

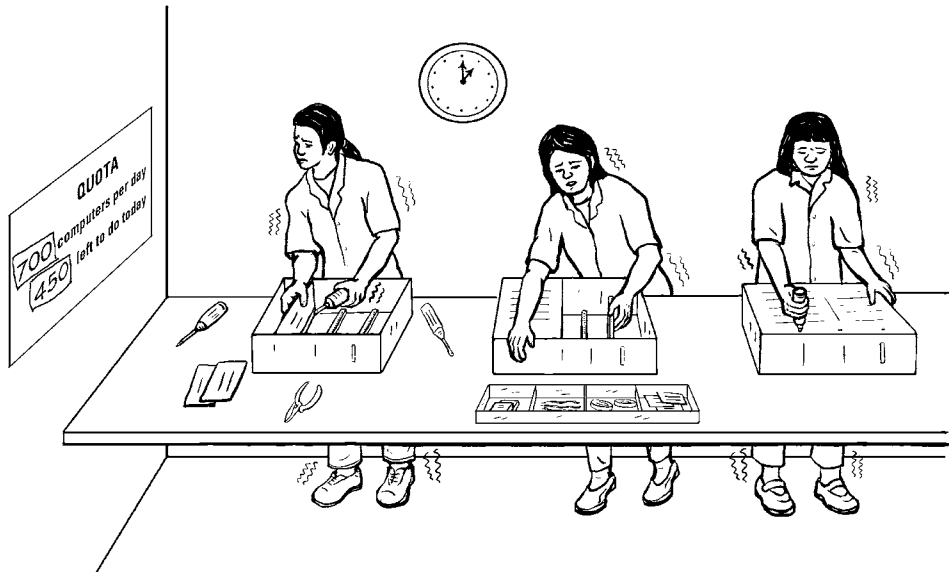
PART 3

Work Dangers and Solutions

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7

Ergonomics



We are not machines. When workers do the same work over and over without enough rest, our bodies become tired and hurt. Our mental health can suffer, too (see chapter 27: Stress and mental health).

Ergonomics helps us understand how work can hurt our bodies and what we can do to reduce and prevent injuries from repetitive work and overuse of our muscles, joints, and tendons.

Tired eyes and muscles that have a sensation of discomfort are the first signs that work is pushing you past your body's limits. Eye and body strain, aches, tingling sensations, numbness, weakness, or pain in any part of your body are signs that your work is injuring you.

Ergonomic injuries can be prevented by making changes to the way work is done, improving our postures and how we move our bodies, and by ensuring tools, equipment, and workstations fit workers and the jobs they do. Anything that reduces the stress and strain on your body can help protect you.

If you already have pain, see a health worker and also read pages 143 to 149 for movements and treatment that can help you feel better.

Small changes make a big difference

Working as a sewing machine operator in a garment factory in Oakland, USA was hard work. We would get there early and leave late, and every day our bodies hurt. But it was a good, steady paycheck.

We heard about an organization called the Asian Immigrant Women Advocates (AIWA) which was helping people in other factories in Oakland. When we first met them, they listened to us talk about our work and our jobs. For so long we felt that nobody cared about our problems, but AIWA did. We could not stop ourselves from crying during that meeting.

Then we met women from other factories. We talked about our aching shoulders, backs and arms, and the constant pain in our elbows, wrists, and hands. We talked about going home and being too tired to care for ourselves and our families. We learned we were not alone in our pain.



AIWA connected us with the Ergonomics Program at the University of California. They taught us about our bodies and how the workplace could be changed so we didn't have to live with pain.

We discussed changes needed at our factory. We focused on reducing knee pain because everybody had it, and decided to try padding the knee switches on our machines. It worked! The very next day we had a little less pain. Such a small change made a real difference.

Slowly we began to push for other changes. We put footrests under the machines and got new, tilted tables so we could see our work better without bending forward. We even got padded and adjustable chairs!

Before AIWA, we never knew the power we had to improve our workplace. We thought pain from working was just the way work was. This lesson we learned from the project was something we took with us even after we left the factory and it has changed our lives.

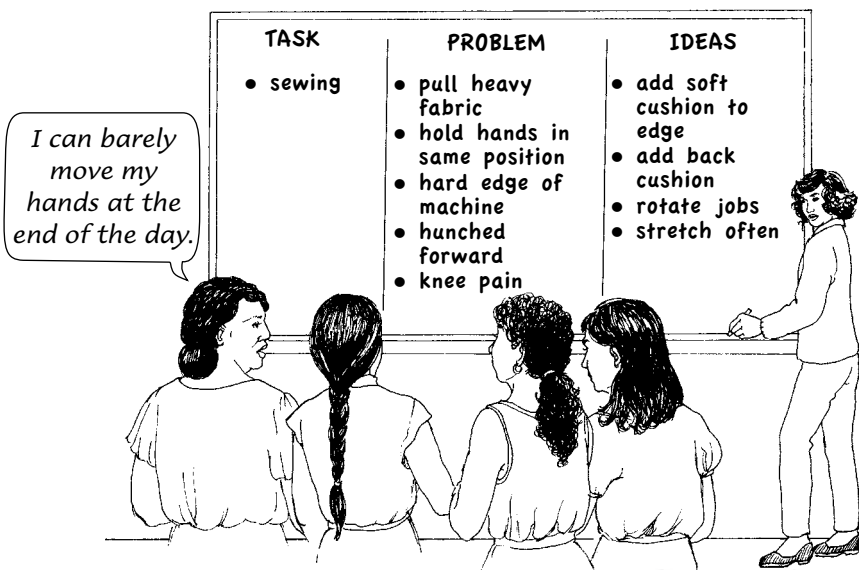
Reduce your risk of injury

Changing tools, machines, workstations, and work processes can reduce pain and injury. Some solutions can be done by workers themselves. Some will require organizing and unity among workers to convince the boss.

- Change positions during the day and move your eyes and body as often as you can in the opposite direction from how you move them while working.
- Listen to your body and find out what processes are causing you pain. Talk with other workers to find out if they also have signs of strain or overuse. Carry out the survey Strain and overuse injuries in your factory, on page 126, or do the activity Draw a map of the body, on page 42.
- Massage yourself, stretch, and strengthen your body to treat strain early and avoid further injury. See Stretches and massage reduce pain, on pages 143 to 149.
- Find ways to modify your workplace to fit you and organize to make them happen in your factory. See Workplace changes to reduce injury, on page 127.
- Find ways to change how work is done so it does not exceed your physical limits, and organize to make these changes happen for others in your factory as well. See Protect workers from injury, on page 141.



Convincing the boss that better ergonomics is good business was the hardest part. He didn't agree to many changes at first, but now he understands that if our bodies stay healthy and strong, we will work well—even better than before!



Activity

Ergonomic dangers in your factory

These numbered survey questions are followed by information suggesting what changes might be made to respond to people's answers. When you make your own survey, thinking ahead about how you would improve working conditions can help you better form your questions.

