

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



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

***December 2002***

***In This Issue***

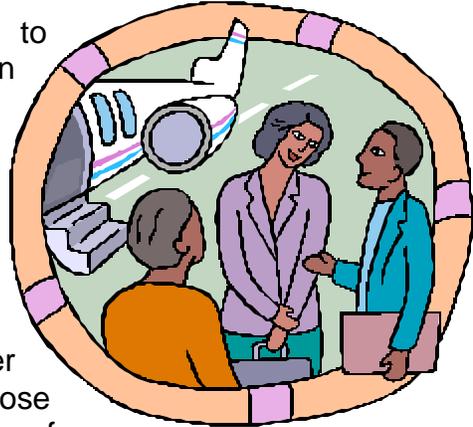
- TRAVELLERS: Plane Trips and Blood Clots
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Thanks to Greg Harvey, ASC/ENVR for forwarding the following article.  
Considering the number of people who will be flying over the holidays and who regularly go TDY, this is good information:

## Up, Up, and Away: Plane Trips and Blood Clots

### Background

The term "economy class syndrome" is used to describe a consequence of a medical condition known as deep vein thrombosis (DVT) that occurs when people develop blood clots in the deep veins of their legs. It can happen when the blood does not move through the vessels adequately, for example, after sitting through long flights. Symptoms can appear several weeks after flights as short as three hours. Such clots have been reported after automobile trips and even after evenings at the theatre, but long flights seem to pose a greater risk. The syndrome can result in anything from minor body pains and shortness of breath, to heart attacks and strokes.



A young English woman who died after a long return flight from the Sydney Olympics put the risk of deep vein thrombosis in the headlines. However, it should be noted that this problem is not new and has been evident for many years. It has come to prominence recently with the ever-increasing number of air travellers.

### What is DVT?

Deep vein thrombosis is a blood clot in one of the deep veins usually in the calf or thigh. In this part of the body, blood moves quite slowly and when a clot occurs, it can get stuck in the vein blocking the blood supply. It isn't always immediately obvious (pain and swelling in the leg may be the first symptoms), and is not necessarily fatal. However, these blood clots can become dislodged and travel to the lungs or other areas, causing strokes, severe organ damage, or death.

### Likely Cause

When you sit for a long time without contracting the muscles in your legs, blood can pool in the veins resulting in DVT. Tightly packed seating, such as that found in the economy class section of airlines, can restrict movement. It doesn't allow for a lot of room to move. However, it is the lack of movement rather than the lack of space that is the probable cause of DVT. Hence, business/first class travel need not necessarily provide the solution to this problem.

Doctors suspect that cramped leg room combined with dehydration interrupts the blood flow which causes clots, cutting off the supply of oxygen to various parts of



the body. This may account for the results of one study which showed that 18% of sudden deaths on airplanes were due to blood clots in the lungs.

### **Those at Risk**

Although anyone can develop blood clots, certain people are at greater risk including pregnant women, people who are overweight or obese, and those with certain blood conditions.

People with varicose veins or cancer are at risk, as are people with recent bed rest or recent general anaesthesia. In the past, DVT usually happened when people were confined to bed following surgery. It is

less common these days, because patients are given anticlotting agents and encouraged to get up and move around as soon as possible.

The medical specialists reported that the syndrome most often affects smokers, heavy drinkers, those whose feet don't reach the floor (because the seat puts more pressure on the backs of their legs), the elderly and those with a predisposition to coronary heart disease. But it also can affect normally healthy people causing them to develop pneumonia-like symptoms due to blood clots in the lungs. But some medical experts have their doubts about economy class syndrome. There are genetic risk factors and then superimposed on those are environmental risk factors such as having surgery or a trauma.

It certainly seems plausible that sitting down for long periods of time would slow down blood flow but two studies investigating whether your chance of DVT actually increases after a flight have come up with quite different conclusions. The first, from France, was published last year, and found that DVT patients were four times more likely than other patients to have travelled for four or more hours. Their results though, have been contradicted by a recent study in Holland, which found no association between DVT and recent travel whether by air, car, bus, train, or boat for more than three hours continuously.

### **Ways to prevent deep vein thrombosis while flying:**

In the meantime, should travellers add DVT to their list of things to worry about before they get on the plane? Scientific confusion aside, the measures to take to reduce any risk of DVT resemble the rules for comfortable air travel.

