
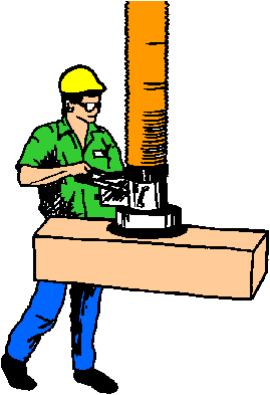
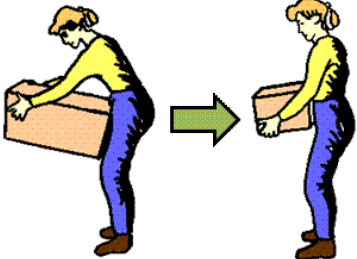
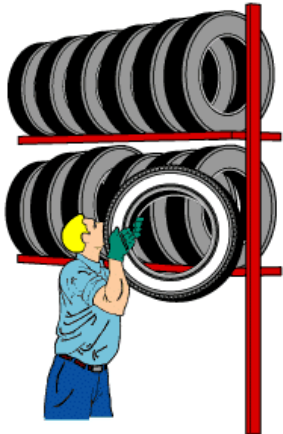
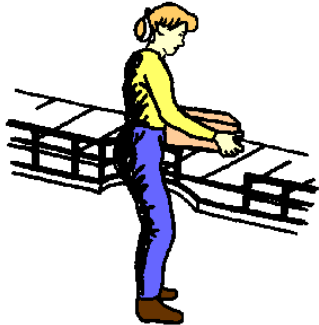





Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Heavy Lifting</p> <ul style="list-style-type: none"> Lifting something that weighs more than 50 pounds. 	<p>Don't lift:</p> <ul style="list-style-type: none"> Use equipment such as hoists, balancers, vacuum lifts, or forklifts to do the lifting. Use conveyors, chutes, or carts to move things.  <p>Make things lighter:</p> <ul style="list-style-type: none"> Use lighter materials. Use smaller boxes, bins or sacks. Fill boxes, bins or sacks part way.  <p>Make things heavier so that they can't be lifted by hand:</p> <ul style="list-style-type: none"> Use bulk bins or bags that are moved with a hoist or a forklift. <p>Place heavy things in a spot where they are easier to get to:</p> <ul style="list-style-type: none"> Store heavy things between knee and shoulder level. Keep the area around heavy things clear so that it's easier to reach them.




Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Awkward Lifting</p> <ul style="list-style-type: none"> Lifting something that weighs more than 25 pounds from below the knees, above the shoulders, or while twisting or reaching. 	<p>Don't lift:</p> <ul style="list-style-type: none"> Use equipment such as hoists, balancers, vacuum lifts, or forklifts to do the lifting. Use conveyors, chutes, or carts to move things. <hr/> <p>Bring things closer:</p> <ul style="list-style-type: none"> Use smaller boxes, bins or sacks. Use cut-outs and remove barriers. Use flow racks or narrow shelves. Rotate pallets in storage racks to keep product in front. Leave space around pallets so that they can be accessed from all sides. Add handles or grips to containers.  <hr/> <p>Lift above knee level:</p> <ul style="list-style-type: none"> Store heavy things and things you use often at 30 inches above the floor. Use scissor lifts or spring platforms.  <hr/> <p>Lift below shoulder level:</p> <ul style="list-style-type: none"> Organize storage areas so that only lightweight things are kept above shoulder level. Use wide, stable platforms or rolling stairs to get closer to high shelves.