1. Do you have **tingling, weakness, or pain**? Where?
2. Do you **repeat** the same movement over and over again?
Tools and materials that fit your hands comfortably will make repetitive movements less harmful to your body. But the best way to reduce the harm from repetitive work is to have less of it.
3. Do you work **long hours** without breaks?
Your body needs time to recover from the stress and strain of work. Take breaks during the day and take time to relax after work.
4. Do you work in **uncomfortable** positions?
Tables, chair, and workstations that fit your body reduce twisting, bending or stretching too much.
5. Do your body and eyes **stay** in the same position for a long time?
Your body and eyes need to move around to stay healthy and strong.
6. Do you **lift** heavy loads?
See Lifting, carrying, and moving supplies safely, on pages 136 to 140, for ideas on how to lift safely and which lifting and pushing tools can help prevent and reduce injuries.
7. Do you retrieve **heavy items** from high or low places?
Store heavy things or items you use often at waist height to prevent strain.
8. Do you use too much **force**?
Using your fingers, hands, and arms to pinch, pull, or hold too hard can injure you.
9. Do you use furniture or equipment with **hard or sharp edges**?
Reduce or eliminate hard edges on tables and tools by covering them with soft material.
10. Do you work with tools that **vibrate**?
Stand on padded mats to reduce the impact of vibration on the body. The best solution is to rotate jobs and not use vibrating tools more than a few hours a day.
11. Do you work in very **cold** or very **hot** temperatures?
Both can increase your risk of getting injured by repetitive work.

Activity

Using a survey to improve ergonomics

You can use the questions on the previous page to help you organize a survey in your factory. A survey gives you a reason to talk to every worker (see page 39). You can find out what problems your co-workers think are most important, who is eager to help change conditions, and who will work on making or expanding a network for sharing information among workers. A survey can also create a shared understanding among workers and build hope that change is possible.

Review and change the questions to fit your situation. Add questions that are specific to each production line and work process. Do not forget the cleaning and maintenance workers who move around the factory.

Gather a group of workers to review the questions and create new ones. The group might decide to ask about pain and injuries or the number of hours worked over the past month. Workers in different departments will have different questions. You might need to ask questions in several languages so all workers can participate. Ask workers with the most interest to help gather and evaluate information and then to plan a campaign.

Recruit workers from each work area to survey 5 to 10 co-workers. With a committee of volunteers, it should be possible to talk with every worker in the factory, even a large factory. Volunteers could speak with workers individually or in small groups at lunch or after work.

Record what workers say and discuss their answers as a group. Note when workers agree or disagree on problems and solutions. Depending on their jobs, gender, or general health, workers often have different opinions. Note who seems most interested. Maybe they will lead the push for changes in their area.

Summarize the responses to the survey and share them with all workers.



People were very eager to talk with other workers about their jobs and about what hurt. A few were surprised... nobody had ever asked them before. We found that almost everybody in the factory had strain and overuse pain. Some had severe problems. When we informed everyone about the survey results, people got angry at the boss and wanted to do something. We arranged a training in ergonomics from an NGO and created a health and safety committee. Changes come slowly, but knowing others care about their pain keeps people motivated.

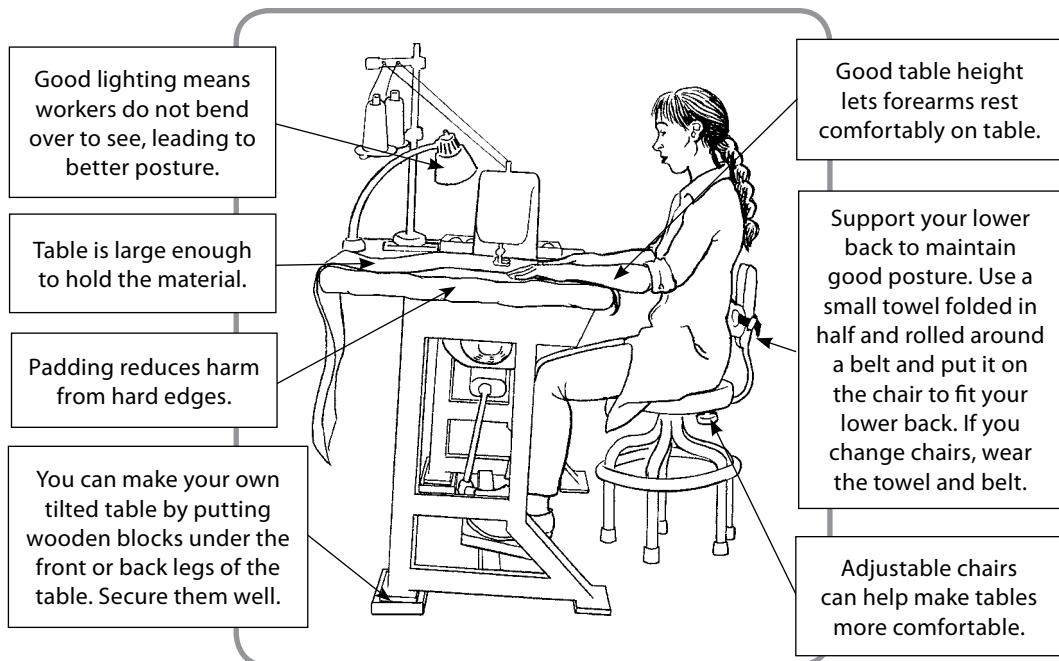
Workplace changes to reduce injury

There are ways to change the workplace to prevent and reduce pain and injury from strain and overuse. Here are some examples.

Tables that fit you

A table should be the right size and shape for the task you are doing and the right height for you:

- If you are sitting, your arms should rest comfortably on the table with your wrist mostly straight. If the table is too low, you will have to hunch forward straining your neck, back, and shoulders. If it is too high, you will have to raise your arms, straining your shoulders, neck, and upper back.
- A table should be big enough to hold all the materials you need to do your job. It should be high enough to allow your legs to fit underneath.
- A table tilted towards you makes it easier to see your work without bending forward. If you sew heavy fabric, a tilted table might help pull the fabric through the machine.
- Edges should be padded to put less pressure on your arms.



Tables for when you stand

If you work standing, use your elbow to determine the safest height of your table. If you are doing very precise work, your table should be a bit higher so you can rest your elbow on the table. If you are doing assembly work that requires you to use some force, it is better for the table to be a bit lower than your elbow.

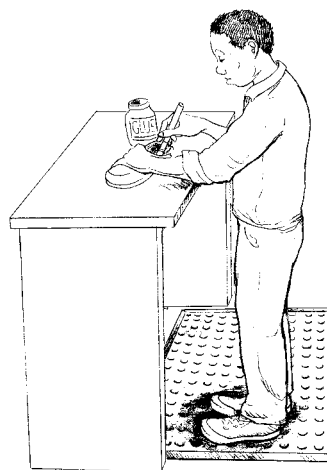
The best tables for people who work standing are ones that can be adjusted up or down to fit each person who uses them. Adjustable tables can also make it easier to switch between sitting and standing.

If you can not get an adjustable table, change your table to fit you better. If the table is too short for you, add blocks under it or raise the work closer to you. If the table is too high, you can stand on a platform. Make sure any changes you make to the table are safe, secure, and will not cause new problems.

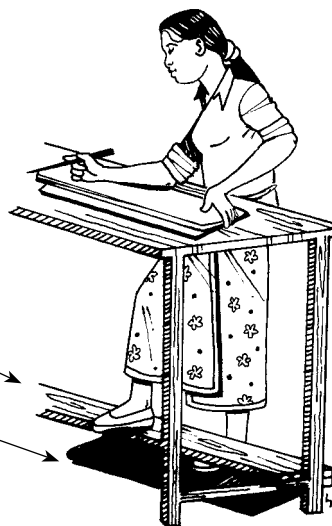
Soft-soled shoes and padded floor mats can reduce leg pain for workers who have to stand for long periods of time.

