

Risk factors	Description and examples	Ergonomics principles
Lifting	Heavy lifting, lifting below the knees, lifting above the shoulders, lifting while reaching out, lifting while twisting, frequent lifting.	Reduce the weight of the load. Place items to be lifted between mid-thigh to waist height. Hold items as close to the body as possible while lifting.
Carrying	Carrying moderate to heavy objects more than three feet at a time, especially objects that are bulky, have poor or no handles, or are carried in one hand.	Use carts or hand trucks to move items. Add handles so that items can be carried with both hands and close to the body.
Pushing and pulling	Moving heavily loaded carts, dragging or sliding items across the ground, opening heavy doors. Pulling is more likely to cause back injury than pushing.	Push instead of pulling whenever possible. Reduce friction by placing items to be slid on slippery materials. Use larger diameter wheels on carts and hand trucks, and maintain wheels and bearings.
Repetitive motions	Repeating the same or similar motions every few seconds with the fingers, hands, arms, neck, or back.	Eliminate unnecessary motions. Use power tools instead of hand tools. Reduce hand force (see below). Improve postures (see below).
Hand force	Gripping with the whole hand or pinching between the tips of the fingers and the thumb, especially when holding the grip for long periods of time.	Grip with the whole hand rather than pinching. (Gripping is four to five times stronger than pinching.) Avoid sustaining grip and pinch forces for more than a few seconds at a time.
Awkward postures	Bent wrists, bent back, bent neck, reaching, working overhead, kneeling, and squatting.	Place work at a good height to avoid bending and reaching. Bring work close to you to avoid bending and reaching. Alternate between sitting, bending, kneeling, and squatting when working down low.
Vibration	Vibration to the hands and arms when using power tools. Vibration to the whole body when driving trucks, heavy equipment, forklifts, etc.	Limit use of high-vibration tools. Use anti-vibration gloves. Lean back when driving to relax the back muscles. Avoid lifting just after driving.
Contact stress	Pressure from hard or sharp edges on soft tissues, such as the edge of a desk pressing into the wrist or forearm.	Arrange work to avoid contact with hard surfaces. Round or pad sharp edges.