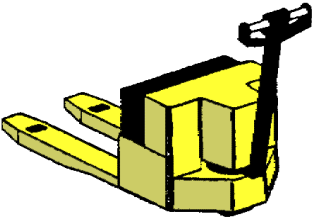

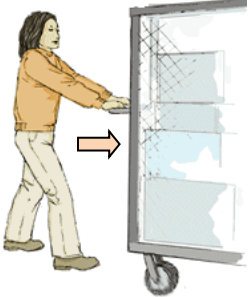
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Frequent Lifting</p> <ul style="list-style-type: none">• Lifting something that weighs at least 10 pounds, more than twice per minute for more than 2 hours per day	<p>Don't lift:</p> <ul style="list-style-type: none">• Use equipment such as hoists, balancers, vacuum lifts, or forklifts to do the lifting.• Use conveyors, chutes, or carts to move things. 
	<p>Don't lift the same thing more than once:</p> <ul style="list-style-type: none">• Have materials delivered to the place where they'll be used.• Organize storage areas so that you can get to the things you need without having to move stuff out of the way.
	<p>Rotate workers to jobs where they don't have to lift:</p> <ul style="list-style-type: none">• Cross-train workers to give them more skills.• Add more duties to jobs to give them more variety.

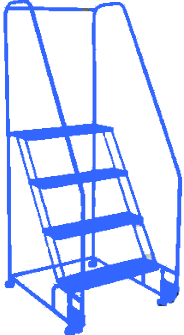



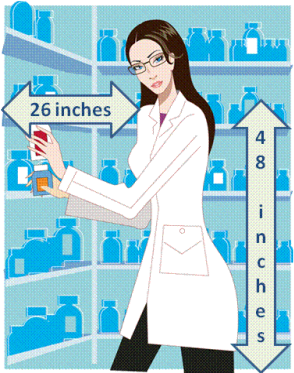
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Carrying</p> <ul style="list-style-type: none"> • Carrying heavy things. • Carrying things over long distances. 	<p>Use equipment instead of moving things by hand:</p> <ul style="list-style-type: none"> • Carts, hand trucks, dollies, or wheelbarrows. • Conveyors. • Hoists or jib cranes. • Chutes, elevators, or dumbwaiters. 
	<p>Store things closer to where they are used:</p> <ul style="list-style-type: none"> • Have supplies delivered directly to the place they'll be used. • Have several small supply storage areas instead of one large, central one.
	<p>Make things easier to carry by:</p> <ul style="list-style-type: none"> • Reducing their weight. • Using smaller containers. • Using containers with good handles. • Taking a small load that won't block your view. • Clearing a path ahead of time. 




Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Pushing and Pulling</p> <ul style="list-style-type: none"> • Pushing or pulling heavy carts, hand trucks, pallet jacks or other things with wheels. • Pushing or pulling levers, heavy doors, or other things that require a lot of force. 	<p>Use powered equipment to move things:</p> <ul style="list-style-type: none"> • Battery powered cart tugs. • Powered pallet jacks. • Powered conveyors.  <p>Make it easier to move carts:</p> <ul style="list-style-type: none"> • Use larger diameter wheels that roll more easily; for example, 8-inch instead of 5-inch wheels. • Use wheels that are firmer; for example, solid rubber instead of pneumatic. • Use wheels with good bearings and maintain them frequently • Fix cracks and gaps in floors so that wheels don't get caught.  <p>Push instead of pull:</p> <ul style="list-style-type: none"> • Pushing let's you use larger muscles. • You're less likely to slip and fall when pushing. 

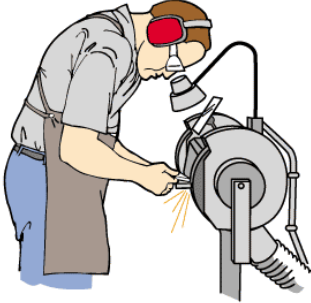
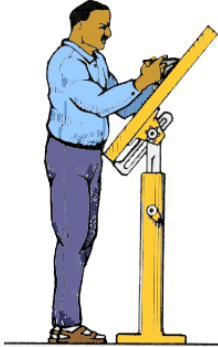


Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Working with the Arms Raised</p> <ul style="list-style-type: none"> Working with the hands above the head or the elbows above the shoulders more than 2 hours per day 	<p>Raise the worker:</p> <ul style="list-style-type: none"> Use height-adjustable work platforms. Use step stools or rolling stairs. 
	<p>Lower the work:</p> <ul style="list-style-type: none"> Store frequently used things below shoulder height. Bring work down and turn it on its side for better access. Lower sections of overhead conveyors for loading and unloading.
<ul style="list-style-type: none"> Repetitively raising the hands above the head or the elbows above the shoulders more than 2 hours per day 	<p>Use tools with longer handles:</p> <ul style="list-style-type: none"> Use telescoping or extension handles for non-power tools. Use extendable or adjustable fixtures for power tools. 
	<p>Design for the shortest workers:</p> <ul style="list-style-type: none"> Keep things that are used frequently below 48 inches. Limit reach distances to 26 inches. 



Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Back bending</p> <ul style="list-style-type: none"> Working with the back bent forward more than 30 degrees for more than 2 hours per day 	<p>Raise and tilt the work for better access:</p> <ul style="list-style-type: none"> Place work on adjustable tilt tables. Use bin tilters or angled box stands for loading and unloading containers.  <p>Lower the worker:</p> <ul style="list-style-type: none"> Use a stool to sit a little lower. Rotate between bending, sitting, kneeling and squatting.  <p>Use tools with longer handles:</p> <ul style="list-style-type: none"> Use telescoping or extension handles for non-power tools. Use stand-up, rolling, power equipment instead of hand tools. <p>Support the upper body:</p> <ul style="list-style-type: none"> Use stools or creepers with chest support pads. Place one hand down for support when leaning forward.



Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Neck bending</p> <ul style="list-style-type: none"> Working with the neck bent more than 30 degrees for more than 2 hours per day 	<p>Raise and tilt the work for a better view:</p> <ul style="list-style-type: none"> Place work on adjustable tilt tables. Place paperwork on a document stand.  <p>Use magnifiers to make things easier to see:</p> <ul style="list-style-type: none"> Use a lighted magnifier for precision work. Use video systems instead of microscopes. Wear eye loupes.  

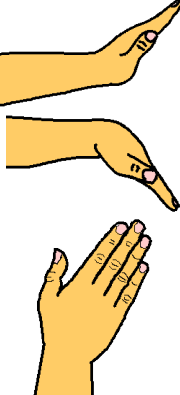
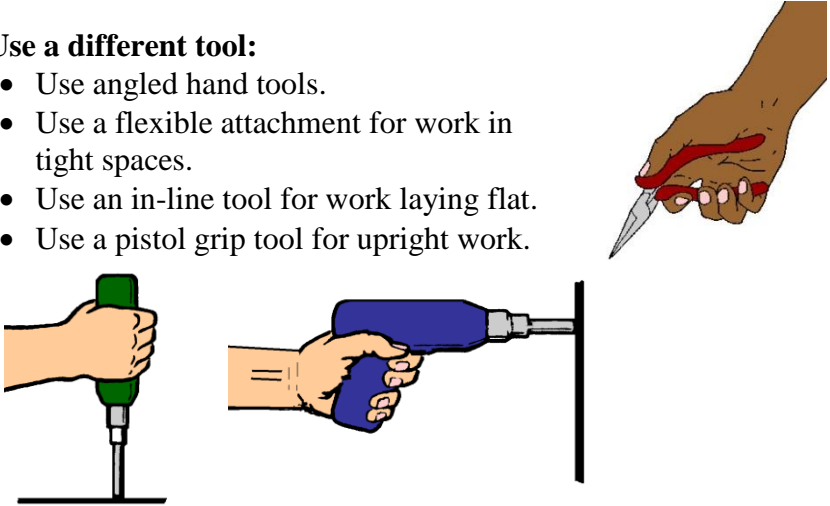
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Twisting</p> 	<p>Keep frequently used things directly in front of the worker:</p> <ul style="list-style-type: none"> • Use parts bins, document trays and other organizers to free up space. • Use a 'Lazy Susan' or turntable to bring things closer.
	<p>Prevent twisting while lifting:</p> <ul style="list-style-type: none"> • Used curved conveyors to move things. • Leave enough space so that workers can move their feet instead of twisting.
	<p>Provide seating that moves easily:</p> <ul style="list-style-type: none"> • Seats that swivel or pivot. • Seats with casters for rolling. • Remove armrests that get in the way. 


