an ILO technical cooperation project for Asian countries. Through application of the advice given in the manual thousands of employers and workers in different countries throughout the world are implementing similar improvements in their daily workplaces. This new version of WISE incorporates knowledge gained on good practices implemented during 27 years of experience of participatory approaches collected from different parts of the world and applied through WISE.

The new version of the manual was developed by Dr. Tsuyoshi Kawakami and Dr. Yumi Sano from the Labour Administration, Labour Inspection and Occupational Safety and Health Branch (LABADMIN/OSH) of the ILO. I would also like to acknowledge the contributions received from international experts and ILO colleagues who worked on improvements in the contents and illustrations, especially Dr. Kazutaka Kogi, Dr. Yuka Ujita, Dr. Ton That Khai, Dr. Valentina Forastieri, Mr. Edmundo Werna, Mr. Félix Martin-Daza, Ms. Ingrid Christensen and Ms. Dafne Papandrea.

I hope that many employers and workers in small enterprises will find this manual useful in practice.

Nancy Leppink
Chief

ILO LABADMIN/OSH

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Guide for manual users

WISE training programme

WISE (Work Improvements for Small Enterprises) is a participatory training programme to assist small and medium-sized enterprises in improving occupational safety and health (OSH). WISE also aims to increase workplace productivity and efficiency through their OSH improvements.

Six principles of WISE

WISE has adopted the following six principles for effective implementation by its users.

1. Build on local practices
2. Focus on achievements
3. Link working conditions with other management goals
4. Use learning by doing
5. Encourage exchanges of experience
6. Promote workers' involvement

Table 1. Six principles of WISE

1. Build on local practices

Instead of looking for outsiders' examples, WISE starts from existing local practices and simple improvements commonly used in local workplaces. Learning local examples motivates participants to make voluntary improvements. Therefore, "Build on local practices" is a practical and realistic approach. This flexible approach enables participants to utilize their capability for concrete action and make step-by-step progress through voluntary action.

2. Focus on achievements

Participants praise and learn from existing achievements and do not criticize mistakes

or small defects. In this way, they can learn locally feasible solutions and freely express their ideas for improvements. This approach also promotes communication between employers and workers. The real examples achieved in local conditions convince local people. They reveal the benefits and clearly show how to make similar improvements.

3. Link working conditions with other management goals

WISE stresses the close link between improved working conditions and higher productivity. Improving safety and health is an effective way of achieving business goals. This approach also means that you can make improvements in several technical areas at the same time. Once you realize the positive impact of improvements in several areas, collaboration within each workplace will develop and lead to useful outcomes.

4. Use learning by doing

While many training courses focus on transmission of knowledge, WISE emphasizes the "learning by doing" approach. Activities of the WISE training such as the action checklist exercise and group work encourage participants to share experience and identify feasible action plans. Through repeated group discussion on low-cost, practical improvements they learn how to plan new improvements.

Also, identifying “three good points” and “three points to be improved” at the workplace helps them learn how to evaluate good examples and propose locally feasible improvements.

5. Encourage exchange of experiences

The exchange of successful experience in the WISE training motivates participants to take action for multiple improvements. This procedure will stimulate the self-reliance that helps to reinforce action in each local solution. The success of some people will encourage others in similar situations to take action.

The exchange of experiences also develop friendships and collaboration between participants. It helps them build amicable teams providing incentives for future work. As well as the training programme itself, WISE facilitates exchanges of achievements as a means of sharing success stories. This is a practical way of continuing improvements and of moving towards better solutions through stepwise progress.

6. Promote workers’ involvement

WISE actively involves workers throughout training sessions and implementation of improvements. Workers have practical ideas for improvements in their own workplaces. Communication through WISE encourages mutual understanding between workers and employers. Good relationships between them will facilitate improvements.

Workers and employers know their workplaces best. These six principles promote active participation by employers and workers in planning and implementing practical improvements. WISE respects their experience and ideas for OSH improvements.



Figure 1. Programme of the WISE training

Programme of the WISE training

As shown in Figure 1, the WISE training includes the following key steps.

(1) Action checklist exercise

The initial step in the WISE training course is the workplace visit along with the action checklist exercise. It is important that workers and employers look at their workplaces before listening to any technical presentations. This is the best way of utilizing their own practical experiences and making OSH improvements through their own initiatives. The action checklist helps participants consider multiple OSH areas in their workplace and develop their own ideas for improvement.

In the action checklist exercise, workers and employers are encouraged to find existing good examples of OSH as well as points for improvement. It is not difficult for them to find many existing good examples in the actual workplace. These examples provide practical ideas for improvement and motivate them to take action.

Here are some tips for organizing the successful action checklist exercise in the actual workplace:

- i) Before the workplace visit, define the work areas to be visited. The premises, work activities and welfare facilities can be checked. Visits to work areas should be restricted to one hour so that participants can maintain concentration.
- ii) If it is a larger factory, select a typical area where training participants can find both good points and points to be improved.
- iii) Read through the action checklist with all members. Make sure every participant understands how to use the action checklist. Reading the checklist aloud is a good way of ensuring a clear understanding of each item.



Figure 2a. The action checklist exercise in a small enterprise.

- iv) Visit the workplace with the action checklist. Participants should make individual checks. Allow them to ask employers and workers for more information regarding the workplace.

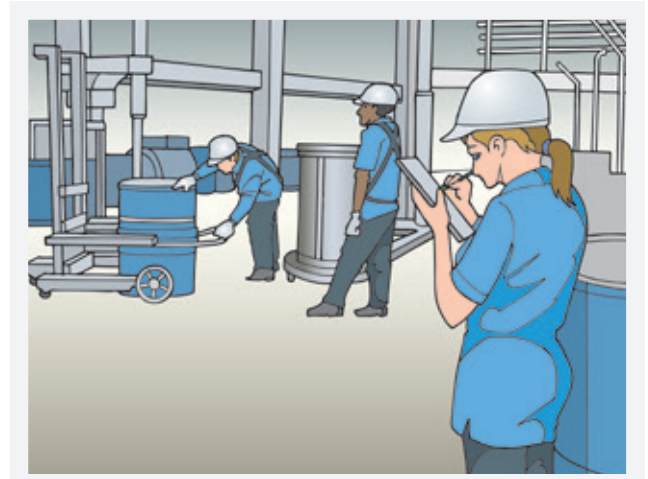


Figure 2b. The action checklist exercise in small enterprises.

(2) Technical sessions and group work

After returning from the workplace visit with the action checklist exercise, participants join the technical sessions covering the following six areas:

- 1) materials storage and handling;
- 2) workstations and work tools;
- 3) machine safety;
- 4) work environment and control of hazardous agents;
- 5) welfare facilities; and work organization.

In the six technical sessions WISE trainers present practical tips for implementing improvements and show photos of typical good examples. These examples are usually collected in local workplaces at low-cost using locally available resources. In the technical sessions WISE trainers do not provide answers but stimulate participants to obtain ideas from good local examples and come up with their own improvement proposals.

Through the six different technical sessions, participants learn to look at their workplaces from multiple viewpoints. Photos of good examples from their workplace or neighbouring workplaces will convince them that improvements are not difficult. They can also learn many low-cost and feasible ideas for improvements.

After each session participants will be divided into small groups of five or six. They discuss three good points and three points to be improved in the workplace they have just visited, using the action checklist exercise. In the group work it is important to discuss possible ideas for practical improvement instead of merely talking about problems in the workplace. A positive and constructive atmosphere in group work facilitates finding effective solutions.

Here are some tips to organize successful group work in the technical sessions:

- Start by talking about strong and good points in the workplace. In this positive (and not critical) environment, participants can express their ideas and opinions easily.

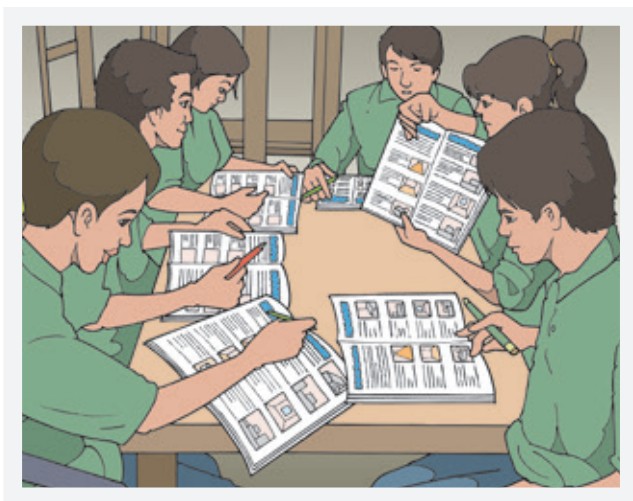


Figure 3. Group work learning from local good examples.

- Promote active participation by every participant. Encourage them to speak about their ideas and experience. Avoid one-sided lectures; ideas for practical solutions arise from the shared experience of participants.
- All opinions of the group work members must be respected, regardless of their position. Everybody is equal in the group work and there is no hierarchy. Ensure that nobody is criticized when expressing his or her ideas.

(3) Implementation and follow-up activities

Based on the worksite visits and technical sessions, including the active group work, participants establish plans for improving safety, health and productivity at their workplace. Making proposals as a group increases the sense of responsibility and cooperation for effective implementation of their improvement plans.

The improvement plans may be divided into two steps, namely: (1) simple short-term action plans to be carried out within three months; and (2) longer-term plans for action within six months. After implementing the initial simple improvements, participants will be more confident and motivated to make continuous improvements.

Table 2. Example of the WISE training programme

Day 1	
08:30 – 09:00	Registration
09:00 – 10:20	Opening ceremony and orientation
10:20 – 13:00	Factory visit with the action checklist exercise
10:20 – 10:50	Transport to the factory
10:50 – 11:50	Checklist exercise by walk-through
11:50 – 12:20	Transport back to the training venue
12:20 – 13:00	Discussion to identify good points and points to be improved
13:00 – 14:00	Lunch
14:00 – 15:20	Session 1: Materials storage and handling
14:00 – 14:30	Trainer presentation
14:30 – 15:00	Group work
15:00 – 15:20	Group presentation and general discussion
15:20 – 15:40	Coffee break
15:40 – 17:00	Session 2: Workstations and work tools
15:40 – 16:10	Trainer presentation
16:10 – 16:40	Group work
16:40 – 17:00	Group presentation and general discussion
Day 2	
09:00 – 10:20	Session 3: Machine safety
09:00 – 09:30	Trainer presentation
09:30 – 10:00	Group work
10:00 – 10:20	Group presentation and general discussion
10:20 – 11:00	Good practice photo voting
11:00 – 11:30	Coffee break
11:30 – 12:50	Session 4: Work environment and control of hazardous agents
11:30 – 12:00	Trainer presentation
12:00 – 12:30	Group work
12:30 – 12:50	Group presentation and general discussion
12:50 – 14:00	Lunch
14:00 – 15:20	Session 5: Welfare facilities and work organization
14:00 – 14:30	Trainer presentation
14:30 – 15:00	Group work
15:00 – 15:20	Group presentation and general discussion
15:20 – 15:40	Coffee break
15:40 – 17:00	Session 6: Final proposal development (Participants)
15:40 – 16:10	Trainer presentation
16:10 – 16:40	Group work
16:40 – 17:00	Group presentation and general discussion

A few months after the training, WISE trainers should make follow-up visits to participants' workplaces to see their improvements. Trainers will praise the efforts of the participants in implementing improvements and encourage further action. Follow-up visits are also good opportunities for trainers to collect local good examples they can use in future WISE training.

Facilitate exchanges of experience between workers or between neighbouring workplaces. They can learn simple, practical solutions from each other and maintain motivation for improvements.

Training tools

Each tool used in the WISE programme encourages action-oriented sustainable improvements through the workers' own efforts.

Tools	Roles	Steps
Photos of local good examples	<ul style="list-style-type: none"> - Provide feasible ideas - Build self-confidence to practice 	Photo voting Technical sessions
Action checklists	<ul style="list-style-type: none"> - Help to review the workplace in multiple aspects easily - Encourage to propose immediate improvements 	Action checklist exercise Technical sessions Group work
Plan sheets	<ul style="list-style-type: none"> - Give priorities for making improvements - Facilitate feasible group actions 	Group work Implementation

Table 3. Training tools for the WISE programme

Table 3 introduces the basic purpose of each tool.

Photos of local good examples

Good local examples already used at similar workplaces provide workers and employers with feasible ideas for improvement. Low-cost and simple improvement using local materials will lower the hurdles to improvement.

Some trainers use photo voting. Photos of local good examples are divided into six technical areas. By voting for the best practice, participants can review the workplace from multiple points of view.



Figure 5. Photo voting

Action checklist

The action checklist is a list of practical points for improvement. Items are divided into six technical areas and workers and employers are invited to propose action if they wish. Items focusing on providing solutions rather than evaluation encourage immediate action. Without realizing it, workers and employers review their workplace from multiple points of view and find feasible solutions by themselves.

WISE Action Checklist

How to use the checklist

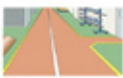
1. Define the work area to be checked. In the case of a small enterprise, the whole production area can be checked. In the case of a larger enterprise, particular work areas can be defined for separate checking.
2. Read through the checklist and spend a few minutes working around the work area before starting to check. Read each item carefully. Look for a way to apply the improvements. If necessary, ask some questions to the workers.
 - If the improvement is already in place or it is not needed, mark **NO** under "Do you propose action?"
 - If you think the improvement 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 all the items, look again at the items you have marked **YES**. Choose a few items 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**.
5. Discuss the results in small groups and agree on improvements that should be done immediately.
6. Remember the checklist is not exhaustive and other areas may need examining.

1. Materials Storage and Handling

1. Clear and mark transport ways.


Do you propose action?
 No Yes Priority

Remarks: _____


2. Provide multi-level shelves or storage racks near the work area for tools, raw materials, parts and products.

Do you propose action?
 No Yes Priority

Remarks: _____


3. Use carts, hand-trucks, rollers and other wheeled devices when moving materials.

Do you propose action?
 No Yes Priority

Remarks: _____




Figure 6. Example of the action checklist

Plan sheets

After completing the action checklists, workers and employers decide three good points and three points to be improved at their workplace and record them on these sheets. The three improvements will constitute group proposals.

A deadline and a person responsible for the improvement will be included in the plan sheets in order to maintain the motivation for implementation.

Three good points at your workplace			Technical areas	Plans	
No	Good points	Reasons			
1			<input type="checkbox"/> Materials storage and handling <input type="checkbox"/> Workstations and work tools <input type="checkbox"/> Machine safety <input type="checkbox"/> Work environment and control of hazardous agents <input type="checkbox"/> Welfare facilities <input type="checkbox"/> Work organization		Who
2					When
3					
Three points to be improved at your workplace			Technical areas	Plans	
No	Points to be improved	Concrete ideas for improvements			
1			<input type="checkbox"/> Materials storage and handling <input type="checkbox"/> Workstations and work tools <input type="checkbox"/> Machine safety <input type="checkbox"/> Work environment and control of hazardous agents <input type="checkbox"/> Welfare facilities <input type="checkbox"/> Work organization		Who
2					When
3					

Figure 7. Examples of plan sheets

WISE Action Checklist

How to use the checklist

1. Define the work area to be checked. In the case of a small enterprise, the whole production area can be checked. In the case of a larger enterprise, particular work areas can be defined for separate checking.
2. Read through the checklist and spend a few minutes walking around the work area before starting to check. Read each item carefully. Look for a way of applying the improvements. If necessary ask the workers questions.
 - If the improvement is already in place or is not needed, mark NO under "Do you propose action?"
 - If you think the improvement 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 all the items, look again at the items you have marked YES. Choose a few items where the benefits seem likely to be the most important. Mark PRIORITY for these items.
4. Before finishing, ensure that for each item you have marked NO or YES, and that for some items marked YES you have marked PRIORITY.
5. Discuss the results in small groups and agree on improvements that should be done immediately.
6. Remember that the checklist is not exhaustive and other areas may need examining. If you find items not covered by this checklist, you can add them to "Additional items"

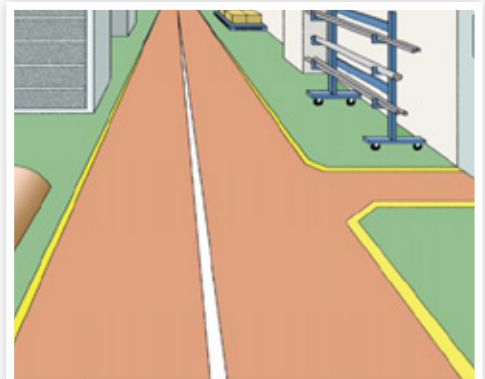
I. Materials Storage and Handling

1. Clear and mark transport ways.

Do you propose action?

No Yes Priority

Remarks _____



2. Provide multi-level shelves or storage racks near the work area for tools, raw materials, parts and products.

Do you propose action?

No Yes Priority

Remarks _____



3. Use carts, hand-trucks, rollers and other wheeled devices when moving materials.

Do you propose action?

No Yes Priority

Remarks _____

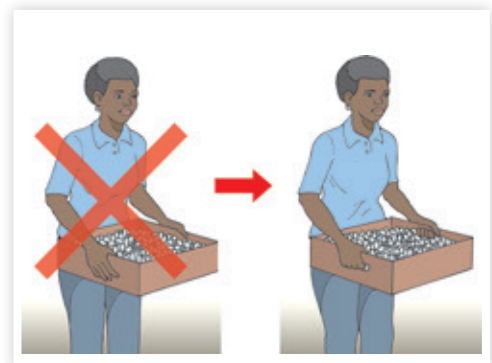


4. Provide good grips or holding points for all containers and packages

Do you propose action?

No Yes Priority

Remarks _____



5. Use mechanical devices for lifting and lowering heavy materials.

Do you propose action?

No Yes Priority

Remarks _____



II. Workstations and Work Tools

6. Put frequently used tools, switches and materials within easy reach.

Do you propose action?

No Yes Priority

Remarks _____



7. Adjust the working height for each worker to elbow level or slightly lower than elbow level.

Do you propose action?

No Yes Priority

Remarks _____



8. Provide chairs or benches of correct height with sturdy backrests.

Do you propose action?

No Yes Priority

Remarks _____

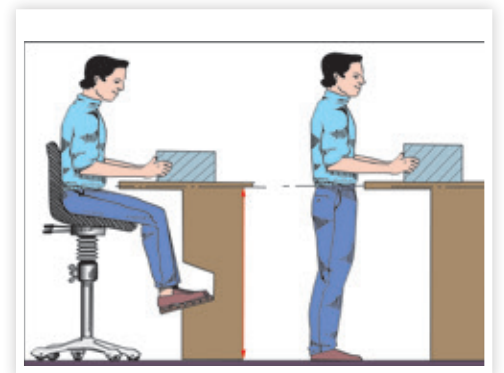


9. Allow workers to alternate standing and sitting at work as much as possible.

Do you propose action?

No Yes Priority

Remarks _____



10. Use fixing devices to hold items while work is done.

Do you propose action?

No Yes Priority

Remarks _____

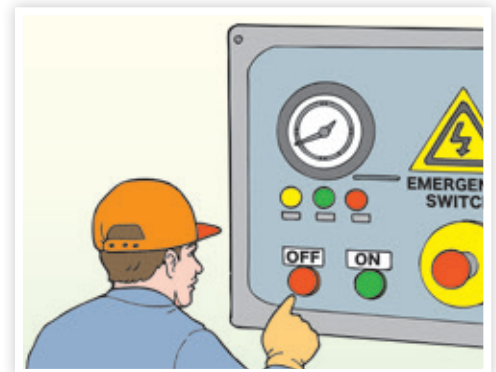


11. Make labels and signs easy to see, read and understand.

Do you propose action?

No Yes Priority

Remarks _____



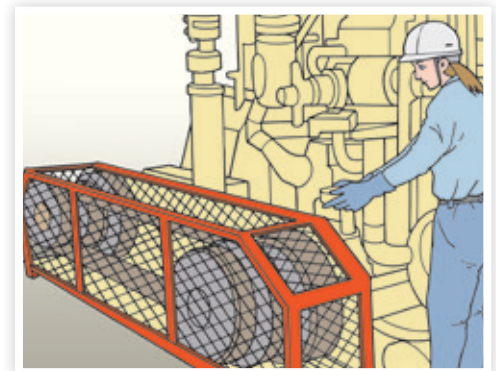
III. Machine Safety

12. Attach proper guards to dangerous moving parts of machines.

Do you propose action?

No Yes Priority

Remarks _____



13. Make sure machines are well maintained and have no broken or unstable parts.

Do you propose action?

