

**EVALUATION PROTOCOL FOR GULF WAR AND IRAQI FREEDOM
VETERANS WITH POTENTIAL EXPOSURE TO DEPLETED URANIUM (DU)**

- 1. PURPOSE:** This Veterans Health Administration (VHA) Handbook outlines the policy and procedures for evaluating Gulf War (GW) veterans, including those who served in Operation Iraqi Freedom (OIF), with possible exposure to depleted uranium (DU). *NOTE: For non-GW veterans with potential exposure to DU, refer to VHA Handbook 1303.4.*
- 2. SUMMARY OF CHANGES:** Department of Veterans Affairs (VA) Form 10-9009D, DU Questionnaire, has been revised to include the OIF veterans, implement the new electronic method of transmitting registry data to the Austin Automation Center (AAC) website <http://vaww.registries.aac.va.gov/index.asp>, and name changes of registry physicians and/or coordinators to Environmental Health Clinicians and Coordinators.
- 3. RELATED ISSUES:** VHA Handbook 1303.4.
- 4. RESPONSIBLE OFFICE:** The Chief Public Health and Environmental Hazards Officer (13), is responsible for the contents of this Handbook. Questions about DU should be addressed to the Baltimore DU Follow-up Program at 1-800-815-7533. General questions about the protocol should be addressed to the Environmental Agents Service at (202) 273-8580.
- 5. RESCISSIONS:** VHA Handbook 1303.1, dated April 16, 2003, is rescinded.
- 6. RECERTIFICATION:** This VHA Handbook is scheduled for recertification on or before the last working day of February 2009.

Nevin M. Weaver for
Robert H. Roswell, M.D.
Under Secretary for Health

DISTRIBUTION: CO: E-mailed 2/26/04
FLD: VISN, MA, DO, OC, OCRO, and 200 – E-mailed 2/26/04

CONTENTS

**EVALUATION PROTOCOL FOR GULF WAR AND IRAQI FREEDOM
VETERANS WITH POTENTIAL EXPOSURE TO DEPLETED URANIUM (DU)**

| PARAGRAPH | PAGE |
|---|-------------|
| 1. Purpose | 1 |
| 2. Background | 1 |
| 3. Scope | 1 |
| 4. The Procedure | 2 |
| 5. Responsibilities of the Baltimore DU Program Staff | 3 |
| 6. References | 3 |

APPENDICES

| | |
|--|-----|
| A VA Form 10-9009D, Depleted Uranium (DU) Questionnaire | A-1 |
| B VA Form 10-9009E, Depleted Uranium (DU) Program Checklist 24-Hour Urine Uranium Collection Baltimore Department of Veterans Affairs (VA) Medical Center.... | B-1 |

EVALUATION PROTOCOL FOR GULF WAR (INCLUDING OPERATION IRAQI FREEDOM) WITH POTENTIAL EXPOSURE TO DEPLETED URANIUM (DU)

1. PURPOSE

This Veterans Health Administration (VHA) Handbook outlines the policy and procedures for evaluating Gulf War (GW) veterans, including those who served in Operation Iraqi Freedom (OIF), with possible exposure to depleted uranium (DU). **NOTE:** *For non-GW veterans with potential exposure to DU, refer to VHA Handbook 1303.4.*

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 and 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 per Title 38 United States Code (U.S.C.) § 101(33)). DU has also been used in other conflicts such as Operation Iraqi Freedom (OIF) and Bosnia. Service personnel who may have had potential inhalation exposures 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 GW 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

a. Each VHA facility must offer a GW registry examination to eligible veterans of the GW including OIF.

b. The DU Evaluation Protocol (see App. A and App. B) must be utilized to evaluate GW veterans (including OIF) identified and referred by the Department of Defense (DOD) because of possible DU exposure, or those veterans who self-refer because they are concerned about potential exposure to DU.

4. THE PROCEDURE

a. VA Environmental Health programs (formerly designated as Registry programs) must provide GW Registry examinations to eligible veterans as described in M-10, Part III, <http://vaww.va.gov/gulfwar/>. VA clinicians need to encourage all OIF veterans to have a registry examination so the VA system can more quickly identify the types of health problems these veterans are experiencing.

b. Evaluation of GW veterans for potential DU exposure must be provided 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 a GW Registry Examination, if not previously performed, DU exposure questionnaire and a 24-hour urine collection for creatinine and uranium.

c. Any positive responses to the DU questionnaire are to be followed up with more detailed history-taking by the examining health 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 questionnaires must be included in the CHR or CPRS. Completed DU questionnaires are to be transmitted to the AAC via website <http://vaww.registries.aac.va.gov/index.asp> on completion of protocol examination.

d. 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 Attachment B.*

e. Upon completion of the protocol examination, the GW Registry code sheet and the DU exposure questionnaire will be transmitted by the Environmental Health Coordinator (EHC) (formerly designated as Registry Coordinators) via website <http://vaww.registries.aac.va.gov/index.asp> to the GW Registry database. **NOTE:** *If the veteran has already had a GW Registry exam, only the DU code sheet data will be transmitted to the AAC database.*

f. 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>.

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

h. Additional diagnostic evaluation of signs or symptoms identified during the GW registry examination are to be completed as clinically indicated. **NOTE:** *Eligible veterans who wish to have VA follow-up care need to be assigned to a primary care team.*

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 should be advised to contact a military health treatment facility, or call the DOD Gulf War Veterans' 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 can be obtained by calling (703) 697-3189.*

c. "Agency for Toxic Substances and Disease Registry," U.S. Public Health Service, 1990.

d. Toxicologic Profile for Uranium. PB91-180 471, U.S. Department of Commerce, National Technical Information Service. **NOTE:** *Customer Service can be contacted at (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, number 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, Number 12, pages 991-1000, December 2001.

h. VHA website: <http://vaww.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 <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 10-9009E, DEPLETED
URANIUM (DU) PROGRAM CHECKLIST
24-HOUR URINE URANIUM COLLECTION
BALTIMORE VA MEDICAL CENTER**

CONSULT URINE INSTRUCTIONS (REVISED 07/98)

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 the 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 should be mailed in the package provided. *TIP: 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 we 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.