Standing is also easier on your back if you rest one foot on a brick or a block of wood and change positions during the day. You can make a footrest by taping stacked cardboard, paper, or a piece of wood to the floor. Make sure the footrest does not get in the way of a machine pedal and is not too close to electrical connections.

But standing too long is not good for your back either. Use a high stool or a sit-stand chair (see next page). Take regular breaks to sit or walk around.



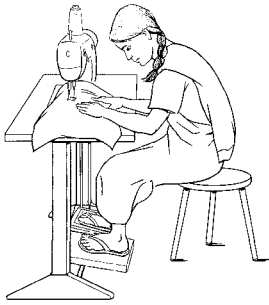
A padded floor mat might reduce the pain and health problems caused by vibrating tools.



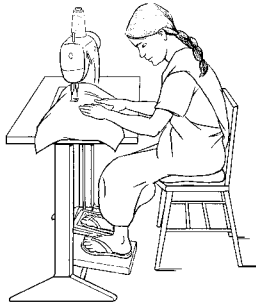
footrest
padded mat

Chairs

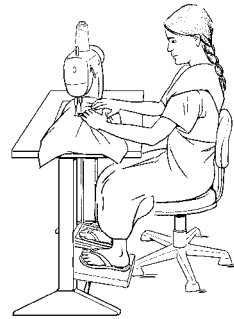
A chair should support your legs, hips, back, and body while you work. To be comfortable, a chair needs to fit the size and shape of the worker who sits on it, and have a padded seat and backrest.



Bad: hard chair or stool

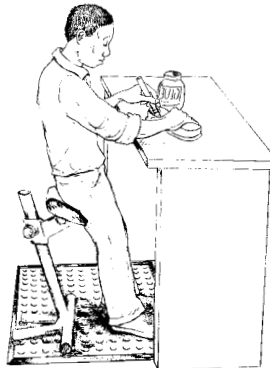


Better: chair with cushion and backrest



Best: adjustable, padded chair with backrest

Adjustable chairs can fit many different people. The chair should be adjustable for height, tilt of the seat and backrest, and height of the backrest. Small changes can make your chair or table fit you better (see pages 127 and 130).



A "sit-stand" chair lets you alternate between sitting and standing with support.

Now we have chairs!

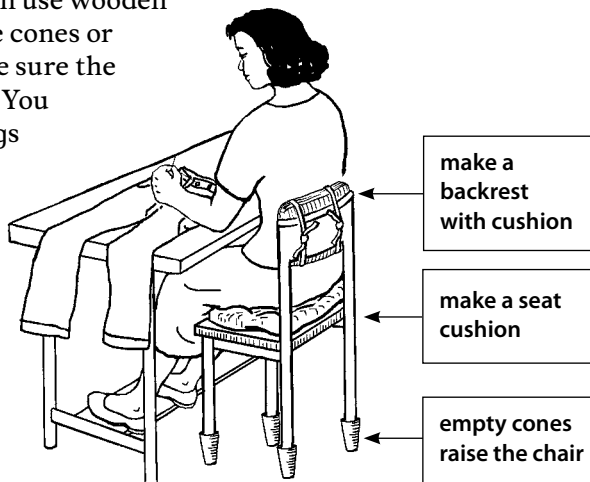
We didn't have chairs at our factory in the United States. When our backs and knees hurt from standing, we sat on empty buckets. We told our union representatives, and they raised the problem with a joint worker-management committee in charge of preventing injuries. Under our union contract, the committee can demand that the boss make changes to protect workers' health. Now we have chairs with backrests and foot rails. I change between sitting and standing every hour. And I feel the difference!



If all you have is a stool or a non-adjustable chair, you can still make it fit you better:

Make the chair taller so your arms can be at a comfortable length from the table: Use items from your workplace to make chairs taller. Garment workers use thread cones and spools. You can use wooden blocks or other materials. Check the cones or other materials for cracks and make sure the chair is stable and does not wobble. You might have to attach them to the legs or make the chair taller by adding a cushion to the seat.

Make the chair more comfortable so it does not hurt your legs and back: Add a cushion to the seat or backrest. To give good support, a backrest should fit against your lower back and help you sit upright, with a slight forward curve in your lower back.



Attaching fabric or other padded material to the hard edges of tables and chairs will also protect you from pressure while sitting or leaning.

If your feet do not touch the floor, add a platform underneath them.

How to

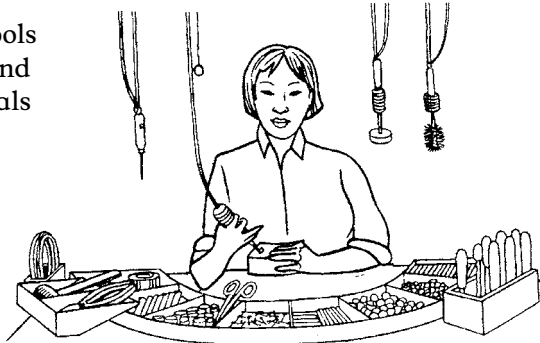
Make a seat cushion

1. Use rough material to keep the cushion from slipping. Attach the cushion to the chair with string, tape, or strips of fabric.
2. Use a firm cushion. Material that is too soft will quickly lose shape and support.
3. Adjust the thickness of the stuffing so you can work at a comfortable height. Too high will make you bend your neck forward. Too low will make you raise your arms or shoulders.
4. Make the cushion wedge-shaped to allow your knees to be a little lower than your hips.



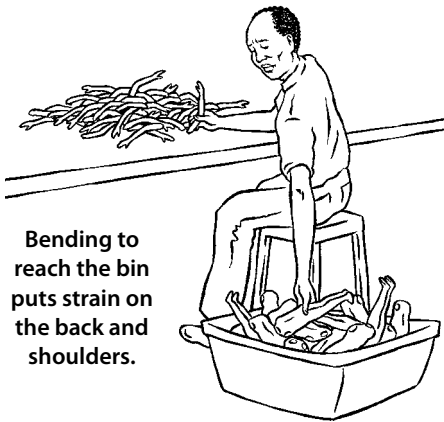
Workstations

Rearrange your workstation and tools to reduce the amount of reaching and bending you do. Put tools or materials in constant use (such as scissors, drills, and glues) in front or beside each worker in a way that limits reaching to about 40 centimeters (16 inches) or less. That is about the distance between the tip of your middle finger and your elbow.

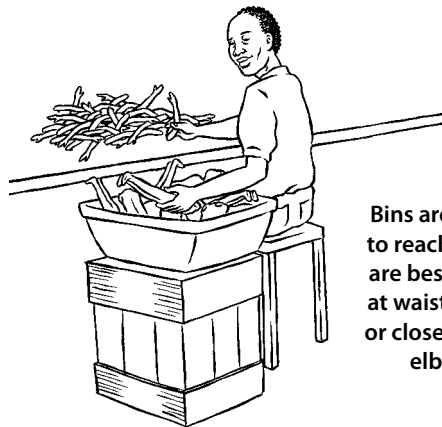


Parts and tools should be easy to reach.

Workers who sit down can place bins and carts as close as possible to their chairs, or far enough away that they must stand up and move to use the bins. Alternating between sitting and standing reduces body strain during the workday.