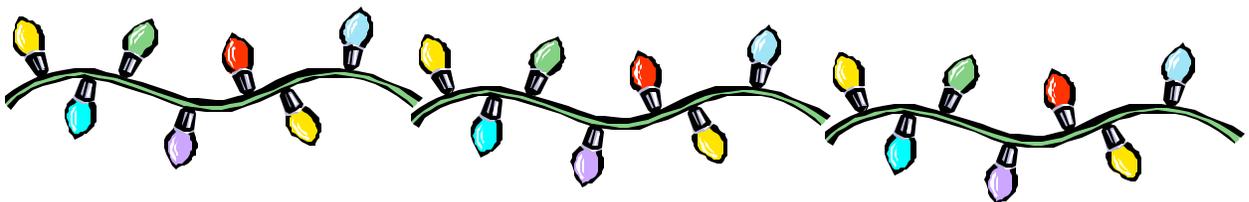
- Book your seat on the aisle, in an exit row or near a bulkhead to increase leg room.
- Don't cross your legs or sit on the edge of your seat as these positions can reduce blood flow in the legs.

- Remain hydrated (drink a glass of water every two hours) but avoid alcohol and caffeine which contribute to dehydration. When you're dehydrated, your blood becomes thicker, increasing risk of clots.
- Wear loose clothing, and avoid stockings or socks with tight elastic below the knees. Compression hose may help keep the blood from stagnating.
- Do not take sleeping pills as these obviously minimize any movement.
- People at higher risk of blood clots should consult with their physician about taking a low-strength aspirin prior to flying. Aspirin is a known blood thinner.
- Get up and walk about at least once an hour (a challenge given the food trolleys).
- While seated, massage feet, ankles, lower legs, and knees, and exercise calf muscles by clenching your toes, to stimulate blood circulation. Qantas typically advises its passengers to exercise during flights to improve circulation by moving their legs and feet for three or four minutes every hour. One exercise suggested by British Airways is to bend your foot upward, spread your toes, and hold for three seconds, then point your foot down, clench your toes, and hold for three seconds. Another exercise is to flex your ankle up and down as if you are stepping on the accelerator in a car. Do this exercise about 20 times every two to four hours you are in flight.



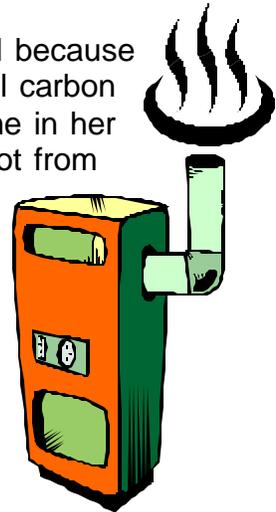
***Disclaimer: This article is based on publicly available information and was written for general information only. The article does not purport to be definitive and is not a substitute for advice from a general practitioner, qualified physician or counsellor.***

**Reference:** Health Reader, Vol. 6, December 2000, pg 1-2. Kraaijenhagen RA, et al. Travel and risk of venous thrombosis. *The Lancet* 2000; 356:1492-1493.



**Thanks to Thanh Chu, AFRL/PROE for forwarding a message from Curtis Reeves, AFRL/PROP. It and the following article warn about the dangers of Carbon Monoxide in homes.**

“A PR-east person just had her three year old furnace replaced because the heat exchanger was cracked and filling her house with lethal carbon monoxide (CO). She was actually fortunate that the burner flame in her gas furnace was also malfunctioning so she could smell the soot from that flame since you can not smell carbon monoxide. She did not have a CO detector in her house.



When the gas company arrived with a CO detector, the level throughout her house was three times higher than the level they normally set for evacuation. The moral to this story is that you should strongly consider getting a CO detector for your house, particularly if you have an oil or gas (hydrocarbon burning) furnace. CO detectors start at about \$10 and go up from there.

In case you're wondering, in addition to her new furnace, the person referenced above now also has two new CO detectors in her home. The man that installed this PR person's new furnace related that he just found an 87-year-old man dead last week due to CO. Protect yourself and family.”

Curtis Reeves, AFRL/PROP



## **DANGERS OF CARBON MONOXIDE**

### **Exposing an Invisible Killer**

Each year in America, carbon monoxide (CO) poisoning claims more than 200 lives and sends another 10,000 people to hospital emergency rooms for treatment. It kills more people annually in the United States than any other type of poisoning. There are simple steps you can take to protect yourself from deadly carbon monoxide fumes.