No Yes Priority

Remarks _____

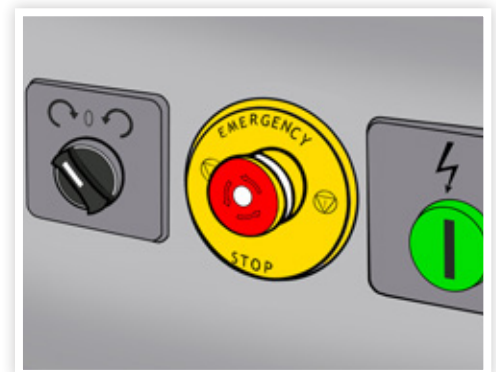


14. Make emergency controls clearly visible and easy to reach.

Do you propose action?

No Yes Priority

Remarks _____

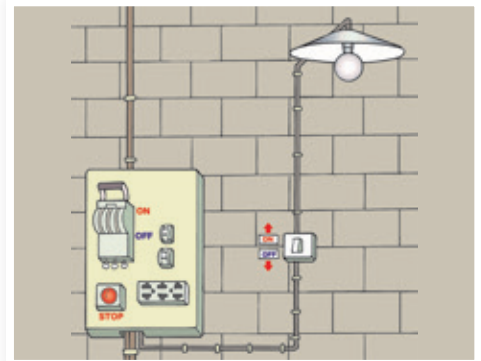


15. Ensure safe wiring connectors for supplying electricity to equipment and lights.

Do you propose action?

No Yes Priority

Remarks _____



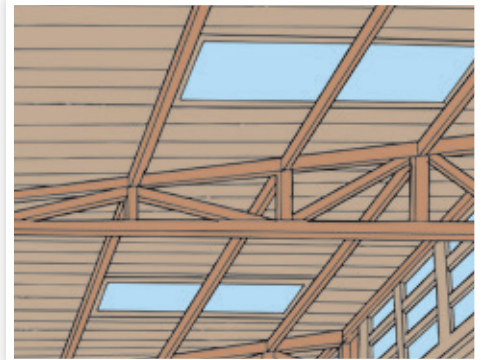
IV. Work Environment and Control of Hazardous Substances

16. Increase daylight and keep skylights and windows clean.

Do you propose action?

No Yes Priority

Remarks _____

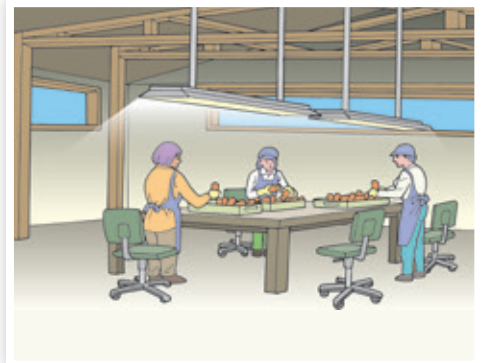


17. Provide general artificial lighting adequate for the type of work done.

Do you propose action?

No Yes Priority

Remarks _____

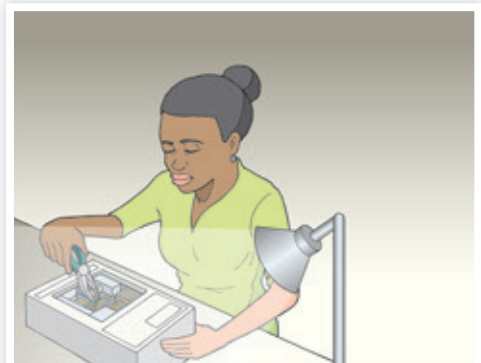


18. Provide local task lights for precision and inspection work.

Do you propose action?

No Yes Priority

Remarks _____



19. Increase natural ventilation by having more openings, windows and open doorways.

Do you propose action?

No Yes Priority

Remarks _____

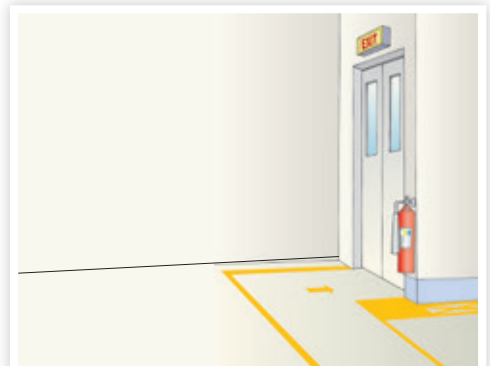


20. Provide enough fire extinguishers within easy reach, mark escape routes and keep them clear of obstacles.

Do you propose action?

No Yes Priority

Remarks _____



21. Isolate or insulate sources of heat or cold.

Do you propose action?

No Yes Priority

Remarks _____

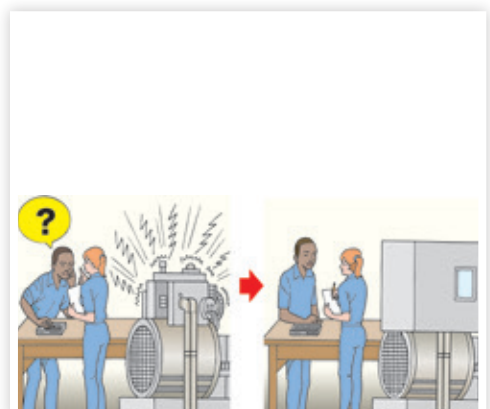


22. Move the sources of dust, hazardous chemicals and noise out of the workplace or install adequate exhaust, barriers, screens or other solutions.

Do you propose action?

No Yes Priority

Remarks _____



23. Make sure all the containers of hazardous chemicals have labels.

Do you propose action?

No Yes Priority

Remarks _____



V. Welfare Facilities

24. Provide an adequate supply of cool and safe drinking water in all workplaces.

Do you propose action?

No Yes Priority

Remarks _____



25. Provide clean separate toilets for men and women and washing facilities close to the work area.

Do you propose action?

No Yes Priority

Remarks _____



26. Provide rest areas and a separate hygienic place for eating meals.

Do you propose action?

No Yes Priority

Remarks _____



27. Provide first-aid equipment and train qualified first-aiders.

Do you propose action?

No Yes Priority

Remarks _____



28. Provide personal protective equipment that gives adequate protection.

Do you propose action?

No Yes Priority

Remarks _____



VI. Work Organization

29. Combine tasks to make the work more interesting and varied.

Do you propose action?

No Yes Priority

Remarks _____

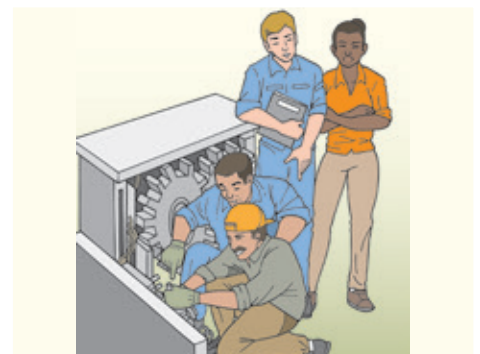


30. Organize and coordinate efficient teamwork.

Do you propose action?

No Yes Priority

Remarks _____



31. Adjust workplaces to meet the needs of pregnant women and workers with disabilities.

Do you propose action?

No Yes Priority

Remarks _____



32. Help migrant workers to performing their jobs safely and efficiently.

Do you propose action?

No Yes Priority

Remarks _____



33. Set target hours of work and introduce measures to reduce overtime work.

Do you propose action?

No Yes Priority

Remarks _____



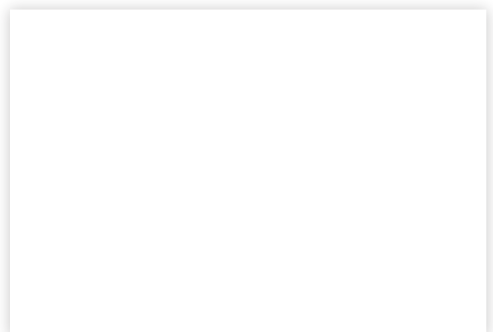
VII. Additional Items

34.

Do you propose action?

No Yes Priority

Remarks _____



I. MATERIALS STORAGE AND HANDLING

The storage and handling of materials are essential procedures in daily work operations. Adequate storage of materials and products reduces unnecessary work such as repeatedly looking for and picking up materials. Clear and well-organized storage prevents accidents and damage to products. Small improvements, such as ensuring clear and unobstructed pathways and transport using carts or mechanical devices, prevent accidents and unnecessary physical handling of loads.

Simple ideas introduced in this chapter will improve your workplace dramatically.

CHECKPOINT 1: Clear and mark transport ways.

CHECKPOINT 2: Provide multi-level shelves or storage racks near the work area for tools, raw materials, parts, and products.

CHECKPOINT 3: Use carts, hand-trucks, rollers, and other wheeled devices when moving materials.

CHECKPOINT 4: Provide good grips or holding points for all containers and packages.

CHECKPOINT 5: Use mechanical devices for lifting and lowering heavy materials.

CHECKPOINT 1:

Clear and mark transport ways.

WHY

Clear and marked transport ways in the workplace are a first important step in improving safety and productivity. Although your workplace is often limited in space, you can make convenient routes by simply marking pathways and removing unnecessary objects and materials from them.

Workers can easily use a push cart and other wheeled devices to move heavy materials on a clear and marked transport way, preventing fatigue and reducing work time. Workers can transport materials and products safely and will not have accidents due to trips and falls. This will also prevent materials and products from being lost and damaged.

HOW TO IMPROVE

1. Look around your workplace. Reserve the necessary space for transport ways that facilitate smooth workflow and minimum distance to transport materials and products. Mark them clearly with paint or adhesive tape.
2. Keep transport ways clear. Remove all materials and objects from the transport ways. Instead of putting them on the floor, use containers, multilevel racks, pallets, and shelves.
3. Make sure transport ways are safe and easy to walk along. If they are close to fixed machines with moving parts or to stored materials, barriers or covers should be attached to prevent accidents.

WAYS OF PROMOTING COOPERATION

Workers and employers can discuss how to make and maintain transport ways.

Invite ideas from all workers. The process of reaching a consensus promotes support and builds a sense of responsibility in each member.

It also builds teamwork and mutual understanding.

Start from easy and simple improvements. For example, clean or maintain the transport ways in front of a single work area as a first step

Small but steady steps will give workers and employers confidence and encourage further improvement.

SOME MORE HINTS

- Wider transport ways increase safety and smooth workflow. Two-way passages are best for avoiding collisions and minimizing transport time.
- Smooth transport ways with no cracks or sudden height differences increase safety and productivity.
- Uneven spots, gaps and electrical wires may cause tripping accidents. If they cannot be repaired, cover them or provide a ramp.
- Remove spilt water, oil or other slippery substances from transport ways to prevent slipping accidents.

POINTS TO REMEMBER

Clearing transport ways is an easy and low-cost means of promoting safe and efficient workflow.

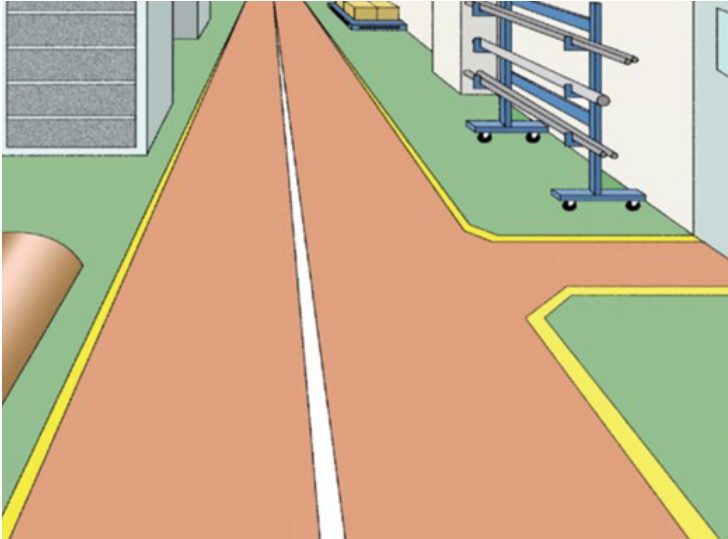


Figure 1a.

Clear transport ways and mark them to separate them from working areas.



Figure 1b.

Keep main routes clean and wide enough for two-way transport.

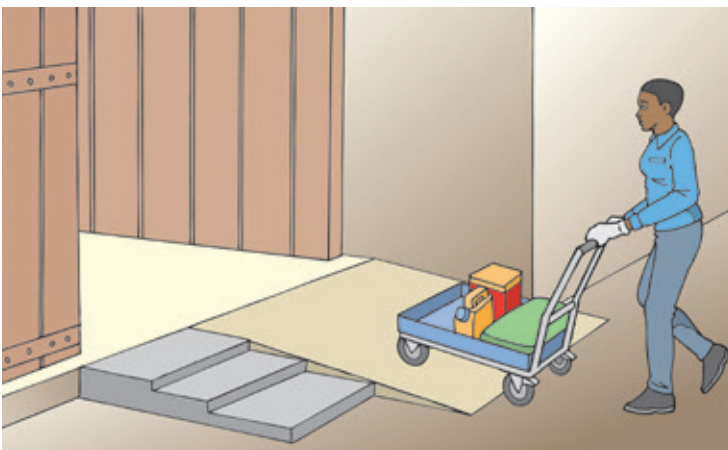


Figure 1c.

Provide ramps where there are height differences.

CHECKPOINT 2:

Provide multi-level shelves or storage racks near the work area for tools, raw materials, parts and products.

WHY

Employers and workers in small enterprises often complain about the shortage of space in their workplace. However, if you take a critical look, almost half the floor space may be taken up by work items, tools, raw materials and scrap. As a solution, multi-level shelves or storage racks allow the best use of limited workspace. You can also fully utilize wall space to keep things in good order.

Both workers and employers will experience the benefits of multi-level shelves and storage racks. An immediate benefit is a saving in floor space. Workers can reduce the risks of accidents, as well as the time and energy used when picking up work items and tools. Materials and products are also protected from damage. Employers can reduce product and materials wastage.

HOW TO IMPROVE

1. Find appropriate places to install multi-level shelves or racks. Consider easy accessibility from work areas and make sure not to obstruct the transport pathways.
2. Use wall space fully. Choose multi-level shelves or racks of adequate size to fit each wall space. Shelves and racks should be strong enough and appropriately fixed to hold heavy items.
3. Put labels or pictures of items or tools on the front of shelves or racks so you can easily locate the items.

WAYS OF PROMOTING COOPERATION

Workers and employers can walk around the workplace together and find the best space to put multi-level shelves or storage racks. Start with a small improvement such as a small shelf for tools and materials. If there is no-appropriate size or design to fit the workplace needs, employers and workers may be able to make one themselves.

If it seems difficult to make all the necessary improvements at once, start by using multi-level shelves at a single work area. All workers will be able to see the shelves at that work area. This is a good way of demonstrating their effectiveness and encouraging others to apply the same solution at their work areas.

SOME MORE HINTS

- Place heavy items on the lower shelves and light items on the upper shelves or in containers.
- Attach wheels to racks or multilevel shelves. This improvement saves time and effort when handling the items, especially for those used by many people in different locations.
- Place frequently used items between waist and shoulder levels.
- Use light containers or bins to hold small parts.

POINTS TO REMEMBER

Multi-level shelves and racks maximize your workspace and prevent accidents, time loss and fatigue.



Figure 2a.

Fully utilize wall space by using multi-level shelves and racks.



Figure 2b.

This free-standing unit can be used two ways. You can store short items individually, or place two of these racks in line so that you can store long items.



Figure 2c.

Attach wheels to racks or multi-level shelves so that they can be moved to different workplaces.

CHECKPOINT 3:

Use carts, hand-trucks, rollers and other wheeled devices when moving materials.

WHY

Workers often go back and forth carrying materials, products or tools. This wastes time and increases fatigue and the risk of accidents.

Use carts, hand-trucks, rollers and other wheeled devices. These allow workers to move materials safely and smoothly in one operation, significantly reducing their muscular workload. These devices also reduce handling time and the possibility of damage to materials, tools and products.

HOW TO IMPROVE

1. Look at the workflow in your workplace. If workers are carrying materials, products and tools manually, there is a good opportunity for introducing wheeled devices to replace manual handling.
2. Choose or make carts or hand trucks appropriate to the materials or products workers are going to move around. Firm handles and proper grips will aid carrying of materials more easily and safely.
3. Use carts with larger wheels for heavy materials or when pathways are uneven or bumpy.
4. Consider attaching wheels to existing material racks or containers. Movable racks and containers can make work safer and more efficient.

WAYS OF PROMOTING COOPERATION

Walk around the workplace with workers and employers. Visit neighbouring workplaces and look for good examples of transportation of

loads. Some workers may already be using self-made wheeled devices. Learn from their ideas and experience.

SOME MORE HINTS

- Attach suitable sideboards to carts or hand-trucks to prevent products or materials from falling off.
- Check carts and hand-trucks regularly. Unstable wheels and grips might cause accidents and damage to the products. Maintenance prevents these risks and saves time.
- Improve transport routes. Covering gaps and holes will save energy and time in transportation.

POINTS TO REMEMBER

Wheeled devices save energy and time, and improve safety and productivity at the workplace.

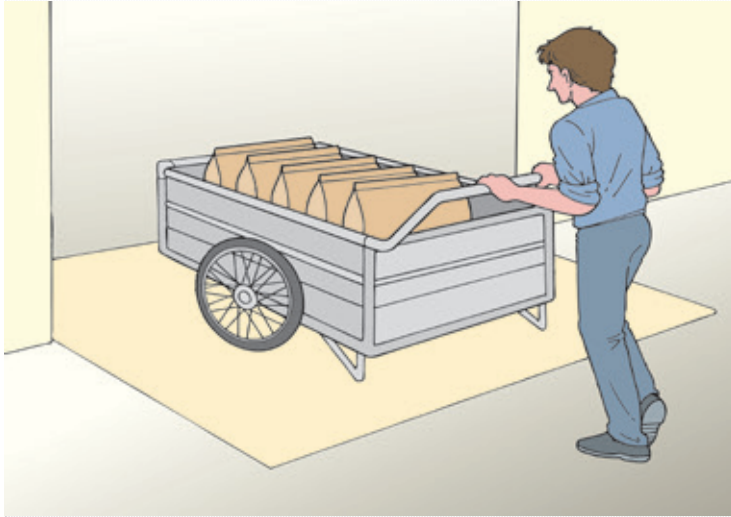


Figure 3a.

Choose carts with larger wheels and improve transport routes. Always make passageways smooth.

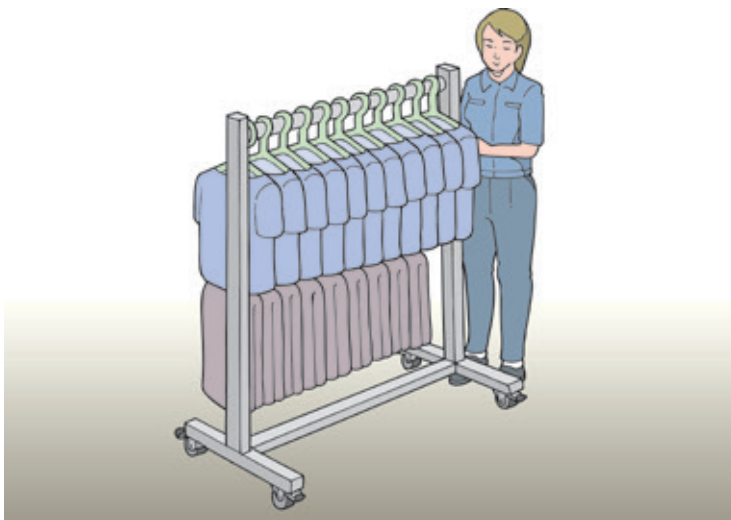


Figure 3b.

Use movable racks for storage and moving.



Figure 3c.

Choose a manual trolley lifter for moving items.

CHECKPOINT 4:

Provide good grips or holding points for all containers and packages.

WHY

It is difficult to carry materials without grips or holding points. Workers have to work harder just to hold materials, with the risk that they may drop them.

Attaching simple grips and holding points dramatically reduces the risk of accidents and damage to materials and products. Workers can carry loads more easily and efficiently. Furthermore, grips and holding points prevent unnatural work posture and reduce the risk of musculoskeletal disorders.

HOW TO IMPROVE

1. Attach grips or holding points to the containers and packages. Even cutting out handholds in boxes, trays and containers can help workers carry loads more easily.
2. Make sure grips and holding points are safe and strong enough before using them.
3. Select and use containers with proper grips and holding points for carrying. The grips or holding points should be in an appropriate position so that workers can hold materials in front of their body without bending.