Bending to reach the bin puts strain on the back and shoulders.



Bins are easier to reach if they are beside you at waist height or close to your elbow.

Add good lighting to your workstation

Workers need proper light to see clearly. Bending, squinting, and straining to see your work can injure your back, shoulders, neck, and eyes. An adjustable task light at each workstation can put more light where it is needed most. For more ideas about improving lighting in the factory, see chapter 14: Light.

Switches and pedals

Foot pedals, knee switches, and other controls are safest when you can operate them without using much force.

Machine switches, levers, and handles should be easy to reach without stretching, bending, or raising your arms above the shoulders. You should be able to operate a switch with only a small movement of your arm, leg, or foot.

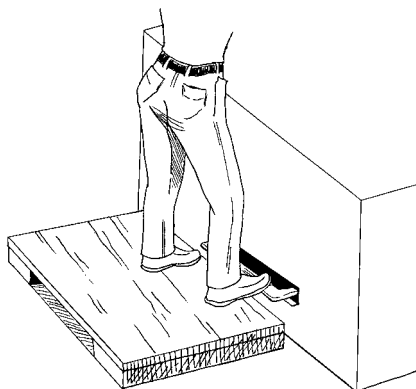
Foot pedals are best for seated jobs. Raising your foot off the floor every time you press the pedal strains the legs and lower back, especially if you are standing. A pedal wide enough for both feet allows you to use either foot or alternate between feet.

A pedal should be positioned so you can sit or stand at a comfortable distance from the machine. A moveable electronic treadle may be the best choice for machines shared by workers on different shifts.

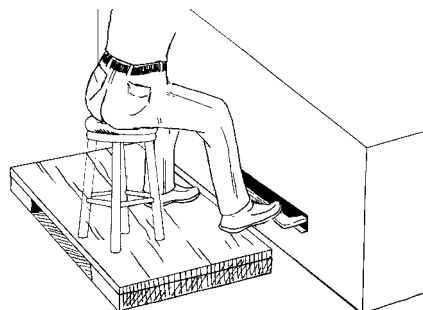
Pedal-operated machines should have safety systems to protect you from injury if you accidentally hit the pedal.



A platform can also make it easier for shorter people to reach switches, controls, and handles comfortably.



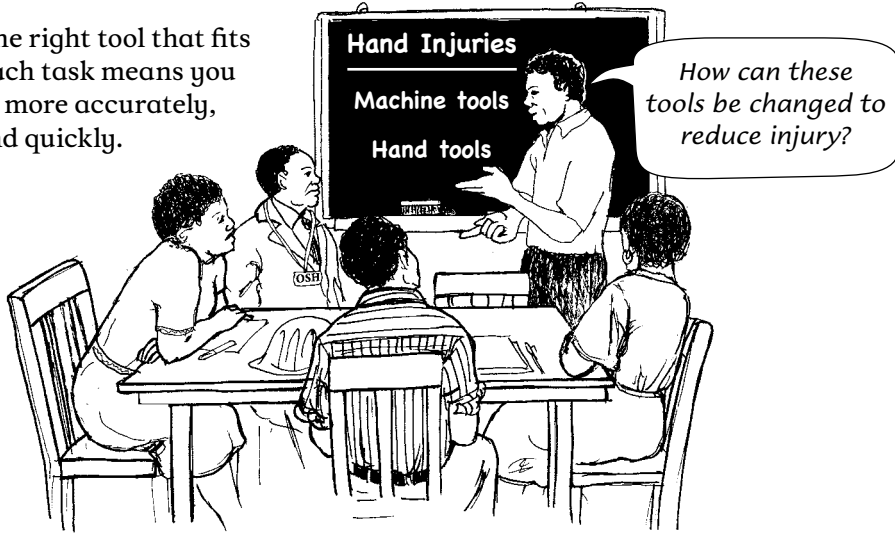
The platform helps reduce strain from pressing the pedal, but operating a pedal while standing can hurt your back.



Using a chair or stool can help.

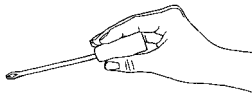
Tools

Having the right tool that fits you for each task means you can work more accurately, safely, and quickly.

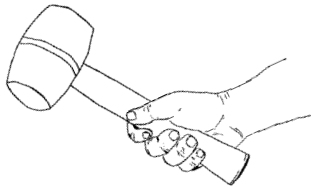


Fit each worker's unique hands

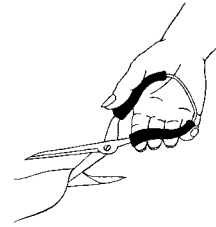
Most hand tools come in different shapes and sizes, just as workers' hands also come in different sizes. To help prevent strain to fingers, hands, arms, and shoulders, each worker should use tools that fit the size and shape of her hands.



Tools you hold with your fingers for control and accuracy should be small enough to hold between your fingers and thumb.



Tools you hold with your whole hand for power, such as a hammer, should be large enough so your fingers wrap comfortably around the handle.

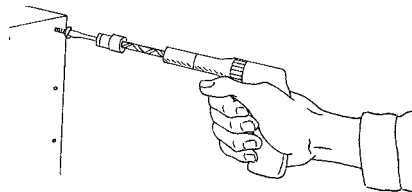
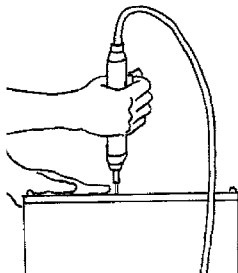


Tools with 2 handles should close easily and open on their own. Often they have a spring that pushes the handles back open.

Designed to make work easier

A tool should be only as large and heavy as needed to do the job. The shape and features of a tool, such as a bent handle or a ratchet, can make repetitive or forceful tasks easier.

Tools with straight handles keep your wrist straight when you point the tool in a direction other than the way your arm points.

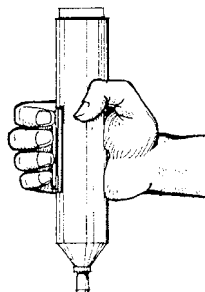
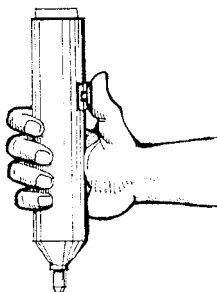


Tools with bent handles keep your wrist straight when you point the tool in the same direction as your arm.

Have comfortable handles

A comfortable handle fits in your hand. It is not too large or too small to grip, and does not have sharp edges that press into your fingers or palm. It does not put your hand or fingers in unnatural positions.

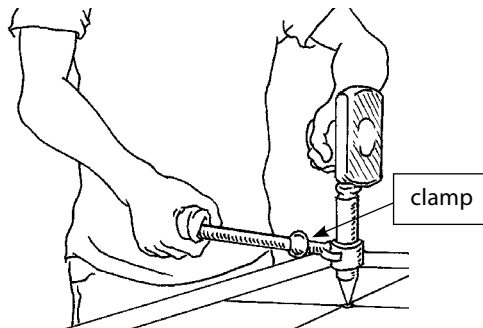
With this tool, the thumb has to stretch and work alone to press the trigger.



With this tool, the fingers share the work of pressing a wide trigger. The thumb helps grip and guide the tool.

