

SUMMARY OF GOVERNMENT DATA ON TESTING OF VETERANS FOR DEPLETED URANIUM EXPOSURE DURING SERVICE IN IRAQ

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SUMMARY

The use of armor-piercing ammunition made from depleted uranium (DU) during the war in Iraq has raised concerns about DU exposures among military personnel and civilians. Since 2003, United States and United Kingdom government agencies have tested hundreds of servicemembers for DU exposure. There have reportedly been few positive test results, but publicly available information indicates that, at least in the United States, not all veterans who believe they were exposed to DU are in fact being tested. Accurate information about testing methods and results is important not only for decisions about veterans' health care, but also to respond to the alarmist and exaggerated claims made by some extreme anti-DU activists.

INTRODUCTION

During the 1991 Gulf War, military commanders from the United States and United Kingdom failed to communicate information about the hazards of DU munitions to servicemen and women in battlefield areas.¹ As a result, the U.S. Department of Defense (DoD) has estimated that "thousands" of US troops may have been unnecessarily exposed to DU.² The British military has not provided an estimate of the number of British troops known or suspected to have been exposed.

At this point, more than fourteen years after that war, we will probably never know how many US-led troops, Iraqi soldiers, or civilians in Kuwait and Iraq were exposed to DU. In the United States, only seven soldiers were tested shortly after the war,³ and 12 more were tested in 1992.⁴ In the United Kingdom, testing was even more inadequate, and did not begin in earnest until 2001.⁵

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¹ See Dan Fahey, "Don't Look, Don't Find: Gulf War Veterans, the U.S. Government, and Depleted Uranium, 1990-2000," (Military Toxics Project: 30 March 2000). C.f., U.K. Ministry of Defence, Veterans Policy Unit, "The 1990/1991 Gulf Conflict: Health and Personnel Related Lessons Identified," undated (late 2004) 19.

² U.S. Department of Defense, The Office of the Special Assistant to the Deputy Secretary of Defense for Gulf War Illnesses, "Annual Report," (Washington, DC: US Department of Defense, 8 January 1998) 30.

³ These soldiers were potentially exposed to depleted uranium after a U.S. tank carrying depleted uranium munitions burned in a fire on April 13, 1991 in Iraq. The Royal Society, The health hazards of depleted uranium munitions, Part I (London, 2001) Annexe C, 10.

⁴ The Office of the Special Assistant to the Deputy Secretary of Defense for Gulf War Illnesses, Depleted Uranium in the Gulf (II) (Washington, D.C. 2000) p. 55. U.S. Army Medical Command, Summary of Laboratory results/Urine Uranium Levels in Bioassay Specimens for Individuals of the 144th Service and Supply Battalion, New Jersey National Guard (undated).

⁵ U.K. Ministry of Defence, Veterans Policy Unit, "The 1990/1991 Gulf Conflict: Health and Personnel Related Lessons Identified," undated (late 2004) p. 20.

Testing has once again become an issue due to the recent use of DU ammunition by US and UK forces in Iraq. The UK military apparently shot DU only during the March 2003 invasion, but the continued use of DU munitions by the US military is possible, though unknown.⁶ Table 1 provides estimates of the amount of DU ammunition shot until March 2004. Although some anti-DU extremists have claimed that far greater amounts of DU have been used in Iraq (up to 3.6 million kg or 8 million pounds), these claims lack any supporting evidence and appear in some cases to be pulled out of thin air to support agendas unrelated to concerns about the use and effects of DU munitions.⁷

Table 1 – Estimate of the Use of DU Munitions in Iraq, March 2003 to March 2004⁸

Armed Force Shooting DU	Number of Rounds	Quantity of DU (kg)
US Air Force US Army US Marine Corps	Tanks: ~2,466 Bradleys: ~121,000 Jets: ~309,000	Tanks: ~11,442 Bradleys: ~10,300 Jets: ~93,400
UK Royal Army	Tanks: ~185	Tanks: ~870
TOTAL (estimated)		118,000 to 136,000 ⁹

Unlike 1991, the US and UK militaries have recently been testing servicemen and women for exposure to DU following service in Iraq. This paper reviews publicly available information about government testing of American and British troops for DU exposure, and discusses the significance of this information.

TESTING DATA

During Operation Iraqi Freedom (OIF), servicemen and women may have been exposed to DU during combat (including friendly fire); medical treatment of wounded American, British and Iraqi troops; battle damage and recovery operations; and other situations. DoD is currently identifying servicemen and women to receive testing based on the results of the questionnaire “Post Deployment Health Assessment” (DD 2796).¹⁰ While

⁶ Since DU is an armor-piercing weapon, and because the forces fighting against US troops do not have armored vehicles, the current use of DU (if any) is probably far less than during the invasion in 2003.

