

OPTIONS IN

ERGONOMICS

ACTIVITY:**PROBLEM:****INDUSTRIES:****JOBS:****POSSIBLE SOLUTIONS:**

Using a computer intensively—4 hours or more per day

Hand/arm, shoulder, neck and back injuries

Businesses, finance, journalism, educational institutions

Data entry clerk, editor, secretary, reporter

Look at the workstation layout**Provide chairs that:**

- ✓ Can be adjusted to different heights, making it possible for employees of all sizes to rest their feet comfortably on the floor.
- ✓ Support the lower back (lumbar area).
- ✓ Have padded seats and roll on wheels (casters).
- ✓ Support the forearms with arm rests while allowing the elbows to remain near the waist.

Use a keyboard, mouse—the entire “computer input device” that

- ✓ Adjusts so that the elbows can be near the body and the arms nearly perpendicular to the floor.
- ✓ Allows employees to keep their wrists nearly straight—without furniture edges digging into their wrists or forearms—(usually a wrist pad is needed).

Arrange Monitor

- ✓ So that the height of the monitor can be seen clearly without looking up; the top line of typing should be at eye level.
- ✓ To enable the employee to see the screen clearly without leaning forward.
- ✓ To provide enough space under the work surface for the employee's knees and thighs.

Organize work to

- ✓ Encourage workers to take short breaks.
- ✓ Limit awkward positions by providing head sets for employees to use when answering phones and typing at the same time.

OPTIONS IN ERGONOMICS

ACTIVITY: Delivering beverage cases to stores

PROBLEM: Back injuries

INDUSTRIES: Beverage delivery

JOBS: Route sales and delivery

**POSSIBLE
SOLUTIONS:**

Delivery truck design and planning

- ✓ Plan the deliveries before loading the truck to avoid double or triple handling. For example, if the first store on the route needs 40 cases of X brand soda, load cases of X brand near the truck door, and load cases of Y brand for the last delivery in the front of the truck.
- ✓ Install grab handles between bay doors to improve leverage.
- ✓ Add pullout step bars to make it easier to reach beverages stored above the wheels.
- ✓ Give drivers two hand trucks—one with two wheels and one with four wheels so they have more choices for handling different kinds of loads.
- ✓ Keep bay doors in good shape to reduce the force needed to pull them open.

Hand trucks

- ✓ Give the driver the option of hard rubber tires, which work better on smooth, level surfaces, or balloon tires, which work better on broken-up roads.
- ✓ Install hand brakes to help in downhill ramp deliveries.

OPTIONS IN ERGONOMICS

ACTIVITY:

Using hand tools

PROBLEM:

Hand/arm injuries

INDUSTRIES:

Manufacturing

JOBS:

Assembler, fabricator, maintenance worker

**POSSIBLE
SOLUTIONS:**

Select tools:

- ✓ Suited to the task (such as curved handled pliers for use on a vertical surface).
- ✓ Designed to minimize vibration at the handle and to minimize the weight of the tool (except those used for striking).
- ✓ Supported by a handle near the center of gravity.
- ✓ Held by a handle of the proper thickness, length, and shape (i.e., allowing four fingers to go around the handle and overlap with the thumb). Make sure the handle is slip resistant and that the span between two handles squeezed together is less than 4 inches (100 mm).
- ✓ Operated with more than one finger on the trigger and with a minimum amount of force.

Maintain tools regularly and repair or replace if broken.

Use tools in combination with a fixture (e.g., a clamp) that holds the objects being worked on.

Workstation layout:

- ✓ Should be a place to hold tools and offer support for heavy tools, such as a counterbalance or support arm.
- ✓ Should provide support for the worker's arms during precision hand work.
- ✓ Should hold or suspend cords and hoses so that the worker doesn't carry the extra weight while doing the task.
- ✓ Should be arranged so that cords or hoses don't interfere with the tool's movements.

OPTIONS IN ERGONOMICS

ACTIVITY:

Moving hospital patients or nursing home residents

PROBLEM:

Back injuries

INDUSTRIES:

Nursing homes, hospitals, clinics, home health care

JOB:

Nurses, nursing aides, orderlies

**POSSIBLE
SOLUTIONS:**

When transferring patients from bed to chair or bed to gurney, toilet, shower or weighing:

- ✓ Provide a lift assist with scales for totally dependent patients.
- ✓ Encourage patients with some strength to sit up in the transfer process.
- ✓ Use mechanical lateral transfer devices for moves between the bed and gurney.
- ✓ Provide a slide board for moves in and out of a chair.
- ✓ Use “partial lift assist” for patients with upper body strength.
- ✓ Encourage the use of electric beds to raise patients into an upright position.
- ✓ Provide walking belts for patients who are able to stand.
- ✓ Organize teams of workers to lift patients.

To reposition patients who are in bed:

- ✓ Install blocks or bars for patients with upper arm strength to hold and pull themselves up.
- ✓ For patients who are immobile, use low-friction repositioning sheets.

OPTIONS IN ERGONOMICS

ACTIVITY:

PROBLEM:

INDUSTRIES:

JOBS:

**POSSIBLE
SOLUTIONS:**

Housekeeping

Shoulder/back/knee injuries

Hospitality

Housekeeper, maid

Tools

- ✓ Provide long-handled tools for duties requiring leaning over and bending, such as cleaning tubs and toilets; and for reaching above head height, such as when dusting surfaces and high ceilings.

Teams

- ✓ Set up teams of workers for heavy lifting tasks such as flipping mattresses.

Easy-to-move carts

- ✓ Provide supply carts with appropriate size and type of wheels, such as hard rubber or pneumatic.
- ✓ Use powered carts for pushing long distances.
- ✓ Provide vertical handles to accommodate different heights.
- ✓ Store supplies on shelves located between knee height and shoulder height.
- ✓ Store frequently used and heavy items at waist level so they can be reached without excessive bending and twisting.