News Briefs

Wanted: Data on Radioactive Russian Snake Venom

A pair of Russian scientists are resorting to an unusual method for assessing environmental radioactive contamination: counting radioactivity in snake venom. Strapped for funds, they are asking Western importers of Russian snake venom for help.

The scientists are trying to make up for records, lost or kept secret, detailing radioactive contamination from accidents at nuclear power plants, military test explosions, and uncontrolled dumping of radioactive waste.

Snakes absorb elements like strontium, cesium and cobalt, which concentrate in the venom. Calcium, which is chemically similar to strontium, is a natural constituent of venom and snakes exposed to ^{90}Sr readily accumulate the radioisotope. Andrey A. Nedospasov of the Russian Academy of Sciences and Alexandr V. Cherkasov of the Russian Research Centre say that exported venom is "highly likely" to be contaminated with radioactivity. Indeed, Russian custom agents impounded a shipment of venom recently because of its high radioactivity.

Venom from the adder, or common European viper (*Viper berus*), is collected throughout the former Soviet Union and delivered to foreign costumers for research and medicinal uses, though no medicines sold in the U.S. use snake toxins.

Venoms are used to immunize animals to generate antivenomous serum. Proteins unique to snake poison include a variety of potent neurotoxins, blood cell toxins, and endotheliotoxins. Some venoms contain antibodies that clump red blood cells together and can be used to control bleeding or to test in vitro for deficiencies of blood coagulation factors.

Remarkable among cold-blooded animals, the adder tarries as far north as the arctic circle, preferring the forests of the Carpathian, Balkan, and Caucasus Mountains. Overall contamination of its range could in principle be estimated accurately by measuring the radioactivity of the venom, according to Nedospasov and Cherkasov. But they face dwindling support for their project due to the "general economic crisis" gripping the former Soviet republics. They ask people in the West who obtain snake venom from the former Soviet Union to measure the radioactivity and send the results along with the territory and date of collection to their institutes in Moscow.

"These results will be of great value for people living on contaminated territories and for ecological monitoring," the scientists wrote in a plaintive call for help printed February 4 in the journal *Nature*. "The information could also be important for saving natural *V. berus* populations," they say. ■

NRC Changing Rules on Storage of Radioactive Waste

The U.S. Nuclear Regulatory Commission has proposed new requirements for the on-site storage of low-level radioactive waste that would ban long-term storage unless the power reactor, hospital, or other licensee documents that it has exhausted all other "reasonable" options for dealing with the waste.

Storage of short-lived radioactive refuse for decaying it to background levels would still be permitted. Other than extra paper shuffling for licensees, the law is expected to have little impact since the Supreme Court voided the main enforcement provision of the Low Level Radioactive Waste Policy Act. The NRC is now barred from requiring states to take title to low-level waste, which makes the proposed rule "little more than the agency's statement of principle," according to the trade publication *Nuclear News*.

If approved, the new rule takes effect January 1, 1996. The proposed restrictions are written as standard conditions in licenses for nuclear reactors, materials, fuel cycle, and spent-fuel storage. Licensees would not be required to submit formal documentation to be able to store low-level wastes, but each licensee would have to maintain records showing the steps taken to comply with the rule.

Only two disposal sites for low-level radioactive waste remain in operation in the U.S. Because the commissions that control both of these privately-operated burial dumps restricted access on January 1, 1993, many university research laboratories, hospitals and drug companies, not to mention the nuclear power companies that produce the vast majority of low-level waste by radioactivity, are preparing to store low-level wastes for at least the next four years (see *Newsline*, December 1992, p. 25N).

When the Barnwell, South Carolina site closes altogether in 1996, storage of

E&R Foundation Awards 1993 Pilot Research Grants

The Education and Research Foundation of The Society of Nuclear Medicinehas awarded $5,000 pilot research grants to the following investigators:

Ganesh D. Arora, PhD of East Carolina University School of Medicine, in Greenville, North Carolina, for research on the evaluation of myocardial viability using iodine-123-phenylpentadecanoic acid and thallium-201 reinjection.

Timothy R. DeGrado, PhD at Duke University Medical Center in Durham, North Carolina, for the development of an isolated perfused rat kidney model for testing approaches to radiolabeling monoclonal antibodies.

