



Click here to read real life success stories

We know how it feels to want to live life lighter.

800.979.8982
thelapband.com



- Latest News
- Browse Topics
- Encyclopedia
- Health Center
- Videos
- Science Books

- Health & Medicine
- Mind & Brain
- Plants & Animals
- Space & Time
- Earth & Climate
- Matter & Energy
- Computers & Math
- Fossils & Ruins

Show menu | ScienceDaily home page | RSS feeds | Free newsletter | Print this page | Email to friend | Bookmark | Text: small | med | large

Source: University Of California Santa Cruz | More on: Weapons Technology, Nuclear Energy, Chronic Illness, Pregnancy and Childbirth, Workplace Health, Health Policy

Date: January 22, 2004

Isotope Analysis Shows Exposure To Depleted Uranium In Gulf War Veterans

Science Daily — U.S. veterans who were exposed to depleted uranium during the 1991 Gulf War have continued to excrete the potentially harmful chemical in their urine for years after their exposure, according to a new study published in the journal Health Physics.

The study indicates that soldiers may absorb depleted uranium particles through inhalation, ingestion, or wound contamination, said Roberto Gwiazda, an environmental toxicologist at UC Santa Cruz and lead author of the study.

Fine particles of depleted uranium are created when munitions made with the material strike a target. The new study did not address the health effects of exposure to depleted uranium, a subject of ongoing debate, but focused on a technique for detecting past exposure.

Low concentrations of uranium in the urine are normal due to ingestion of naturally occurring uranium in food and water. Depleted uranium is a by-product of the enrichment process used to make nuclear fuel, in which one isotope of uranium (235U) is extracted, leaving behind material depleted in that isotope. Depleted uranium is still weakly radioactive and, like other heavy metals, can be toxic in high doses. Because of its high density and other properties, it has been used in armor-piercing ammunition and in armor for fighting vehicles.

Gwiazda and Donald Smith, professor of environmental toxicology, developed a sensitive analytical technique to detect depleted uranium in urine samples. By measuring the relative abundances of different isotopes of uranium in the urine samples, the researchers were able to distinguish between natural and depleted uranium.

"This is the only unambiguous way to determine past exposure and uptake of depleted uranium," Gwiazda said.

The analysis of samples from Gulf War veterans was performed in collaboration with the Baltimore Veterans Affairs Depleted Uranium Follow-up Program, which is assessing, treating, and monitoring veterans who may have been exposed to depleted uranium during the war.

The researchers applied their technique to three different groups of Gulf War veterans. The first group of soldiers had shrapnel in their bodies as a result of "friendly fire" incidents in which their tanks or armored vehicles were hit by munitions containing depleted uranium. The second group consisted of soldiers who did not have shrapnel in them but were involved in the friendly fire incidents to different degrees, either because they were in the vehicles that were hit or because they participated in recovery operations. The third group was a reference group and consisted of soldiers who participated in the war but not in combat operations.

As expected, the soldiers with embedded shrapnel had high concentrations of uranium in their urine, and the isotope analysis showed that it was depleted uranium, presumably being released into their bodies from the shrapnel.

A more striking finding was the presence of depleted uranium in the urine of a significant number of soldiers in the second group, without embedded shrapnel but with potential exposure through inhalation, ingestion, or wound contamination. The uranium concentrations detected in this group were, on average, six times higher than in the reference group, but were still within the normal range for the U.S. population. Nevertheless, Gwiazda said, it was remarkable that the signature of depleted uranium could still be detected so many years after the exposure.

Ads by Google | Advertise on this site

Uranium Toxicity?
Dr. Greenberg's Oral Chelator Safe and Effective/ 90 Day Protocol
www.scienceformulas.com

Who Gets Nukes Next?
The most likely countries to go nuclear next
www.foreignpolicy.com

Fluke Biomedical Products
(formerly Cardinal Health, Syncor) Victoreen, Keithley, Nuclear Assoc.
www.cspmedical.com

Government Grants Info
Free Government Grant money that you never have to pay back
www.governmentgrantlist.com

Anti-Aging Energy Formula
Reduce the damaging effects that result from aging. Feel Young Again
www.drnewtons.com

Health Videos & Features



What is Stomach Cancer?
This year, over 22,000 Americans will be diagnosed with gastric cancer, another name for stomach cancer. Tune in now to learn if you are at risk for this

disease.
[Read Transcript](#) | [Related Programs](#)

- News:**
- [Seek Treatment Now to Avoid Next Fall's Allergies](#)
 - [Weather Influences Attacks of Gout](#)
 - [Seek Treatment Now to Avoid Next Fall's Allergies](#)

Chelation of Uranium
Absolutely No EDTA, DMPS or DMSA! Safe and Effective/ 90 Day Protocol
www.scienceformulas.com

Is It Really Mold?
Mold Testing & Inspection Services Serving NW Oregon & SW Washington
www.mriec.com

Business Loans
Poor Credit, No Credit, Bad Debt. Apply for your Business Loan today.
www.your-small-BUSINESS-LOANS.com

