



DEPLETED URANIUM: WHAT YOU NEED TO KNOW

WHAT IS DEPLETED URANIUM?

Depleted uranium (DU) is a very dense metal that the U.S. military uses in munitions for its armor-piercing properties and in tank armor for its ability to protect against standard munitions. It is created when the two most radioactive isotopes of natural uranium are removed to make enriched uranium. While its chemical properties are similar to natural uranium, DU is 40 percent less radioactive.

Natural uranium (U) is found in the air we breathe, the food we eat and the water we drink. As a result, uranium exists in small amounts in every person. Our bodies are very good at eliminating the uranium we ingest, so normal “exposure” doesn’t pose a health risk.

HOW IS DU USED?

The use of DU has saved the lives of many U.S. service members since it was first used in combat during the Persian Gulf War in the early 1990s. DU has civilian uses too, including use as a counterweight to balance aircraft and boats, and as a shield in medical equipment and industrial operations to protect people from radiation.

AS A SERVICE MEMBER, WHAT SHOULD I KNOW ABOUT DU?

Munitions and armor containing DU generally do not pose a threat to the health of service members since the radiation from DU is poorly penetrating and does not go through skin or clothing. True “exposure” only occurs when DU has been inhaled, ingested or embedded in the body as metal fragments. For example:

- Inhalation of fine particles of DU formed when a vehicle is struck by a DU munition or DU armor is penetrated by ammunition.
- Retention of DU fragments from a munition in one’s body after an attack or accident.

Health researchers have closely studied DU’s effects on the human body and to date have found little to no evidence of adverse health effects after it has entered the body in these ways. In fact, it is unlikely that a person could ever inhale or ingest enough to pose a danger to their health.

WHAT STUDIES HAVE BEEN DONE ON DU?

Decades of research suggest that DU is not a health concern for the vast majority of service members. For example, studies of uranium miners and processors – who are exposed

10 FAST FACTS ABOUT U AND DU

Uranium (U)

- Uranium is in the air we breathe and the food we eat – we all have some level of uranium in our bodies.
- The body is naturally very efficient at eliminating uranium.
- Uranium’s radiation penetrates poorly, and does not go through the skin or clothing; uranium is not a health threat outside the body.
- Fifty years of extensive research on workers who mine and process uranium has not revealed significant adverse health effects associated with exposure.

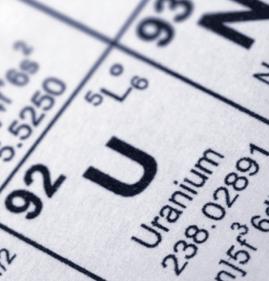
Depleted Uranium (DU)

- DU is left over when the two most radioactive isotopes of natural uranium are removed. DU behaves the same as natural uranium in the body.
- DU is *significantly less radioactive* than natural uranium.
- Working with DU munitions or in a tank with armor reinforced by DU does not pose a health risk.
- An exposure event may occur if DU has been inhaled, ingested or if a fragment has been embedded in the body.
- DU health effects have been reviewed by the National Academy of Sciences, Institute of Medicine, Royal Society, and numerous academic and government scientists.
- Minnesota veterans who wish to be evaluated for possible DU exposure should contact their local VA environmental health coordinator.

to much greater levels of uranium over a much longer period of time than service members – have not revealed significant health effects.

These findings are supported by surveillance done over the past 15 years by the Depleted Uranium Follow-up Program at the Baltimore VA Medical Center. This program is designed to identify, characterize and monitor individuals with known or suspected embedded DU fragments, DU-contaminated wounds or significant amounts of inhaled DU. To date, no service member involved in this program has shown clinically important negative health effects in any organ or system, including the brain, lungs, kidneys or reproductive organs.

Of the more than 2,000 service members who have been tested for DU because of concern about possible exposure, none were found to have evidence of DU exposure except for those who had been involved in friendly fire incidents.



WHAT IS THE TEST FOR DU?

If testing is warranted, the test consists of collecting a 24-hour urine sample using a kit obtained from your local VA Medical Center, which is sent to the Baltimore VA Medical Center for analysis. The sample is tested to determine the total uranium level present, including DU. If the urine's uranium levels are higher than normal, and determined to be DU rather than natural uranium, the service member being tested will be referred to the Baltimore VA Depleted Uranium Follow-up Program for health surveillance.

WHO SHOULD MINNESOTA VETERANS CONTACT IF THEY BELIEVE THEY MAY HAVE BEEN EXPOSED TO DU?

Any Minnesota service member or veteran who believes he or she may have been exposed to DU may request an evaluation through their local VA environmental health coordinator.

ENVIRONMENTAL HEALTH COORDINATORS

MINNEAPOLIS VA MEDICAL CENTER

Deborah A. Walzel
(612) 467-2320
Debbie.Walzel@va.gov
www1.va.gov/minneapolis

ST. CLOUD VA MEDICAL CENTER

Mary L. Garding, RHIT
(320) 255-6407
Mary.Garding@va.gov

FARGO VA MEDICAL CENTER

Cindi K. Nordick
(701) 239-3700 x2982
Cindi.Nordick@va.gov

SIOUX FALLS VA MEDICAL CENTER

Debbie Sands
(605) 336-3230 x6356
Debbie.Sands@va.gov

WHERE CAN I FIND MORE INFORMATION ABOUT DU?

You may contact your local VA environmental health coordinator or County Veteran Service Office.

Veterans Service Offices are located in each of Minnesota's counties and can be contacted through the Government Section of your local telephone book. An online directory is available at <http://www.minnesotaveteran.org/CVSO/index.htm>.

You may also wish to visit some of the Web sites listed below.

Minnesota Department of Veterans Affairs
www.mdva.state.mn.us/du/

Agency for Toxic Substances and Disease Registry (ATSDR) Uranium Toxicological Profile and Public Health
www.atsdr.cdc.gov/toxprofiles/tp150.html

DU Library: Depleted Uranium Information Page
Deployment Health Support Directorate
www.deploymentlink.osd.mil/du_library/index.shtml

Depleted Uranium Follow-Up Program
www.vethealth.cio.med.va.gov/DUProgram.htm

Deployment Health Clinical Center (DHCC)
Phone: (866) 559-1627
www.pdhealth.mil

U.S. Army Center for Health Promotion and Preventive Medicine
<http://chppm-www.apgea.army.mil>
Phone: (800) 222-9698

Department of Veterans Affairs
www.va.gov/gulfwar

War-Related Illness and Injury Study Center
Department of VA New Jersey Health Care System
www.wri.med.va.gov