

***Wright-Patterson AFB, Ohio***

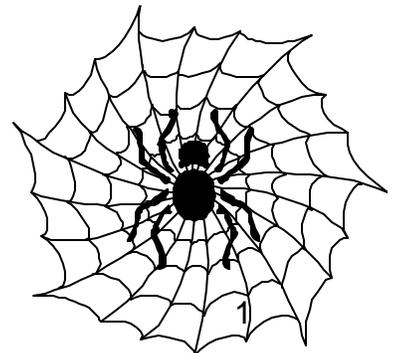
**Environmental, Safety  
and Occupational  
Health (ESOH)  
Newsletter**



***October 2002***

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# Backflow Prevention Keeps Our Water Clean

Maj William Gooden  
74 AMDS/SGPB

What do air, propane, wine, blood, pesticides, detergent, oil, untreated water, seawater and antifreeze have in common? All have gotten into drinking water systems as the result of backflow and cross connection incidents. None of the incidents occurred at Wright-Patterson AFB.

Backflow is flow from a higher-pressure source back into the water system, for example from a process water pump into the water system. Backsiphonage is a backflow condition caused by reduced pressure in the water system. Reduced pressure can result from high water demand, water main breaks or pump failures. A cross connection is an actual connection between a drinking water system and contaminant or unapproved water source.

Wright-Patterson has an active backflow prevention and cross connection control program to prevent contaminants or untreated water from entering into our drinking water system. CE, Utilities tests and maintains backflow prevention devices on a regular schedule and periodically checks cross connections.



## Typical Backflow Prevention Devices

What can you do to help?

Hoses and tubing on faucets and sinks can and have introduced contaminants into water systems in backflow incidents. Any hose or tubing on a sink faucet should be cut off two hose diameters (2 inch minimum) above the top of the sink. If hoses are or may be submerged in liquids, the faucet must be protected by an atmospheric



vacuum breaker. In order for the vacuum breaker to work, the faucet must be at least 6 inches above both the highest point in the hose and the top of the container receiving the water.



Equipment that connects to the water supply, such as dishwashers, power washers and small photo processors should have built in backflow prevention devices. For example, dishwashers have a built in air gap that prevents back flow of wash water into drinking water. **Never defeat or bypass the backflow prevention device on such equipment.** If you have questions or concerns regarding this type of equipment, check your owner's manual or contact the equipment manufacturer. If your concerns aren't adequately addressed contact Maj Gooden, Bioenvironmental Engineering at 4-8343.

Never make an unprotected or unapproved cross connection between the drinking water system and a system or source with contaminated, untreated or dirty water. Many of the incidents referenced above were caused by temporary connections made to keep operations running while the drinking water system was shut down, for example between wash and rinse water at a car wash.

**If in doubt, find out. Don't risk contaminating our drinking water supply!**

## **Think You Don't Need to Wear Safety Glasses When Doing Yard Work? Think Again!**

**Thanks to Steven Steel, AFRL/MLLN for submitting the following article:**

A contractor employee at the Kennedy Space Center was edging his lawn wearing sunglasses (not safety glasses). As he was in the process of edging, something brushed his face and knocked the sunglasses off. With both hands busy with the edger, he kept going and didn't stop to investigate the incident. Shortly, he went back to pick up the glasses, and was shocked to find that a screw had penetrated the sunglasses. The force of this screw hitting the glasses had knocked them off! This man's brother-in-law is an eye doctor, and he stated that the screw would not have blinded this man...it would have killed him!

Behind your eye socket, there is no bone between the eye and the brain. Anything that has a lot of force can go through the somewhat soft tissue of your eye and into the brain.





**Remember - Wear appropriate eye protection when performing any kind of yard work, working with machinery or chemicals.**

**A few tips on eye protection:**

- 1) Check the fit before each wearing:  
Too tight = fatigue, headache, eye strain, etc. and you'll take them off.  
Too loose = may fall off, won't provide adequate protection.
- 2) Clean regularly with soap and water or sanitizer and store in a dust-proof case when not in use.
- 3) Replace if lenses are pitted or scratched.
- 4) Wear eye protection at all times when working in labs at AFRL.