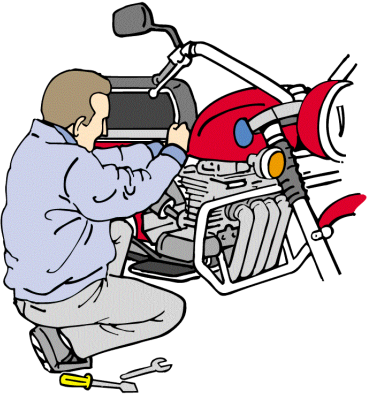
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Reaching</p> 	<p>Keep things within easy reach:</p> <ul style="list-style-type: none"> • Place things that are used often within an 18-inch reach. • Limit other reaches to 26 inches as much as possible. • Use a turntable or ‘Lazy Susan’ to bring things closer. • Use flow racks in storage areas to bring supplies forward. • Use diverters on conveyors to move things closer to the edge.
	<p>Make work surfaces narrower or shallower:</p> <ul style="list-style-type: none"> • Limit the depth of customer service counters to between 24 and 30 inches.
	<p>Place workers on both sides of a wide work surface:</p> <ul style="list-style-type: none"> • Locate conveyors so that they can be accessed from both sides.
	<p>Use tools to pull things closer:</p> <ul style="list-style-type: none"> • Use a hook or rake to pull boxes and other large things closer. • Use a “grabber” or “reacher” to pick up smaller things. 

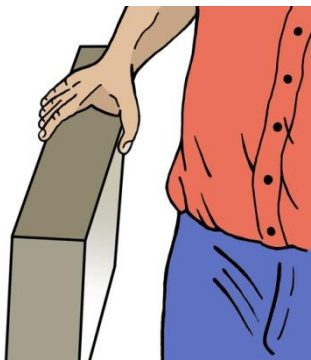
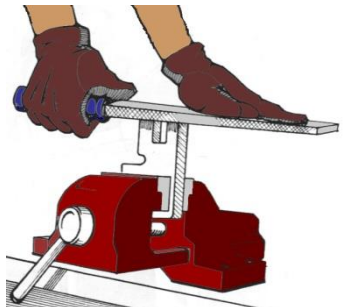

Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Wrist Bending</p> <ul style="list-style-type: none"> Working with the wrists bent more than 30 degrees when combined with repetitive motions or high hand forces 	<p>Use a different tool:</p> <ul style="list-style-type: none"> Use angled hand tools. Use a flexible attachment for work in tight spaces. Use an in-line tool for work laying flat. Use a pistol grip tool for upright work.  <p>Change the position of the work:</p> <ul style="list-style-type: none"> Tilt or rotate the work. Redesign parts or the order in which parts are added to provide better access. Use an adjustable height work table to change the wrist angle. <p>Move around the work to a better position:</p> <ul style="list-style-type: none"> Walk or scoot on a rolling stool to change the wrist position. Use an adjustable height chair or stool to change the worker's height and arm position. <p>Redesign the process to reduce wrist bending:</p> <ul style="list-style-type: none"> Change the design of a product or the order in which parts are added to provide better access.

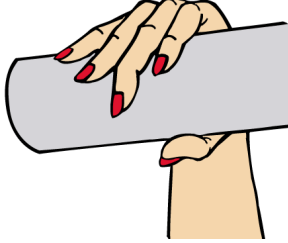
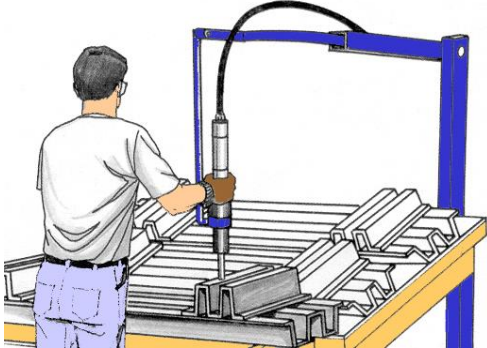
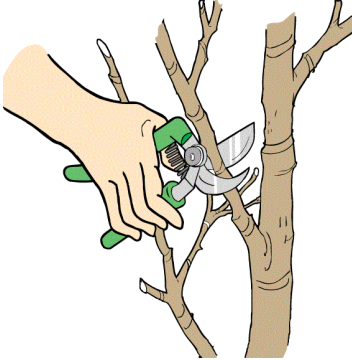
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Kneeling or Squatting</p> <ul style="list-style-type: none"> • Kneeling more than 2 hours per day 	<p>Use low rolling stools:</p> <ul style="list-style-type: none"> • Stools offer support and easy movement. • A 'kneeling creeper' supports a kneeling position.
<ul style="list-style-type: none"> • Squatting more than 2 hours per day 	<p>Raise the work:</p> <ul style="list-style-type: none"> • Do most of the work on benches or sawhorses and then lower it to the ground to finish. • Raise repair work on lifts or roll it onto raised platforms.
	<p>Change positions frequently:</p> <ul style="list-style-type: none"> • Alternate between kneeling, squatting, and sitting. • If possible, lay down on creeper or other padded surface.
	<p>Use pads:</p> <ul style="list-style-type: none"> • Wear knee pads or use knee pad inserts in work pants. • Put down cushioned kneeling pads.