### **UNDERSTANDING THE RISK**

#### **What is carbon monoxide?**

☛ Carbon monoxide is an odorless, colorless and toxic gas. Because it is impossible to see, taste or smell the toxic fumes, CO can kill you before you are aware it is in your home or building. At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue. The effects of CO exposure can

vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

This is important to remember when you go to your doctor's office complaining of flu-like symptoms. The diagnosis of carbon monoxide is easily overlooked. The test for CO is a special test not usually done, and would not necessarily be included in a routine examination. Other signs and symptoms may include slower motor function, poor judgment, chest pain, weakness, confusion, and even death. The effects of CO poisoning can get worse over time. A person exposed to low levels for a long period of time could actually be worse off than someone with a shorter exposure to a higher amount. Carbon monoxide poisoning may lead to permanent heart or brain damage. The unborn baby is at an increased risk from exposure to CO. Maternal exposure during pregnancy may result in severe harm to the baby. Adults who have heart or lung problems are also at a greater risk for difficulty due to their already compromised condition.

### Where does carbon monoxide come from?

☛ This gaseous toxin is produced from the incomplete combustion of fossil fuels, such as wood, coal, oil, kerosene, natural gas, and propane. CO gas can come from several sources: gas-fired appliances, charcoal grills, wood-burning furnaces or fireplaces and motor vehicles.



### Who is at risk?

☛ Everyone is at risk for CO poisoning. Medical experts believe that unborn babies, infants, children, senior citizens and people with heart or lung problems are at even greater risk for CO poisoning.

## PROTECT YOURSELF AND YOUR FAMILY FROM CO POISONING

☛ Install at least one UL (Underwriters Laboratories) listed carbon monoxide alarm with an audible warning signal near the sleeping areas and outside individual bedrooms. Carbon monoxide alarms measure levels of CO over time and are designed to sound an alarm before an average, healthy adult would experience symptoms. It is very possible that you may not be experiencing symptoms when you hear the alarm. This does not mean that CO is not present. (CO detectors are not designed to detect smoke, fire, or any other gas).

☛ Have a qualified professional check all fuel burning appliances, furnaces, venting and chimney systems at least once a year.

☛ Never use your range or oven to help heat your home and never use a charcoal grill or hibachi in your home or garage.

☛ Never keep a car running in a garage. Even if the garage doors are open, normal circulation will not provide enough fresh air to reliably prevent a dangerous buildup of CO.

☛ When purchasing an existing home, have a qualified technician evaluate the integrity of the heating and cooking systems, as well as the sealed spaces between the garage and house. The presence of a carbon monoxide alarm in your home can save your life in the event of CO buildup.

### **What actions do I take if my carbon monoxide alarm goes off?**

What you need to do if your carbon monoxide alarm goes off depends on whether anyone is feeling ill or not.

#### If no one is feeling ill:

1. Silence the alarm.
2. Turn off all appliances and sources of combustion (i.e. furnace and fireplace).
3. Ventilate the house with fresh air by opening doors and windows.
4. Call a qualified professional to investigate the source of the possible CO buildup.



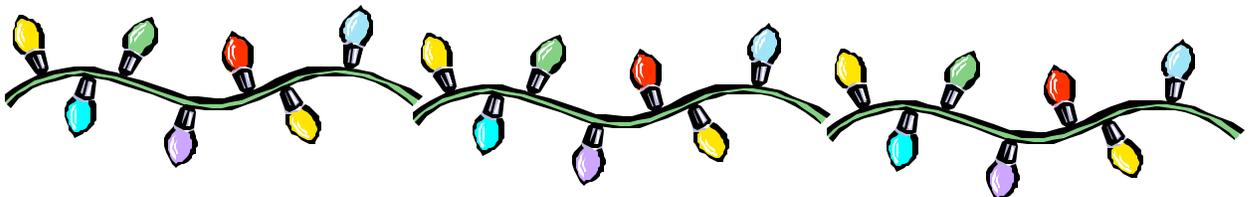
#### If illness is a factor:

1. Evacuate all occupants immediately.
2. Determine how many occupants are ill and determine their symptoms.
3. Call your local emergency number and when relaying information to the dispatcher, include the number of people feeling ill.
4. Do not re-enter the home without the approval of a fire department representative.
5. Call a qualified professional to repair the source of the CO.

