

**EVALUATION PROTOCOL FOR NON-GULF WAR VETERANS WITH
POTENTIAL EXPOSURE TO DEPLETED URANIUM (DU)**

1. PURPOSE: This Veterans Health Administration (VHA) Handbook outlines the procedures for evaluating non-Gulf War (GW) veterans with possible exposure to depleted uranium (DU). *NOTE: For GW veterans, including those who served in Operation Iraqi Freedom (OIF), refer to VHA Handbook 1303.1.*

2. SUMMARY OF CHANGES: Service personnel from non-Gulf War conflicts, such as Bosnia, may have possible inhalation exposure to DU. According to Public Law 102-585, Section 703(b)(2), each Department of Veterans Affairs (VA) facility must offer a DU screening evaluation to veterans of these conflicts using the DU Evaluation Protocol. Veterans eligible for this evaluation and inclusion in VA's DU Registry Program (not the Gulf War Registry Program) are identified and referred by the Department of Defense or are self-referred.

3. RELATED ISSUES: VHA Handbook 1303.1.

4. RESPONSIBLE OFFICE: The Chief Public Health and Environmental Hazards Officer (13) is responsible for the contents of this Handbook. Questions about DU must be addressed to the Baltimore DU Follow-up Program at 1-800-815-7533; general questions about the protocol may be addressed to the Environmental Agents Service at (202) 273-8580.

5. RESCISSIONS: None.

6. RECERTIFICATION: This VHA Handbook is scheduled for recertification on or before the last working day of March 2009.

S/ Art Hamerschlag for
Robert H. Roswell, M.D.
Under Secretary for Health

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1. PURPOSE

This Veterans Health Administration (VHA) Handbook outlines the procedures for evaluating non-Gulf War (GW) veterans with possible exposure to DU. **NOTE:** For GW veterans, including those who served in Operation Iraqi Freedom (OIF), refer to VHA Handbook 1303.1.

2. BACKGROUND

a. DU is natural uranium left over after most of the U-235 isotope has been removed, such as that used as fuel in nuclear power plants. DU possesses about 60 percent of the radioactivity of natural uranium; it is a radiation hazard primarily if internalized, such as in shrapnel, contaminated wounds, and inhalation. In addition to its radioactivity, DU has some chemical toxicity related to being a heavy metal (similar to lead).

b. Testing of DU for possible military use began in the early 1960's and was first used by the United States military in projectiles and armor for tanks during the Gulf War, which began in 1990, and continues to the present (see Title 38 United States Code (U.S.C.) § 101(33)). DU has also been used in other conflicts, such as OIF and Bosnia. Service personnel who may have had potential inhalation exposure to DU include those on, in, or near vehicles hit with "friendly fire;" rescuers entering burning vehicles; individuals near fires involving DU munitions; individuals salvaging damaged vehicles; and those near burning vehicles.

c. The medical effects of DU exposure are continuing to be evaluated. A group of GW veterans with retained DU fragments or DU-contaminated wounds is being followed at a special DU Program at the Department of Veterans Affairs (VA) Medical Center, Baltimore, MD. While no clinically significant adverse effects of DU have been evident to date in this group, some abnormalities have been detected on specialized testing. **NOTE:** As of year 2003 the Baltimore DU Follow-up Program has seen 70 veterans.

d. The Baltimore DU Follow-up Program has determined that for friendly-fire victims, a 24-hour urine determination for uranium is a more sensitive screening test for DU than whole-body counting.

e. The Austin Automation Center (AAC) functions as the "contractor" to VHA in providing national level computer support for this DU program.

NOTE: For additional background information on DU, see the references in paragraph 6.

3. SCOPE

Each VHA facility must offer a DU screening evaluation using the DU Evaluation Protocol (App. A and App. B) to any veteran eligible for listing, or inclusion, in VA's DU Registry Program (for authority see Public Law 102-585, § 703(b)(2)). Veterans eligible for listing, or

inclusion, in this Registry include veterans identified and referred by the Department of Defense (DOD) because of possible DU exposure, or veterans who self-refer because they are concerned about their potential exposure to DU.