Aniruddha Gangopadhyay, PhD of the New England Deaconess Hospital in Boston, Massachusetts for investigation of tumor radioimmunoimaging by antibody isoforms.

Elvira V. Lang, MD at Stanford University in California for assessing the use of radiographic contrast media to accelerate white blood cell imaging.

News Briefs

radioactive waste may be the only option for industries and research labs in all but a handful of northwestern states with access to the disposal grounds in Hanford, Washington.

NRC Chairman Ivan Selin says the proposed rule accommodates the precariously developing situation. "We believe that on-site storage should only be allowed as a last resort to disposal after January 1, 1996," he said in a January speech to the Low-Level Radioactive Waste Forum. "There are real, practical and safety limitations to the viability of storage as an option."

The chairman warned that the experience with high-level nuclear waste has shown that storage alone "will not be tolerated indefinitely." But he expressed confidence that the basic federal policy of state responsibility for low-level waste would prevail, and that under the Low-Level Radioactive Waste Policy Act new disposal facilities will eventually be developed. He declined, however, to predict just how long development of new sites is likely to take. ■

Nuclear Waste Poll Finds Public Amenable

An opinion poll conducted for the nuclear power industry in February asked the following question: If faced with the choice of building a disposal facility or losing the benefits of the activities that produce low-level radioactive waste, what would you choose to do?

Most, that is 57%, of the 1,000 "nationally representative adults" interviewed by telephone said they would build the waste facility. About a third (33%) said they would prefer to give up the benefits of nuclear technologies rather than accept new waste sites. The poll had a margin of error of +/- 3%.

A second question asked whether low-level radioactive waste should be shipped to a permanent disposal facility or stored at the many sites where it is generated. A full 60% of the people favored the permanent repository, but 27% thought low-level waste should stay put where it's produced.

How can these somewhat surprising findings in favor of nuclear technology be reconciled with the overwhelming rejection of new low-level waste sites by voters in many districts?

The pollsters, a New Jersey market research firm called Bruskin-Goldring, began each interview with the following statement: "Low-level radioactive waste is produced by hundreds of everyday activities; for instance, to generate electricity, diagnose and treat diseases, test new drugs, control the quality of manufactured products, and improve agriculture." Such information no doubt has a reassuring effect, especially when the questions that follow remain theoretical.

What the pollsters didn't gauge were attitudes about where waste facilities should be built, which are crucial. After all, local opposition has been the limiting factor in the establishment of most if not all of the proposed waste sites. The U.S. Council for Energy Awareness, the public relations arm of the nuclear power industry, contracted the poll.

A third section of the survey asked people to pick from a pair of phrases the one which came closest to expressing how they felt about radioactive waste. Options included "manageable" versus "not manageable", "regulated" or "not regulated", and others. Some 56% of the people said low-level waste can be disposed of safely (36% said it could not). Even larger majorities said that the waste is manageable (70%) and regulated (75%).

The poll revealed something interesting in public misperceptions about low-level waste: increasing knowledge appeared to correlate with acceptance of the safety of disposal options. Less than half (49%) of those polled said correctly that all low-level waste is solid. Some 32% thought of it as a liquid, and 19% did not know. Of those who knew that low-level waste is solid, 65% said it can be disposed of safely. Of those who considered it a liquid, 49% said it can be disposed of safely. ■

U.S. Efforts Failing toImprove Access to Health Care

The U.S. has made almost no overall progress in the last decade in efforts to improve access to basic medical services, while disparities between rich and poor have broadened. These sobering conclusions come from an Institute of Medicine study using a set of 15 new indicators to more sensitively measure the degree to which Americans are able to obtain timely and appropriate medical care.

"Successes like improvements in breast cancer screening are counterbalanced by the return of diseases that can be avoided, like tuberculosis and congenital syphilis," say the authors of the 200-page report, which was released in February. "Stagnation is the single best word to characterize our current state."

The committee of medical professors and health policy analysts sought indicators—similar to economic measures like unemployment and inflation

Student Fellowships

The E&R Foundation has awarded research fellowships of $3000 for three months to the following students:

Elizabeth Einset
University of New Mexico
Albuquerque

Duncan W. Lill
University of Alabama Medical Center
Birmingham

Antje Loessner
Humboldt University Medical School
Berlin, Germany

Buck Edward Rogers, PhD
Washington University
St. Louis, Missouri

Rachel M. Schoss
Kelsey-Seybold Clinic
Houston, Texas

News Briefs

rates—to track whether conditions for obtaining medical care are improving or getting worse. They particularly sought answers to questions about vulnerable groups in society, the poor and racial minorities. Indicators focused on five goals: improving birth outcomes, reducing the incidence of preventable disease, detecting treatable maladies early, limiting the crippling effects of chronic illnesses, and reducing pain and suffering through swift and adequate treatment.