# TEST YOUR KNOWLEDGE

## Back Safety Quiz

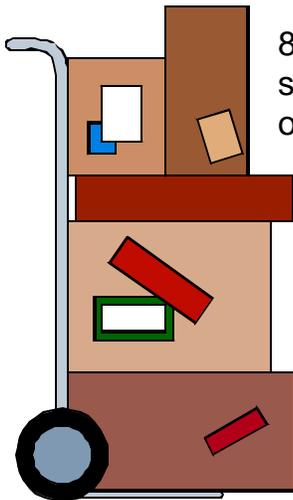
Thanks to Lynda Pope who writes the Colusa County, CA Safety Newsletter for the following Back Safety Quiz:

1. **T F** Ten % of all Workers Compensation claims are related to back pain.
2. **T F** People who sit at desks during the workday are not at risk for back injuries.
3. **T F** Most back pain cases take approximately one week for recovery.
4. **T F** The average cost of one case of back pain, in terms of lost work time, is estimated to be \$25,000.
5. **T F** Nine-tenths of American adults will one day have back pain.
6. **T F** A third of all back pain cases can be directly attributed to psychological causes.
7. **T F** As we progress more rapidly into the computer age, the two professions most likely to experience cumulative back strain are graphic designers and legal word processors.
8. **T F** Protective equipment is not needed to prevent back strain.
9. **T F** To prevent back strain, the proper method of lifting is to bend from the knees, not the waist, using thigh muscles as opposed to back muscles.
10. **T F** At a computer station, the height of a monitor in relation to the position of the keyboard can have a substantial effect on the potential for back strain.



# Answers To Back Safety Quiz

1. **False:** One third of all Workers Comp cases involve back pain or injuries.
2. **False:** Workers who sit at desks need to make sure their chairs, desks and over-all work environments are positioned correctly.
3. **False:** Most recover within three weeks.
4. **True:** Medical expenses are not the only expenses related to worker back pain.
5. **True:** That's right – read that number again, ninety percent of American adults will have back pain one day! This common problem can have devastating results on workers and their quality of life.
6. **False:** Only about 16 percent are from psychological causes. However, one of the most powerful predictors of disability from back pain is psychological distress. To keep your back pain free, reduce your stress.
7. **True:** These two professions commonly experience long work sessions without rest breaks, hand-me-down office furniture and demanding deadlines.



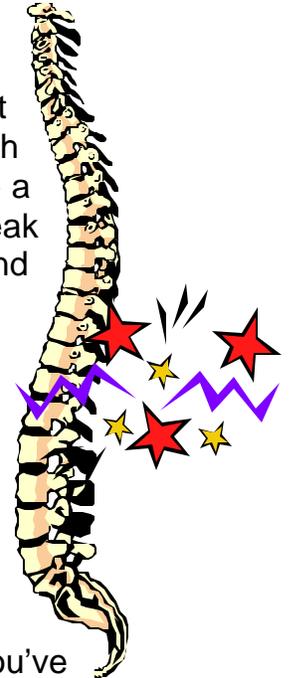
8. **False:** Specially designed belts can provide crucial support for workers who lift heavy objects or who move objects frequently. But, they do not replace good lifting practices. Better yet, use mechanical devices such as dollies, forklifts, carts, cranes/hoists, or help from another person. Never lift beyond your capabilities.
9. **True:** Back injuries can be caused by improper lifting, regardless of the weight of the object or the frequency of the lifting. Never twist your back while lifting: turn your body as a single unit. Keep your hips and feet pointed in the same direction you're moving.

10. **True:** Proper height of both the monitor and the keyboard must be adjusted for each individual. Use a document stand, proper fitting and adjustable chair, and most importantly, proper posture. Take frequent stretch breaks.