4. THE PROCEDURE

a. Evaluation of veterans for potential DU exposure must be provided by either a primary care clinician, or the Environmental Health Clinician, utilizing the DU Evaluation Protocol described in Appendix A, VA Form 10-9009D, DU Questionnaire, and Appendix B, DU Consult Urine Instructions. Components of the DU evaluation include the DU exposure questionnaire and a 24-hour urine collection for creatinine and uranium.

b. Any positive responses to the DU exposure questionnaire must be followed-up with a more detailed history-taking by the VA primary care provider. The full-exposure history must be recorded in the veteran's consolidated health record (CHR) and/or the computerized patient record system (CPRS). All free text on the DU exposure questionnaires must be included in the CHR or CPRS. Completed DU exposure questionnaires are to be transmitted to the AAC via website <http://vaww.registries.aac.va.gov/index.asp>.

c. The health care provider must contact the DU Follow-up Program at the Baltimore VA Medical Center (1-800-815-7533) to discuss obtaining a 24-hour urine collection for uranium. *NOTE: The 24-hour urine collection for uranium must be performed in accordance with instructions in Appendix B.*

d. Upon completion of the evaluation protocol, the DU exposure questionnaire must be transmitted by the Environmental Health Coordinator (EHC) via website <http://vaww.registries.aac.va.gov/index.asp> to the DU Registry database.

e. Results of the 24-hour urine for uranium are communicated directly to the veteran by letter from the Baltimore DU Follow-up Program with a copy to the VA referring physician for the veteran's CHR and/or CPRS. The Baltimore DU program staff transmits the urine uranium results to AAC via website <http://vaww.registries.aac.va.gov/index.asp>.

f. Follow-up actions for any veteran with an elevated 24-hour urine uranium determination must be individualized based on discussion between the veteran's primary VA clinician and the staff at the Baltimore DU Follow-up Program.

5. RESPONSIBILITIES OF THE BALTIMORE DU PROGRAM STAFF

The Baltimore DU program staff is responsible for:

- (1) Arranging for testing of urine samples for uranium.
- (2) Sending, by letter, the results of the 24-hour urine for uranium directly to the veteran with a copy to the VA referring clinician.

(3) Transmitting the urine uranium results to AAC via registry website
<http://vaww.registries.aac.va.gov/index.asp>

(4) Providing consultative advice to VA clinicians regarding DU testing.

NOTE: Active-duty service members concerned about DU exposure, or other health issues related to service in the Gulf or other conflicts, need to be advised to contact a military health treatment facility or call the DOD Gulf War Veteran's Hotline at 1-800-796-9699. Additional information about DOD's post-deployment health care program initiatives is available on its Deployment LINK website: <http://deploymentlink.osd.mil/>.

6. REFERENCES

a. Voelz, George L., Chapter 13 - "Uranium," in Hazardous Material Toxicology, Eds. Sullivan, John B. and Krieger, Gary R., Williams and Wilkins, Baltimore, MD, 1992.

b. Health Effects of Depleted Uranium - Fact Sheet, DOD, June 11, 1993. *NOTE: Copies may be obtained by calling (703) 697-3189.*

c. "Agency for Toxic Substances and Disease Registry," United States Public Health Service, 1990.

d. Toxicologic Profile for Uranium. PB91-180 471, U.S. Department of Commerce, National Technical Information Service. *NOTE: The Customer Service number is (703) 487-4660.*

e. McDiarmid, et al., "Health Effects of Depleted Uranium on Exposed Gulf War Veterans," Environmental Research. Section A, Vol. 82, pages 168-180, 2000.

f. McDiarmid, et al., "Urinary Uranium Concentrations in an Enlarged Gulf War Veterans Cohort," Health Physics, Vol. 80, No. 3, pages 270-273. 2001.

g. McDiarmid, et al., "Surveillance of Depleted Uranium Exposed Gulf War Veterans: Health Effects Observed in an Enlarged "Friendly Fire" Cohort," Journal of Environmental Medicine. Vol. 4, No. 12, pages 991-1000, December 2001.