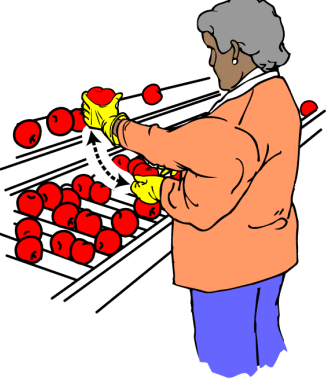
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>High Hand Force – Pinch Grip</p> <ul style="list-style-type: none"> Gripping with the tips of the fingers something that weighs 2 or more pounds for more than 2 hours per day 	<p>Use a power grip instead:</p> <ul style="list-style-type: none"> Lift objects from underneath. Add handles that allow gripping with the whole hand.
	<p>Use vises or fixtures to hold parts:</p> <ul style="list-style-type: none"> A bench vise will free up both hands to work. Use locking pliers or forceps to hold small parts. Tilting and rotating fixtures make it easy to reposition the work. 
<ul style="list-style-type: none"> Gripping with the tips of the fingers using 4 or more pounds of force for more than 2 hours per day 	<p>Reduce the amount of pinch force needed:</p> <ul style="list-style-type: none"> Make tools or parts lighter. Use fasteners that are easy to insert, or that can be inserted with a tool. Wear material handling gloves to increase friction between the fingers and whatever you handle.
	<p>Reduce the amount of time spent using pinch grips:</p> <ul style="list-style-type: none"> Use power tools to make the work go faster. Rotate workers into jobs that don't require pinch grips. Switch hands periodically if only one hand is gripping.



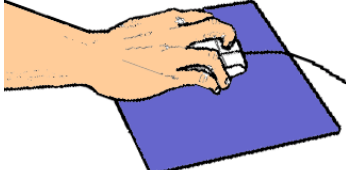
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>High Hand Force – Power Grip</p> <ul style="list-style-type: none"> Gripping with the whole hand something that weighs 10 or more pounds for more than 2 hours per day 	<p>Reduce the amount of grip force needed:</p> <ul style="list-style-type: none"> Make tools or parts lighter. Maintain tools so that they do the job with less force. Use power assisted cutting and crimping tools. Use balancers or support arms to hold tools and parts. Use both hands at the same time. 
<ul style="list-style-type: none"> Gripping with the whole hand using 10 or more pounds of force for more than 2 hours per day 	<p>Reduce the time spent gripping:</p> <ul style="list-style-type: none"> Move things with a cart or conveyor instead of carrying them. Maintain tools so that they take less time to do the job. Rotate workers to jobs that don't require grip force.