## Tips to Avoid Back Strain

**1) Use good posture:** Your back is made up of three curves. From top to bottom they are the cervical curve, the thoracic curve, and the lumbar curve. When all three curves are aligned, your ears, shoulders, and hips are in a straight line. This is good sitting posture because it allows your back to balance your weight properly. Slouching throws your weight out of balance, which causes excess pressure (strain) on your back. The result can be a tired, stiff back, or even injury. After prolonged slouching, weak ligaments can become fatigued, which puts pressure on disks and nerves.

Use good posture to support your three curves. Try to shift your sitting position often to take the strain off your lower back. Staying active in your chair helps keep muscles and ligaments flexible and relaxed. But be sure to move safely. Sudden bending or twisting are two of the most common ways to hurt your back when sitting.



**2) Take micro-breaks:** Give your back a break. Move a bit if you've been sitting too long. Stand and stretch. A few minutes of easy back exercises described below throughout the day can make a big difference in how you feel.

**3) Support the phone:** Support your "phone arm" on your elbow to keep your neck aligned and switch sides frequently. Don't cradle the phone against your shoulder. Use a hands-free headset if you're frequently on the phone.

## A Few Back Exercises:

**Chin Glide:** To help realign your cervical curve: Glide your chin straight back, keeping your head and ears level. You'll know you're doing this exercise right if it gives you the feeling of a double chin. Repeat 5-10 times.

**Middle Back Stretch:** To realign your thoracic curve: Bend both elbows and press one arm above you (as if you're trying to brush your ear with your elbow) and the other behind you. Press as far as you can stretch. Pause a moment then release. Repeat 5-10 times on each side.

**Reverse the Curve:** To reverse the “slouch curve” and release muscle tension in your lower back: Stand up. Press your palms on your lower back for support and gently bend backward. Pause a moment, release. Repeat 5-10 times.

**Shoulder Circles:** To release muscle tension in your neck, shoulders, and upper back: Circle your shoulders backward in a wide arc. Make several circles, then relax. Repeat 5-10 times. You can also circle your head slowly and gently in either direction to release tension in your neck and upper back.

**Elbow Press:** To release muscle tension in your middle back: Bring your elbows out to the side at chest level. Press them gently backward as far as you can stretch. Pause a moment then release. Repeat 5-10 times. Try this when you feel a little stiff or tired.

**Tummy Tuck:** To strengthen your abdominal muscles. These muscles help support your lower back and keep it aligned: Sit with your buttocks firmly against the back of your chair. Exhale and tighten your abdominal muscles for a count of 10. Release and repeat 5-10 times.

The preceding information is found in “*Back Tips for People Who Sit*” brochure published by Krames Communications, San Bruno CA, 1998.

### **Slouching Starts a Chain Reaction**

When you slouch a lot, your back muscles may get too tired to support you. So they relax and make the ligaments along your spine do the work. Your ligaments can then stretch too much to support you. This puts pressure on your vertebrae, disks, and nerves, which may lead to more pain, disk damage, and back injury.



**Thanks to Clay Fujimura, AFRL/SNZC for providing the following story:**

I have a story that I would like to pass on to you in hopes that someone might take an extra step and avoid an accident.

My adult cousin was living with his mother in a mobile home. He had brought home his laptop computer from work to play video games with a friend. He had his laptop, spare battery pack, and some computer manuals in a leather bag. When he got home, he greeted his mother and put the leather bag with his computer on the floor. He asked her if she was hungry because he was going to get something to eat, but she told him she was tired and not hungry. He left to get something to eat, and she went to take a nap. When he returned a couple hours later, his home was burned to the ground and his mother was dead.

The fire department investigation discovered that the spare battery pack in his leather bag made contact with the metal latch on the laptop. The latch acted like a heating coil and got hot enough to set the computer manuals in his bag on fire. The leather bag contained the flame until it was extremely hot. When the fire finally got out of the bag, it raced through the mobile home, which was not equipped with a smoke detector. By the time that his mother realized the home was on fire, it was too late. Although a neighbor called 9-1-1 and the fire department responded quickly, she died of smoke inhalation.