h. VHA website: <http://va ww.va.gov/gulfwar/>

VA FORM 10-9009D, DEPLETED URANIUM (DU) QUESTIONNAIRE

Below is an embedded copy of Department of Veterans Affairs (VA) Form 10-9009D, Depleted Uranium (DU) Questionnaire. This form can also be found on the Veterans Health Administration (VHA) Forms at <http://www.va.gov/vaforms> . This is to be used for local reproduction. Since this is a low use form, it will not be stocked by the Hines Service and Distribution Center (formerly known as the Forms and Publications Depot).

You should use Adobe Acrobat 5.05 or later to view this form. To print this form, your printer must be set to “print as image” and “fit to page.”



10-9009D.pdf

**DEPARTMENT OF VETERANS AFFAIRS (VA) FORM 10-9009F, DEPLETED
URANIUM (DU) PROGRAM CHECKLIST
24-HOUR URINE URANIUM COLLECTION
BALTIMORE VA MEDICAL CENTER**

CONSULT URINE INSTRUCTIONS (REVISED 03/04)

PATIENT NAME: _____ **Social Security Number:** _____

ADDRESS: _____ **Specimen Date:** _____

TELEPHONE: _____ **Date of Birth:** _____

Referring VA Medical Center: _____ **Mail Code:** _____
Address: _____

Referring Physician: _____

Beeper Number: _____ **Telephone Number :** _____

FAX Number (to receive report): _____

‡ Call DU Program at 1-800-815-7533 to obtain the specimen collection kit, including the 24-hour specimen collection containers and shipping materials from DU Program. Only 32 ounce Fischer wide-mouth jugs will be accepted. Specimens received in any other container will be returned. Leaking containers will be returned.

‡ FAX a copy of this checklist with the top portion completed, and a completed copy of VA Form 10-9009D, Depleted Uranium (DU) Questionnaire, to 410-605-7943 PRIOR TO SENDING THE SPECIMEN.

‡ Schedule patient for 24-hour urine collection.

Date: _____

a. Time of first void (discarded) urine DAY 1: _____

b. Time of first void urine DAY 2: _____

DU PROGRAM CHECKLIST - CONSULT URINE INSTRUCTIONS (Continued)

- ‡ Instruct the patient to urinate directly into the collection container(s). Uranium sticks to the sides of the container. Therefore, do not transfer urine due to potential loss of analyte. Issue 3 containers to patient to insure full 24-hour collection in approved containers.
- ‡ Instruct the patient to collect urine beginning after first morning void of Day 1, and end collection after first morning void on Day 2 (the next day).
- ‡ Seal containers as tightly as possible. Double bag each urine container with absorbent material. Make sure each plastic bag is sealed tightly. Stabilize container inside the box with more absorbent packing material to prevent movement. The sample must be mailed in the package provided. *TIP: YOU CAN CONTACT YOUR LABORATORY SERVICES SUPERVISOR TO ASSIST IN PACKAGING.*
- ‡ A copy of this VA Form 10-9009E sealed in a separate ziplock plastic bag is to be enclosed with the sample for identification purposes and also is to be faxed with the completed copy of VA Form 10-9009D to the DU office at 410-605-7943.
- ‡ SEND SPECIMEN VIA FEDEX. Call the DU Program Office at 1-800-815-7533 as soon as specimen has been shipped.

FEDEX Tracking Number: _____

‡ SEND TO:

**PATHOLOGY AND LABORATORY MEDICINE SERVICE (113)
BALTIMORE VA MEDICAL CENTER
10 N. GREENE STREET
BALTIMORE, MARYLAND 21201
ATTN: DR. LAWRENCE BROWN (FOR DU PROGRAM)**

- ‡ Before sending this sample, call the DU program office at 1-800-815-7533 so that they can anticipate delivery. A copy of this checklist, and a completed copy of VA Form 10-9009D, must be faxed to 410-605-7943.
- ‡ Notification of the results can be expected in approximately 45 days.