WAYS OF PROMOTING COOPERATION

Start with small improvements. Try to add grips and holding points using materials at your workplace. For example, metal wire may help make good grips that are low-cost and simple. Exchange ideas between workers. Practical improvement examples may be found from their experience.

SOME MORE HINTS

- Wear gloves or wrap grips and handles with a soft cloth. This is an easy and effective way of improving carrying of loads.
- Be careful about posture when holding loads. Keep objects close to the body when you manually handle materials. Ensure that your wrist is in a comfortable and natural position and the load is located near your waist while carrying. Determine your own limits for load weights. Ensure balancing of the load between both arms and even dividing of the load.
- Call for assistance when it is necessary to move heavier materials. Establishing a daily habit of cooperation at your workplace is essential.
- If the weight is beyond the worker's limit, think of an alternative to manual handling. For example, divide the load into smaller portions or use yokes, containers and carts.

POINTS TO REMEMBER

Attaching good grips or holding points is a simple measure for improving carrying of loads.



Figure 4a.

Cut-out handholds are very useful. Keep objects close to the body. Ensure that the wrist is in a comfortable and natural position and the load is located near the waist while carrying.



Figure 4b.

Metal grips facilitate easy holding. Wear gloves or wrap grips in a soft cloth.



Figure 4c.

Call for assistance when carrying heavier materials.

CHECKPOINT 5:

Use mechanical devices for lifting and lowering heavy materials.

WHY

Lifting and lowering heavy materials is strenuous and a major cause of accidents and lower-back injuries. There is also the possibility of damage to materials and products. It is always important to find a practical way of eliminating unnecessary lifting and lowering of heavy materials.

If lifting is necessary, consider using mechanical devices instead of manual lifting. Using mechanical devices helps workers reduce physical strain and minimize the risk of accidents.

HOW TO IMPROVE

1. Walk around your workplace and identify those workers lifting and lowering materials manually. Discuss with them how to select safe and appropriate mechanical devices.
2. Use mechanical devices. Consider using floor-based lifting devices as the first choice. These devices lift materials safely with minimum elevation.
3. Overhead cranes and hoists can be used if there is sufficient space to ensure their safe use. However, take into full account the fact that these devices introduce new hazards and could cause serious accidents.
4. Train workers in the safe operation of lifting devices before you introduce them to your workplace. The operation of some devices requires special training and certification.

WAYS OF PROMOTING COOPERATION

Introducing mechanical devices and eliminating manual lifting operations will bring major changes to the workplace. All workers should be informed of the changes in advance. Hold a meeting at your workplace to discuss the risks of manual lifting and the types of mechanical device that would be suitable for the workplace.

SOME MORE HINTS

- Select and purchase lifting devices that have been certified as safe by the manufacturer or a qualified technician.
- Obtain a certificate showing the maximum weight that the device can lift safely.
- Consider methods of eliminating lifting altogether. For example, eliminating differences in working heights and gaps between neighbouring work areas will often allow workers to move materials without lifting.
- Manual lifting of heavy loads should be considered as a last resort. If manual lifting is necessary, keep the back straight and use leg power, holding the object as close to the body as possible.

POINTS TO REMEMBER

Use mechanical lifting devices to move heavy materials safely and efficiently.

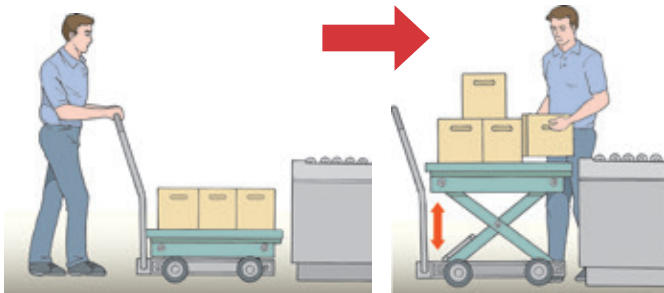


Figure 5a.

A portable gantry can carry heavy materials safely with minimum elevation.

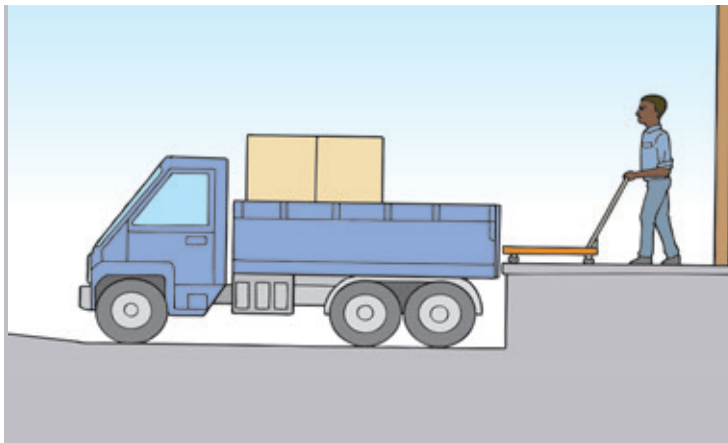


Figure 5b.

Eliminate the height difference between the truck bed and the loading platform. Workers can move heavy materials without lifting.



Figure 5c.

A manually powered, height-adjustable device which can lift heavy castings to working level.



Figure 5d.

Inclined roller conveyor for moving heavy products.

II. WORKSTATIONS AND WORK TOOLS

During daily work operations workers perform many tasks repeatedly in the same posture. Although awkward postures or movements may be small, repeated movements of this type increase fatigue and health problems, especially in the lower back, neck, arms and legs. This chapter introduces easy and simple ways of improving your workstation. Small improvements help workers work efficiently and safely.

- CHECKPOINT 6:** Put frequently used tools, switches and materials within easy reach.
- CHECKPOINT 7:** Adjust the working height for each worker to elbow level or slightly lower than elbow level.
- CHECKPOINT 8:** Provide chairs or benches of correct height with sturdy backrests.
- CHECKPOINT 9:** Allow workers to alternate standing and sitting at work as much as possible.
- CHECKPOINT 10:** Use fixing devices to hold items while work is done.
- CHECKPOINT 11:** Make labels and signs easy to see, read and understand.

CHECKPOINT 6:

Put frequently used tools, switches and materials within easy reach.

WHY

At the workplace we often repeat similar operations many times. You will agree that frequently we reach out to pick up tools and materials without realizing it. Movements such as extending the arm, bending the back and twisting the body place an excessive load on the body.

The solution is quite simple. Place frequently used materials and tools within easy reach of workers. This simple improvement reduces their workload and prevents muscular fatigue. Workers can reach tools and materials faster and concentrate on their work, resulting in higher productivity.

HOW TO IMPROVE

1. Choose frequently used items and place them in areas workers can reach with their dominant hands without stretching their arms. The items should be placed within 15-40 cm in front of their body.
2. Remove unnecessary materials from your workplace. If they are used occasionally (a few times per hour, for example), they should be positioned where workers can reach them by slightly leaning forward.
3. Place small items in boxes and containers, and keep them within easy reach.
4. Labels or instructions aid easy differentiation of items.

WAYS OF PROMOTING COOPERATION

Look at your own workstation with fresh eyes. You will find materials and tools which are not frequently used taking up space. At the same time you can also find good examples of conveniently-organized workstations created by workers and employers. Ask them how they created them. Good examples will help you to come up with your own ideas for improving workstations.

SOME MORE HINTS

- Hang tools such as hammers and scissors at the side of the table where they are easier to retrieve to reduce body movements.
- When you keep sharp tools and items within easy reach, place the sharp side downward or cover the sharp point to prevent injuries.
- Consider layout and adjustment for left-handed people.

POINTS TO REMEMBER

Place items close enough to allow you to work in a natural posture.

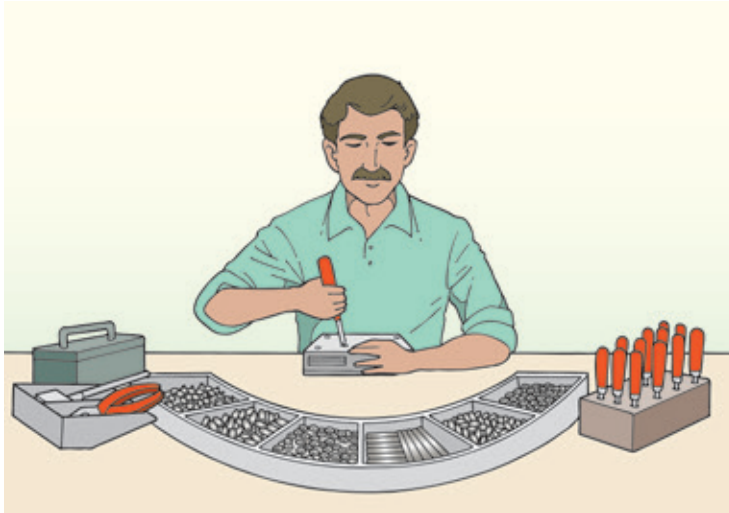


Figure 6a.

Place frequently used materials and tools within easy reach.



Figure 6b.

Use side tables for temporarily storing items.

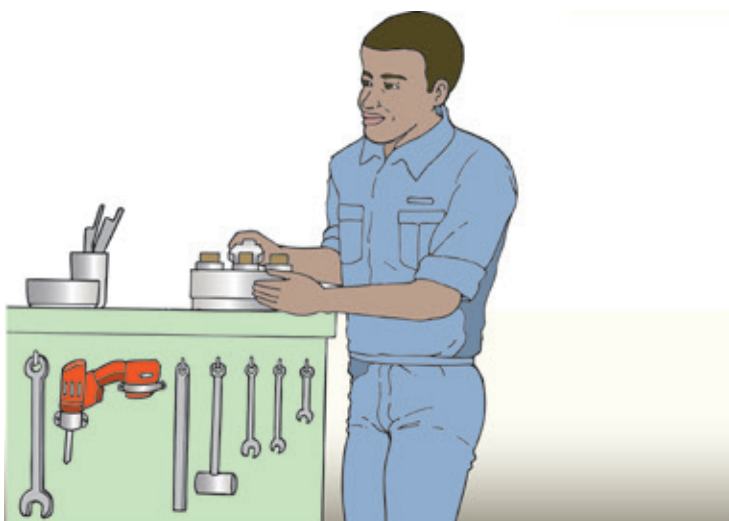


Figure 6c.

Place tools at the side of the table within easy reach.

CHECKPOINT 7:

Adjust the working height for each worker to elbow level or slightly lower than elbow level.

WHY

Many workers maintain the same posture throughout the day. Therefore an incorrect working height can cause a lot of strain on one's muscles.

If your work surface is too high, your body must work hard to keep your arms and shoulders elevated, causing excessive stress and strain. If your work surface is too low, your back remains bent, causing lower back strain. These small strains gradually increase stiffness and pain, possibly even making it difficult to work.

Adjust your working height to elbow level. Most work operations are best performed around elbow level. This "elbow rule" works for both standing and sitting.

HOW TO IMPROVE

For seated workers

1. Working height should be at around elbow level. Check the workstations in your workplace. If they are too high or too low, change their working height to the workers' elbow level.
2. In the case of seated work, an exception should be made for precision work. In this case, the work item can be raised slightly above elbow level to allow workers to observe fine details.

For standing workers

3. Your hands should be a little below elbow level. For work requiring accuracy, it can be done at elbow level.

4. For standing workers who apply a considerable amount of force in their work (such as in cutting of products and repairing of tools), adjust workstations to be slightly lower than elbow level so that workers can apply their full body weight.

For seated and standing workers

5. Use devices that can be adjusted for workers of different size. For example, provide platforms for smaller workers and item holders for taller workers to allow them to work at elbow level.

WAYS OF PROMOTING COOPERATION

Adjusting working heights is much easier than we think. Indeed many workers and employers have already improved their working heights in an inexpensive way by using the available materials. Collect and learn many good examples at your workplace or from neighbouring workplaces. In your workplace there may be someone who is skilled in making chairs and tables. They will help you to adjust your workstation. It's time to take action!

SOME MORE HINTS

- If the same work table is used for both standing and seated work, you can place platforms and fixtures under work items for standing work and use high chairs and adjustable footrests for seated work.
- Design or use devices that can make your workstation height-adjustable. Lift-tables are a good example.

POINTS TO REMEMBER

Adjusting work height to elbow level decreases muscle strain and improves work efficiency.

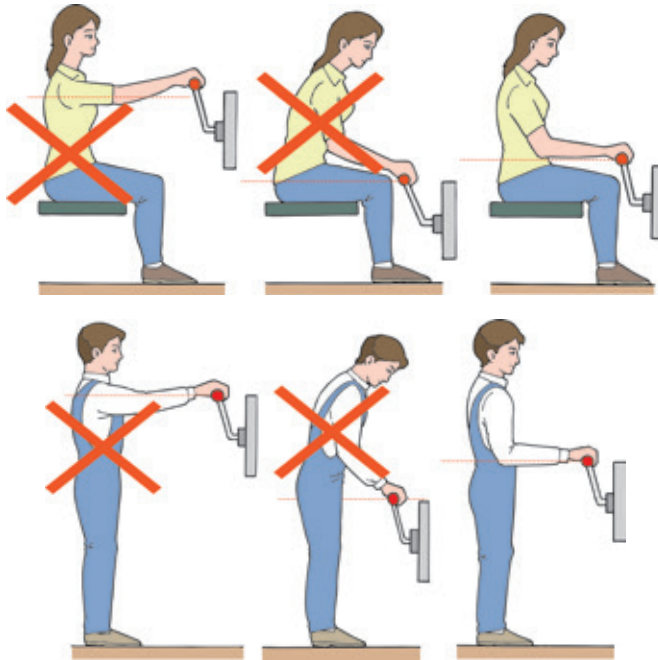


Figure 7a.

Adjust the working height of each worker to elbow level.

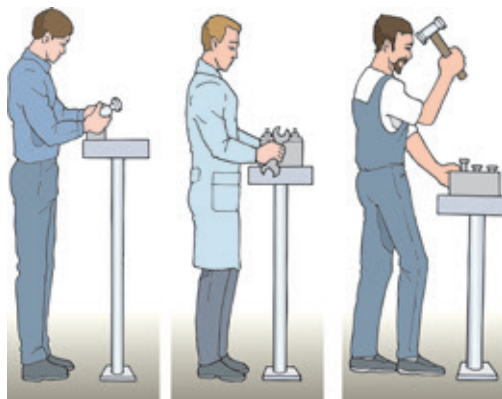


Figure 7b.

The working height can be at elbow level or a little lower depending on the type of standing work.

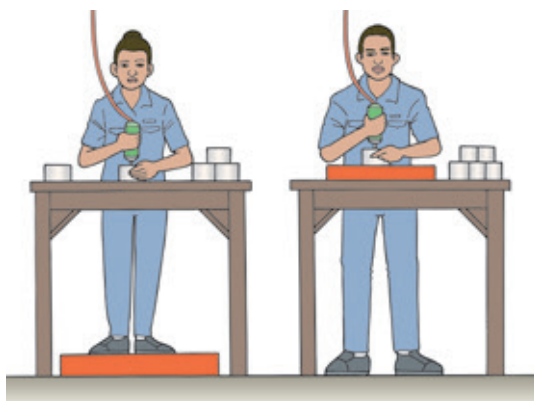


Figure 7c.

Use a platform for small workers and an item support for tall workers to adjust their work height to their elbow levels.

CHECKPOINT 8:

Provide chairs or benches of correct height with sturdy backrests.

WHY

Although seated workers appear more comfortable than standing workers, sitting for long hours in the same position often causes muscle strain, pain and fatigue. Look around your workplace. Workers may endure unnatural postures on unstable or poorly designed chairs, causing excessive fatigue and increasing the risk of accidents.

Provide workers with chairs that are the correct height so they can avoid unnatural postures and musculoskeletal pain. Good chairs also allow them to concentrate on their operation and improve productivity.

Good backrests are equally important for safe and productive work. Imagine if you have to work while seated on a chair without a backrest for many hours. A good chair with an appropriate backrest will prevent muscle strain in your back.

HOW TO IMPROVE

1. Walk around your workplace. Find work being performed that would be better performed in a seated position.
2. Provide a suitable chair for each individual worker. Avoid using benches on which several workers have to sit together.
3. Adjust the seat height with a cushion or other materials so that workers can perform their operation at elbow level. At the same time ensure that their feet are placed flat and comfortably on the floor when they are sitting.
4. Ensure that every chair has a sturdy and appropriate backrest.

WAYS OF PROMOTING COOPERATION

Providing appropriate chairs for all workers may seem expensive, but chairs can last for years and the cost per day will be very small. If it is difficult to introduce new chairs immediately, improve existing chairs using available materials in your workplace.

Discuss what type of seat (size, height), armrest, backrest and mobility is appropriate for performing a given type of work. Simple and low-cost solutions, such as adjusting chair height with cushions and footrests, and attaching backrests, can greatly improve work posture and increase comfort. Inform workers and employers of the benefits, e.g. reduced back pain and increased productivity.

SOME MORE HINTS

- Check whether your chair is moveable. Mobility is necessary for work and for occasional changes in sitting posture. If possible, five-legged chairs with castors are desirable.
- Choose armrests that support the entire arm. Armrests are especially useful for work requiring precision. However, they are not suitable for work that requires frequent arm movements.
- Ensure there are no loose or unstable parts on your chair. If there are any, fix them immediately to prevent an accident.

POINTS TO REMEMBER

A chair of the correct height with a sturdy backrest makes your work comfortable and productive.

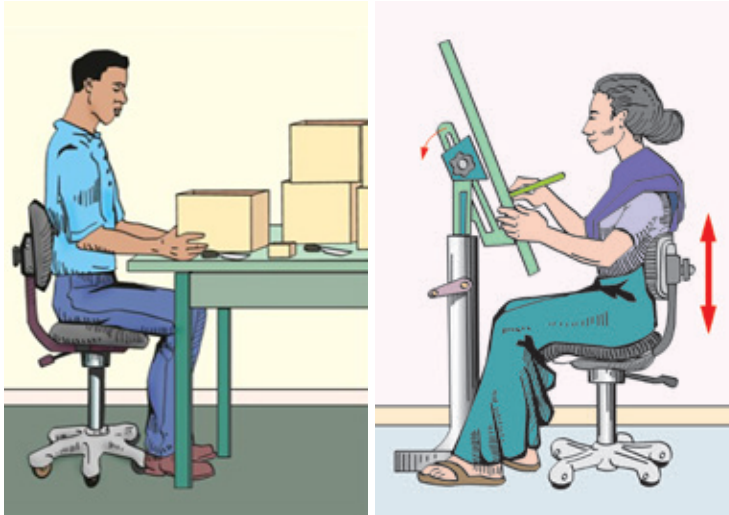


Figure 8a.

Provide adjustable chairs with a sturdy backrest



Figure 8b.

Choose an adjustable armrest supporting the whole arm for precision operation.

CHECKPOINT 9:

Allow workers to alternate standing and sitting at work as much as possible.

WHY

Maintaining a single static posture is strenuous. Look at, for example, a machine operator. You will be surprised at how long he or she maintains the same posture. Negligible stiffness from maintaining difficult positions may gradually worsen into considerable pain. Workers may become fatigued and operational errors and even accidents may result. Once you have pain, it takes much time and money for treatment.

Alternating between standing and sitting is much better than maintaining either for a long period of time. Combining different operations and inserting short breaks are good ways of alternating between standing and sitting. These simple improvements will prevent fatigue and increase productivity and motivation.

HOW TO IMPROVE

1. If there are tasks that require workers to be constantly in the same position, find ways of allowing workers to alternate between sitting and standing. For example, standing workers can occasionally sit down when recording or keeping watch. Seated workers can occasionally stand and walk to collect materials from storage.
2. You can also organize job rotation for workers to alternate between sitting and standing. Job rotation not only provides workers with an opportunity to change their position, it also allows them to experience different and interesting tasks and thereby avoid boredom.

3. If it is difficult to alternate work positions, introduce short work breaks. Including stretching exercises during short breaks may be another good idea.

WAYS OF PROMOTING COOPERATION

It may well be difficult to change work methods all at once to allow workers to alternate standing and sitting. If so, start with simple improvements. For instance, placing chairs beside standing workers so that they can sit occasionally will allow them to be more comfortable. While such improvements may be small, successful changes will establish a culture of continuous improvement in safety and health.

SOME MORE HINTS

- Establish surroundings for workers that enable them to change their position whenever they wish. A high stool with a good footrest or enough leg room for both sitting and standing is a very good idea.
- Allow workers to work at their own pace so they can leave their work area when needed and change their posture. If the work pace is too fast, workers have to keep repeating the same tasks in the same posture. By working at their own pace, workers will have more opportunities to change posture and maintain productivity.

