

Occupational Health Group is a service offered to the business community of North Alabama by Huntsville Hospital and Decatur General Hospital Systems

Ergonomic Cliff Notes

by R. Michael Lowery M.D., M.P.H., Occupational Health Group



Ergonomics is a term that is frequently used in management meetings, safety meetings and unfortunately sometimes in the courtroom as well. What is ergonomics? Where can I buy the ergonomic tools that I need for my company? The short answer is that there is not an ergonomic store that's going to solve all your problems.

The term ergonomics is commonly defined as matching the job to the worker, not matching the worker to the job. In years past, companies could hire six-foot two inch 220 pound male weightlifters to do the difficult jobs in the plant. Nowadays not only would that be a legal issue but even six-foot two inch 220 pound male weightlifters can be injured.

There are a few simple principles you can follow to start the ergonomic process. Tools with a round grip are less likely to cause injuries rather than tools with a sharp edged grip. Padding used on vibratory tool handles dampens the vibration and cause fewer injuries. Avoiding work at or above shoulder level will reduce stress on the neck and shoulders and decrease injuries. Workers standing in one position all day are more likely to become injured than workers allowed to change positions or workstations during the day. Job rotation can reduce injuries if the rotation is arranged so that different muscle groups are used in the next rotation. Using the same group of muscles to pick up a different type of part does not allow recovery time for the muscle group. A fatigued muscle is much more likely to become injured. Counterbalancing heavy torque guns will reduce worker fatigue.

A plant walkthrough, concentrating in departments that have the higher injury rates and then gradually working through departments with low injury rates would be a good place to start. You should initially look for manual material handling tasks that may expose workers to physical risk factors if these tasks are performed repeatedly or over long periods of time. These factors which can lead to fatigue and injury include:

- Awkward postures (e.g., bending, twisting)
- Repetitive motions (e.g., frequent reaching, lifting, carrying)
- Forceful exertions (e.g., carrying or lifting heavy loads)
- Pressure points (e.g., grasping [or contact from] loads, leaning against parts or surfaces that are hard or have sharp edges)
- Static postures (e.g., maintaining fixed positions for a long time)
- Working with arms at or above shoulder level
- Vibratory tools such as drills or torque guns
- Grasping oily or difficult to handle parts

In addition to workplace walkthroughs, there are several things companies can do to look for clues to identify problem areas. Review written records (e.g., OSHA Log 300, past worker reports or complaints, and workers' compensation reports). Observe work activities. Talk to workers, supervisors, and managers about where problems exist. Look for warning signs, such as: workers exhibiting "pain behaviors" (e.g., not moving body parts, self-restricting their movements, or massaging hands, arms, legs, necks, or backs); workers modifying tools, equipment, or workstations on their own and/or an increase in error rates, rejects, or wasted materials and production bottlenecks.

Repeated or continual exposure to one or more of these factors initially may lead to fatigue and discomfort or pain. Over time, injury to the back, shoulders, hands, wrists, or other parts of the body may occur. Injuries may include damage to muscles, tendons, ligaments, nerves, and blood vessels. Injuries of this type are known as musculoskeletal disorders, or MSD's. In addition, poor environmental conditions, such as extreme heat,

cold, noise and poor lighting, may increase workers' chances of developing other types of problems.

There are two types of ergonomic improvements that can assist employees/employers in the work environment, engineering and administrative. Engineering improvements include rearranging, modifying, redesigning, providing or replacing tools, equipment, workstations, processes, products, or materials. For Administrative improvements, observe how different workers perform the same tasks to get ideas for improving work practices or organizing the work. Then consider the following interventions:

- Alternate heavy tasks with light tasks.
- Provide variety in jobs to eliminate or reduce repetition (i.e., overuse of the same muscle groups).
- Adjust work schedules, work pace, or work practices.
- Provide recovery time (e.g., short rest breaks).
- Modify work practices so that workers perform work within their power zone (i.e., above the knees, below the shoulders, and close to the body).

Another administrative improvement is to adjust work schedules and work pace. New workers who are not used to the physical demands of the job or those returning from long absences should be gradually introduced to a normal work pace and workload like an athlete in spring training.

After detecting the problems, decide which tasks to improve and then set priorities. Consider:

- The frequency and severity of the risk factors
- The frequency and severity of complaints, symptoms, and/or injuries
- Technical and financial resources at your disposal
- Ideas of workers for making improvements
- Difficulty in implementing various improvements
- Timeframe for making improvements

It is important to follow up in order to evaluate if your improvements have worked. After a reasonable adjustment period, set a date to follow up on the changes made. Make sure to evaluate each improvement separately for effectiveness. The following questions may be helpful. Has each improvement:

- Reduced or eliminated fatigue, discomfort, symptoms, and/or injuries?
- Been accepted by workers?
- Reduced or eliminated most or all of the risk factors?
- Caused any new risk factors, hazards, or other problems?
- Caused a decrease in productivity and efficiency?
- Caused a decrease in product and service quality?
- Been supported with the training needed to make it effective?

If you determine that your improvements have not worked, modify them or try something different until the risk factors have been reduced or eliminated. If you feel you need additional help with your Ergonomic issues, many resources are available. NIOSH, OSHA, CDC and numerous private companies have web sites available to assist you. Many of the Government sites are free and offer guidelines, checklists and tools to help solve ergonomic problems.

Eliminating Ergonomic problems can not only save money, it can also lead to a happier healthier workforce, improving the bottom line.

