## **Ergonomics**

## Gabriel Ausfresser-Biomedical Engineering-University of Rhode Island

Ergonomics, or "human engineering," refers to the study of creating a workplace that fits the employee and his or her needs so injury of joints or of the back can be minimized. Ergonomic researchers design office equipment that eliminates the stress on certain parts of the body that can be seriously injured over time. These strains on the body can even develop long term disabilities. To create a suitable workplace for the employee, ergonomists take many variables into account. They include the job being done, the demands of the worker, the equipment used, and the overall environment of the workplace.



Ergonomics requires knowledge from the fields of anthropometry, biomechanics, mechanical engineering, industrial engineering, industrial design, kinesiology, physiology and psychology. This is because ergonomists are working with people, as well as creating and designing equipment that will benefit the body of the employee.

There are three domains of specialization within the broad field of ergonomics. They include physical ergonomics, which focuses on stress of the human body; cognitive ergonomics, which focuses on the mental workload of the worker (memory and processing aspect of the job); and organizational ergonomics, which focuses on organizational structures, policies, and processes. Physical ergonomics is very important in the medical field due to its capability to help prevent illnesses that usually occur over time, such as arthritis and carpal tunnel syndrome. When an employee works at his or her work station for long periods of time, medical problems like these can start to form, thus raising the need for workers compensation. Therefore, ergonomics can also save companies money just by applying some ergonomic principles and using user-friendly equipment.

Ergonomic equipment for the office is used to help prevent strain on various parts of the body. The eyes, the head, the neck, the shoulders, arms, elbows, wrists, back, legs, and feet all are examples of body parts that ergonomics can benefit in the workplace. Some examples of this equipment include task lights, glare computer screen filters, adjustable keyboards, the ergonomic mouse, the wrist rest, etc.



There are also many ergonomic comfort tips proven by scientists that will also prevent injury. Some include: looking away from the computer throughout the day to prevent eye strain, stretching after a long period of time of sitting, and using a footrest under the desk to maintain the proper posture.

Ergonomics is a beneficial and growing field for many disciplines of science that is cost effective and can prevent the long term problems that can occur for an employee while on the job.

## SOURCES:

- <u>http://solutions.3m.com/wps/portal/3M/en\_US/ergonom</u> <u>ics/home/advice/workspacecomfortguide/#totalBody</u>
- <u>http://en.wikipedia.org/wiki/Ergonomics</u>
- <u>http://www.iea.cc/browse.php?contID=what\_is\_ergono</u> mics