POINTS TO REMEMBER

Provide workers with opportunities to alternate standing and sitting at work for comfort and efficiency.

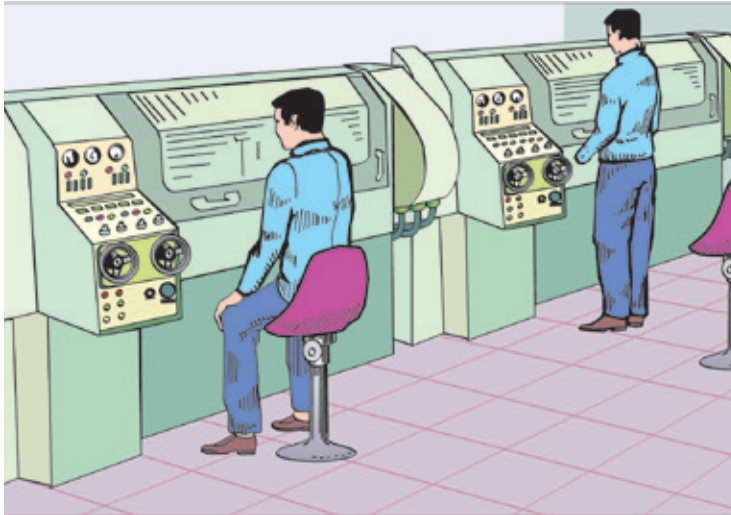


Figure 9a.

Placing chairs for occasional sitting enables workers to change their position whenever they want.

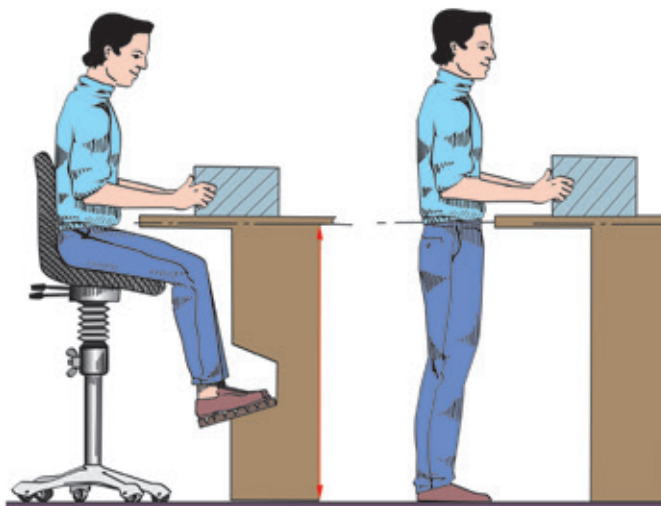


Figure 9b.

Workers can do the same job in different postures. A chair or stool and good footrest with enough leg space are useful for alternating between standing and sitting postures.



Figure 9c.

Combine tasks so that workers can alternate sitting and standing.

CHECKPOINT 10:

Use fixing devices to hold items while work is done.

WHY

Often workers have to hold materials or items with one hand while they work with the other. Imagine holding an item with the left hand while you cut it with the right hand. There will always be a risk of cutting your hands by mistake.

Fixing devices can solve these problems. You can use both hands freely and save time and effort. You will be able to concentrate on your operations. In addition, you will not have to work in an unnatural posture by always holding materials with one hand.

HOW TO IMPROVE

1. Look around your workplace with fresh eyes and find the operations that need fixing devices. There can be many operations that require such devices, such as cutting, burnishing, and repairing tools.
2. Select and use appropriate fixing devices such as jigs, clamps or vices. Look at the size and weight of the materials to be held, and ensure that the fixing devices are safe and strong enough to hold the materials.
3. Make sure fixing devices are firmly attached to the work surface. If you use unstable devices on your work surface, heavy materials might fall and cause injury.

WAYS OF PROMOTING COOPERATION

Although it may not be difficult to introduce fixing devices, some workers may not follow your idea. Workers, especially experienced skilled workers, might feel that using such a device will cause them to take more time

and effort to perform their tasks. Hold a short meeting and inform workers of the importance of using fixing devices to improve safety and efficiency. You can also introduce fixing devices to a small group of workers who wish to use them. Success and improvement with small groups will gradually spread to others.

SOME MORE HINTS

- If you need to move heavy fixing devices to hold materials, consider using mechanical handling instead of manual handling.
- For effective and safe use, maintain fixing devices regularly. If they are not strong enough to hold materials, stop using them and replace them with stronger ones.
- Assign a worker to be responsible for checking and maintaining the fixing devices. He or she must be experienced and competent to do this important task to ensure everyone's safety.

POINTS TO REMEMBER

Use appropriate fixing devices make your operation safer and easier.



Figure 10a.

Use fixing devices to make operations safer and more accurate.

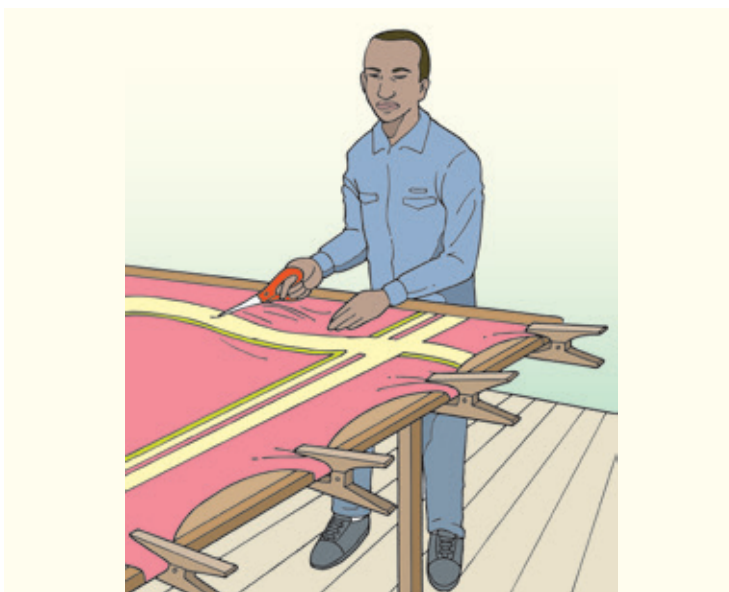


Figure 10b.

Design and use convenient fixing devices appropriate for the work.

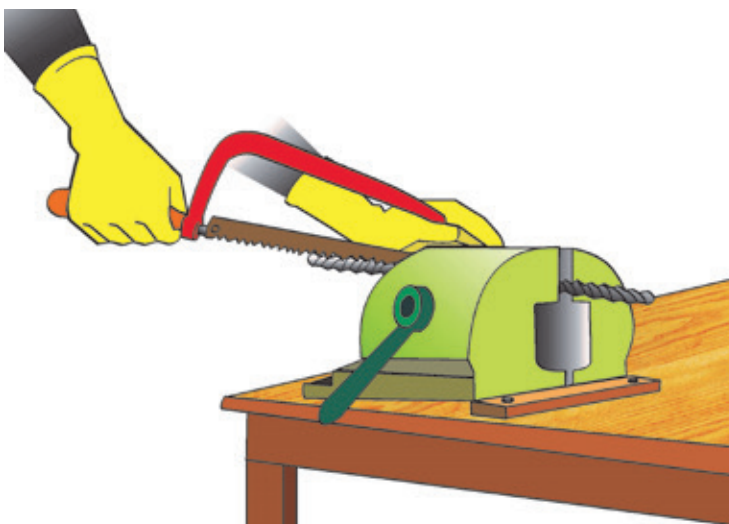


Figure 10c.

Clamps and vices can hold heavy materials of different sizes and shapes steadily. You will then have then two free hands for safer and more efficient operation.

CHECKPOINT 11:

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

WHY

Unclear, confusing labels and signs cause workers misunderstandings about their work, particularly about the operation of machines and electricity and the use of hazardous chemicals, which can all cause serious accidents and health problems among workers. Once an accident or damage to a machine occurs, production will stop and you will sacrifice much time, money and energy in recovery or repairs. You may also lose consumers' trust.

Thus, making labels and signs easy to see, read and understand is perhaps one of the most effective low-cost improvements that can be made to protect workers and workplaces.

Many companies have changed labels and signs to be clearer as a start to their improvement actions and have enjoyed positive results.

HOW TO IMPROVE

1. Examine your workplace and identify locations or items that need labels or signs, such as on-off switches, increase-decrease controls, fire exits and toxic substances.
2. Also check whether existing labels or signs are easy to see, read and understand for all. Make a list of unclear or confusing labels and signs requiring improvement.
3. Design labels or signs that are clear and not confusing. You should:
 - only use characters large enough to read at a distance;

- write short and clear messages, starting with action verbs and concrete words;
- apply bright colours, such as red, when you need to make a strong point.

4. Put labels or signs in an appropriate place to clearly indicate the object or function concerned. The aim is to attract peoples' attention and make them understand exactly what they need to do.

WAYS OF PROMOTING COOPERATION

The most important point is a clear understanding of the labels and signs used in your workplace by all. You should remember this point at all times. After designing labels or signs, ask workers for their opinions of them. Remember that a given colour or mark can mean something different according to the viewer's background or culture. Do they understand clearly what you mean? If not, ask workers for their opinions to ensure that labels and signs are clear and not confusing.

SOME MORE HINTS

- Pay attention to the materials used for labels and signs. Use materials that are solid, water-resistant and easily cleaned.
- Your workplace might have workers from different regions and countries. Add all languages used by workers in your workplace to your labels and signs.
- Symbols are preferable for workers who have difficulty in reading letters.

POINTS TO REMEMBER

Clear labels and signs help workers to work safely, easily and effectively.

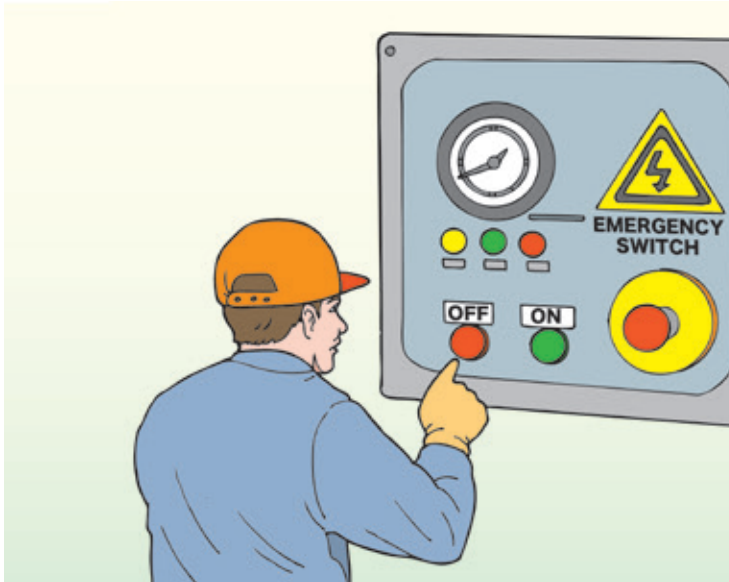


Figure 11a

Use different shapes, sizes and colours to distinguish operations easily. Use languages in such a way that all workers can clearly understand the meaning of labels and signs.



Figure 11b.

Discuss and share the design of labels and signs to ensure that all workers understand them.

III. MACHINE SAFETY

Many machines are used in your workplace. While machines significantly reduce the workload of workers and increase productivity, they can also cause serious accidents and injuries. Though you may think improving machine safety is complicated, this chapter provides easy-to-implement ideas such as safely attached guards, design of emergency buttons, and good maintenance. Safe use of electricity is also explained in this chapter. Small and practical improvements prevent accidents and injuries.

CHECKPOINT 12: Attach proper guards to dangerous moving parts of machines.

CHECKPOINT 13: Make sure machines are well maintained and have no broken or unstable parts.

CHECKPOINT 14: Make emergency controls clearly visible and easy to reach.

CHECKPOINT 15: Ensure safe wiring connectors for supplying electricity to equipment and lights.

CHECKPOINT 12:

Attach proper guards to dangerous moving parts of machines.

WHY

Machines are found in any workplace. They enhance productivity and save work time.

On the other hand, machines can cause serious accidents. Machine-related accidents tend to be very serious. Once accidents happen, employers may lose good relationships not only with workers but also with consumers. Workers may suffer serious injuries or even death. If workers cannot work, their families may suffer due to unreliable income.

Review your workplace. Ensure all machines are in good condition. If there are dangerous parts, have machines repaired and install guards around them. Even simple handmade guards contribute to safety and productivity, not only for workers but also for visitors or family members.

HOW TO IMPROVE

1. Check your workplace. Identify machines requiring guards such as those with rotating shafts, wheels or rollers, and those used for punching, cutting, shearing and bending. Make machine guards suitable for each machine using available materials at your workplace.
2. Make sure machine guards do not interfere with normal operations. If guards become an obstruction to operations, workers might not use them or even remove them. Using transparent materials for guards is one good idea.

3. Design detachable guards so that maintenance workers can repair and maintain machines.
4. It is also important that guards are made of sturdy materials so that non-maintenance personnel cannot remove them.

WAYS OF PROMOTING COOPERATION

Attaching proper guards is often assumed to be expensive and difficult. Furthermore, some workers and employers may try to remove them to make operation more efficient. Have a meeting and inform everyone of the importance of attaching guards. Show good examples from other workplaces. Simple and low-cost improvements from local workplaces help workers and employers understand that improvements are not so difficult or expensive.

SOME MORE HINTS

- Install sturdy enclosures for machines made from wood, or metal. These help keep people away from machines.
- Maintain machine guards regularly as well as the machines themselves. Also, check whether guards interfere with operations. Establishing routine maintenance days is a good idea.

POINTS TO REMEMBER

Attaching proper guards to dangerous moving parts of machines will ensure the safety of the people at your workplace.

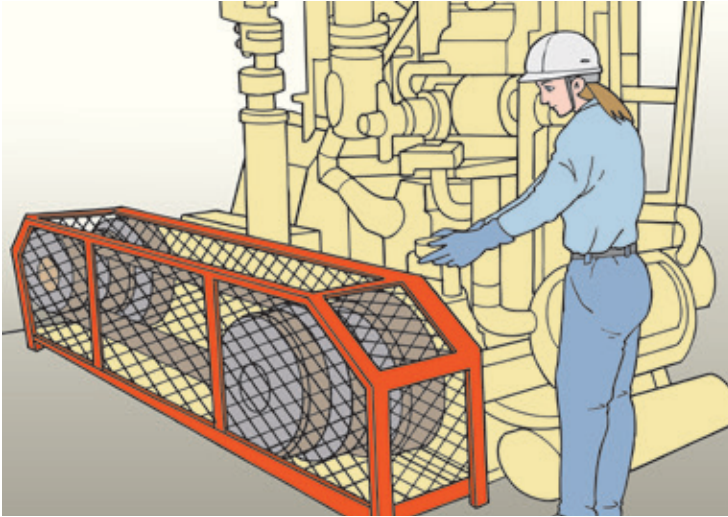


Figure 12a.

Install sturdy enclosures to keep people away from dangerous or moving parts of machines.

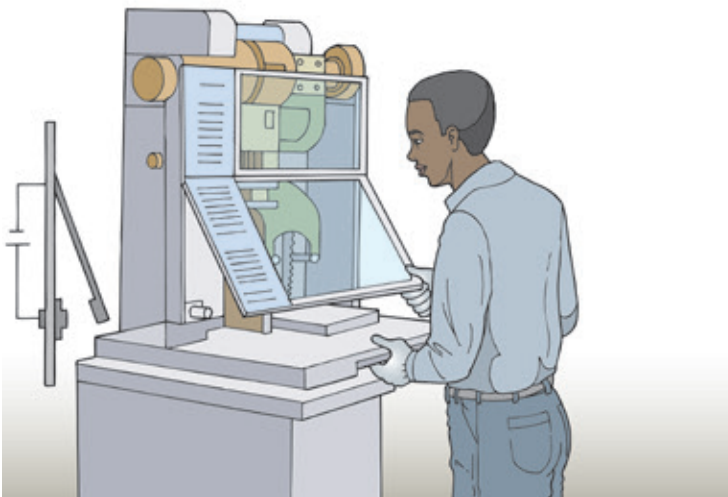


Figure 12b.

Interlocking guards block access to the point of operation and automatically stop machines when the cover is opened.

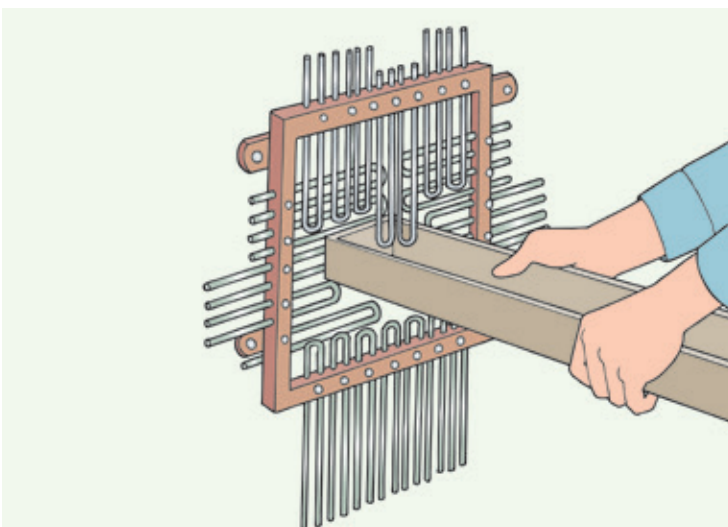


Figure 12c.

Guards can be adjustable to suit the size of materials.

CHECKPOINT 13:

Make sure machines are well maintained and have no broken or unstable parts.

WHY

Even if machine guards are attached, lack of maintenance makes no sense. Plan machine maintenance regularly for prevention. Although maintenance may seem time-consuming, once a machine breaks down you will need to spend additional time and money for repairs. In addition, serious accidents may happen if maintenance is neglected.

All machine maintenance requires technical skills and must be undertaken by qualified staff.

It is vital to ensure that machines are switched off during maintenance. Sometimes workers performing maintenance cannot be seen from outside, and people may accidentally switch on the machines. Serious accidents often occur during maintenance. Make sure the machine is switched off and the electricity supply disconnected. Inform everyone about the maintenance to ensure that machines are not switched on by mistake.

HOW TO IMPROVE

1. Purchase a safe machine. Don't buy machines without guards, operation manuals or user support. Although the initial cost may be lower, accidents and injuries may be more likely. Always consider the long-term costs of using machines.
2. Establish a regular machine maintenance day. For example, set the first day of every month as a maintenance day. This is easy to remember.
3. Make it obvious to everyone at the workplace when maintenance is being performed. Place a clear warning, "DANGER: DO NOT OPERATE THIS MACHINE!". This is a safe way

of informing people who do not know the maintenance schedule.

WAYS OF PROMOTING COOPERATION

We tend to think maintenance is expensive and a loss of productive time. Establish a maintenance day and use a maintenance checklist before regular machine operation resumes. Start with your work area. Once people realize its effectiveness, it can lead to continuous improvement.

If there is no qualified or experienced worker at your workplace, ask for support from neighbouring workplaces. Holding a workshop on maintenance with neighbouring workplaces is another good approach. Although training in basic maintenance of machines seems to take much time and effort, it contributes to safety and productivity at your workplace in the long run.

SOME MORE HINTS

- Place an instruction manual for the machine, written in the local language, beside the machine so that workers can use it quickly.
- Keep maintenance records. Place the record by the machine so that everyone can refer to it. Dates, maintenance items and the person who performed the maintenance should be recorded in detail. Checklists for maintenance will also be a useful tool.
- Inform all workers as to who is qualified or skilled at your workplace. A list with photos of qualified or well-experienced people is one good example. If there are several qualified people, designate one person to be in charge every week so that workers can easily contact them.

POINTS TO REMEMBER

Regular maintenance reduces accidents, increases productivity and decreases cost.

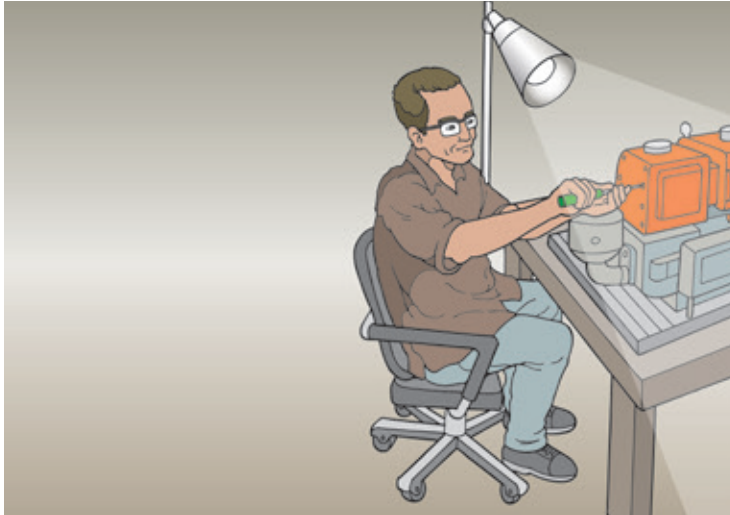


Figure 13a.

