

Industrial Ergonomics

There are ten general principles of ergonomics which are used to evaluate the “fit” of a work area. Some relate to changes the worker can make on his/her own while others suggest changes the employer could make.

1. Work in a neutral posture. The spine has a natural “S” curve. When possible, maintain that natural curve, whether sitting or standing.
2. Reduce excessive force. Use tools to help with pulling, pushing and lifting. Use boxes that have handholds.
3. Keep your work tools in easy reach. Arrange your work area so that things you use often do not require a stretch to reach.
4. Work at proper heights. When sitting, most work should be done at elbow height. A good example of this is working at a computer.
5. Reduce excessive stressful motions. A simple way is to use power tools whenever possible. Evaluate the work situation and make changes to eliminate excessive repeated motions.
6. Minimize fatigue and static load. Staying in the same position creates static load and leads to fatigue and cramping. Using tools to hold parts in place and changing your body position can reduce static load.
7. Minimize the pressure of your body on other surfaces. For example, when you squeeze a tool, you are creating pressure points on your hands. Using a tool that is contoured to fit your hand or that has a cushioned grip lessens the pressure.
8. Your work area must also be set up to have enough room so that you can work in a comfortable position without having your head, arms, elbows, knees or feet in unnatural or cramped positions.
9. As you use your body to work each day, remember that we are meant to move, exercise and stretch. Your muscles need to be used and strengthened and your heart rate needs to be elevated on occasion. Be sure to change positions, stretch, and move often throughout the day.
10. Maintain a comfortable environment.

Source: <https://vividlearningsystems.com/courses/osha/industrial-ergonomics>

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Tips to keep a neutral office ergonomic position:

- Keep your head level or tilted slightly downward. Keep your work in front of you so that you are looking straight ahead.
- Sit with your shoulders relaxed, not elevated, hunched, or rotated forward.
- Keep your elbows close to your sides and bent at about a 90-degree angle, not extended in front of your body. Keep your wrists straight, not bent up, down, or to the side.
- Sit with your entire body upright or leaning slightly back. Use the chair's backrest to support your lower back, or lumbar curve.
- Sit with your knees at the same level or slightly below the level of your hips. Use a well-padded seat to reduce the pressure points along the backs of your thighs and knees. Make sure your feet are comfortably supported either by the floor or by a footrest.
- Although your job tasks and work schedule may be largely determined by your employer, there are actions you can take to reduce musculoskeletal disorders (MSD) risks while working within your job requirements and schedule.

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