There are two safety morals to this story. The first is an obvious one that we hear all of the time and that is to have a smoke detector in your home. The second is to realize how much energy a computer or VCR battery pack stores. To make matters worse, these battery packs may have both electrical contacts on the same side making it easier to short out. When carrying loose battery packs, either cap the contacts with an insulator or make sure there is no conductor that they can come in contact with.

Clay Fujimura  
AFRL/SNZC



## **EPA Announces Homeland Security Research Center In Cincinnati**

**Thanks to Karen Thompson, 88 ABW/EM for forwarding this article:**

Environmental Protection Agency Administrator Christie Whitman announced plans to establish a Homeland Security Research Center in EPA's Office of Research and Development to manage and coordinate EPA's homeland security research and technical assistance efforts.

The goal of the new center is to assure effective design and oversight of research, provide clear lines of communication and facilitate interaction with EPA program offices and regions, other federal agencies, the private sector and research partners. Whitman made the announcement during testimony before the Senate Environment and Public Works Committee.

"This center, along with other efforts EPA is and will be taking, charts a course that will ensure that EPA is fully able to discharge the homeland security mission it has been assigned," said Whitman.

The new center will be located in Cincinnati and will be the central focus to manage and better coordinate all the technical assistance for building decontamination, drinking water protection and rapid risk assessment. The new center will assist in rapid, improved production, review, clearance and distribution of ORD homeland security research products.



What better time than October  
and Halloween for the



# AFRL BLOOD DRIVE

**When:** 8-9 October, 8:00-2:30

**Where:** Bldg 653 (AFRL/ML) Cafetorium

Reserved Parking in front of Bldg 653



## Walk-ins Welcome

no need to schedule in advance

## Free food and drinks!!

For more information contact:  
Donor Center x70580  
(for questions on eligibility)

or Mary Shelly at x59000



# ESOH Training and Opportunities

**RCRA Hazardous Waste Training**: Mandatory for all employees who generate hazardous waste. Issue Point (IP) Managers, Hazwaste generators, primary and alternate Initial Accumulation Point (IAP) managers, Unit Environmental Coordinators (UECs), and supervisors of all these individuals must take annual RCRA training.

**Initial Training: 21 Nov 02**

[CLICK HERE to schedule electronically](#)

Or schedule with Susan Dilworth 75627 x223



**Annual Refresher Training - AFRL Only**

**14 Nov 02**

Schedule with Mary Shelly x59000

**Annual Refresher Training - Organizations other than AFRL**

**17 Oct, 19 Dec 02**

[CLICK HERE to schedule electronically](#)

Or schedule with Susan Dilworth 75627 x223

## **Environmental Compliance, Assessment and Management Program (ECAMP) Training (ENV220)**



This course is designed to give students knowledge to successfully plan and execute an internal or external compliance assessment (such as ECAMP), prepare required reports, and direct the follow-up actions. For more information on the course visit [AFIT's Website](http://cess.afit.af.mil/env_020/default.htm) ([http://cess.afit.af.mil/env\\_020/default.htm](http://cess.afit.af.mil/env_020/default.htm)).

You must sign up for the course through your Training Focal Point (TFP). Contractor registration should be coordinated through their assigned organization's TFP. Additional paperwork is required for contractors to attend this course.

**For more information contact**

**Karen Thompson, 88 ABW/EMO at 72010 x 211**

## **Environmental, Safety and Occupational Health (ESOH) Awareness Training - 19 Nov 02**

**Sign up with Mary Shelly x59000**



This course covers a broad range of topics and requirements that apply to all of us at Wright-Patterson, including mandatory training requirements. This course is highly recommended for all employees on Base, including contractors. Supervisors are highly encouraged to attend.

## CPR Training

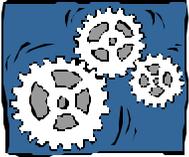


Required for electrical and confined space workers per 29 CFR 1910.151. The American Heart Association recommends CPR refresher training every two years and the American Red Cross recommends CPR refresher training every year. CPR training (per the American Heart Association) is **taught at the Base Hospital every Tuesday** provided that there are enough students for a class.