Veterans Records
Find enlistment records, gravesites regimental histories and more.
Ancestry.com

Related News Sections

- [Health & Medicine](#)
- [Matter & Energy](#)

Related News Topics

- [Weapons Technology](#)
- [Nuclear Energy](#)
- [Chronic Illness](#)
- [Pregnancy and Childbirth](#)
- [Workplace Health](#)
- [Health Policy](#)

Related Science Stories

- [Tests To Reveal Levels Of Depleted Uranium In Army Personnel](#)
- [Possible Exposure To Nerve Agents And Brain Cancer Deaths In Gulf War Veterans](#)
- [Sandia Completes Depleted Uranium Study; Serious Health Risks Not Found](#)
- [UK Army Personnel Involved In Iraqi Invasion Not At Risk From Depleted Uranium, Study Finds](#)
- [Gulf War Veterans Have Excessive Rates Of Death, Hospitalization, Studies Show](#)

Related Encyclopedia Articles

- [Heavy metals](#)
- [Nuclear fission](#)

Search Archives

Find: > options

JobStream | Quick Search

Keywords:

Location:

Job category:
- Select a Category -

careerbuilder.com
Host Your Own JobStream

FACT!
Watch this video to see why.

Symbicort

(budesonide 160 mcg and formoterol fumarate dihydrate 4.5 mcg) Inhalation Aerosol

Important Safety Information and Uses
SYMBICORT won't replace rescue inhalers for sudden asthma symptoms. Do not take more than twice a day. While taking SYMBICORT, never use any other medicine containing a long-acting beta2-agonist (LABA).

SYMBICORT contains formoterol, a LABA. Medicines containing LABAs may increase the chance of asthma-related death. So, SYMBICORT should be used only if your health care provider decides another asthma-controller alone does not control your asthma

Click here for Prescribing Information and Medication Guide

- In Other News ...**
- [Norway ministers eye same-sex marriage](#) (2 hours ago)
 - [Book casts doubt on tobacco litigation](#) (2 hours ago)
 - [Ohio man convicted in Bosnian Serb case](#) (2 hours ago)

"These samples were taken six to eight years later," he said. The Veterans Affairs (VA) monitoring program has not reported any findings of clinically significant health effects related to exposure to depleted uranium, even in the highly exposed soldiers with embedded shrapnel.

Any health effects of exposure to depleted uranium may not be detectable without studying a large number of exposed individuals. The technique developed at UCSC could be used to screen a large number of people to identify those with past exposure to depleted uranium.

In addition to possible health effects in soldiers exposed during combat, concerns about depleted uranium include environmental contamination of battlefield sites. Civilian populations may be exposed through contact with depleted uranium fragments and dust left in the soil or with contaminated military equipment left behind after a conflict.

"We don't know if that kind of exposure will have any health effects. But now we have a technique that enables us to detect past exposure to depleted uranium," Gwiazda said.

The paper was published in the January issue of Health Physics. The authors include Katherine Squibb and Melissa McDiarmid of the University of Maryland School of Medicine, in addition to Gwiazda and Smith.

Note: This story has been adapted from material provided by University Of California Santa Cruz.

Ads by Google

[Advertise on this site](#)

Nouth Korea

Get Up to the Minute News on National News Events Now!
www.washingtonpost.com

Alternative Energy

Sources for alternative energy products & solutions. Act now!
energys-alternative.info

Nuclear Certified Steels

ASME Sec III upgraded materials. Pipe, fittings, steel, & forgings.
www.tiogapipe.com

- [Gulf War syndrome](#)
- [Uranium](#)
- [Actinide](#)
- [Isotope](#)
- [Radioactive decay](#)
- [Radon](#)
- [Forensic toxicology](#)
- [Nuclear power plant](#)

Related Book Reviews

- [Courage After Fire : Coping Strategies for Returning Soldiers and Their Families](#)
- [Asbestos: Risk Assessment, Epidemiology, and Health Effects](#)
- [Human Error](#)
- [The End of Oil : On the Edge of a Perilous New World](#)
- [Bayesian Data Analysis, Second Edition](#)

Chicago police may be tracked by GPS
(3 hours ago)

Niger rebels: Army killed civilians
(3 hours ago)

Homophobia allegation made against firemen
(3 hours ago)

Bush doesn't rule out talks with Iran
(3 hours ago)

Florida teen charged with killing brother
(3 hours ago)

Wrong man seeks damages from bail agents (3 hours ago)

Caretaker charged with killing for ranch
(3 hours ago)

... more breaking news at **NewsDaily** -- updated every 15 minutes

New! Search [Science Daily](#) or the entire web with Google:



Web ScienceDaily.com

Copyright © 1995-2007 ScienceDaily LLC — All rights reserved — Contact: editor@sciencedaily.com
[About This Site](#) | [Editorial Staff](#) | [Awards & Reviews](#) | [Contribute News](#) | [Advertise With Us](#) | [Privacy Policy](#) | [Terms of Use](#)