⁷ See Dan Fahey, “Science or Science Fiction? Facts, Myths and Propaganda in the Debate Over Depleted Uranium Munitions,” 12 March 2003; Dan Fahey, “The Emergence and Decline of the Debate Over Depleted Uranium Munitions, 1991-2004,” 20 June 2004, www.danfahey.com.

⁸ See Dan Fahey, “Unresolved Issues Regarding Depleted Uranium and Veterans of Operation Iraqi Freedom and Operation Enduring Freedom,” 24 March 2004, <http://www.antenna.nl/wise/uranium/dissgw.html>.

⁹ In late 2004, a government official told me that approximately 159,000 kg (350,000 pounds) of DU had been shot in Iraq, but I do not have any other information to support this figure.

¹⁰ U.S. Undersecretary of Defense for Personnel and Readiness, “Post Deployment Health Assessment,” DD 2796, April 2003. A positive response to questions 14, 17, or 18 triggers an evaluation and possible bioassay, according to the U.S. Department of Defense Deployment Health Clinical Center (DHCC),

this method has the advantage of allowing troops to self report an exposure, it also has the potential to miss those who were not aware of how or where they might have been exposed to DU contamination. In response to a request from Rep. Bob Filner (D-CA), the U.S. Government Accountability Office (GAO) conducted a small survey of post-deployment questionnaires; the results are presented in Table 2.

Table 2 – Sample of U.S. Operation Iraqi Freedom Servicemembers Indicating Suspected DU Exposure In Their Post-Deployment Assessment Form¹¹

Installation/Type of Unit Sampled	Number Indicating “Sometimes” or “Often” Exposure	Referral Made for DU Exposure Follow-Up	Referral Made, But Unable to Determine If Related to DU	Health Care Provider Determined No DU Referral Needed
ARMY				
Ft. Eustis, VA (Reserve) n=127	3	1	1	1
Ft. Lewis, WA (Active) n=255	4	1	0	3
Ft. Campbell, KY (Reserve) n=166	5	0	1	4
AIR FORCE				
Moody AFB, GA 347 th Rescue Wing (Active) n=146	19	1	1	17
MARINE CORPS				
Camp LeJeune, NC (Active) n=90	0	0	0	0
Camp Pendleton, CA (Active) n=180	0	0	0	0
NAVY				
Construction Battalion unit (base not reported) (Active) n=162	1	0	0	1
TOTALS n=1126	32	3	3	26

Additional information not captured in Table 2 was provided to Rep. Filner during a 30 September 2004 briefing by GAO, which I attended. GAO investigators reported that DoD has offered DU testing to at least three entire units: an unspecified Marine mortuary affairs unit, an unspecified Army team that assembled damaged tanks, and the NY Army

“Depleted Uranium Provider Reference Pocket Cards,” Post Deployment Health Clinical Practice Guideline, Version 1.0, December 2003, Card 2.

¹¹ Table copied from U.S. Government Accountability Office (GAO), “Preliminary Medical Screening Data: Operation Iraqi Freedom (OIF) Servicemembers Indicating Suspected Exposure to DU on Their Post-Deployment Health Assessment Forms,” Briefing for The Honorable Ciro Rodriguez (D-TX) and The Honorable Bob Filner (D-CA), 30 September 2004.

National Guard's 442nd Military Police Company. As of 20 September 2004, DoD completed urine testing for 72 of 171 people (42%) from the 442nd. No test results were provided for any of the units tested. For the units whose post-deployment questionnaires GAO examined, all had returned from Iraq between June and November 2003.

Information about test results for veterans of the Iraq conflict is presented in Table 3. The January 2005 U.S. Department of Veterans Affairs (DVA or VA) results and the February 2005 DoD results were obtained by Rep. Filner and his staff, who deserve special praise for their efforts to ensure DU testing and monitoring for U.S. veterans. Table 4 contains a more detailed accounting of DoD's 10 September 2004 reporting.

Table 3 – Results of Urine Testing of Military Personnel

Agency	Date Results Reported	Number Tested	Elevated Uranium	Confirmed DU Exposure
US DoD ¹²	19 April 2004	"More than 1,000"	3	3
US DoD ¹³	10 September 2004	766	14	5
US DoD ¹⁴	3 February 2005	"More than 1,600"	Not reported	6
US DVA ¹⁵	18 January 2005	396	9	2
UK MoD ¹⁶	September 2004	"Around 350"	Not reported	"Fewer than ten" ¹⁷

At the 3 February 2005 presentation of test results to Congressman Filner by DoD's Deployment Health Support Directorate, which I attended, additional information was provided that is not included in Table 3. Of the 1,600 tested, "a few" apparently served at

¹² Deborah Funk, "Returning soldiers do not have dangerous DU radiation levels officials say," The Army Times, 19 April 2004.