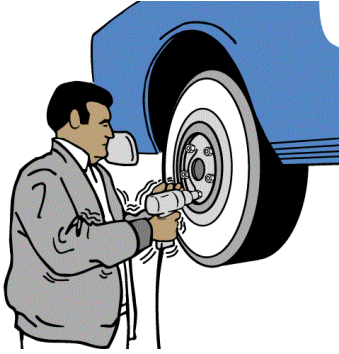
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Repetitive Motion</p> <ul style="list-style-type: none"> Repeating the same motion every few seconds for more than 2 hours per day 	<p>Automate the repetitive part of the job:</p> <ul style="list-style-type: none"> Use automatic case formers, case sealers, palletizers, and stretch wrappers. Use power tools instead of manual ones.
	<p>Eliminate unnecessary motions:</p> <ul style="list-style-type: none"> Avoid duplicate steps. Simplify and standardize processes to reduce wasted motions. Clean and organize work areas so that frequently used items are easy to find and close at hand. Use quality assurance methods to reduce rework. Pace production to avoid excess stock that requires sorting.
	<p>Eliminate other injury causes in the same job:</p> <ul style="list-style-type: none"> Reduce awkward postures such as back bending, twisting, and wrist bending. Reduce high hand forces. Reduce reach distances.
	<p>Reduce the time that employees use repetitive motions:</p> <ul style="list-style-type: none"> Rotate workers to jobs that don't require repetitive motions. Enlarge the job by including non-repetitive tasks. Use work cells to increase task variety for all workers. Reassign tasks to avoid overloading a single worker.



Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Computer Use</p> <ul style="list-style-type: none"> • Intensive keying more than 4 hours per day 	<p>Set up computer workstations for good posture:</p> <ul style="list-style-type: none"> • Head level and facing straight ahead. • Shoulders down and back. • Arms hanging comfortably by the sides. • Forearms parallel to the floor. • Wrists straight. • Hips level with or slightly higher than the knees. • Feet supported by the floor or a footrest. 
<ul style="list-style-type: none"> • Intensive mouse use more than 4 hours per day 	<p>Reduce intensive computer use:</p> <ul style="list-style-type: none"> • Break up computer work with other tasks. • Rotate workers to jobs that allow more movement and less repetition. • Automate data entry using scanning and optical character recognition (OCR). • Use software macros to replace repetitive keystrokes. • Use software systems that can share data with each other to avoid having to re-type the same information. • Use voice-recognition software. • Take short, frequent breaks.
	<p>Reduce reaching to the mouse:</p> <ul style="list-style-type: none"> • Use keyboard shortcuts instead of the mouse. • Mouse with the left hand. • Place a mouse bridge or platform over the 10-key portion of the keyboard. • Use a different pointing device such as a trackball.


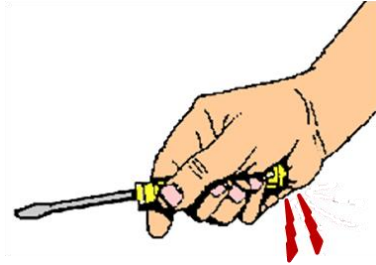
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Hand-Arm Vibration</p> <ul style="list-style-type: none"> Using tools with moderate vibration levels (grinders, sanders, jig saws, and so on) more than 2 hours per day 	<p>Find alternatives to hand held tools:</p> <ul style="list-style-type: none"> Use pavement breakers that are mounted to equipment. Use parts tumblers to remove burrs instead of grinders.
<ul style="list-style-type: none"> Using tools with high vibration levels (impact wrenches, chain saws, chipping hammers, and so on) more than 30 minutes per day 	<p>Reduce vibration from the tool:</p> <ul style="list-style-type: none"> Purchase tools with lower vibration levels. Maintain tools to reduce out-of-balance vibration.
	<p>Isolate the worker from the vibration:</p> <ul style="list-style-type: none"> Use fixtures to hold tools. Look for tools with vibration isolation handles.
	<p>Reduce the force required to hold the tool:</p> <ul style="list-style-type: none"> Make sure tools aren't larger or more powerful than the job requires. Use a harness or balancer to hold some of the tool's weight. Use tools with non-slip grips that fit the hand well. Use tools with adjustable torque and a slip-clutch.
	<p>Reduce the amount of time that workers use tools:</p> <ul style="list-style-type: none"> Keep drill bits and cutting blades sharp. Change grinding wheels and sandpaper frequently. Rotate workers to jobs that don't expose them to vibration. Redesign processes and materials to reduce the need for power tools.

