

When ambulances are a hazard to health

If you're heading to the hospital and the trip involves some distance, the design and make of the ambulance that gets you there may make a difference. A study involving 690 New Jersey ambulances, reported in the May *AMERICAN JOURNAL OF PUBLIC HEALTH*, indicates the rear compartments of some vehicles subject riders — patient and attendants alike — to potentially toxic levels of carbon monoxide (CO). The study was initiated after state health officials learned of a 1981 incident in which an ambulance attendant became ill from apparent overexposure to CO. In the vehicle in question, CO levels were greater than 50 parts per million (ppm).

No federal CO limits exist, though the Environmental Protection Agency's *guideline* recommends no more than 35 ppm averaged over one hour or 9 ppm averaged over 8 hours; these levels are designed to protect individuals with cardiovascular and vascular diseases. "In this study, we considered a CO level of 10 ppm above that found in the outside air to warrant corrective action," write Raja Iglewicz and colleagues at the New Jersey Department of Health, in Trenton, and Boris Iglewicz of Temple University in Philadelphia. They picked the level not because they felt it to be dangerous, "but rather because it identified ambulances which had the potential for accumulating toxic levels of CO on long transports."

In the study, CO readings were taken for 10 minutes each at engine idling, low speed (30 to 35 miles per hour) and high speed (over 50 mph). In each case, readings were taken for the first five minutes at the head of the stretcher (indicating what a patient would breathe). Then readings focused on rear and side doors to identify where the CO was coming from.

Of the vehicles tested, 22.6 percent had patient-breathing zone levels of between 10 and 35 ppm over background, 2.2 percent had CO levels there between 35 and 50 ppm, and another 2 percent — or 14 vehicles — exhibited patient zone CO levels of more than 50 ppm over background, outdoor levels.

"Older Chrysler vehicles had a higher proportion of failing ambulances than expected," the researchers note, "while newer, low mileage General Motors and Ford ambulances had a higher than expected proportion of passing ambulances." Though good maintenance could reduce CO levels, the major predisposing factors to high CO buildup were location of exhaust pipe and the presence of rear doors. The researchers recommend that any vehicles exceeding 35 ppm CO over background be pulled from service until exhaust leaks are repaired, and that rear-door windows be kept closed at all times. They also suggest vehicle design changes to minimize CO buildup in the patient area.

The duds of war

It's a poignant irony that long after the truce is called, many weapons of war remain active. Writing in the Swedish journal *AMBIO* (Vol. 13, No. 1), Arthur Westing of the Stockholm International Peace Research Institute explains: "On average about 10 percent of all munitions used in any given war fail to explode... these 'remnants of war' constitute a threat to life and limb long after the conflict has ended." Just in 1978, he notes, French bomb-disposal units cleared more than 13,000 dud munitions left from World War II. The U.S. legacy in Indochina is estimated to include more than 2 million such bombs and 23 million artillery shells. Unwitting postwar casualties have included children playing in fields and civilian ships in Japanese waters.

To limit future postwar carnage, Westing asks weapons designers to work on more dependable fuses and the equivalent of biodegradable bombs — ones that disarm themselves over time. He also suggests that an agency such as the United Nations set up an international clearinghouse on bomb-detection and -disarming data. Finally, he recommends greater work on developing a cadre of animals to "sniff" out the lethal leftovers — even at sea.

A mixed pollution review

The scope of federal environmental programs is too narrow to take into account that pollutants are shared among the air, soil and water — and this tunnel vision maims many governmental clean-up and regulatory efforts, an environmental research group says in their biennial report.

"Much of the existing control effort may simply be shifting pollutants from one part of the environment to another," says the recently released "State of the Environment" report by the Washington, D.C., based Conservation Foundation. For example, metals deposited in the air by industry tend to "fall out" and add to water pollution in the Great Lakes, the report notes. Foundation President William Reilly calls for new laws with greater environmental vision, studies to fill the "gaping hole" in pollutant knowledge, more money for and better cooperation between various agencies and international efforts for problems such as acid rain. Not all news is grim, however. Reilly says current trends are toward better public awareness of problems, and an increase in federal funding for environmental agencies.

Meanwhile, the Project on Industrial Policy and the Environment, a coalition of 11 environmental groups also based in Washington, called for environmentalists to become "serious participants" in the politics of the economy and industrial policy in order to achieve a pollution-free world.

Chewing for success

Merrill Dow Pharmaceuticals of Cincinnati is marketing a nicotine chewing gum that in conjunction with behavior therapy can improve a smoker's odds of quitting the dangerous cigarette habit, the company says. In a recent company-funded study, when Nicorette — which provides up to 90 percent of a cigarette's nicotine high — and therapy were used, 86 percent of 60 smokers were able to quit within six weeks. After a year, 50 percent of them were still off cigarettes, says John Bachman, director of the Behavioral Medicine Clinic at Stanford University.

In comparison, only 23 percent of the people who quit with the aid of Nicorette alone remained smokeless. Of those who quit with only therapy to help them, 30 percent remained non-smokers after one year, Bachman says. It appears that a combination method is the shortest route to clean lungs, he says, and plans to expand this method in his stop-smoking clinic.

Nicotine isn't the most harmful ingredient in cigarettes, but the one producing "withdrawal" symptoms of tension, nausea, headaches or fatigue. Normally, about 75 percent of reformed smokers give in to their cravings and relapse.

Not generally thought of as a drug, nicotine is just that. It stimulates the adrenal glands, starts up the "fight or flight" sympathetic nervous system, prods the release of catecholamines from the brain, increases the heart rate and blood pressure of new or non-smokers and is addicting.

But even the best methods to help people stop are in vain unless a smoker truly wants to quit, Bachman adds.

Superfund may grow

Odds are "pretty good" that Congress this year will beef up Superfund's five year, \$1.6 billion budget to \$9 billion, says Ben Everidge, aide to Rep. James Florio (D-N.J.). Superfund, enacted in response to New York's Love Canal disaster, does not need congressional action until next year, when its budget expires. But Florio says this arm of the Environmental Protection Agency is woefully poor in relation to the hundreds of toxic clean-ups it lists as needing priority attention (*SN*: 2/26/83, p. 132). Florio's bill also sets timetables for cleaning up such hazardous sites, and permits victims of toxins to sue for damages done them. A bill similar to Florio's is brewing in the Senate, and both are to come up for consideration later this summer, Everidge says.