



# er·go·nom·ics

the study of people's efficiency in their working environment.

# Safety Gram

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## Ergonomics

Many people have probably heard the word “ergonomics”, but may or may not know what it means or how it can affect their working experience. As shown in the picture above, ergonomics is “the study of people’s efficiency in their working environment”, or, “fitting a job to a person”. This could include proper posture while working on a computer, using the correct method of lifting something heavy, or adjusting a shelf to allow you to reach without unnecessary effort. Whatever it may be, the purpose of ergonomics is to reduce the amount of stress on your body while still being able to do your job.

Failure to practice good ergonomics may lead to injury, most commonly musculoskeletal disorders (MSD). MSDs affect the muscles, nerves, blood vessels, ligaments and tendons. Some MSDs include:

- Carpal tunnel syndrome
- Tendinitis
- Rotator cuff injuries (affects the shoulder)
- Epicondylitis (affects the elbow)
- Trigger finger
- Muscle strains and low back injuries

According to OSHA, work related MSDs are among the most frequently reported causes of lost or restricted work time, and according to the Bureau of Labor Statistics (BLS) in 2013, MSD cases accounted for 33% of all worker injury and illness cases.

Ergonomics becomes especially important if you are standing or working in an awkward position for most of the time. When considering ergonomic safety, some risks that you should be aware of include:

- Repetition
- Awkward positions
- Static postures
- Compression or contact stress

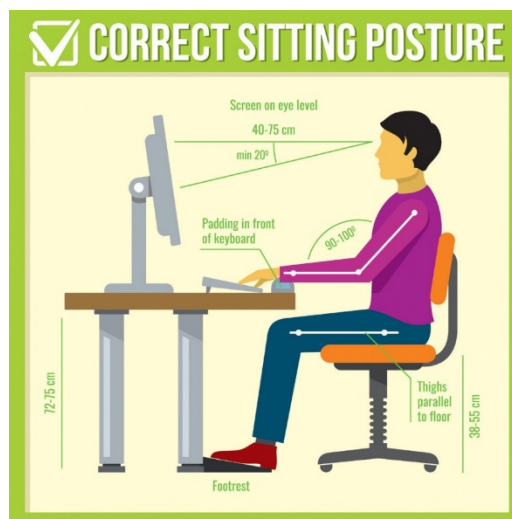
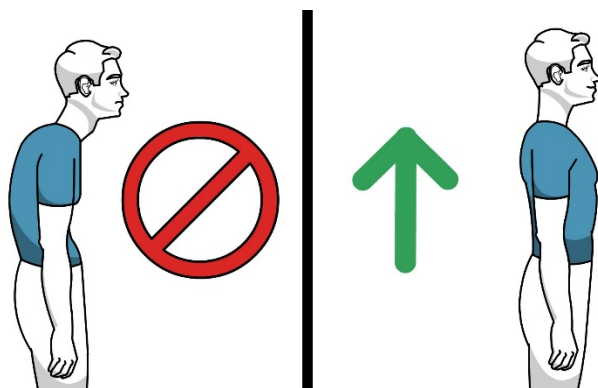


# Workplace Evaluation and Ergonomic Safety Tips

There are many tips that can be offered to improve the ergonomics of your workplace, but every job deals with different hazards, so it is important to evaluate your workplace and assess any hazards that could lead to an MSD. After assessing any risks, make a plan to improve ergonomic safety and implement it. Make sure to follow up on this plan periodically in case anything may not be working. Below are a list of tips and hazards that people in a lab or office may face:

## 1. Posture

Whether you are in an office or in a lab, always be aware of your posture. According to the OSHA Fact Sheet: Laboratory Safety Ergonomics for the Prevention of Musculoskeletal Disorders, "A worker's back is composed of three natural curves that form an S-shape. When the three natural curves are properly aligned, ears, shoulders and hips are in the same plane. Poor posture may lead to pain and serious injury." Make sure to use a chair that has good back support and use supportive shoes and cushioned mats if required to stand for long periods.



## 2. Take a break!

Doing the same thing for an extended period of time can be hard on your body. Vary your activities, take a break every 20 minutes, and switch your body position every so often.

## 3. Avoid ergonomic safety hazards when handling pipettes, microscopes, fume hoods, etc.

Repetitive motions with a pipet can put you at risk, so make sure to switch hands once in a while, and don't twist your wrist when pipetting. When using a microscope, keep your arms at your sides and adjust yourself or the microscope to maintain an upright head position. When using a fume hood or biosafety cabinets, adjust your chair to allow your shoulder to relax, take breaks to relieve pressure on your forearms and wrists, and place supplies in positions that are easy to reach.

For additional information regarding ergonomic safety and MSDs, please visit [www.osha.gov](http://www.osha.gov).