¹³ These tests were conducted between 3 June 2003 and 31 March 2004. W. Winkenwerder, Deputy Secretary of Defense for Health Affairs, "Subject: Operation Iraqi Freedom Depleted Uranium Bioassay Results and Semi-Annual Data Submission," Memorandum for Assistant Secretaries of the U.S. Army, Navy and Air Force, 10 September 2004.

¹⁴ Ellen Embrey, Michael Kilpatrick, and Lt. Col. Mark Melanson (U.S. Department of Defense), "Depleted Uranium," Briefing to The Honorable Bob Filner (D-CA), 3 February 2005.

¹⁵ Anthony J. Principi (U.S. Department of Veterans Affairs), letter to The Honorable Bob Filner (D-CA), 18 January 2005.

¹⁶ U.K. Ministry of Defence, Veterans Policy Unit, "The 1990/1991 Gulf Conflict: Health and Personnel Related Lessons Identified," undated (late 2004) p. 20. 243 people were reportedly tested through 22 January 2004, including some British civilians. U.K. Ministry of Defence, "UK MOD Depleted Uranium Biological Monitoring Programme Update of Results," March 2004.

¹⁷ Ian Bruce, "Fewer than 10 Gulf war troops had uranium poisoning," The Herald (UK), 5 February 2004.

K-2 in Uzbekistan, where DU was found in the soil.¹⁸ In addition, of those tested, 656 were US Army soldiers. Unfortunately, no additional information was provided.

The 18 January 2005 letter to Congressman Filner from outgoing DVA secretary Anthony Principi also contained additional information not provided in Table 3. Of the 396 veterans tested by the VA, 278 were referred by DoD (this includes both OIF and OEF¹⁹ veterans), and 118 were referred through the VA health care system. Approximately 25 of the 396 veterans tested are women. VA has identified four veterans wounded by DU fragments during combat in Iraq. All of those with either elevated levels of uranium or who tested positive for DU had “traditionally male first names.”

Table 4 – Summary of OIF DU Test Results, June 2003—31 March 2004²⁰

Service Summary OIF Depleted Uranium (DU) Bioassay Results June 2003 – March 31, 2004							
	Army	Navy/ Marines	Air Force	Total	Elevated Total Uranium ≥50ng/g cre	Urine DU detected/ indicated	Retained Fragments
Level I	107	32	1	141	4	5	5 (DU)*
Level II	107	195	3	305	8	0	0
Level III	52	0	2	54	0	0	5 (non-DU)
Uncat- agorized	267	0	0	267	2	0	0
Total	553	227	6	766	14	5	5/5

* One individual of the five has suspected DU fragments, based on indications that his urine contains DU, but none have been removed and analyzed yet.

DISCUSSION

Although the above information is insightful, there are still more questions than answers. For example, have all people with known or self-reported exposures been tested? What testing methods have been tested? When will the test results be publicly released? What

¹⁸ U.S. Deployment Health Clinical Center (DoD), “Environmental Conditions at Karshi Khanabad (K-2),” 9 September 2002. See also, Dan Fahey, “Unresolved Issues Regarding Depleted Uranium and Veterans of Operation Iraqi Freedom and Operation Enduring Freedom,” 24 March 2004, www.antenna.nl/wise/uranium/dissgw.html, www.danfahey.com.

¹⁹ Operation Enduring Freedom; the service area includes Afghanistan and Uzbekistan.

²⁰ W. Winkenwerder, Deputy Secretary of Defense for Health Affairs, “Subject: Operation Iraqi Freedom Depleted Uranium Bioassay Results and Semi-Annual Data Submission,” Memorandum for Assistant Secretaries of the U.S. Army, Navy and Air Force, 10 September 2004.

follow-up or monitoring is being offered to those who test positive for DU exposure? The information that has been released is both reassuring and disturbing.