OHG Offers Lunch & Learns for 2009

Occupational Health Group had its first Lunch and Learn February 25th and March 5th. The event was very well attended and we hope that attendance will only increase in the future. The discussion was on Back Safety in the Workplace. Our next Lunch and Learn is May 27th and 28th entitled "Hearing Loss; Ear Today, Gone Tomorrow". The last two Lunch & Learn's will be August 26th and 27th and in November. To register for the presentations, please e-mail Wendy Ryan at wendy063@hgala.org, or call her at 256-922-6675 by the Monday before the presentation.

Employee Spotlight: Wendy Ryan Administrative Assistant



Wendy Ryan is the Administrative Assistant to John Reynolds, Executive Director. Wendy assists with Client database management for both the Clinics and the Marketing Department. She also acts as Marketing Support in helping to design marketing material and Editor for the OHG Newsletter and Upcoming Events Schedule. Wendy, with all her versatile talents, has been a valuable team member for over three years.

Outdoor Physical Hazards

Employers and workers both have to cope with the physical hazards that exist especially during the summer months. Some of those hazards include stinging insects, poisonous plants, and poisonous animals.

STINGING INSECTS

When temperatures increase, so does insect activity. Many times, these insects are just annoying, but in some circumstances, they can be hazardous, or even deadly. The most common stinging insects are bees, wasps, hornets and fire



ants. In regards to the common insects, most people have mild reactions which can include redness, itching, swelling of the affected area, and pain. The most greatest problem occurs when a person who is allergic to insect stings is stung. Over 2 million people in the U.S. are allergic to insect stings. This can cause what is called an anaphylactic reaction. This reaction can cause difficulty breathing, hives, swelling of the face, throat or mouth, dizziness, drop in blood pressure, and potentially death.



To avoid being stung/bitten, try to be on the lookout for nests and other resting places. If you see a nest or hive, leave it alone. Also try to stay away from things that will attract insects e.g., sweet fragrances, food, open soda cans or garbage areas. Where appropriate clothing when outdoors, long sleeves.

POISONOUS PLANTS

Many plants are capable of causing an allergic reaction to the skin. The three most notorious of are Poison Ivy, Poison Sumac, and Poison Oak. All three are native to the South. They produce a resin that contains a chemical called *Urushiol* that actually does the damage. The resin is exposed when the plant is injured, however, it takes very little contact to damage the plant. *Urushiol* can cause rash, blisters and itching 24 to 28 hours after exposure. Unfortunately, direct contact is not necessary. If you think you might have been



exposed, wash yourself, your clothing and your equipment. The resin in the plant can cause problems weeks, or even months, after exposure. Symptoms of exposure include lesions, itching, possible weeping from the lesions. Onset generally takes 24-48 hours and healing can be up to 2-3 weeks.

To avoid exposure, cover exposed skin and do not handle vines or unknown plants unnecessarily. If you have been exposed, the best treatment for weeping lesions is Aluminum Acetate (burrow's Soaks) applied 15-30 minutes twice a day, an oatmeal bath 2-3 times daily for 30 minutes. Over the counter antihistamines are also useful, but AVOID topical antihistamines, anesthetics, or zirconium while the lesions are actively weeping. Only use hydrocortisone ointment after they have dried.

POISONOUS ANIMALS

The most common and dangerous group of animals that pose a danger to humans are venomous snakes. The most common venomous snakes in the North Alabama area are the Rattlesnakes (timber, eastern diamondback, pygmy, canebrake), Cottonmouth, Copperhead, and Coral Snake. There are distinguishable characteristics between the venomous and non-venomous snakes, but the general rule of thumb is that if you are close enough to tell the difference, you are probably too close! It is best to give any snake a wide berth and leave it alone. To avoid being bitten, stay out of tall grass, unless you have thick leather boots, try to keep your hands and feet out of areas you can't see, and try to be cautious and alert when climbing on rocks.



If you are bitten, wash the site with soap and water, immobilize the bitten area and keep it lower than the heart, then get to a medical facility as soon as possible. The following methods are NOT to be performed on anyone after being bitten. They can cause grievous harm to the victim: Cooling the area with ice or any other cooling agent; Using any type of tourniquet; Giving the victim an electrical shock; Making an incision at or around the wound site.

OHG Directory

Administration.....	(256) 922-6675
Marketing and Business Development.....	(256) 922-6677
Billing Department.....	(256) 922-6673
OHG - Huntsville.....	(256) 265-7000
OHG - Madison.....	(256) 774-7300
OHG - Decatur.....	(256) 353-4325
Wellness Services.....	(256) 922-6699

www.OHGonline.org

Holiday Closings

All OHG clinics will be closed in observance of the following holidays:

Independence Day	July 3rd
Labor Day	September 7th
Thanksgiving	November 26th & 27th



DECATUR

1615 Kathy Lane SW
Decatur, AL 35603
Phone: (256) 353-4325
Fax: (256) 922-2531

HUNTSVILLE

1963 Memorial Parkway
Suite 24
Huntsville, AL 35801
Phone: (256) 265-7000
Fax: (256) 265-7007

MADISON

9238 Madison Boulevard
Building 1, Ste. 200
Madison, AL 35758
Phone: (256) 774-7300
Fax: (256) 922-2532

WELLNESS

6767 Old Madison Pike
Building 4, Ste. 400
Huntsville, AL 35806
Phone: (256) 922-6699
Fax: (256) 922-6660