Rubber sleeves over handles can reduce injury from vibration. But they have to fit the tool well. A rubber sleeve can make the tool less stable and increase the danger of injury. A sleeve can make the tool wider. Do not use a rubber sleeve if it makes it harder for you to grip the tool comfortably.

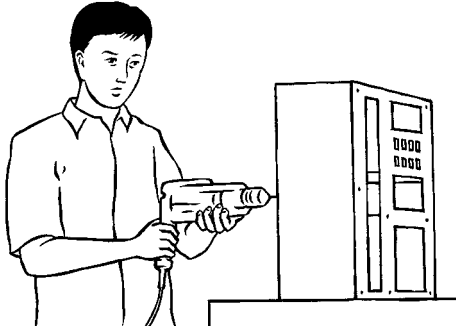
Clamps and handles help you grip tools and parts more securely. Handles also help protect your hands from sharp points and edges.



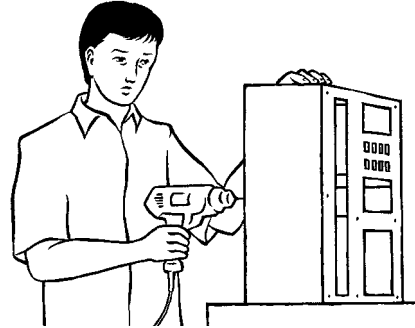
A clamp can be used as a handle to hold a tool.

Balanced weight

A balanced tool is evenly weighted so you do not have to strain to hold the tool in position. Tools should be balanced for the way they are used.

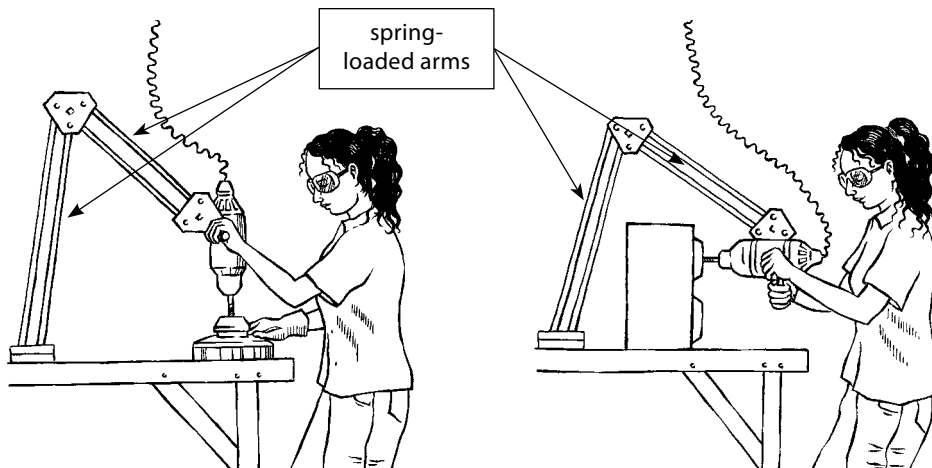


This drill is unbalanced because the handle is behind the heavy motor. To use the drill you must support the front end with your other hand.



This drill is balanced because the handle is below the heavy motor. This drill can be used easily with one hand.

Supporting heavier tools with a spring-loaded arm positions them in the right direction for work, so you do not have to pick up, set down, and support the tool each time you use it.

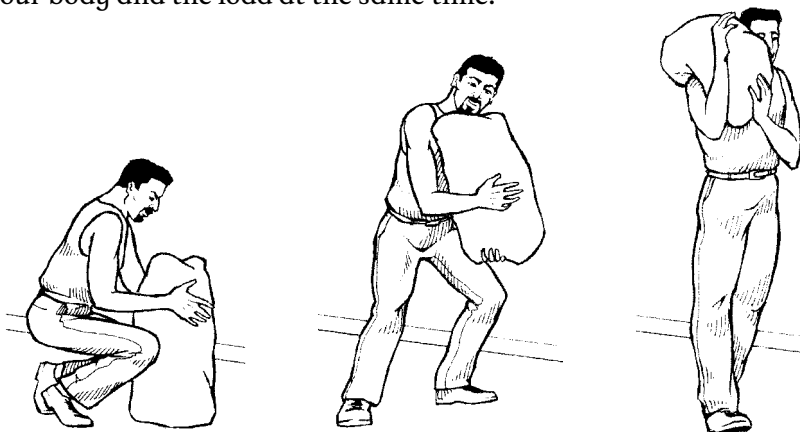


Spring-loaded arms hold the weight of the drill while the worker is using it.

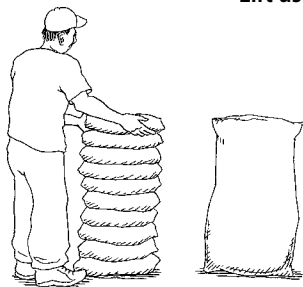
Lifting, carrying, and moving supplies safely

Moving supplies, materials, products, and waste around a factory can be hard work and causes many injuries. Using more machines instead of people to do the work may reduce some kinds of injuries, but may also reduce the number of workers needed to do the job. It is important for workers to discuss how any workplace changes can protect both their health and their jobs.

If you must lift things from the ground, try to lift with the load close to your body, with your back straight and feet stable on the ground. Use your legs to lift your body and the load at the same time.



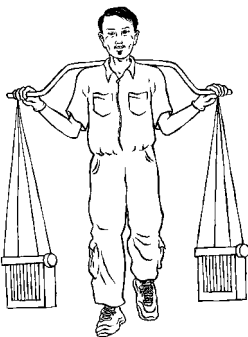
Lift using the strength in your legs, not your back.



Divide materials into smaller loads. It might take a bit more time to move them all, but it will be safer and healthier for your body. Employers can tell suppliers they will only buy materials in smaller bags or containers.

Ensure containers have good handles.

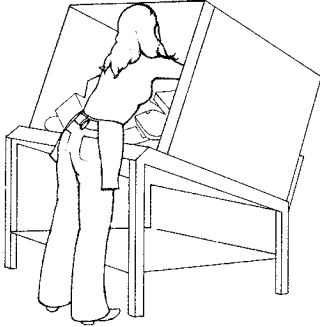
Also make sure there are no sharp edges on boxes, barrels, bins, and equipment to make them safer to carry without hurting your hands and arms.



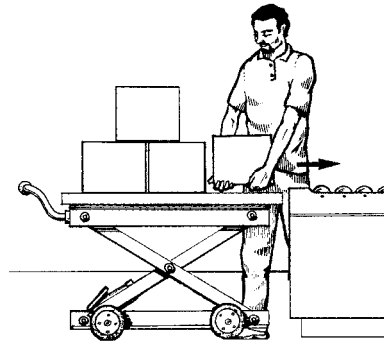
Carry balanced loads. They are easier to carry than a load carried on one side. Pack the loads to prevent the contents from shifting.



Make factory surfaces the same height. This reduces lifting from the ground and above the waist. Carts with shelves at the same height as work tables make loading and unloading easier.



Have or make raised, tilted bins and spring-loaded bins. Bin bottoms that rise as the bin empties reduce the need to bend over to reach parts at the bottom of the bin.



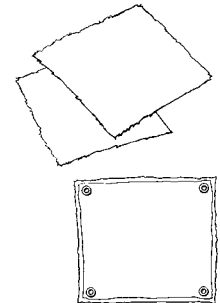
How to

Make a spring-loaded cart

Adding a spring-loaded bottom to a deep cart can make it easier to reach items at the bottom of the cart. The spring-loaded bottom moves up as you unload the contents of the cart.