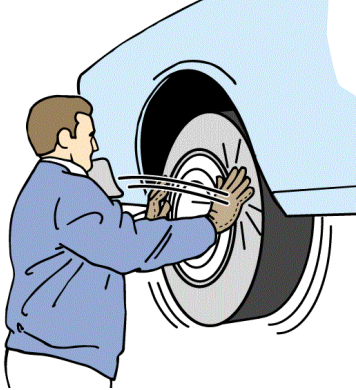
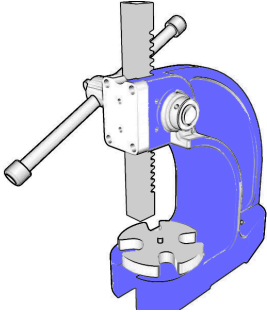

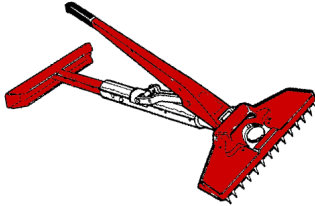
Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Whole-Body Vibration</p> <ul style="list-style-type: none"> • Driving trucks, buses, forklifts and other equipment that transmits vibration to the operator.  	<p>Reduce vibration to truck and bus drivers:</p> <ul style="list-style-type: none"> • Use seat suspensions and cushions to absorb vibration and road shock. • Maintain vehicle suspensions to reduce unnecessary vibration.
	<p>Reduce vibration to forklift drivers:</p> <ul style="list-style-type: none"> • Limit driving speed. • Fix cracks and bumps in warehouse floors, loading docks, parking lots, and so on. • Use a dock plate that provides as smooth a transition as possible from the loading dock to the trailer. • Use seat suspensions and cushions to absorb vibration. • Maintain forklift tires.
	<p>Reduce the amount of time that workers are exposed to vibration:</p> <ul style="list-style-type: none"> • Rotate workers to jobs that don't expose them to vibration.

Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Contact with Hard Surfaces or Narrow Edges</p> <ul style="list-style-type: none"> Resting sensitive parts of the body (wrists, elbows, and so on) on hard surfaces 	<p>Pad surfaces:</p> <ul style="list-style-type: none"> Use soft gel or foam wrist rests. Pad square edges on tables. Wear padded gloves when handling things with hard edges. Wrap small, hard tool handles with padded tape. Place padded wraps around handles on buckets, tool boxes and cases.
<ul style="list-style-type: none"> Gripping tools or other things with hard or narrow edges 	<p>Design desks and work tables to avoid contact:</p> <ul style="list-style-type: none"> Rounded front edges Correct height for the task: <ul style="list-style-type: none"> Just above elbow height for precision work. Elbow height for light work, including keyboard and mouse use. Several inches below elbow height for work that requires downward force.
	<p>Choose tools with good handles:</p> <ul style="list-style-type: none"> Round, oval or triangular handles with rounded edges. Cushioned grip. Handles that don't end in the palm of the hand. Single-handle tools (hammers, screwdrivers) with a handle diameter of 1-1/4 to 2 inches. Double-handle tools (pliers, cutters) with a grip span of 2 to 3-1/2 inches. Self-opening springs on scissors and cutters.

Tips for Preventing Sprains and Strains

This can cause injury:	You can make it safer if you:
<p>Using the Hand as a Hammer</p> <ul style="list-style-type: none"> Using the palm of the hand to press or pound things into place 	<p>Use tools instead of your hand:</p> <ul style="list-style-type: none"> Use rubber mallets, bean bags, or other padded tools to strike with instead of the palm. Press parts into place using levers, arbor presses, or hydraulic or pneumatic tools.  <p>Redesign the process to eliminate hand hammering:</p> <ul style="list-style-type: none"> Use parts that fit together well without pounding. Bring parts together by machine earlier in the process.
<p>Using the Knee as a Hammer</p> <ul style="list-style-type: none"> Using the knee to press or pound things into place 	<p>Use tools instead of your knee:</p> <ul style="list-style-type: none"> Use a power stretcher to install carpet instead of a knee kicker.  <p>Use a different floor covering:</p> <ul style="list-style-type: none"> Use stick-on carpet squares or another alternative.