For blacks and some ethnic minorities the committee found evidence of unequal access to timely outpatient care, immunizations, dental visits, and some sophisticated procedures. "Even in instances in which general improvement can be seen that spans the U.S. population, improvement is slower for these groups—especially blacks," the report says. The authors found that:

- Residents of low-income neighborhoods are three to four times more likely to be hospitalized than people from middle-class neighborhoods for about a dozen illnesses, including diabetes and asthma, which usually are managed more appropriately and more cost-effectively through outpatient visits.
- Problems in obtaining adequate health care are to blame for one-third to one-half of the higher mortality rates of blacks in the U.S. In 1980, black men and women aged 35-54 were about two times more likely to die than whites of the same age, even after controlling for behavioral risk factors.
- People from poor areas are much less likely than residents of middle-class neighborhoods to gain referral for procedures like breast reconstruction after mastectomy, coronary artery bypass surgery, and angioplasty. For a list of five such "referral sensitive" procedures, the poor were almost 40% less likely to undergo the treatment.

Some of the racial and ethnic disparities diminish, the committee acknowledged, when factors like insurance status and income are accounted for. But they concluded that future national surveys should "oversample" minority populations, and that in general, more research is warranted to help end problems of access to health care.

Among other recommendations, the committee called upon the U.S. Department of Health and Human Services to oversee close federal monitoring of access to medical care. Relying on existing sources for the study, the authors say they encountered gaping holes in the data that prevented some important up-to-date comparisons. And they called for increased funding for state and local surveys, cancer registries, and other studies, to enable detailed nationwide comparisons of local differences.

While the report uncovered mounting evidence that lack of health insurance is the reason large segments of the population go without adequate health care and achieve poorer outcomes, the committee cautioned that a universal health plan is not enough to topple many of the complex barriers to health care. "An insurance card alone," the authors say, will not solve all of the access problems of ethnic minorities, people with disabilities, the homeless, AIDS patients, and victims of domestic violence. ■

FDA Seeks Advisors for Medical Devices Committee

The U.S. Food and Drug Administration is seeking to fill several current or upcoming vacancies on advisory committees for the Center for Devices and Radiological Health (CDRH) and experts in nuclear medicine and radiology are among those needed.

The advisory panels help the center assess the safety and effectiveness of medical devices and review medical radiation and other programs and regulations. Panel members serve for up to four years.

Radiologists and related specialists are needed immediately to fill two openings on the radiological devices panel. Three spots are vacant on the neurological devices panel. The advisory panel on clinical chemistry and toxicology needs two experts to fill openings on March 1, 1994.

Industry representatives are needed for the clinical chemistry, good manufacturing practices, neurological devices, radiological devices and other panels.

Physicians and scientist nominees for the medical device advisory panels should send curricula vitae to:

Dr. Thomas Arrowsmith-Lowe, Office of Health Affairs (HFZ-70), CDRH, 1390 Piccard Drive, Rockville, MD 20850.

Industry representatives should send nominations to:

Kay Levin, Office of Management Services (HFZ-20), CDRH, 12720 Twinbrook Parkway, Rockville, MD 20857.

In related news, the FDA has appointed a new director for the devices center. Bruce Burlington, MD, deputy director of the office of drug evaluation in the Center for Drug Evaluation and Research since 1988, took charge of CDRH in February.

Dr. Burlington joined the FDA in 1981, shortly after completing his internship and residency in internal medicine and a fellowship in infectious diseases at the University of Colorado Medical Center. He graduated in 1975 from the Louisiana State University School of Medicine. The previous director of CDRH, James S. Benson left in December, 1992. ■

CLARIFICATION: A news brief in the March, 1992 issue of Newsline referred to the Institute for Clinical PET as an "industry group." ICP is a non-profit organization that promotes the clinical application of positron emission tomography and coordinates reimbursement efforts for clinical PET. Membership includes industry representatives, academic researchers, and clinicians.