Machines should be maintained by skilled and qualified persons.



Figure 13b.

Establish a regular machine maintenance day.



Figure 13c.

Put a clear notice, "DANGER: DO NOT OPERATE THE MACHINE!" during maintenance.

CHECKPOINT 14:

Make emergency controls clearly visible and easy to reach.

WHY

In emergency situations, we are required to take immediate and appropriate actions. If it takes too much time to locate emergency controls, the situation may deteriorate. Therefore make emergency controls clearly visible.

We should make emergency controls clearly visible not only for workers but also for visitors and outsiders. Workers are not the only people who face emergency situations.

Emergency controls should be clearly and easily accessible. Ensure that nothing obstructs the emergency controls.

It is also important that everyone at the workplace knows how they should act in emergency situations.

HOW TO IMPROVE

1. Place emergency controls or switches within easy reach. Remove obstructions around emergency controls or switches
2. Make emergency controls or switches clear and visible. Place them apart from other controls or switches. If they are located with other controls or buttons, use bright colours or different shapes and make them large. A red control device or switch with a yellow background is a good example of how to catch someone's attention.

WAYS OF PROMOTING COOPERATION

Inform all workers where the emergency controls and buttons are. A map of emergency controls is a good example.

All workers of the workplace must know how they should act in emergency situations. Hold training sessions and drills. If there are medical staff or fire-fighters near your workplace, ask them to help with training. It would be highly advisable to build a close relationship with them.

SOME MORE HINTS

- Establish an emergency plan. Designate person(s) responsible for emergency action who collect information, assess a situation and contact a hospital or fire station if necessary.
- Make a list of emergency contacts for all workers so that the families can be contacted immediately if necessary.
- Share information on accidents or incidents with all members at your workplace.
- Investigate any incident so you can learn how to prevent it in future. Be careful not to blame the person who caused the accident. Focus on the surroundings of the accident, not on the person.

POINTS TO REMEMBER

Making emergency controls clear for everyone at the workplace enables us to take immediate and appropriate action.

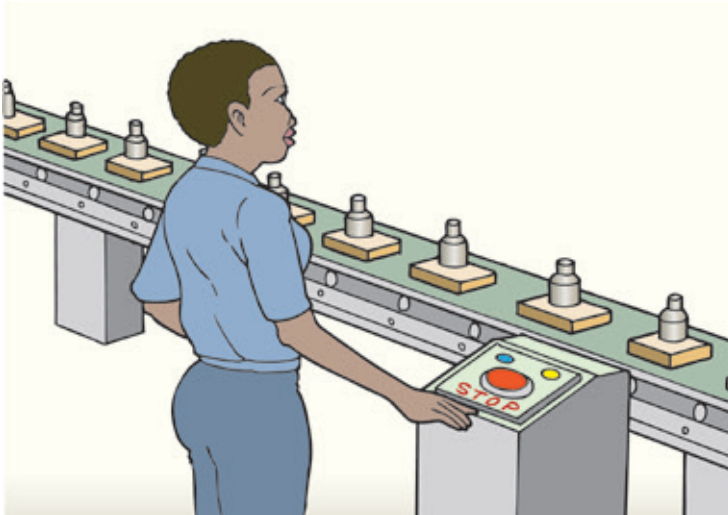


Figure 14a.

Make emergency controls clearly visible and easy to reach.

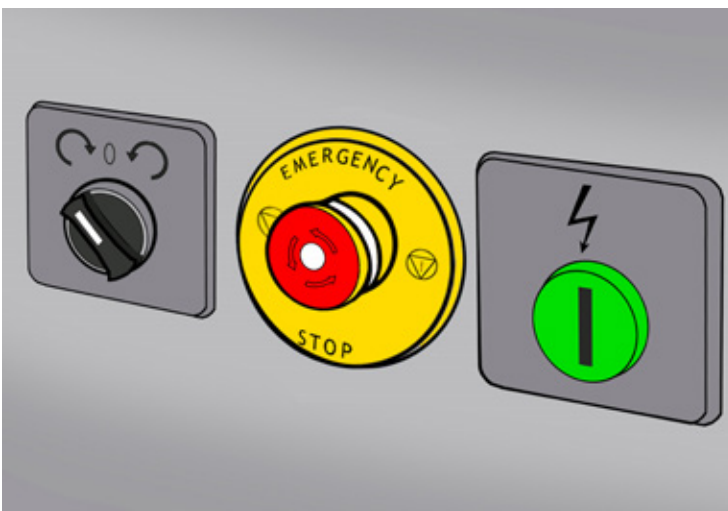


Figure 14b.

A red control device or switch with yellow background is one good example of how to catch someone's attention.



Figure 14c.

Hold training sessions and practice for an emergency situation.

CHECKPOINT 15:

Ensure safe wiring connectors for supplying electricity to equipment and lights.

WHY

Almost all workplaces use electrical equipment. You can see electrical wiring everywhere at your workplace. It is even used in places where there is a high risk of electrical accidents or fires, such as in wet surroundings, outdoors and beside flammable materials.

Although we may check machines regularly, electrical wires are often not maintained. Some are uncovered and broken or sometimes they are left on the floor or underneath furniture. These situations cause short-circuits and may result in a fire or electrical accident. Once an electrical accident happens, it is difficult to turn off the electricity. The accidents will harm not only the worker but also his or her colleagues and may even lead to serious injury and death. That is why one should focus on prevention.

Learn basic skills for the safe use of electricity. Review your workplace regularly. Daily maintenance saves workers' lives at your workplace.

HOW TO IMPROVE

1. Identify all the electrical arrangements and associated conditions. Ensure electrical wires are covered properly, and that dust is removed from electrical junctions and wires. Check these points regularly and record their condition.
2. Replace or repair damaged or uncovered electrical equipment. During maintenance, let every worker know that these electrical devices are out of order and must not be used.

3. Make sure that electrical equipment is kept away from flammable materials and wet surroundings.
4. Electrical wiring on the floor may cause tripping accidents and damage to the wires. Fix them to the wall.

WAYS OF PROMOTING COOPERATION

Continuous daily maintenance of electrical equipment need the cooperation of all workers. It is essential to make workers understand why it is important. Organize a simple on-site training session on basic electrical safety. If there are no experienced or qualified electricians at your workplace, collaborate with neighbouring workplaces or professional services. The training should include checking of electrical safety at your workplace and of local regulations for electricity systems. Share experience through the training session. These local examples will be a great help for practice and motivation.

SOME MORE HINTS

- Check that all electrical equipment is correctly earthed, insulated and appropriately fused. Confirm that it is not overloaded.
- Make sure that electrical circuits are disconnected from all connections when equipment is being repaired.
- Ensure that portable electric tools and equipment are double insulated or earthed.

POINTS TO REMEMBER

Appropriate choice and regular maintenance of electrical wiring can prevent accidents and injury.

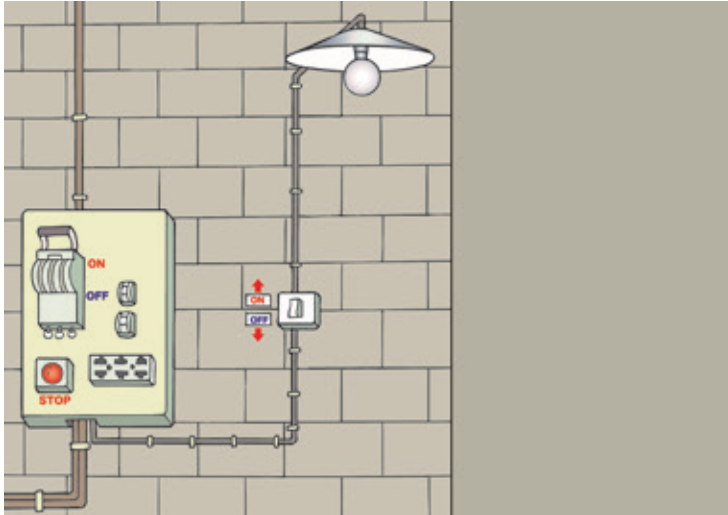


Figure 15a.

Do not have electrical wiring on the floor. Fix it to the wall.

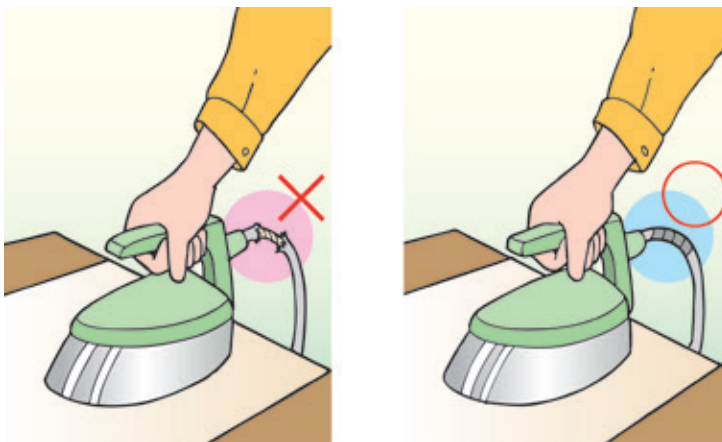


Figure 15b.

Cover and sheath electrical wires, control panels and switches.



Figure 15c.

Ensure that all equipment is earthed.

IV. WORK ENVIRONMENT AND CONTROL OF HAZARDOUS SUBSTANCES

The work environment plays a significant role in your workplace. Natural environmental factors such as sunlight, ventilation, hot and cold weather affect our health and productivity. Appropriate management of noise, dust and chemicals prevents both short and long term health problems. Although we cannot change our entire environment, we can better protect ourselves by making simple improvements. In this chapter you can learn low-cost and practical ideas on how to make the most of natural resources such as daylight and air movements in effective ways.

- CHECKPOINT 16: Increase daylight and keep skylights and windows clean.
- CHECKPOINT 17: Provide general artificial lighting adequate for the type of work done.
- CHECKPOINT 18: Provide local task lights for precision and inspection work.
- CHECKPOINT 19: Increase natural ventilation by having more openings, windows and open doorways.
- CHECKPOINT 20: Provide enough fire extinguishers within easy reach, mark escape routes and keep them clear of obstacles.
- CHECKPOINT 21: Isolate or insulate sources of heat or cold.
- CHECKPOINT 22: Move sources of dust, hazardous chemicals and noise out of the workplace or install adequate exhaust systems, barriers, screens or other solutions.
- CHECKPOINT 23: Make sure all containers of hazardous chemicals have labels.

CHECKPOINT 16:

Increase daylight and keep skylights and windows clean.

WHY

The right amount of light is essential for our work. It prevents mistakes, accidents, eyestrain and unnatural working postures.

Daylight is a low-cost and effective way of increasing the brightness at your workplace. It is free and allows you to save electricity. It can also bring warmth to cold workplaces and reduce moisture in wet workplaces. The right amount of daylight is said to have a positive effect on our mental health.

You can make full use of daylight by using windows and skylights. Regular cleaning of windows improves the lighting level. There are other effective ways of improving the lighting level such as the use of a light colour on walls and ceilings.

HOW TO IMPROVE

1. Clean all windows and skylights in your workplace regularly. If this is not done, you could lose at least 10-20% of the available light. Make a habit of cleaning them.
2. Check whether materials are located near the window and blocking the light. Remove them from in front of the window to let in more daylight.
3. If it is difficult to remove obstacles, consider moving work areas to better-lit areas.
4. Increase the number and size of windows and openings. The total window size should be more than one third of the floor area. This will provide enough daylight for your workplace.

WAYS OF PROMOTING COOPERATION

Some workers and supervisors at your workplace may think adding windows or skylights is costly. Begin with simple and easy improvements. Start with cleaning windows and skylights or changing the layout of the workplace. Those affected will immediately realize the effects. Once they understand the effect of such improvements, it will be easier to move on to other improvements.

Exchanging ideas at your workplace is also effective. If there are no good solutions, visit neighbouring workplaces and learn from their good practices.

SOME MORE HINTS

- Pay attention to the colour of walls and ceilings. Soft colours on walls, such as light cream and other pale colours, reflect daylight and reduce the contrast in the light. Use white for ceilings. You should not use shiny or glossy paints for walls. These can cause harmful glare.
- Adjust working time to make full use of daylight. In summer work can start earlier in the morning, but later in winter.
- Pay attention to the fact that windows and skylights might let in heat during hot weather. In a hot climate orient windows and openings away from the direct heat from the sun.
- Ensure that workers and employers know how to gain safe access to the skylights for cleaning.

POINTS TO REMEMBER

Make full use of daylight. It is a low-cost and effective way of improving safety and productivity.



Figure 16a.

Move your work area near windows and skylights to increase lighting levels.

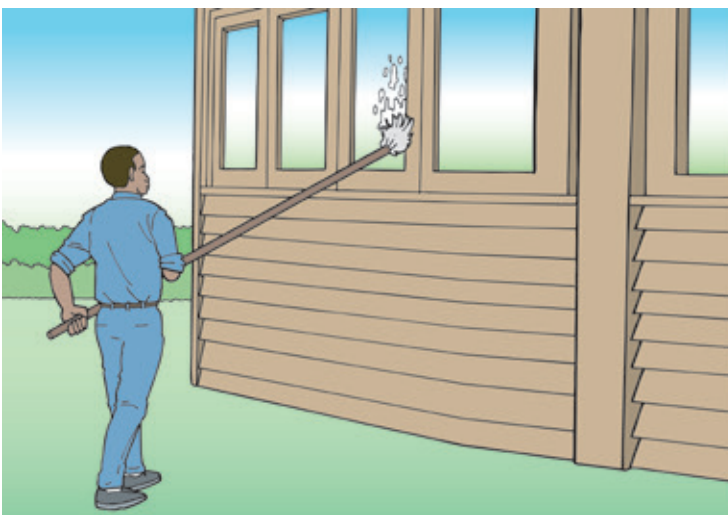


Figure 16b.

Regular cleaning of windows enables you to make the most of daylight at low-cost.

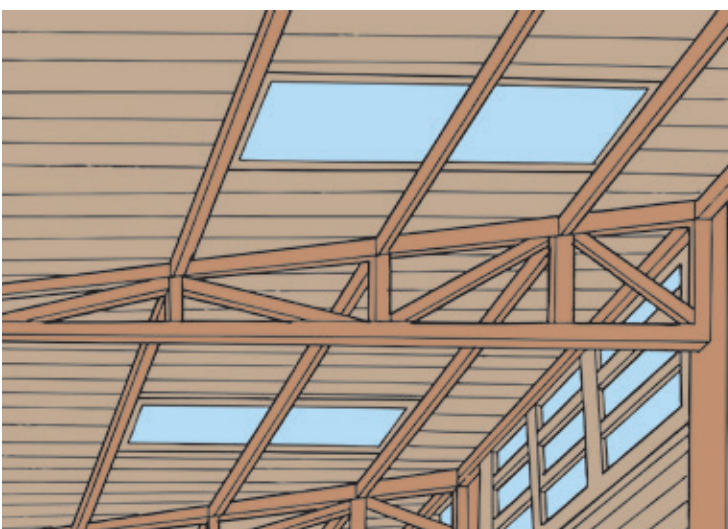


Figure 16c.

Using transparent materials or translucent plastic panels in the ceiling or roof is an effective way of letting in more daylight.

CHECKPOINT 17:

Provide general artificial lighting adequate for the type of work done.

WHY

Sometimes daylight alone may not be sufficient to provide for safe and productive work at your workplace. Consider using general artificial lighting to improve such a situation. Although managers may think artificial lighting costs too much, the use of artificial lighting will reduce workers' time and effort to produce quality products as well as help prevent accidents and mistakes.

The appropriate level of lighting varies according to the tasks and workers. High precision operations such as cutting materials or making small handicrafts need brighter light. Elderly workers also need more lighting. For example, when reading printed text, a 60-year-old worker needs five times as much light as a 20-year-old worker.

Provision of artificial lighting with daylight will solve the problem. The benefits of better lighting will be immediately evident.

HOW TO IMPROVE

1. Walk through your workplace and identify areas where daylight alone does not provide sufficient light. Do not forget to check staircases, corridors, doorways and storage rooms. Accidental trips and falls can occur in these areas.
2. Simple improvements such as cleaning all bulbs, relocating work areas and using reflectors will dramatically improve your work efficiency.
3. Provide artificial lighting at your workplace. When combining daylight with general

artificial lighting, you should take into account the direction of the daylight for an effective combination.

WAYS OF PROMOTING COOPERATION

Jointly examine the lighting conditions with managers and workers working in the same area. Identify the work that needs additional lighting to ensure it is safe and can increase productivity. Their experience should be discussed to prevent accidents and injuries through better provision of lighting. Develop ideas for using the three light sources (daylight, general artificial lighting and local task lights) most effectively.

SOME MORE HINTS

- Avoid shadows. Shadows reduce general lighting on the work surface and cause eyestrain, fatigue, and mistakes. Ensure there are no obstacles blocking the light sources.
- Ensure regular maintenance of artificial lights. Without maintenance the amount of light could be reduced by one-half in a few months.
- Sudden or frequent changes of brightness cause eye fatigue in workers. Minimize the lighting contrast between work areas in order to reduce workers' eye fatigue and mistakes.
- Make the most of the weather and the direction of daylight, in order to increase the amount of available light.

POINTS TO REMEMBER

Artificial lighting needs careful planning and maintenance to be effective.

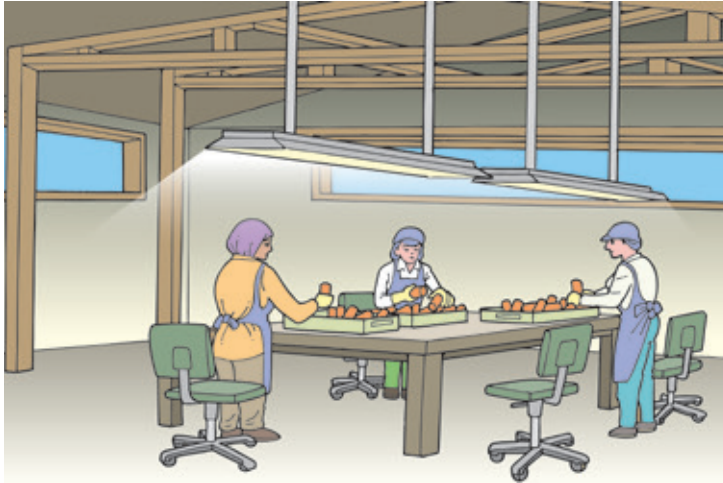


Figure 17a.

Add artificial lights when there is not enough daylight.



Figure 17b.

Regular cleaning and maintenance of lights increases brightness at low cost.

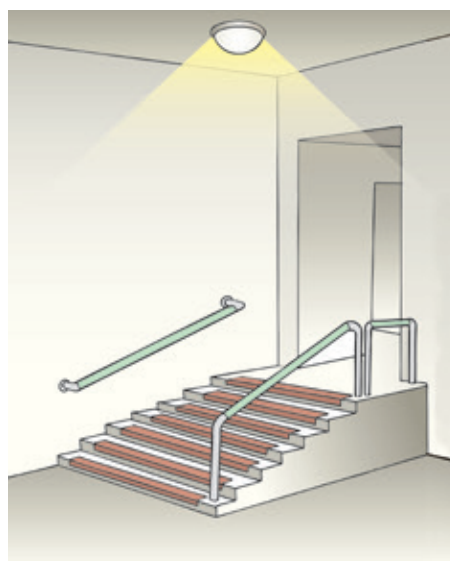


Figure 17c.

Appropriate lighting in staircases prevents accidents and product damage.

CHECKPOINT 18:

Provide local task lights for precision and inspection work.

WHY

Different levels of light are needed for different operations at your workplace. In particular precision work, inspection-related, and dangerous operations need more lighting than many other tasks. Use local task lights to ensure the right amount of light for all operations at your workplace.

Local task lights prevent eye fatigue and unnatural postures when examining objects. Introducing local task lights can be at relatively low cost, will reduce mistakes and lead to higher productivity.

