



THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

DEC 18 2007

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (M&RA)
ASSISTANT SECRETARY OF THE NAVY (M&RA)
ASSISTANT SECRETARY OF THE AIR FORCE (SAF/MR)

SUBJECT: Policy on Analysis of Metal Fragments Removed from Department of Defense Personnel

This policy requires the Services to conduct a laboratory analysis of metal fragments, resulting from enemy or friendly fire, that are removed from surviving Department of Defense (DoD) personnel in DoD military treatment facilities (MTFs).

The decision to remove a fragment should be based solely on medical reasons, including the risks and benefits of fragment removal. Fragments removed in operational settings will be submitted for analysis subject to the priorities of in-theater, clinical combat care. All metal fragments become the property of the United States Government, and, therefore, will not be returned to the MTF or to the individual from whom the fragment was removed.

Fragments are to be analyzed within 90 days of receipt by the laboratory. When multiple fragments are received from the same patient, the Services may develop protocols to ensure that only representative fragments are analyzed. That is, based on appearance and/or other morphological parameters, if there is a high degree of assurance that one or more fragments have the same composition, it is not necessary to analyze each fragment. It may be difficult within the first 180 days of policy implementation to analyze all fragments within 90 days of receipt. Therefore, during this time, fragments can be held up to 180 days before analysis. Alternatively, fragments can be sent to other approved laboratories for analysis. All fragments (including those received but not analyzed), or remains of fragments, will be archived by the laboratory for at least the duration mandated by Service and regulatory requirements.

This policy recognizes that some munitions may contain certain tungsten alloys and other metals that may pose a long-term toxicological hazard when retained in the human body. It is, therefore, prudent to identify the chemical make-up of metal fragments removed because it is known that affected personnel often still harbor multiple fragments of similar composition. This policy is a first step in establishing a mechanism for tracking DoD personnel bearing potentially hazardous embedded fragments, since currently there are insufficient data available to assess specific risk. The minimum

HA POLICY: 07-029

requirements for laboratory analysis are listed in Attachment 1, and the DoD laboratories performing the required analyses are listed in Attachment 2. The laboratories' costs on a fee for service basis are to be reimbursed by the Services in accordance with laboratory and Military Department policies. The laboratories will ensure that analytic results are transmitted in a secure and timely manner to the referring MTFs, and entered into a future database addendum to the Joint Theater Trauma Registry, (according to procedures that will be described in a separate forthcoming policy memorandum). Analytic results from suspected depleted uranium fragments will continue to be forwarded to the DoD Deployment Health Clinical Center according to the DoD (Health Affairs) policy of April 9, 2004, "Operation Iraqi Freedom Depleted Uranium Medical Management."

Please prepare and disseminate your implementing instructions to accomplish these requirements within 90 days. We remain committed to addressing the health concerns of our personnel; they and their families deserve no less. The point of contact for this policy is Col George Johnson, who can be reached by telephone at (703) 578-8523 or by e-mail at George.Johnson@ha.osd.mil.



S. Ward Casscells, MD

Attachments:
As stated

cc:
Assistant Secretary of Defense (Reserve Affairs)
Under Secretary for Health, Department of Veterans Affairs
Acting Surgeon General of the Army
Surgeon General of the Navy
Surgeon General of the Air Force
Armed Forces Institute of Pathology
Joint Staff-4 (HSS)
Air Force Institute of Operational Health
US Army Center for Health Promotion and Preventive Medicine
Director, Health and Safety, USCG
DoD Deployment Health Clinical Center
Dr. Melissa McDiarmid, Baltimore VA Medical Center

Minimum Requirements for the Analysis of Metal Fragments

Laboratory analysis of metal fragments will include:

- A. Screening of each fragment for:
 1. Radioactivity: all radiologically active samples to undergo isotopic characterization
 2. Other heavy metals:
 - a. Tungsten
 - b. Iron
 - c. Tin
 - d. Copper
 - e. Uranium (natural and depleted, if indicated)
 - f. Lead
 - g. Cobalt
 - h. Nickel
 - i. Antimony
- B. Quantitative, or at least semi-quantitative, analysis (such as laser ablation/ICP-MS, or just ICP-MS) capable of, when used in quantitative analysis:
 1. Detection at a minimum level of one percent by mass
 2. Coefficient of variation (CV) of less than 10 percent
- C. Archival of any remaining fragments, or parts of fragments, by laboratory
- D. Reporting results within 30 calendar days of completion of fragment analysis:
 1. Reports to the requesting health care provider will include:
 - a. All the above information
 - b. Whether radioactivity is present, measured activity, radiations and radionuclides identified, and estimated uncertainties
 - c. Health risk interpretation, including:
 - i. Radiation dose
 - ii. Probable identity of any tungsten composites or alloys found based on elements detected and their ratios
 - iii. Health risk communication materials for the health care provider based on specific metals identified

Transmission of Results by the Laboratory:

Results will be transmitted securely by the laboratory to the referring medical treatment facility in accordance with the laboratory's clinical practice, and also will be transmitted securely to a fragment database, once established, using a predetermined file transfer format. A future memorandum will address details of the operation of this embedded fragment database addendum to the Joint Theater Trauma Registry. Results from the analysis of fragments pursuant to the depleted

uranium medical management program will continue to be transmitted to the Deployment Health Clinical Center as is currently done. All transmission and data storage procedures will comply with required privacy practices.

DoD and Service Laboratories Performing
Required Analyses of Metal Fragments

Armed Forces Institute of Pathology (AFIP) (Dept. of Envir. & Infect. Disease Sciences)

POC:
Chief, Div. of Biophysical Tox, Bio-Inorganic
Tox. & Metal Analysis Laboratory
Phone: DSN 662-2292
Commercial: (202) 782-2839
Other numbers: (202) 782-1719
Fax: (202) 782-9215

Alternate Contacts:
Laboratory NCO
Phone: (202) 782-2833

Technical Lab Manager
Phone: (202) 782-1739

Air Force Institute of Operational Health (AFIOH)

POC:
Director, CBRN Surveillance Directorate
AFIOH/SD
Phone: DSN 240-8305
Commercial: (210) 536-8305
Other numbers: (210) 536-3486
(210) 536-4356
(210) 536-2328
FAX: (210) 536-3189 (for all AFIOH)

Alternate Contacts:
Technical Dir. & Acting
Chemistry Div. Chief
Phone: (210) 536-6166

Technical Dir. & Radiation
Surveillance Deputy Div. Chief,
AFIOH/SDR
Phone: (210) 536-2061
(210) 536-3486

US Army Center for Health Promotion and Preventive Medicine (USACHPPM)

POC:
Director, Laboratory Sciences
Phone: DSN 584-3639
Commercial: (410) 436-3639

Alternate Contacts:
Laboratory Consultant
Phone: (410) 436-8398
(410) 436-8247

Procedures for Shipping Fragments to Laboratories:

Packaging, shipping and reimbursement procedures should be coordinated with the receiving laboratory, with consideration for potential infectious or radiation risk of sample. The originating MTF's Service is responsible for reimbursement of the laboratories for the cost of the analyses. All fragments removed in MTFs should be shipped to the appropriate laboratory at USACHPPM, AFIP, or the AFIOH for analysis, as shall be determined by each Service with agreement of the receiving laboratory.