**Contact Marcia Wilson at x79347.**

## Operational Risk Management (ORM)

**To sign up, contact Chuck Swankhaus at 43390**



ORM is a tool anyone can use to help with planning and decision-making in order to reduce or eliminate potential risks and increase efficiency. The Safety Office (ASC/SEG) has made two ORM briefings available over the Internet. Click on the following links to learn more about ORM:

**Awareness Level ORM Training:**

[https://www.asc.wpafb.af.mil/asc/safety/orm/exec\\_training.ppt](https://www.asc.wpafb.af.mil/asc/safety/orm/exec_training.ppt)

**Level II ORM Training:**

[https://www.asc.wpafb.af.mil/asc/safety/orm/orm\\_level\\_ii\\_training.ppt](https://www.asc.wpafb.af.mil/asc/safety/orm/orm_level_ii_training.ppt)

## Public Health Training

All Training classes listed below will be held at 1300 in the Public Health Classroom in Bldg 675, Area B unless otherwise stated. If needed, more classes will be added to the schedule. To sign up for training or work specific education, please contact the Public Health Office at 255-2515.



## Hazardous Communication (HAZCOM) Training - 25 Oct 02

This course is a Train-the-Trainer course that provides mandatory HAZCOM training to supervisors and safety reps responsible for their organization's HAZCOM program. Hazcom Training per 29 CFR 1910.1200 is required for all employees who use, handle, or may be exposed to hazardous materials upon initial assignment to that job (if not already receiving Chemical Hygiene Training per 29 CFR 1910.1450). HAZCOM refresher training is required whenever a new chemical or hazardous process is introduced into the work area or it is evident an employee needs refresher training. Otherwise, there is no "annual" requirement for HAZCOM training.

## Ergonomics Training

29 Nov 02



Open to all interested DOD and military workers. Focus will be on Repetitive Motion Illnesses. If you would like in-depth ergonomic training that is more job specific, Public Health is available to do that on a one-to-one basis.

**Chemical/Biological Emergency Actions**

11 Oct 02

Course covers emergency actions to take for self-protection against potential Biological and Chemical Exposure. Open to all interested Base personnel.



**Reproductive Hazards in the Workplace**

8 Nov 02

Open to workplace supervisors, safety reps, and any interested Base personnel.



**Laser Hazards**

13 Dec 02

Open to workplace supervisors or Safety Reps.

**Asbestos Awareness**

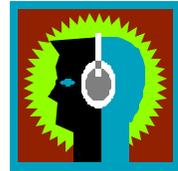
20 Dec 02

Mandatory for all building managers and CE personnel.

**Hearing Conservation (General)**

4 Nov 02

Open to all base employees, recommended for all employees routinely exposed to noise.



**Hearing Conservation (Supervisors) – class at 2:00**

7 Oct, 2 Dec 02

Mandatory for all supervisors and safety reps working around hazardous noise.

**Heat Stress**

Call 52515 for dates and times. Open to all interested personnel.

**Chemical Hygiene** –

Call 52515 for dates and times. Open to all AFRL supervisors and safety reps.



Health and Wellness  
Center (HAWC)

Call 904-WELL (9355) to get the latest schedule of classes. Class sizes are limited. All classes require pre-registration but are free. Classes will be held at Hangar 22 (Bldg 571) Area B - Wright Field Fitness Center. Many briefings can be individualized and brought to your organization.

## Wright-Patterson ESOH Web Sites:

**ENVIRONMENTAL MANAGEMENT:** <http://www.abwem.wpafb.af.mil/em/>

**HEALTH & WELLNESS CENTER:** <https://www.asc.wpafb.af.mil/wellness/>

**SAFETY:** <https://www.asc.wpafb.af.mil/asc/safety/index.html>

**PUBLIC HEALTH:** <https://wpmc3.wpafb.af.mil/amds/ph/index.htm>

**BIOENVIRONMENTAL ENGINEERING:** <https://www.bio.wpafb.af.mil/>