It is also important to consider the surrounding work environment when using local task lights. Small tips such as appropriate placement and direction, avoidance of shade, and prevention of glare will increase the effectiveness of additional local task lights.

HOW TO IMPROVE

1. Walk around your workplace and find the workers who need additional local task lights for their work.
2. Also check whether existing local task lights are well maintained and are working effectively.
3. Install local task lights when necessary. Pay attention to the height and position of local task lights. They should be positioned low and be fitted with shades that are large enough not to obstruct with the normal field of vision.

4. Use local task lights that are easy to move and change to a preferred position.
5. Maintain local task lights regularly. Use local task lights that are easy to clean. Assigning a person to take charge of regular cleaning helps ensure maintenance.

WAYS OF PROMOTING COOPERATION

Check the places or operations where workers complain about insufficient lighting, visual discomfort or risk of accidents. It is impossible to grasp all issues at your workplace on your own. Listen to the views of workers in different work locations and seek their cooperation.

Also keep in mind the benefits of combining daylight, general artificial lighting and local task lights. Combination of light sources enables you to provide the right amount of light at lower cost.

SOME MORE HINTS

- Ensure local task lights are stable and rigid.
- Do not use any that are unstable.
- Improve the surrounding working environment where local task lighting is used. For example, painting the inner edges of lampshades on the lights in a dark matt colour prevents lighting reflection.
- Place local task lighting on the left side for right handed workers to avoid making shadows with the right hand. If workers are left-handed, place the lighting on the right for the same reason.

POINTS TO REMEMBER

Local task lights are great tools for providing the right amount of light for each operation.

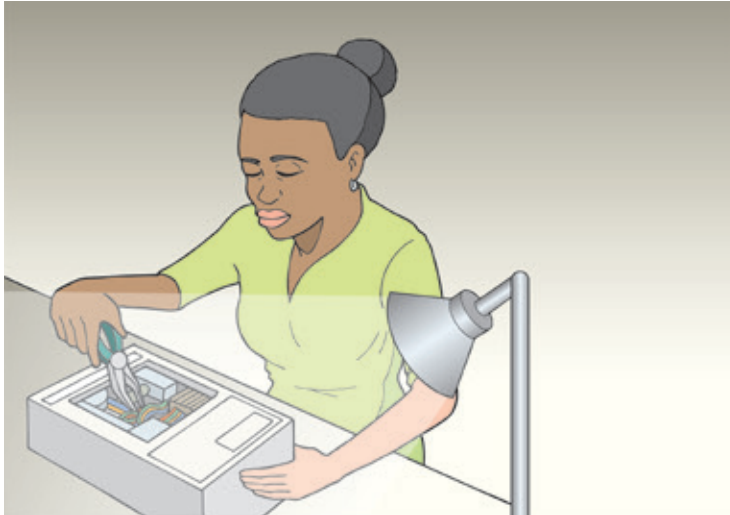


Figure 18a.

Provide local task lights for precision operations.

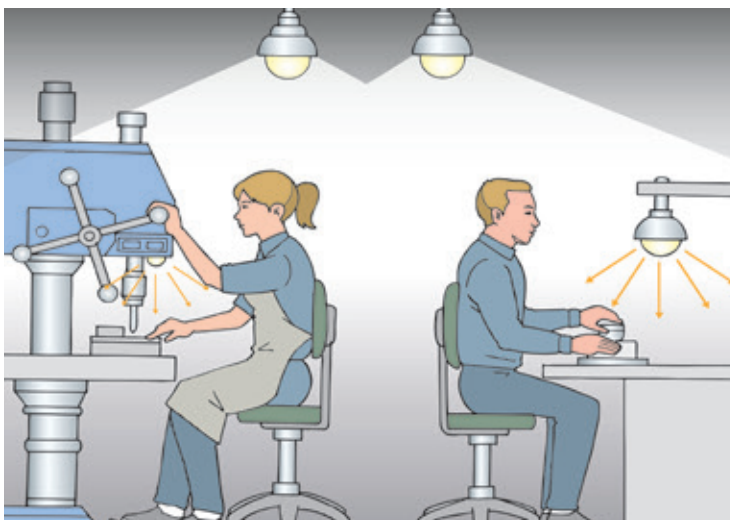


Figure 18b.

Combining general and local-task lights provides the right amount of light at low cost.



Figure 18c.

Local task lights should be low enough with deep shades to avoid obstructing the normal field of vision.

CHECKPOINT 19:

Increase natural ventilation by having more openings, windows and open doorways.

WHY

Ventilation is an essential element in comfortable and productive workplaces. Although it is not visible, the air in your workplace is easily contaminated by vapour, dust, fumes and gases when ventilation is poor. In the average workplace the air should be exchanged between eight and twelve times per hour. The smaller the workplace, the higher the amount of air exchange needed. A shortage of fresh air will result in poor concentration and mistakes.

Make maximum use of natural ventilation. It is important to distinguish ventilation from circulation. Ventilation requires the exchange of contaminated air for fresh air, not just moving the air around. If your workplace is hot and the air is stagnant and smells bad, opening windows and doorways may improve the air quality and will also reduce the temperature and humidity. Workers will be able to work more comfortably and efficiently.

HOW TO IMPROVE

1. Check whether your workplace has sufficient natural airflow. Examine whether every window and doorway opens properly. Make sure there are no obstructions to the airflow. If there are, remove the obstructions or relocate the work areas affected to ensure sufficient natural airflow.
2. Plan to increase the number of openings, windows and open doorways. Enlargement of existing windows is another option for increasing natural airflow.

3. Regularly open windows in your workplace to provide better ventilation. Assigning a worker to be in charge of ventilation will lead to continuous improvements.

WAYS OF PROMOTING COOPERATION

Once ventilation is improved, the effects will immediately be clear. If cost is a factor, start with low-cost and simple improvements such as opening windows or removing obstacles to allow natural airflow.

Such simple improvements will increase natural ventilation and make visible changes in your working environment. These initial successes will encourage workers and employers to consider and implement further improvements.

SOME MORE HINTS

- Examine the direction of the sun and wind. They will help enhance the effects of natural ventilation.
- Openings and windows in ceilings allow warm air to escape from your workplace.
- Use electric fans in workplaces where there is insufficient natural airflow.

POINTS TO REMEMBER

Natural ventilation removes heat and polluted air at low-cost.



Figure 19a.

Move your work area to make maximum use of ventilation.

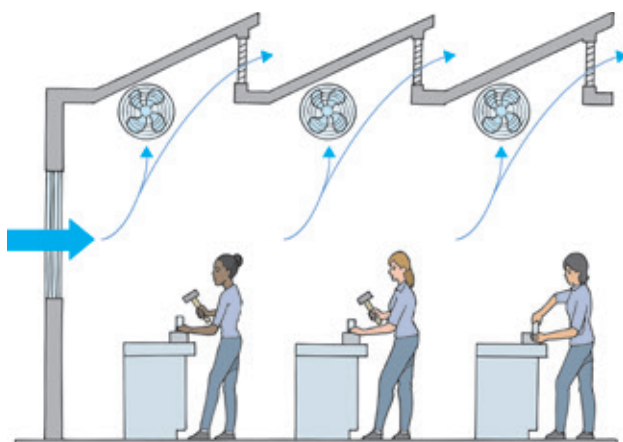


Figure 19b.

Windows in the ceiling allow warm air to escape.



Figure 19c.

Increase the number of windows or enlarge them. Make a habit of opening windows.

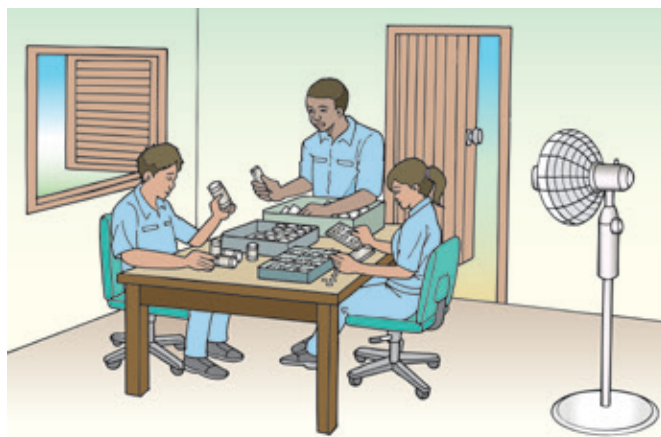


Figure 19d.

Use electric fans for workplaces where there is not enough natural airflow.

CHECKPOINT 20:

Provide enough fire extinguishers within easy reach, mark escape routes and keep them clear of obstacles.

WHY

Fire prevention is one of the most significant contributions to ensuring safety and business continuity. Many businesses have closed because of fires. If you have no prevention plan, fires will spread fast and people in the workplace may be injured or even killed. Your property and buildings will also be damaged.

When a fire occurs, the first few minutes are vital in saving lives and minimizing damage. However this precious time is often wasted while workers and managers are looking for fire extinguishers and exits; and even when found, the fire extinguishers might be expired and out of use, or the exits might be locked, thereby increasing confusion. People may be unable to extinguish a fire before it spreads to other sections.

HOW TO IMPROVE

1. Provide enough fire extinguishers. Each work area needs at least one extinguisher placed within easy reach of workers.
2. Maintain fire extinguishers regularly. If they are out of order or expired, replace them with new ones.
3. Provide at least two escape routes in each work area and mark them clearly. Walk round all the work areas. Plan and build new escape routes if there is only one exit.
4. Exits must be unobstructed and unlocked. Remove all materials from escape routes and exit areas. Check escape routes and exits regularly to maintain safe conditions.
5. Make sure everyone at your workplace knows how to act in case of a fire. Train them in the

proper use of fire extinguishers and conduct fire emergency drills. Select an assembly area outside the workplace where everyone should assemble, and establish procedures for ensuring that no-one is left inside.

6. Clearly mark the locations of fire extinguishers and exits in the local languages. Attaching pictures for people who cannot read is essential.
7. Don't forget that you should only fight small fires. If it takes too much time (at most a few minutes) or seems to be difficult, escape is the priority.

WAYS OF PROMOTING COOPERATION

Fire emergencies will affect not only workers and employers but also visitors and neighbours who could get caught in a fire. If family members of workers live in or near the company premises, they will also be affected. Carry out a fire drill in cooperation also with them. Seek support for organizing the drill from the local fire station so as to build a close relationship.

SOME MORE HINTS

- If your workplace is located on the second or higher floors, an additional, separate escape route will be required in case of a fire on the first floor.
- Elderly workers and those with disabilities need special care in case of fire. Identify those people at risk and plan how to assist them in the event of fire. The availability of staff assistance, the shortest routes for evacuation, and preparation of handrails should be included in the plan.

POINTS TO REMEMBER

Provide unobstructed exits and a sufficient number of fire extinguishers. Daily preparedness will save lives.



Figure 20a.

Provide at least two unobstructed escape routes for each work area with clear markings and a sufficient number of fire extinguishers.



Figure 20b.

Ensure everyone at your workplace knows how to use fire extinguishers.



Figure 20c.

Plan and practice evacuations with your workers.

CHECKPOINT 21

Isolate or insulate sources of heat or cold.

WHY

A comfortable temperature in the workplace is essential for safety, health and productivity. A temperature of around 20-25°C is said to be optimum for seated workers doing average work. This temperature should be 5°C lower for heavy manual work.

If the workplace is too hot, workers get exhausted easily, make more mistakes, and can even have accidents. In addition to discomfort from heat, a lack of adequate water intake can result in dehydration, heat stroke and heat shock.

Cold environments also affect our health and productivity. In cold working environments much energy is lost in preserving workers' body temperature. Moving sources of heat or cold outside your workplace or to isolated areas will greatly contribute to health and productivity at the workplace.

HOW TO IMPROVE

1. Locate workers away from hot machines, furnaces or other heat sources.
2. Use partitions between the heat source and workers when heat sources are difficult to move outside. The partitions will insulate the workers from direct heat radiation. Partitions also protect workers from the cold.
3. Provide shades against the heat from the sun. Appropriate shades will protect the workplace from solar radiation and will help reduce glare. Shades will also be useful in cold workplaces to protect workers from strong cold winds.

4. Plant trees around your workplace. They will provide natural protection against heat and cold.

WAYS OF PROMOTING COOPERATION

Heat and cold are common issues in any workplace, and there are many ways of managing them. Visit neighbouring workplaces that have problems of heat or cold, and learn how workers are protected. Listen to their experience of how workers contributed to reducing exposure to heat or cold. Workers' views and ideas are often a great source of improvements.

SOME MORE HINTS

- Supply clean and cold drinking water near your workplace.
- Allow short breaks. A rest area in the shade or cool areas reduces heat stress. For those working in the cold, provide heated areas and hot liquids for their breaks.
- Wearing light-coloured, loose-fitting and breathable clothing made of materials such as cotton is preferable for workers in warm workplaces. Avoid non-breathable synthetic materials. Several layers of loose clothing are suitable for workers in cold conditions.
- Ensure that the clothing is not too tight as this may restrict blood circulation and cause frostbite.
- Adjust working hours to avoid the need to work in excessive hot or cold weather. Start working early in the morning to avoid heat and sunshine in hot workplaces, or later in the morning in cold climates.

POINTS TO REMEMBER

Isolate or insulate sources of heat or cold to protect workers' safety and health and increase productivity.

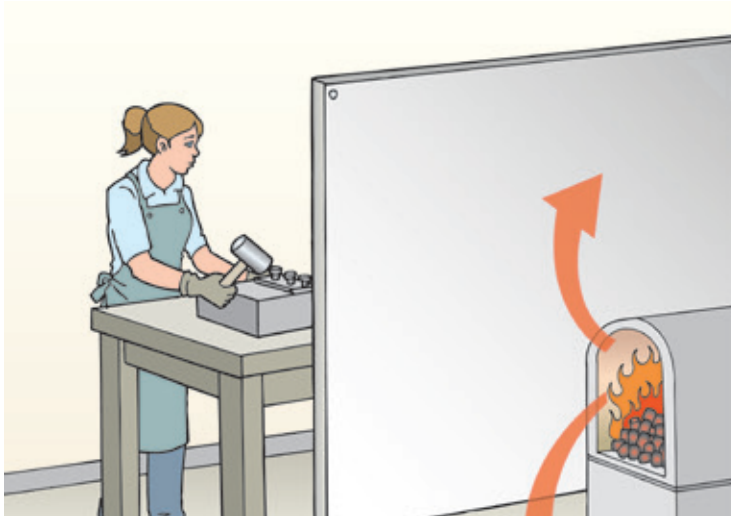


Figure 21a.

Use partitions to screen heat sources.

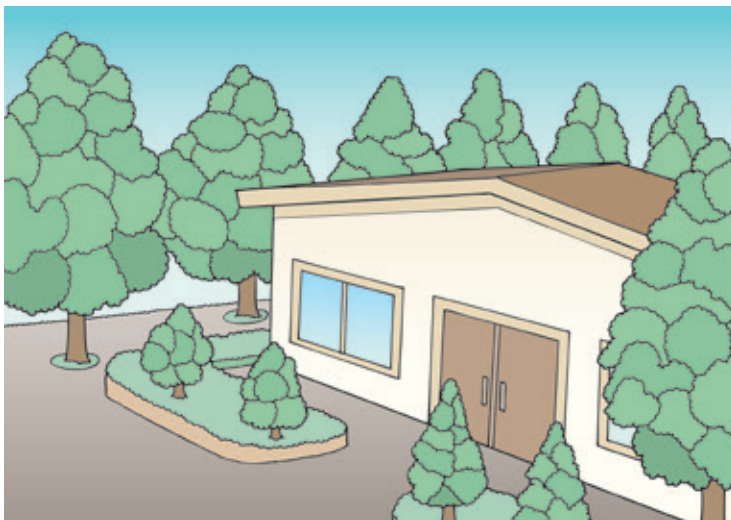


Figure 21b.

Planted trees or bushes protect against heat or cold.



Figure 21c.

Several layers of loose clothing are suitable for workers in cold workplaces.

CHECKPOINT 22:

Move sources of dust, hazardous chemicals and noise out of the workplace or install adequate exhaust systems, barriers, screens or other solutions.

WHY

Dust, chemicals and noise are often part of our daily work and can damage our health and decrease productivity. For example, chemicals can enter our body through oral ingestion, inhalation or absorption through the skin. Some hazardous substances can remain in our body organs and damage them.

Even in the short term, hazardous environments such as strong-smelling chemicals or dusty or noisy work will interrupt workers' concentration and increase accidents.

Priority measures for prevention or exposure to these hazards are elimination, isolation or enclosure. Many low-cost tools are available for this purpose.

HOW TO IMPROVE

1. Review your daily operations and identify the sources of dust, hazardous chemicals and noise. Instead of using these sources, where possible replace them with harmless substances or production methods.
2. If you cannot eliminate dust, hazardous chemicals and noise, enclose or screen sources of dust, chemicals and noise. Or move them out of your workplace away from workers. Take appropriate precautions to ensure that they do not affect anyone outside the workplace.
3. Enclose or screen sources of dust, chemicals and noise so that workers at your workplace cannot enter these areas.

4. Provide clear marks or signs to indicate the presence of isolated or insulated sources of dust, chemicals and noise to prevent workers from accidentally approaching the areas concerned.

WAYS OF PROMOTING COOPERATION

Workers should be informed of the potential damage to their health from dust, chemicals and noise at their work areas. Health damage often takes a long time to become evident. Prevention is essential.

Collect appropriate information from local health centres and share it with workers and employers. Listen to and exchange workers' ideas for prevention. Workers can participate in designing and installing preventive measures such as hand-made covers, partitions or local exhaust ventilation.

SOME MORE HINTS

- When hazardous sources cannot be controlled, use personal protective equipment (PPE) as a last resort. Choose appropriate PPE and use it properly. For example, dust masks do not protect workers from toxic gases.
- Do not eat in contaminated work areas. Your fingers, skin or even food may be contaminated by hazardous substances.
- Do not bring home hazardous substances. Workers' contaminated clothes, for example, could be a source of poisoning of their family members. Wash the clothes appropriately in a proper environment.

POINTS TO REMEMBER

Prevent dust, chemicals and noise at the source. There are many low-cost solutions.



Figure 22a.

Store hazardous chemicals outside work areas.

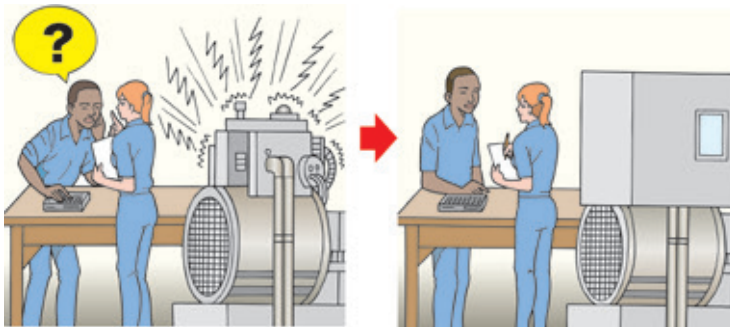


Figure 22b.

Enclosing sources of noise isolates workers from the harm they can cause.

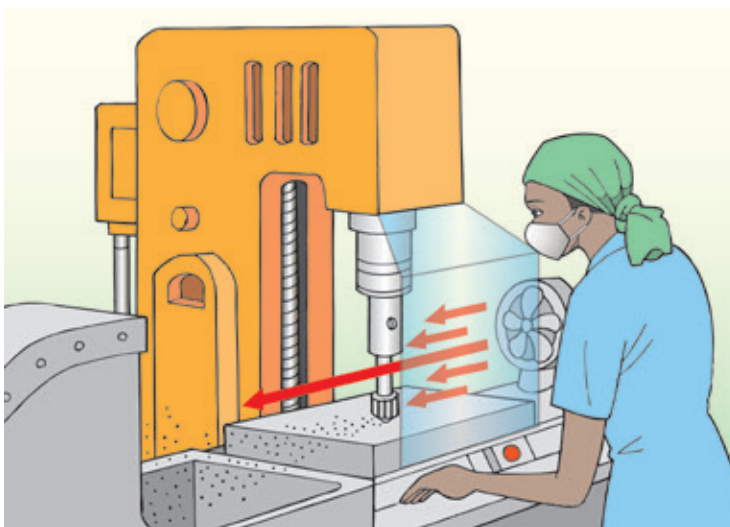


Figure 22c.

Barriers isolate workers from dust.

CHECKPOINT 23:

Ensure that all containers of hazardous chemicals have labels.

WHY

Many workers use chemicals for various procedures. It is important that all workers know the safety and health risks and apply appropriate measures for the handling and storage of chemicals.