#### **For More Information Contact:**

The United States Fire Administration  
Office of Fire Management Programs  
16825 South Seton Avenue  
Emmitsburg, MD 21727

*How about buying carbon monoxide detectors as Christmas gifts? They may not seem exciting but they could save a loved one from serious illness or even death.*



## Reader Comments:



### Preparing Your Car for Winter

Tim Sumpter from AFRL/MLSC has provided the following link to a website that contains lots of great information on getting your car ready for winter. Thanks Tim.

<http://www.edmunds.com/ownership/howto/articles/43799/article.html>

### Disposing of Old Smoke Detectors

Based on last month's article on smoke detectors, which suggested replacing them every ten years, one reader asked what the proper way is to dispose of an old smoke detector.

If you are disposing of a smoke detector from your home, you should take it to your county's hazardous waste facility for disposal, as most detectors contain a radioactive material and should not be disposed of in the regular trash. Most smoke detectors are labeled as having a radioactive source, but it is not always clear.

If you work on Base and need to dispose of a smoke detector, contact the Office of Environmental Management, Radiation Safety at 257-2010 for disposal instructions. They accept ALL smoke detectors that contain a radioactive source with no charge to the generator.



**For more information and instructions on Radioactive Materials recycling on Base, go to EM's Website at:**

[http://www.abwem.wpafb.af.mil/em/radiation/index.cfm?fuseaction=main&obj\\_id=64&CFID=1119&CFTOKEN=19389952](http://www.abwem.wpafb.af.mil/em/radiation/index.cfm?fuseaction=main&obj_id=64&CFID=1119&CFTOKEN=19389952)

**For links to various counties' hazardous waste facilities:**

[http://www.abwem.wpafb.af.mil/EM/hazmat/index.cfm?fuseaction=main&obj\\_id=76](http://www.abwem.wpafb.af.mil/EM/hazmat/index.cfm?fuseaction=main&obj_id=76)

## 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/>

**HEALTH AND WELLNESS CENTER (HAWC):**

<http://wpmc1.wpafb.af.mil/pages/hawc/>

## 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: 16 Jan, 20 Mar, 15 May 03**

[CLICK HERE to schedule electronically](#)

Or schedule with Susan Dilworth 75627 x223

**Annual Refresher Training - AFRL Only**

**23 Jan, 27 Mar 03**

Schedule with Mary Shelly x59000

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

**19 Dec 02, 20 Feb & 17 Apr 03**

[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

**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

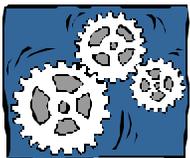
Required for electrical and confined space workers per 29 CFR 1910.151. The American Heart Association recommends CPR refresher training every two years and the American Red Cross recommends CPR refresher training every year. CPR training (per the American Heart Association) is **taught at the Base Hospital 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 for 2003**

All Training will be held at 1400 in the Public Health Classroom in building 675, located in Area B. 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)**

**7 Feb, 25 Apr, 25 Jul, 24 Oct 03**

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. Must have previously had general Hazcom.

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**

**21 Feb, 23 May, 22 Aug, 21 Nov 03**

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.

### **Reproductive Hazards in the Workplace**

**14 Feb, 9 May, 8 Aug, 7 Nov 03**

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



### **Laser Hazards**

**7 Mar, 13 Jun, 12 Sep, 12 Dec 03**

Open to workplace supervisors or Safety Reps.

### **Asbestos Awareness**

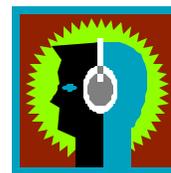
**21 Mar, 20 Jun, 19 Sep, 5 Dec 03**

Mandatory for all building managers and CE personnel.

### **Hearing Conservation (General)**

**14 Mar, 2 May, 11 Jul, 26 Sep, 14 Nov 03**

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



**Hearing Conservation (Supervisors)**  
**28 Feb, 4 Apr, 6 Jun, 22 Aug 03**

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

**Chemical Hygiene** –  
**28 Feb, 18 Apr, 27 Jun, 5 Sep 03**  
Open to all AFRL supervisors and safety reps.

**OTHER PUBLIC HEALTH TRAINING AVAILABLE UPON REQUEST**

Cadmium	Carbon monoxide
Cold Stress	Heat Stress
Lead	Personal Protective Equipment
Respiratory Protection	Universal Precautions/ BBP
Benzene	Formaldehyde



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.



***Have a safe holiday  
season!!***

If you have any suggestions for  
this newsletter or if you would like  
to be added / removed from the  
distribution list, please contact

**Mary Shelly**  
**(937) 255-9000.**