Materials needed: canvas fabric, grommet-holer or button-holer, 4 strong elastic cords (bungee cords).

1. Make a rectangle out of the canvas to be the false bottom for the cart. You may need two or more layers of fabric.
2. Make a hole in each corner of the canvas rectangle. A reinforced button hole or metal grommet will last longer than a punched or torn hole.
3. Place an elastic cord through each hole in the canvas and secure it. Place the canvas in the cart and secure the other end of the elastic cords to the cart's top corners.
4. Adjust the length of the elastic cords to allow the false bottom to rise to just below the top of the cart when it is empty. The cords should stretch to the bottom when full. If your cords don't do this, use a different kind or different length cord.



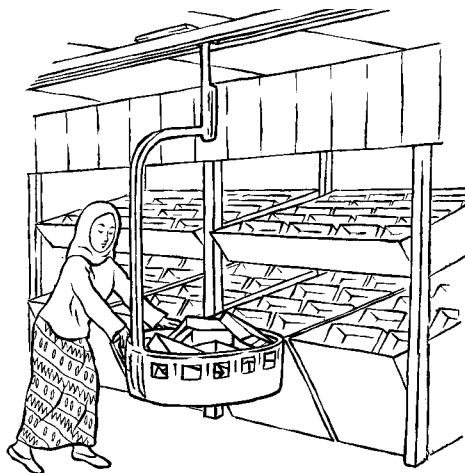
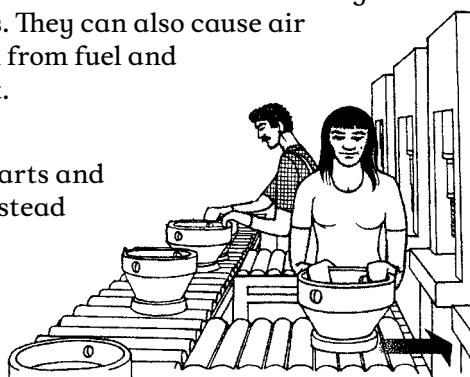
Use mechanical or power tools



A **hand truck** can help you move heavy materials, but do not overload it.

Use powered machines, such as **fork lifts, conveyor systems, and rail systems**, to do the work of lifting and moving materials. This eliminates those dangers for the worker. However, these machines add new dangers to the workplace, such as injuries from fork lift collisions or moving conveyor parts. They can also cause air contamination from fuel and engine exhaust.

A **passive conveyor** allows you to push parts and boxes over rollers between workstations instead of carrying them by hand or cart.



A **rail system** allows you to push or pull parts or tools around the work area from a rolling holder. This is especially useful when things need to hang, such as finished clothing or material ready for dipping or spray coating.

In an ergonomics training we learned that pushing carts was better than pulling them. Pushing hurts our backs less. We also put a little less weight in each load so it is less effort. We make a few more trips but the lighter loads hurt us less.

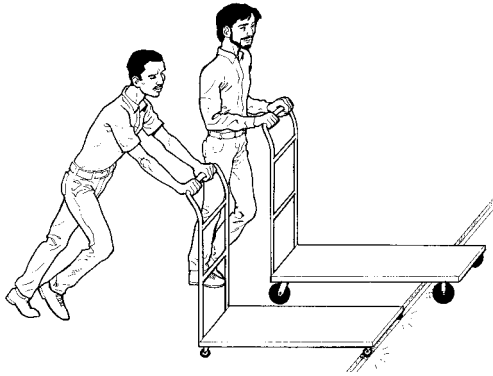


Make sure moving equipment has good wheels

Wheels make moving easier. Wheels that are kept in good repair and changed when they are broken will make hand trucks, trolleys, carts, and bins more useful.

Wheels **covered with rubber** or a similar plastic last longer and are easier to move than uncovered metal wheels.

Carts are easier to move when the **back wheels swivel**.

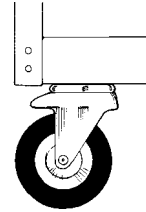


A workstation **bin on wheels** can be used to bring supplies and remove waste in the same container, reducing the need to move things from one bin to another.

Wheel brakes help workers control movable equipment and keep it from moving unexpectedly. Moveable bins, carts, and tables should have brakes on the wheels. You should be able to easily lock or unlock wheel brakes with your foot. You should not have to use much pressure or bend over to do this.

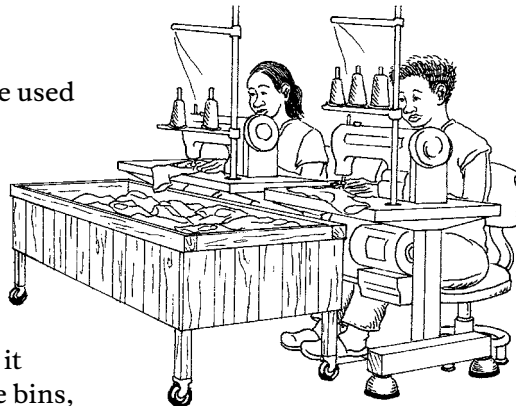


Wheels need to be cleaned often to keep turning smoothly. You can remove dirt and debris from a wheel with a stiff brush, but replacement wheels are needed when a wheel can no longer be cleaned or repaired.



Use carts with **good, sturdy wheels**.

Larger wheels are easier to push and maneuver, especially on rough floors and over gaps in the floor.

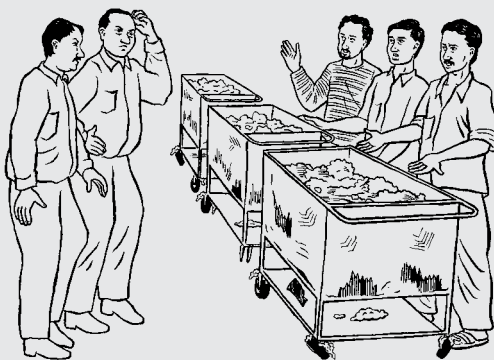


A parade of broken, squeaky carts

Our factory creates a lot of waste that makes the factory floor wet and sticky. When workers move products around the plant, the waste on the floor gums up the wheels so the carts do not roll smoothly and get banged up. The wheels also rust because they are rarely cleaned or repaired.

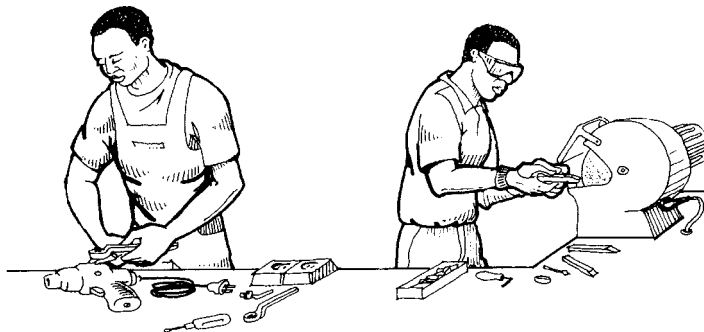
The union had asked for new carts several times, but the boss didn't respond. One morning, we lined up all the carts in front of the door to the office. Everyone who passed through that door had to look at the broken carts. When the managers arrived, they didn't understand why the carts were in front of the door. The director came and asked what was going on. He ordered us to remove the carts, so we did.