Inappropriate use of chemicals and overexposure to them can cause injury, severe illness, or even fatalities. Chronic exposure to chemicals causes occupational diseases, increases absenteeism and reduces productivity. Mishandling of hazardous chemicals may even cause fires or explosions. Repair of damaged equipment and facilities will be very costly. Your company might also lose the trust of your customers.

Place clear, easy-to-understand labels on all chemical containers. This simple and low-cost measure is an essential first step in preventing the mishandling of chemicals and protecting workers' safety and health. Often the original labels are written in a foreign language or in technical terms and are difficult for workers to understand, and should therefore be translated.

HOW TO IMPROVE

1. Review which chemicals are used at your workplace. Walk around all work sections and check whether all chemical containers have clear and easy-to-understand labels for workers.
2. If you find labels that are unclear or difficult to understand, or containers with no labels, attach clear labels written in language that all workers at your workplace can understand.

3. All labels should be attached firmly. Label them with water-resistant permanent ink.

WAYS OF PROMOTING COOPERATION

Ask workers questions to ensure that they all understand the labels. They will know which labels are difficult to understand and also the points to be clarified. Perhaps they can even help design and create new labels that everyone easily understands.

It is also a good idea to hold an information session and explain the new labels to all workers at the workplace. Health risks, appropriate handling, and symptoms of chemical poisoning should be included in the session. Internationally recognized labels used in the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) will also be important. Seek advice from local chemical experts in this regard.

SOME MORE HINTS

- Make sure all covers on chemical containers are not damaged so that chemicals do not evaporate.
- Consider using containers with small openings to reduce evaporation of chemicals.
- Do not use chemical containers for other purposes such as storage of water or other materials.
- Designate a person to take charge of chemical safety. That person should regularly check the chemical containers, including labels.
- Hazardous chemicals must be kept in a locked cabinet to avoid misuse.

POINTS TO REMEMBER

Attaching clear and easy-to-understand labels to chemical containers is a first essential step to ensuring the safe use of chemicals.



Figure 23a.

Attach clear and easy-to-understand labels to bottles of dangerous chemicals to avoid misuse.



Figure 23b.

Store hazardous chemicals with clear signs indicating danger to avoid misuse.



Figure 23c.

Learn the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) for safe operation.

(Refer to: http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html)

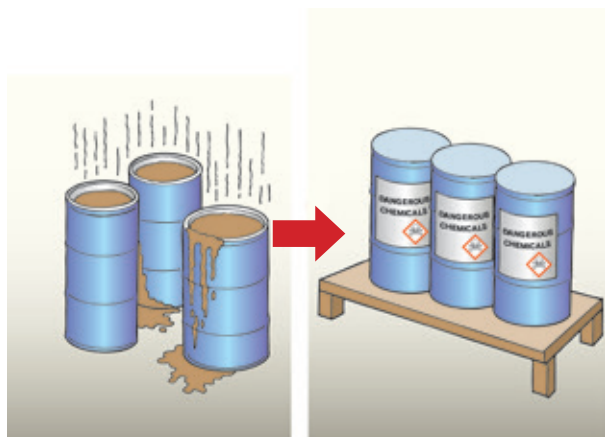


Figure 23d.

Place chemical cans with secure lids on a platform to prevent evaporation and pollution.

V. WELFARE FACILITIES

Welfare facilities are not a luxury but an essential element of your workplace. Facilities such as clean toilets, hygienic drinking water, canteens separated from work areas and space for relaxation not only improve safety and health but also increase motivation and productivity.

- CHECKPOINT 24: Provide an adequate supply of cool and safe drinking water in all workplaces.
- CHECKPOINT 25: Provide clean separate toilets and washing facilities close to the work area.
- CHECKPOINT 26: Provide rest areas and a separate hygienic place for eating meals.
- CHECKPOINT 27: Provide first-aid equipment and train qualified first-aiders.
- CHECKPOINT 28: Provide personal protective equipment that gives adequate protection.

CHECKPOINT 24:

Provide an adequate supply of cool and safe drinking water in all workplaces.

WHY

Safe drinking water is vital for all workers, particularly in hot working environments or for heavy manual work when workers need constant access to drinking water to prevent water loss and dehydration. Otherwise they will easily get tired and lose concentration. In such conditions they become accident-prone and productivity is reduced.

Provide cool and safe drinking water facilities close to your workplace. This facilitates timely water intake to prevent fatigue and dehydration in workers. It is also important to regularly check the safety of the water. Once dust, chemicals or bacteria contaminate drinking water it will seriously affect every worker.

HOW TO IMPROVE

1. Find a safe place to keep and provide drinking water for workers. It should be positioned away from toilets, chemical or dust sources to prevent contamination.
2. Install a sufficient number of drinking water facilities and ensure that every worker has easy access.
3. Use safe and clean water sources. If you use water from a public water supply, rain, or groundwater, you should filter it and boil it for at least 15 minutes.
4. Avoid using groundwater near chemical substances. There is a high risk of chemical contamination.
5. Clean water containers regularly and always provide fresh and clean water for workers.

6. For hygienic reasons, workers should avoid sharing cups for drinking water.

WAYS OF PROMOTING COOPERATION

Discuss with workers where water facilities should be placed. They know the best, convenient places to meet their needs. Also seek their cooperation in maintaining water facilities and providing fresh and clean water every day. Some workers may be assigned or volunteered to do this job.

It is important to provide regular breaks to drink water. Workers may not have opportunities to drink when their work is heavy. Listen to the views of workers to identify the best break arrangements to prevent dehydration and fatigue.

SOME MORE HINTS

- An adequate water supply is also required in cold environments. Regular short breaks for hot drinks will refresh you physically and mentally.
- Share information on dehydration. As soon as people identify mild to moderate symptoms such as dry mouth, dry skin, tiredness, thirst, decrease in urine output, headaches or dizziness, they need to take appropriate care.
- Do not allow workers to work after drinking alcohol as it increases dehydration and causes mistakes and accidents. Excessive drinking the previous night also increases the risk of dehydration the next day at work. Arrange a short meeting before work for checking the health condition of each worker.

POINTS TO REMEMBER

Every worker needs easy access to safe drinking water to prevent fatigue and keep productive.



Figure 24a.

Provide sufficient drinking water facilities near your work area.



Figure 24b.

Be sure drinking water is safe and clean. Regular cleaning of containers and cups is essential.

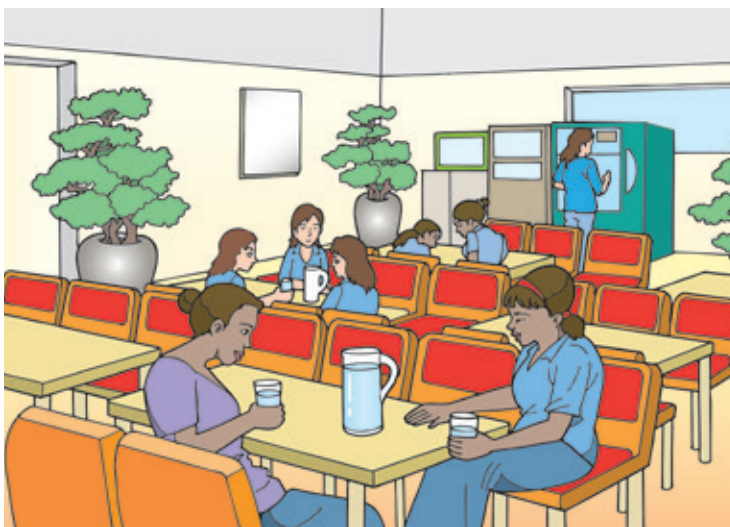


Figure 24c.

Insert regular breaks for drinking water during your working time.

CHECKPOINT 25:

Provide clean separate toilets for men and women and washing facilities close to the work area.

WHY

Every workplace needs a sufficient number of clean toilet facilities separate for men and women and easy access to them. With this arrangement workers can avoid walking long distances, waiting, and becoming frustrated. They can increase their concentration on their work and be productive.

Washing facilities are equally important for workers. Washing hands after using the toilet or before eating prevents diseases and contributes to our health. By washing our hands you can avoid the oral ingestion or skin absorption of hazardous chemicals. Such a sense of cleanness and hygiene will maintain workers' motivation to work.

HOW TO IMPROVE

1. It is essential to provide a sufficient number of separate toilet facilities for men and women.
2. The location of toilets is also important. Toilets should be in a safe and convenient place, but isolated from the work area to ensure privacy.
3. Toilet paper and a garbage bin with a cover are also essential. Running water for washing hands is preferable from a hygienic perspective, but if this is difficult, use water from containers instead.
4. Install washing facilities near the work area. The basin should be large enough to enable certain workers to wash their faces or arms if necessary.
5. Provide clean soap and a mirror for each washing facility. Garbage bins will help keep the place tidy and clean.

6. Maintain the cleanliness of toilets and washing facilities. At the design stage consider ways of easily maintaining them.

WAYS OF PROMOTING COOPERATION

Clean sanitary facilities are effective only if workers implement good washing habits. Confirm with workers and employers the importance of washing their hands, especially after using the toilet or handling chemicals and other hazardous materials. Emphasize that hand-washing prevents hazardous substances or infectious diseases from being carried back home.

Keeping toilets clean is also essential but sometimes ignored. Establish groups to take turns at cleaning the toilets weekly. Proposing a monthly award for the group that keeps the toilets in the best condition will be a good tool for motivation.

SOME MORE HINTS

- Learn the correct way to wash your hands.
 1. Wet your hands with clean running water and apply soap.
 2. Rub your hands with the soap. Don't forget the backs of your hands, between fingers, and under the nails.
 3. Scrub your hands for at least 20 seconds.
 4. Rinse your hands well with clean running water.
 5. Dry your hands with a clean towel or air drier.
- Design toilets and washing facilities for easy maintenance. Tiled floors and walls, proper drainage, and easy-to-reach corners save costs and the effort required for cleaning.

POINTS TO REMEMBER

Clean and properly maintained toilets and washing facilities will protect workers' health.



Figure 25a.

Provide separate clean toilets for men and women.

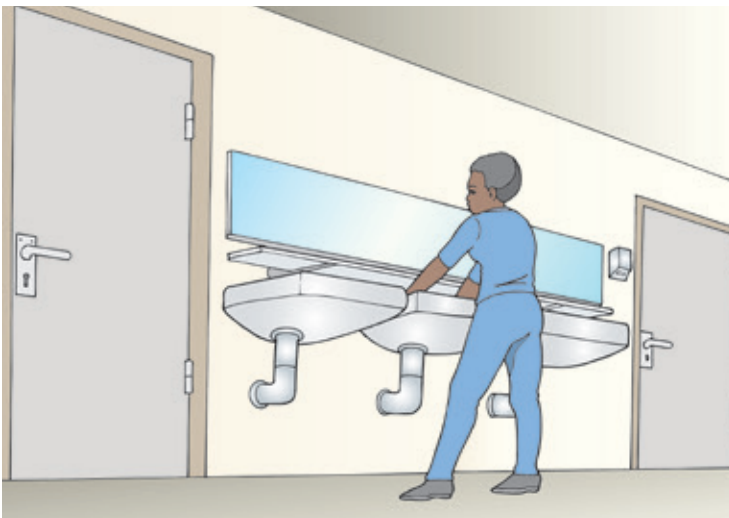


Figure 25b.

Convenient washing facilities encourage workers to wash their hands as a matter of habit.



Figure 25c.

Keep toilets and sanitary facilities clean. Design facilities that are easy to clean.

CHECKPOINT 26:

Provide rest areas and a separate hygienic place for eating meals.

WHY

Workers cannot concentrate on work without breaks and good rest areas. Rest is needed because of the physical demands of the work, and is not laziness. Provide rest corners and schedule short breaks. Frequent short breaks will help workers recover from fatigue.

Good rest and eating facilities for short breaks or meal breaks maximizes recovery from fatigue. Workers can return to work refreshed and be productive. Eating areas should be separated from your work areas to prevent contamination of workers' meals from dust, chemicals and other hazardous materials.

HOW TO IMPROVE

1. Designate a simple rest area near the workplace. Just setting partitions round corners and placing chairs, tables and cushions will enable workers to take comfortable drink or light meal breaks. Rest areas should be non-smoking so that workers can be protected from passive smoking.
2. Provide an area where workers can eat. If it seems difficult to provide a canteen, start with setting aside a small place for eating. It is also necessary to provide clean water for washing and drinking. Rubbish bins and regular cleaning are also important for keeping the place in good condition.
3. Provide short breaks during work time. 15-20 minute breaks will refresh workers. At least one break in the morning, one in the afternoon, and a longer lunch break

are necessary. Take a break before serious fatigue occurs and recovery will be much faster.

WAYS OF PROMOTING COOPERATION

Providing areas for rest or eating may be a good opportunity for strengthening good relationships between workers and managers. In a comfortable and relaxing atmosphere workers can enjoy cheerful conversation. You can also use these places for meetings or recreational activities. These events encourage communication between workers.

You may think these facilities and events are not directly related to productivity. However once workers feel they are being properly cared for, workers and employers can establish a better and firm relationship to create safer and more productive workplaces.

SOME MORE HINTS

- Rest facilities such as hammocks, mats, and sofas will refresh workers. A short nap after lunch enables workers to be alert in the afternoon. It is important to keep naps short. Taking an excessively long nap will negatively affect your concentration.
- Provide appropriate breaks in accordance with workers' situations. For example, pregnant or breast-feeding workers, workers with disabilities, and elderly workers all need more frequent breaks.
- Provide a place for eating which includes a small area where workers can prepare drinks or heat their food.

POINTS TO REMEMBER

Appropriate breaks are essential to maintaining, health, motivation and productivity.



Figure 26a.

Provide hygienic eating places away from your workplace.



Figure 26b.

Rest areas for short breaks refresh workers and maintain their motivation and productivity.



Figure 26c.

Recreational games after work or during breaks are good tools for communication between workers.

CHECKPOINT 27:

Provide first-aid equipment and train qualified first-aiders.

WHY

In the event of emergencies, immediate action is required. If people know how to act in the first few minutes and first-aid equipment is readily available, they may save their lives. Always have first-aid equipment ready and be prepared for the need for basic first aid.

Simulate an emergency situation and discuss who does what. Decide who will be responsible for contacting the hospital, providing first aid and transporting the patient to the hospital. A list and contact details of responsible people should be shared with everyone. And a contact list of nearby hospitals or clinics is a help in transporting the patient without delay.

HOW TO IMPROVE

1. Place a first-aid kit within easy reach of workers. Make sure people at your workplace know where the kit is kept. It should be clearly marked and placed in a well-lit position. This helps visitors and outsiders be aware of where it is.
2. Decide which medicine and equipment are necessary for emergency treatment. In some countries the contents of the first-aid equipment are regulated. The following basic items are typically included: sanitary cotton, gauze, alcohol, betadine (antiseptic), bandages and scissors. Don't forget to regularly check first-aid equipment. Make sure it is kept clean and within the expiry dates.

3. Train volunteer workers as qualified first-aiders. It is a great idea to establish a good relationship with a community health centre or hospital for first-aid training.
4. The name and contact (including location and telephone number) of first-aiders should be put on a notice board for the information of everyone at your workplace.
5. Workers in remote or isolated areas should be given additional training as there could be long delays before they receive medical aid.

WAYS OF PROMOTING COOPERATION

It is impossible to manage emergency situations only with first-aiders. Everyone at your workplace should know their role in an emergency and take immediate appropriate action. Make an emergency plan and hold training for emergency situations. It is a great idea to include contact information and practical emergency instruction. Hold an emergency training with your neighbouring workplace. When an accident happens, you will need emergency support from your neighbours.

SOME MORE HINTS

- A portable first-aid kit may be useful for workers outside the factory.
- Provide a record book beside the first-aid kit to record details of the incident or accident resulting in the need for the first aid and the treatment provided.

POINTS TO REMEMBER

Well-prepared and appropriate first aid will help people in an emergency.



Figure 27a.

Attach emergency equipment in a clearly marked safe and clean work area.

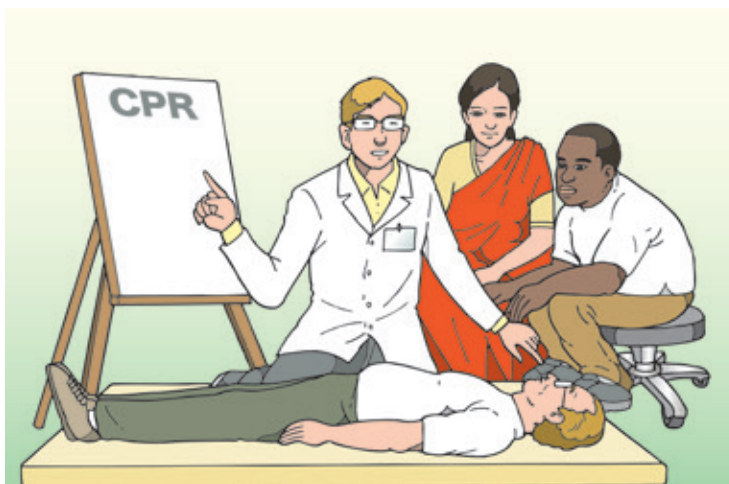


Figure 27b.

Train qualified first-aiders and maintain their skills. In particular, cardiopulmonary resuscitation (CPR) should be included in the training.



Figure 27c.

Prepare an emergency plan including each workers' role, transport to the nearest hospital, and contact information on first-aiders.

CHECKPOINT 28:

Provide personal protective equipment that gives adequate protection.

WHY

Personal protective equipment (PPE) such as glasses, shoes, helmets and gloves are often seen at workplaces. This equipment reduces contact with danger, hazardous substances and protects specific parts of the body from them. However, you should keep in mind that PPE is effective only when it is used properly.

Inappropriate use of PPE makes workers uncomfortable and results in decreased productivity. You should remember that choosing PPE is the last resort. It should be used only if the hazard cannot be eliminated or prevented by other protective measures.

When using PPE, select equipment that meets the national standard and is suitable for each specific type of work. It is also important to check that workers wear and use it properly.

HOW TO IMPROVE

1. Review the operations at your workplace. If you encounter hazardous sources such as dust, chemicals, noise and heat, try to isolate, substitute or enclose them. If these measures fail to work, consider using of PPE as a last resort.
2. Choose PPE in accordance with the working conditions. For example, operations requiring grip strength or handling sharp items need thick materials. Make them fit your body size and shape. Although it may seem cheaper to use PPE that is inappropriate or does not meet national standards, it is not at all effective.

3. Pay attention to the expiry dates of equipment. For example, expired filter masks are no longer effective.
4. Maintain each PPE regularly. Adequate cleaning according to the accompanying instructions keeps it working effectively. It is also important to check and replace damaged or worn PPE.

WAYS OF PROMOTING COOPERATION

If workers have to use PPE, inappropriate use is meaningless. Hold regular workshops so they can learn how to use PPE appropriately. Cooperation with experts such as experienced workers or PPE salespeople will help.

Regular meetings on PPE will help workers not only update their knowledge but also exchange experience or ideas on using PPE. If some consider that PPE is uncomfortable and ineffective in specific operations, rethink how you can substitute or isolate hazardous sources. Reflecting views from your workplace encourages workers' initiative and motivation.

SOME MORE HINTS

- Provide proper storage for PPE.
- Clearly mark areas requiring the use of PPE. Clear notices or signs on the necessity for PPE, such as "EYE PROTECTION REQUIRED", will help.

POINTS TO REMEMBER

Workers need fitted and well-maintained PPE for everyday use.



Figure 28a.

Hold regular workshops to learn the appropriate use of PPE.



Figure 28b.

Mark the areas where the use of personal protective equipment is required.

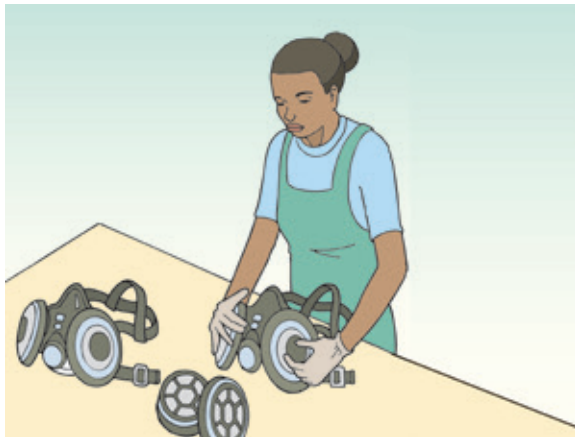


Figure 28c.

Regular maintenance of PPE maintains its effectiveness.



Figure 28d.

Provide proper storage for PPE.

