**ERGONOMICS...**

The term "ergonomics" is derived from two Greek words: "ergon," meaning work, and "nomoi," meaning natural laws. Ergonomists study human capabilities in relationship to work demands.

 **POSTURE...**

In recent years, ergonomists have attempted to define postures which minimize unnecessary static work and reduce the forces acting on the body. All of us could significantly reduce our risk of injury if we could adhere to the following ergonomic principles:

* All work activities should permit the worker to adopt several different, but equally healthy and safe postures.
* Where muscular force has to be exerted it should be done by the largest appropriate muscle groups available.
* Work activities should be performed with the joints at about mid-point of their range of movement. This applies particularly to the head, trunk, and upper limbs.

 **THE PROBLEM...**

Here, however, we arrive at a problem - and a serious challenge to conventional ergonomic thinking: In order to put these recommendations into practice, a person would have to be a skilled observer of his or her own joint and muscle functioning and would have to be able to change his or her posture to a healthier one at will. No one develops this sort of highly refined sensory awareness without special training. Therefore, in order to derive the benefits of ergonomic research, we must learn how to observe our bodies in a new way.\*

*Any attempt to improve workplace conditions can have only limited success if this issue is ignored.*

 **A SOLUTION...**

One training program that cultivates precisely these skills is the Alexander Technique. It has a long history of helping people develop the subtle coordination of thought and physical action required to monitor and alter harmful patterns of posture and movement. In short, it enables its students to put ergonomic principles into practice, and thus helps them reduce their risk of developing a repetitive strain injury and other stress-related injuries. For example, a [comprehensive study](http://www.bmj.com/cgi/content/full/337/aug19_2/a884?gca=337/aug19_2/a884&sendit=Get+All+Checked+Abstract%28s%29) published by the British Medical Journal in 2008 offers overwhelming evidence that the Alexander Technique is a very effective way of alleviating backpain.

The Alexander Technique was developed in the early 20th century before ergonomics became a recognized science and has been applied since then by people all ages and professions. The Technique can be described as a simple and practical educational method which alerts people to ways in which they are misusing their bodies, and how their everyday habits of work may be harming them. It teaches people how to avoid work habits which create excessive amounts of static work and how to reduce the amount of unnecessary muscular force they are applying to their bodies. Stated another way, the Technique teaches the use of the appropriate amount of effort for a particular activity.

[Ergonomics](http://ergonomics.about.com/od/glossary/g/defergonomics.htm) is a term thrown around by health professionals and marketing mavens with a cavalier attitude. For some it has a very specific meaning. For others it covers everything under the sun. With all this different verbiage flying at you, you are probably starting to wonder, “What is Ergonomics?”

**Definition of Ergonomics**

Ergonomics derives from two Greek words: ergon, meaning work, and nomoi, meaning natural laws, to create a word that means the science of work and a person’s relationship to that work.

The International Ergonomics Association has adopted this technical definition: ergonomics (or [human factors](http://ergonomics.about.com/od/glossary/g/defhumanfactors.htm)) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.

That is not the most efficient definition of what ergonomics is. Let us keep things simple. Ergonomics is the science of making things comfy. It also makes things efficient. And when you think about it, comfy just another way of making things efficient. However for simplicity, ergonomics makes things comfortable and efficient.

**What is Ergonomics?**

At its simplest definition ergonomics literally means the science of work. So ergonomists, i.e. the practitioners of ergonomics, study work, how work is done and how to work better.

It is the attempt to make work better that ergonomics becomes so useful. And that is also where making things comfortable and efficient comes into play.

Ergonomics is commonly thought of in terms of products. But it can be equally useful in the design of services or processes.

It is used in design in many complex ways. However, what you, or the user, is most concerned with is, “How can I use the product or service, will it meet my needs, and will I like using it?” Ergonomics helps define how it is used, how it meets you needs, and most importantly if you like it. It makes things comfy and efficient.

**What is Comfort?**

Comfort is much more than a soft handle. Comfort is one of the greatest aspects of a design’s effectiveness. Comfort in the [human-machine interface](http://ergonomics.about.com/od/glossary/g/man_machine.htm) and the mental aspects of the product or service is a primary ergonomic design concern.

Comfort in the [human-machine interface](http://ergonomics.about.com/od/glossary/g/man_machine.htm) is usually noticed first. Physical comfort in how an item feels is pleasing to the user. If you do not like to touch it you won't. If you do not touch it you will not operate it. If you do not operate it, then it is useless.

The utility of an item is the only true measure of the quality of its design. The job of any designer is to find innovative ways to increase the utility of a product. Making an item intuitive and comfortable to use will ensure its success in the marketplace. Physical comfort while using an item increases its utility.

The mental aspect of comfort in the human-machine interface is found in feedback. You have preconceived notions of certain things. A quality product should feel like it is made out of quality materials. If it is light weight and flimsy you will not feel that comfortable using it.

The look, feel, use and durability of a product help you make a mental determination about a product or service. Basically it lets you evaluate the quality of the item and compare that to the cost. Better ergonomics mean better quality which means you will be more comfortable with the value of the item.

**What is Efficiency?**

Efficiency is quite simply making something easier to do. Efficiency comes in many forms however.

Reducing the strength required makes a process more physically efficient.

Reducing the number of steps in a task makes it quicker (i.e. efficient) to complete.

Reducing the number of parts makes repairs more efficient.

Reducing the amount of training needed, i.e. making it more intuitive, gives you a larger number of people who are qualified to perform the task. Imagine how in-efficient trash disposal would be if your teenage child wasn't capable of taking out the garbage. What? They're not? Have you tried an ergonomic trash bag?

Efficiency can be found almost everywhere. If something is easier to do you are more likely to do it. If you do it more, then it is more useful. Again, utility is the only true measure of the quality of a design.

And if you willingly do something more often you have a greater chance of liking it. If you like doing it you will be more comfortable doing it.

So the next time you hear the term ergonomics you will know what it means to you. And I hope that is a comforting thought.

**Office Ergonomic Training**

**Welcome to the newly revised Office-Ergo.com!** We have added more content on neck pain, eye pain, hand/ arm pain, back pain and how to deal with it. We have also expanded the ergonomic product guide to help you make informed decisions on ergonomic chairs, ergonomic keyboards, and mice, including whether you need the gizmo at all.  There is a new Q&A feature called Ask the ErgoAdvocate where you can ask an Ergonomist your questions, and finally we have added a list of Trusted Suppliers – ergonomic supply companies we know and trust.

This site contains information aimed at anyone with an interest in office ergonomics; whether you are a Health & Safety professional or someone who simply uses a computer.

The information here is based on the research literature whenever possible.  Some of this information may not be consistent with the conventional wisdom that has persisted for decades, such as “sit up straight” or “have the monitor at eye level”.  However, you will be pleased to learn that current ergonomics thinking recommends a variety of positions and movement rather than an exact posture. See our **Conventional Wisdom vs** [Current Ergonomics Thinking](http://office-ergo.com/current-ergo-thinking/) page.

We believe Office Ergonomics deserves to be treated separately from general (industrial) ergonomics.  The principles are the same, but there are so many subtle differences and different products used in office ergonomics that we believe it’s best to specialize.

Learn as much as you can from this site if it will help your own or your company’s internal ergonomic situation.   Feel free to link from your website to this one.  However, please do not resell our information in any way. Please support our Trusted Suppliers and visit their web sites