The carts made a terrible noise as they lurched forward, bumping into each other because the wheels would not turn smoothly or straight. The director glared at the managers and slammed the door as he returned to his office. New carts arrived 3 weeks later!



Maintenance and repair

Workers do their jobs best when their workstations, tools, and equipment are clean and in good repair. Dull cutting tools, machines clogged with dust, and unstable furniture can cause strain and other injuries. Poorly maintained machines are noisier, less efficient, and break down more often. Good maintenance is good for safety and good for business.



Regular maintenance makes equipment last longer and prevents injuries.

Protect workers from injury

Working too much and too fast causes ergonomic injuries, even when workstations fit workers. To prevent strain and injury, workers also need better working conditions.

Less overtime

Letting our bodies rest and recover between work shifts helps prevent strain injuries. But for many workers, overtime is either forced or they need it to make enough money. Any campaign or organizing to limit overtime should go along with a campaign to improve wages. (See chapter 19: Working too much, too fast, for too little money.)

Piecework and incentive pay force workers to work as fast as possible, often past their physical limits. Campaign to switch from a piecework pay rate to an hourly wage system.

Varied tasks

Do different jobs and tasks during the day. Changing from jobs that are sitting to ones that are standing gives workers an opportunity to move different parts of their bodies. Being able to rotate among jobs or workstations makes work more interesting and gives workers the opportunity to learn new skills. This also benefits the company.

Training

Demand training for all workers on how to do jobs safely, taking into account each worker's size and strength. If you know how to do a job in a way that causes less strain, show your co-workers.

Shared workloads

For jobs that are very hard on the body, such as lifting, having two or more workers do the job together can reduce the risk of injury.

Regular breaks

Having several regular breaks during the day to move the body, rest, and drink water helps workers stay healthy. During breaks, move your body! If you work sitting, stand up and stretch your back.

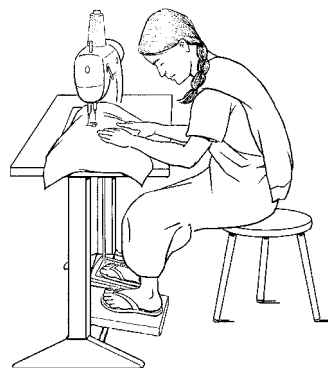
Some employers might fight against more breaks. But pain and illness reduce productivity more than breaks do. Everybody works better when they are healthier and happier.

Use your body more carefully

As you make workstations more ergonomic and change working conditions to reduce strain on the body, you can reduce some of the strain of work by improving your posture.

Change your posture several times during the day. Stretch your body in ways that are the opposite of your work movements. Use any moment you can during the day, such as breaks, shift changes, process changes, or other regular occurrences as a reminder to change your posture:

- Straighten your back, keeping it relaxed.
- Push your chest out.
- Relax your shoulders and pull them down.
- Bring your head up above your neck. Keep your neck straight and relaxed.



A rounded back and neck pull at back and chest muscles and cause muscle strain.

Move differently at work

How you work becomes a habit very quickly. Even when you want to change, it can be hard to remember to do things differently. But don't give up! Make small changes where and when you can to improve your posture and how you move as you work. The more you repeat the new ways, the more natural they will feel. It takes time and practice to change old habits.

Change the way you move at home

Chores at home can also add to pain from strain and overuse at work. When women do housework after working in the factory, they further injure their already tired and stressed muscles. If you have pain from work, ask your family to help more in the home. Men and boys can do housework, too! See the activity *What do you do in a day?*, on page 313.

Stretches and massage reduce pain

Aches, pains, swelling, tingling, burning, or numbness in the parts of your body you use on the job may be signs of injury from repetitive work.

Resting can help your body heal. But movements, such as stretches, massage, and exercise, may also help reduce and prevent injury. Do the movements in this section or other things known in your community to help lessen muscle and joint pain.

Pain is common but it is not the only way

Every person I know, even the new hires at my factory, feels pain from working. I don't think there is a single factory worker that is pain-free. But after a recent ergonomics training where we learned that work could be modified to not hurt us, we were very excited: maybe work didn't have to be so painful. We made small changes in our workstations that made work easier. Some of us went to the boss to ask for better tools.



The boss listened to us, but nothing changed. And the improvements we made helped a little, but we still had pain. Many workers became discouraged. They said, "What is the point of organizing for ergonomic changes if we will hurt anyway?" We knew we had to help people feel less pain as well as organize to prevent pain from happening. We can't talk about prevention with someone who is already sick.

So we began asking around: What did people do to feel less pain after work? Some took herbs, others took medicine. We learned about stretches, exercises, and massage. The techniques didn't work for everybody, and some people just refused to do anything. But more workers began trying different things to deal with their pain. It is still true that pain is the cross we have to bear, but now we have some tools to manage pain instead of letting it rule our lives. And with less pain, we have more energy and hope that we can change our lives.

Stretch

Most movements that allow your muscles to stretch will give you some relief. Move and stretch as often as you can at work and at home. Some stretches are better if you can hold the position for a few seconds or minutes, but do not push your body beyond its limits.

Stretching with other people at work or at home helps you stay motivated. And you might learn new stretches!

Hands



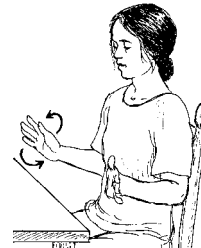
1. Make a fist.



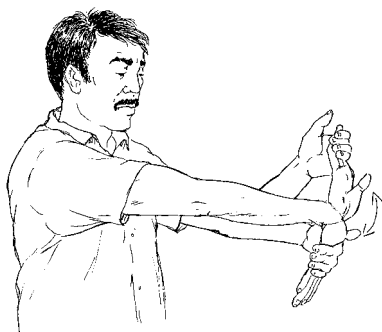
2. Open your hands, stretching your fingers out.



3. Curl your fingers into a claw. Then open your hands again.



4. Gently roll your hands in a circle at the wrist



With your arm stretched out in front of you, lift your palm up so it is facing away and your fingers are pointing up. Use your other hand to pull your fingers back toward you.

Then fold your hand down at the wrist, so the palm is facing your body and the fingers are pointing down. Use your other hand to pull the back of the hand down and toward you. Grip the main part of the hand when you pull, not the fingers.

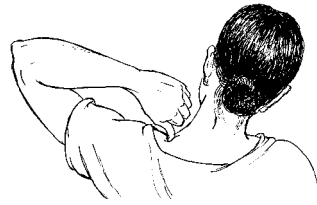
Neck and shoulders



Roll your head slowly in a full circle.



Move shoulders up and down, roll them forward and backward, pull your shoulder blades together and apart.

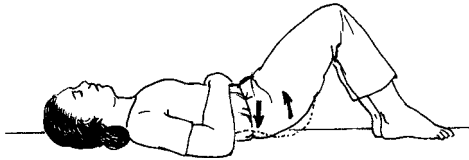


Put your thumb or fingers on the muscle between your neck and shoulder. The closer it is to your neck the better. Keeping the pressure, move your head to the side opposite to where you are pressing. Hold for a few seconds.

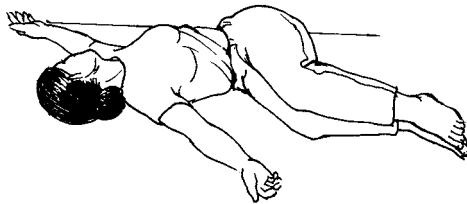
Back



Pull your knees towards your chest. Relax, still holding your knees.