VI. WORK ORGANIZATION

Work organization, including appropriate work hours, teamwork development and efficient work flow, promotes safety, health and productivity in your workplace. In addition, special attention is needed to the requirements of pregnant women, elderly workers, migrant workers and workers with disabilities. A workplace that is comfortable for workers with special needs is a comfortable workplace for everyone in your workplace.

CHECKPOINT 29: Combine tasks to make the work more interesting and varied.

CHECKPOINT 30: Organize and coordinate efficient teamwork.

CHECKPOINT 31: Adjust workplaces to meet the needs of pregnant women and workers with disabilities.

CHECKPOINT 32: Assist migrant workers in performing their jobs safely and efficiently.

CHECKPOINT 33: Set target hours of work and introduce measures to reduce overtime work.

CHECKPOINT 29:

Combine tasks to make the work more interesting and varied.

WHY

In many workplaces workers are assigned to carry out monotonous, repetitive tasks and concentrate only on their own operations without collaborating with others. At first this arrangement may seem efficient because workers' body movements are simple and it seems that their assigned tasks do not require extra effort. However, workers easily become bored with a monotonous job, and repetition of the same movements causes muscle fatigue and strain. Workers may also easily lose concentration.

Performing a combination of tasks is more interesting. Workers can defeat boredom and increase motivation. By changing tasks, different muscles are used and overuse of specific muscles is prevented. Workers are also able to experience and understand the entire production process. It is a good opportunity for them to develop multiple work skills. Multi-skilled workers will be able to help the company to organize a better flow of work.

HOW TO IMPROVE

1. Look at workers' tasks and body movements in your workplace. If some tasks are monotonous and repetitive, combine different tasks.
2. Let workers learn skills from each different task. Arrange autonomous groups of workers so they can help each other learn the necessary skills required to perform their new tasks.
3. Adjust workstations so that workers can do different assigned tasks at one location.

WAYS OF PROMOTING COOPERATION

Combining different tasks is efficient. Workers can avoid boredom, avoid using the same parts of their bodies, and reduce muscle strains. In this way workers can also communicate with each other and understand each other's tasks. Workers might even adjust their work for the convenience of the next worker's tasks.

Some workers might be reluctant to carry out different, new tasks. Explain to them that there are several advantages. Learning new skills will give them more opportunities for interesting jobs. They can understand every production procedure and will be able to make everything by themselves and even start their own businesses.

SOME MORE HINTS

- Hold a regular meeting to exchange ideas and experience for efficient and safe operations.
- Workers in different tasks can provide fresh views for improvement.
- Provide opportunities for communicating with other workers. Workers can stay alert without stopping what they are doing.
- When a worker is absent, let another worker replace him or her. This will be an opportunity to experience new work techniques and skills. A manual or instruction for the work will help workers.

POINTS TO REMEMBER

Combining tasks is a great way of defeating monotony and maintaining workers' concentration and comfort.

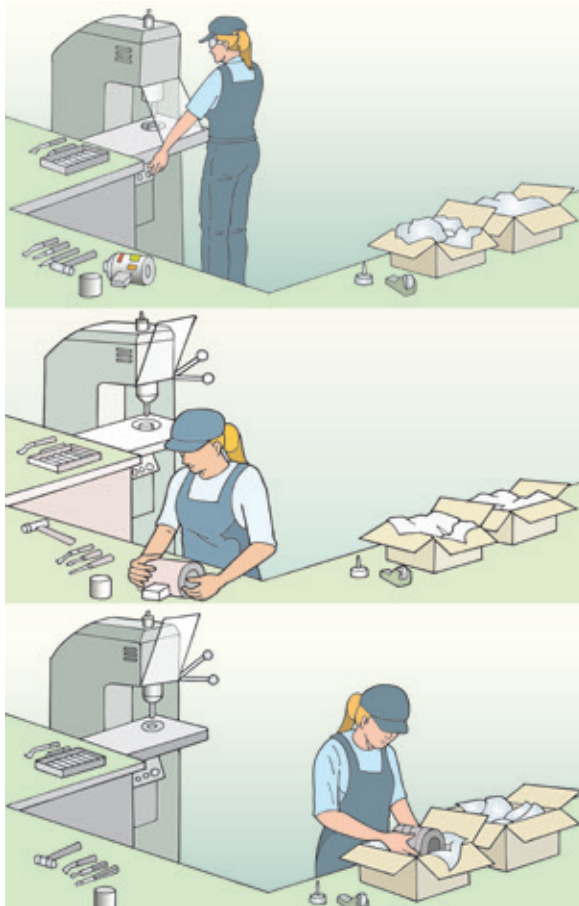


Figure 29a.

Frequent changes in tasks help workers to keep motivated and productive.



Figure 29b.

Group work to do a sequence of jobs can be a good starting point for improving communication.

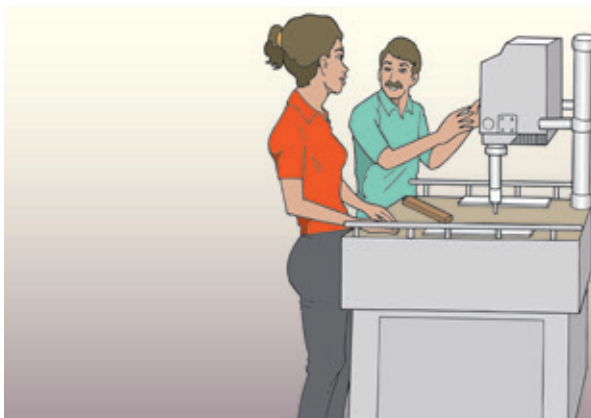


Figure 29c.

Allow workers to work at their own pace. Occasional communication with other workers keeps workers alert and productive.

CHECKPOINT 30:

Organize and coordinate efficient teamwork.

WHY

Look at your workplace. You may agree that many workers work individually. Much time and energy are also required to teach skills or procedures to each worker individually. If one worker is absent, the others may have difficulty finding a replacement.

You can solve these problems by establishing a team. As a team, workers can help each other to improve the safety, health and efficiency of their work and overcome their common problems. Team members can also exchange tasks to learn new skills. These workers can assist one another if one of the workers is absent.

If workers already work as a team, review the way in which they work with each other. Low-cost and simple improvements, for example in information-sharing, communication methods, and mutual understanding provide more effective team work.

HOW TO IMPROVE

1. Review your workplace. If there are some tasks that are difficult for individual workers, consider organizing teamwork.
2. Invite the views of workers on how to build a team. Ask workers doing related jobs to work around one table and then the workers will be able to help each other and share tasks.
3. Set up a team with both experienced and less experienced workers. This is a good way of establishing an efficient team that can share the work skills.

4. Encourage the team members to share the work progress and information within the group. For example, have short morning meetings, or set up a schedule board to enable everyone to learn and understand other members' work progress and support needs.

WAYS OF PROMOTING COOPERATION

Promoting teamwork might seem not to be easy, but you can start with simple activities. For example, short daily meetings are a great way of increasing communication between workers and of developing the sense of teamwork.

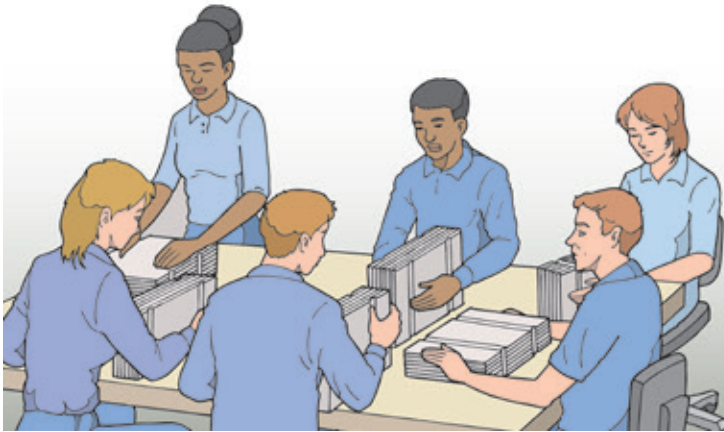
Establishing a good atmosphere for consulting with other workers is also an important element of good teamwork. Small improvements such as greetings, daily positive feedback and informal gatherings are the first steps for creating a supportive teamwork environment.

SOME MORE HINTS

- Ensure workers feel at ease in talking to their supervisors about their work or troubles.
- Encourage a mutually supportive climate in which workers can consult each other about their concerns.
- Ensure that all workers receive timely feedback about their work results.
- Organize more frequent informal or social gatherings and recreational activities.

POINTS TO REMEMBER

Working in a supportive team contributes to creating safe, healthy and productive work environments.

**Figures 30a.**

Placing experienced workers next to less experienced workers is a good way of sharing work skills.

**Figures 30b.**

When workers cannot solve their problems, provide teamwork support to find a solution.

**Figures 30c.**

Short daily meetings are a great way for workers to share their progress and obtain support from their supervisors and colleagues.

**Figures 30d.**

A schedule board for all members in a common place enables workers to understand and support other workers' tasks.

CHECKPOINT 31:

Adjust workplaces to meet the needs of pregnant women and workers with disabilities.

WHY

Pregnant women need special care. While they can contribute to work as much as other workers, it is possible that some types of work may cause harm to the health of an unborn child. For example, carrying heavy materials, awkward work postures, and exposure to hazardous substances should be avoided. Everyone at your workplace should understand this special need and support them.

Workers with disabilities such as mental, auditory, visual and mobility disabilities can work safely and efficiently if adequate support is provided. However they often face difficulties in their workplaces. For example, narrow passageways and height differences in passageways are hindrances to workers using wheelchairs. People should listen to their views and adjust workplaces so they can work safely and efficiently. The views of disabled workers can create safer, healthier and more productive workplaces for everyone.

HOW TO IMPROVE

1. Walk around your workplace, and identify operations and work areas that could be hazardous for pregnant or disabled workers.

For pregnant workers,

2. Hard work such as lifting or carrying heavy objects, and extended periods of standing or sitting, must be avoided. Instead, assign them to carry out lighter work. Exposure to chemicals should be avoided. Also provide frequent breaks.
3. Adjust work areas for pregnant workers. Provide a wider space so that they can work in comfortable postures and move easily.

For disabled workers,

4. Workers using wheelchairs can work smoothly and effectively if they have clear passageways with no height gaps or slopes. Switches and handles should be within easy reach of them.
5. Workers with visual disabilities may need work instructions set out in large letters. Visual instructions or pictures help workers with hearing disabilities to work safely. Listen to their views and find practical solutions.

WAYS OF PROMOTING COOPERATION

Understanding the needs of other workers is essential to ensuring a safe and efficient workplace for all workers. Support measures for pregnant or disabled workers will not work without mutual understanding. Promote teamwork efforts and hold meetings to exchange their ideas and experiences.

SOME MORE HINTS

- Use the rich work experience and skills of older workers, and provide them with adequate support. For example, instructions written in large letters or appropriate lighting help them to work safely.
- Allow pregnant and breast-feeding workers to work on a flexible work schedule. For example, they can come to work a little late in the morning or leave a little early. This will also benefit disabled and elderly workers by allowing them to avoid difficulties such as traffic jams or crowded transport.

POINTS TO REMEMBER

Small workplace adjustments enable pregnant and disabled workers to work in a safe, healthy and productive manner.



Figure 31a.

Pregnant women should avoid prolonged standing. A wider space for their legs and body clearance helps pregnant workers maintain a comfortable posture.

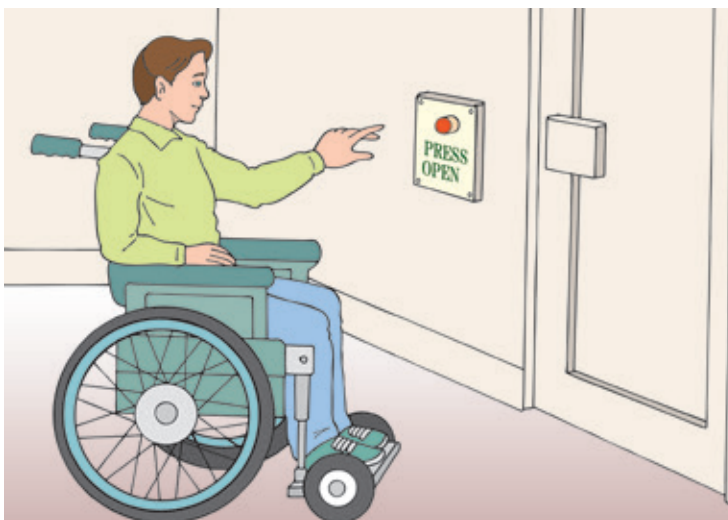


Figure 31b.

Attach equipment within easy reach for disabled workers.

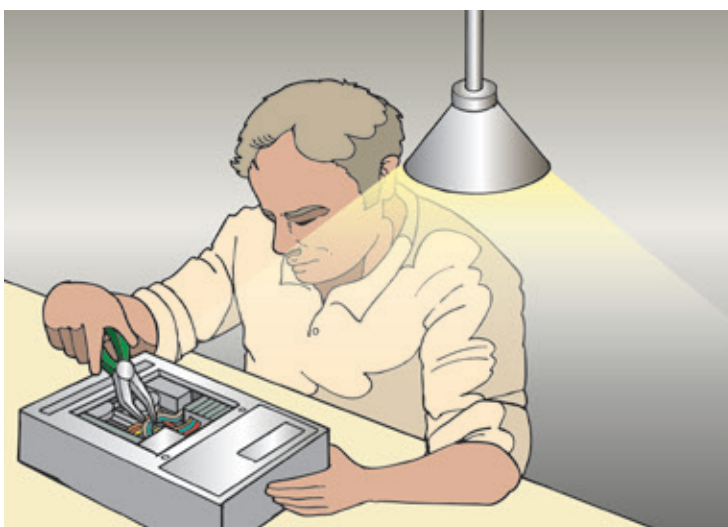


Figure 31c.

Appropriate lighting helps elderly people to work more safely and effectively.

CHECKPOINT 32:

Help migrant workers to perform their jobs safely and efficiently.

WHY

Through globalization there are more and more migrant workers in workplaces. Migrant workers contribute greatly to the economy and provide a labour supply to their recipient countries.

You need to pay special attention to meeting the needs of migrant workers in terms of culture, religion, or language barriers, and so on. Establish a cooperative atmosphere between local and migrant workers. With adequate support migrant workers can perform their jobs safely and efficiently.

HOW TO IMPROVE

1. Identify the specific needs of migrant workers at work. Give them the opportunity to express their opinions or complaints. A regular meeting between local workers, employers and migrant workers is a good idea. Discuss how the workplace can be adjusted to their needs.
2. Adjust your workplace for the benefit of migrant workers. Providing safety instructions in their languages should be the first priority. Also use clear safety signs that migrant workers can easily understand.
3. Hold safety and health training in the languages used by migrant workers at the workplace. The training content should include safety signs, rules, and instructions, along with health risks, protective measures at work and emergency actions.

WAYS OF PROMOTING COOPERATION

Some local workers might be reluctant to communicate with migrant workers because

of their differing backgrounds and languages. Simple ideas such as regular meetings and informal gatherings can break barriers and encourage communication with each other.

It is also important to create an atmosphere in which migrant workers can express their opinions or suggestions. For example, allow a new, inexperienced migrant worker to work with experienced workers who speak the same language. These experienced workers can help new workers acquire the necessary skills for work. They can also understand other problems such as working time arrangements, welfare facilities, food preferences, and religious requirements, and provide practical advice for improving the quality of their working lives.

SOME MORE HINTS

- Help local workers understand the cultural needs of foreign migrant workers as a standard requirement in building a safe and productive team.
- Introduce migrant workers to local support NGOs (non-governmental organizations) or migrant communities. They can help migrant workers overcome difficulties they experience in living overseas.
- Learn good example from other workplaces. Exchange experience with workplaces where migrant and local workers form productive work teams.

POINTS TO REMEMBER

Migrant workers can work safely and efficiently when provided with practical support such as training, teamwork arrangements, and cultural adaptation.



Figure 32a.

Explain workplace safety and health rules to migrant workers. Ensure that migrant workers clearly understand all safety symbols, signs, and instructions used at their workplace.



Figure 32b.

Develop and implement a workplace plan to meet the essential needs of migrant workers.



Figure 32c.

Add safety labels written in the languages used by all workers.

CHECKPOINT 33:

Set target hours of work and introduce measures to reduce overtime work.

WHY

The longer you work, the less productive you become. Overtime work increases fatigue and the time required for recovery. Workers have less time for sleep and refreshing, which decreases their productivity and slows their work pace. They may make mistakes, cause accidents, and even develop mental or other health problems.

Set target hours of work and find ways of staying within the target. Heavy workloads, shortages of manpower, and unnecessary meetings increase working hours. Consult workers on how to improve working-time arrangements and reduce overtime work. Having target hours of work is an opportunity for improving ways of working.

HOW TO IMPROVE

1. Review the working hours at your workplace. Check whether overtime work is always performed by one person or a single team. Also, if workers complain of excessive or chronic fatigue, it may be a sign that they are working overtime.
2. Discuss the reason for overtime work and how to reduce it. If there are unimportant procedures or meetings, eliminate them. It is also a good idea to share between members information on progress in carrying out tasks. Encourage workers to support each other with specific tasks. You can also ask other groups for temporary help.
3. Set target hours of work. Inform every worker of them and keep to them. Organize a special campaign to reduce

overtime work such as “non- overtime days”. Exchange ideas with people at your workplace, including the employer.

WAYS OF PROMOTING COOPERATION

Cooperation is vital to prevention of overtime work in your workplace. Employers must understand the importance of target hours and encourage workers to keep them. Employers themselves should also keep the target hours. Setting a trial term for reducing overtime is one good way of promoting understanding. Establish mutual support between workers and employers. Daily communication and sharing of good progress is the first step in building supportive relationships.

SOME MORE HINTS

- Allocate flexible work hours to accommodate the personal needs of all workers so that they can spend more time with their family and friends. Flexible work also helps workers requiring special care, such as pregnant, breast-feeding, elderly or disabled workers.
- Introduce some tips for target hours. For example, playing music and turning off the lights to signal the end of working hours are good ways of creating an atmosphere which encourages workers to finish their work.
- If your workplace introduces shift work, make sure there are an adequate number of days off between shifts. Rearrange shifts to avoid continuous or excessively long shifts.

POINTS TO REMEMBER

Setting target hours for work can make work more comfortable, efficient and productive.



Figures 33a.

Rearrange work schedules regularly to avoid excessively long shifts.



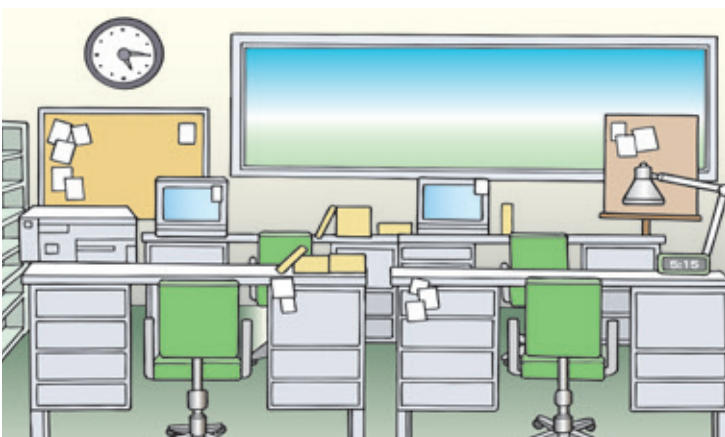
Figures 33b.

Introduce flexible work hours to meet the needs of workers.



Figures 33c.

Make possible sufficient time for the social and family needs of workers.



Figures 33d.

Set target hours of work and introduce measures to reduce overtime work (e.g. by “non-overtime days”).

Global Manual for WISE

Work Improvements in Small Enterprises

The Global Manual for WISE (Work Improvements in Small Enterprises) is designed to assist employers and workers in small enterprises from the manufacturing sector in creating safe, healthy and productive workplaces. In this manual, employers and workers will find many practical ideas in full-colour illustrations to improve key aspects of safety, health and productivity such as materials handling, workstations and work tools, machine safety, working environment, the control of hazardous agents, provision of welfare facilities and improvements in work organization. The emphasis of the manual is to provide easy-to-apply and low-cost solutions using locally available materials. The methodology also intends to promote collaborative action between employers and workers to implement the practical measures at the workplace.

This manual was built in the 27 year-experience of ILO's participatory action-oriented approaches to improving safety, health and productivity, and incorporated the knowledge gained on the good practices collected from different parts of the world. Many employers and workers in small enterprises will find this manual useful in practice.