Lie on your back with your knees bent. Push your lower back into the floor by slowly tightening your stomach and buttock muscles. Relax, and your back will curve up the way it usually does.

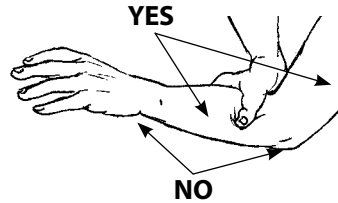


Stretch your arms to the sides with your knees bent. Slowly let your knees drop to one side. When they touch the floor, turn your head to the opposite side, trying to keep your shoulders on the ground. After a few moments, bring them back to the center and slowly bring them over to the other side, turning your head the other way.

Massage and press the muscles

Your muscles, tendons, ligaments, and other soft tissues become tense when you use them over and over without rest. When they are tense, they feel hard. When they relax they feel softer. When you do the same movements over and over, your muscles never get an opportunity to relax.

One way to release the tension in your muscles is to massage them. You can do this with your hands or a hard object. Massaging and pressing on the muscles will work better if you do it regularly, not just when you have pain. It helps to do it several times during the day. The massage may feel a little painful at first, when you are working on muscles that have been tense for too long.



Use any kind of massage common in your community. Only press the muscles, and not the joints.

Forearm

With your wrist relaxed and palm pointed towards the floor, close your hand in a fist.

Place your thumb right on the muscles of the forearm, close to the elbow (but not on top of it).

If you move your thumb from side to side while pressing, you may feel the muscle jump a little bit.

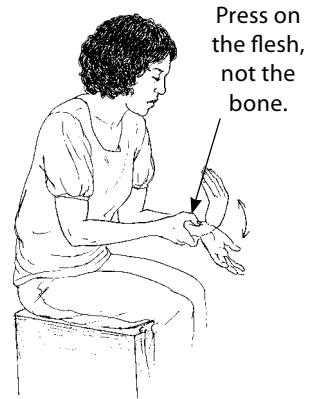
You can press and just stay there, or you can roll it. You can also move your wrist up and down.



If you feel any tingling or numbness, change the position of the pressure.

Wrist

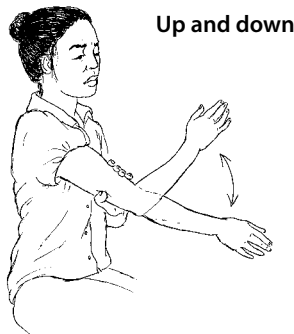
Place your thumb on your wrist and hold it there for a few seconds as you move your wrist up and down.



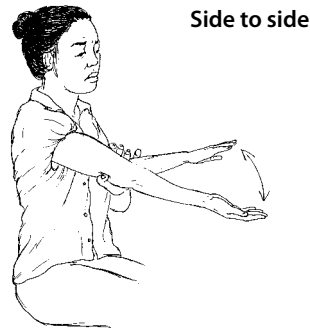
Elbow

Apply pressure to the muscles around the elbow, not directly to the elbow.

Put your thumb on the upper, underside of your elbow, the part that faces toward the back of you, and try to find the muscle that hurts.



Stretch and curl your arm several times as you press on the muscle.



Then move your hand from palm down to palm up several times as you press.

Shoulder

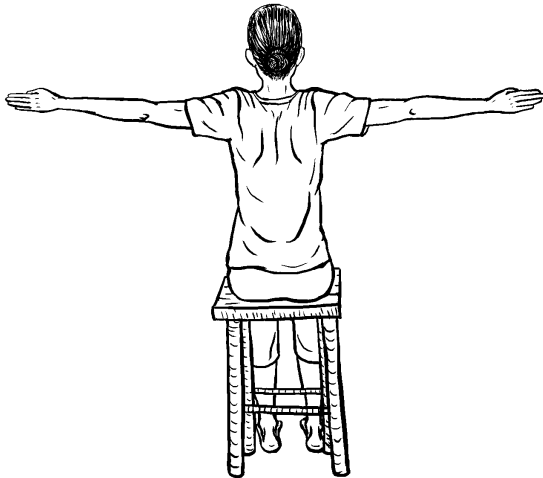
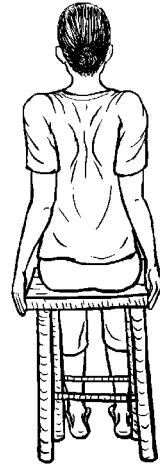
Put your fingers on the area of your arm that connects with your shoulder. Find the place that feels sore and push it as you move your arm slowly up and down.



Strengthen and improve your posture

Most people get tired of keeping their back and neck straight. Exercises that make your upper back strong will make it easier for you to hold a good posture, even if your chair does not have a good back rest.

Sit or stand. Keeping your shoulders down and relaxed, squeeze your shoulder blades as if you were trying to make them touch. Hold this as long as you can. Do this often during the day. You can also do this laying belly-down on a bed.



Starting from the same position, lift your arms out to your sides, forming a T. Push your arms back, as if you were trying to make the back of your hands touch. Hold this as long as you can. Do this often during the day.

Starting from the same position, raise your arms straight up. Keep them straight and push your arms back without arching your back. Hold this as long as you can. Do this often during the day.



Strain and pain

The best thing to do when you feel strain and pain is to stop using the muscle at work and home or use it less and massage, stretch, and strengthen it.

Put ice or a cold cloth on the muscle for 20 to 30 minutes a few times a day. The cold helps reduce inflammation so your muscle can heal. Apply cold several times a day and any time you have pain. You can apply heat after a few days.

Take aspirin or ibuprofen. They help with pain and also reduce muscle inflammation. But these medicines can cause other health problems and are not a long-term solution. Ask a health worker or others in your community about plants and traditional medicines that might help you with pain and swelling.

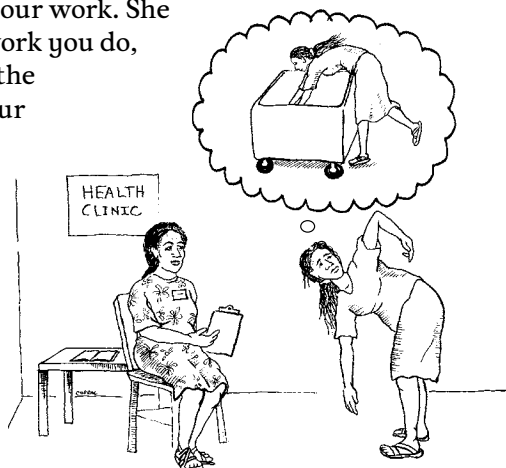
Different kinds of injuries need different times to heal. But see a health worker if:

- you feel tingling or numbness.
- the pain from a strain does not go away after 1 or 2 weeks.
- you fell, twisted, or pulled a muscle and the injury does not improve in 2 to 4 weeks.

A health worker might recommend you stop working for awhile and give you exercises and stretches that will help your body heal. She might give you more or different medicines.

When you visit a health worker, explain why you think your pain is due to your work. She has probably never done the work you do, so you must show her. Act out the physical moves required by your work so she can see clearly what you do all day. For more information about getting health care, see chapter 25: Access to health care.

Show the health worker how your back hurts from reaching deep into carts.



**Health
Info**