On the positive side, the United States and United Kingdom governments are actually testing men and women who served in Iraq, in contrast to their actions following the 1991 war. Also in contrast to 1991, DoD provided servicemembers returning from Iraq, Kuwait, Afghanistan, and Uzbekistan with post-deployment questionnaires that ask if they were exposed to DU. In the random sample of questionnaires examined by GAO, only 32 out of 1,126 servicemembers indicated they might have been exposed to DU; if we assume that all 1,126 people were fully aware of how they might have been exposed to DU, *and* if we assume they were all fully aware about when they were actually in the proximity of DU dust and debris, *and* if we assume that these units were a representative sample of all units that have served in Iraq, then we might be led to believe that relatively few people think they were exposed to DU. Finally, the preliminary test results indicate that relatively few troops have tested positive for DU exposure.²¹

On the negative side, there are several concerns and questions. Of the post-deployment questionnaires surveyed by GAO, only three out of 32 veterans (9%) who indicated they were “sometimes” or “often” exposed to DU were known to have been provided with DU testing to confirm or deny exposure. In addition, not one of 270 Marines indicated they might have been exposed to DU, even though the units surveyed reportedly participated in combat during the invasion of Iraq, when DU ammunition was used. These findings indicate that military medical personnel may be denying DU tests for some veterans who are self-reporting exposures, while others like the Marines may be self-censoring their concerns and not reporting potential exposures. Both of these assertions are highly speculative, but in the absence of additional quantitative and qualitative information from DoD, the gaps in testing and reporting cry out for explanation and invite conjecture.

Another concern is DoD’s shifting numbers of US troops tested. When concerns about DU exposures were expressed in the news in April 2004, DoD claimed “more than 1,000” troops had been tested, but five months later this number was lowered to 766. Then, five months after that, the number was raised to “more than 1,600.” Why did the number dip by twenty five percent, and then more than double during a span of ten months? If I assume that the detailed 766 figure was accurate in September 2004, I can only speculate that the April 2004 number was an intentional overstatement by a DoD official to try to quell public concerns during a time of controversy, similar to many false statements about DU made by DoD officials in the past.²² Bureaucratic delays in testing and reporting could account for the doubling of the number between September 2004 and February 2005, but then again, the imprecision of the “more than 1,600” figure combined with the ongoing controversy over DU could suggest more political motives.

²¹ The UK government evidently uses a more sensitive test than that used by DoD and DVA to test American troops, but this paper does not assess the differences in the test methods, or the potential that some US troops with DU exposures received negative results because of the use of inferior technology.

²² See Dan Fahey, “The story of depleted uranium” in Tod Ensign, ed., America’s Military Today (New York: New Press, 2004) 238-240.

CONCLUSION

Veterans and civilians have legitimate concerns about exposure to DU ammunition. Laboratory tests have shown that DU is carcinogenic, causes tumors and DNA damage, crosses the blood-brain barrier and deposits in the brain, deposits in the lymph nodes and testes, and crosses the placenta and enters the fetus.²³ Although Pentagon officials are fond of saying “uranium is everywhere” to dispel public concerns, they fail to acknowledge that the use of DU ammunition may increase the amount of uranium in the air, water, or soil by many orders of magnitude, potentially leading to exposures among adults and children far in excess of regulatory limits on intake.²⁴

The fact that testing is taking place at all is due to the hard work of elected representatives, individual veterans, and veterans’ organizations, namely the National Gulf War Resource Center (www.ngwrc.org) and The (British) Gulf Veterans Association (www.gulfveteransassociation.co.uk/). Nonetheless, it is not clear that all those who had known or suspected exposures to DU have been tested, and DoD’s shifting numbers could signify political intrusion into what should be a scientific issue. DoD also needs to account for its failure to test veterans who indicate on post-deployment questionnaires that they “sometimes” or “often” were exposed to DU.

Transparency about the methodology and results of DU testing is important for two reasons. First, because DU presents a health risk inside the body, veterans deserve to know if they were exposed to DU so that they and their caregivers can make informed decisions about health care and future monitoring. Second, the Uranium Medical Research Centre (among other activist groups) has exaggerated the results of the testing of a few US veterans conducted by a German scientist, telling veterans (and the media) that high levels of DU were found in veterans’ urine,²⁵ when a review of available information indicates the levels detected were extremely low.²⁶

This manipulation of veterans and their families is nothing short of unconscionable, but so too is DoD’s failure to test veterans who self-report a DU exposure; this failure has facilitated the exploitation of veterans’ concerns by opportunistic groups. DoD only fuels alarmist claims and feeds conspiracy theories by withholding information about its use of DU ammunition, its testing of veterans, and its remediation efforts in Iraq. Though many of the extremists’ claims are restricted to inconsequential Internet listservs and conspiratorial websites, some do circulate in mainstream media such as Al Jazeera, where DU is used as a convenient political tool to stir up anti-American sentiment. Surely the truth about DoD’s actions—or inactions—can stand the light of day. ■

²³ See “Environmental and Health Consequences of Depleted Uranium Munitions,” in Avril McDonald (ed.) The International Legal Regulation of the use of Depleted Uranium Weapons: A Cautionary Approach, (Den Haag: Asser Press, forthcoming 2005).

²⁴ Ibid.

²⁵ See Dan Fahey, “The Emergence and Decline of the Debate Over Depleted Uranium Munitions, 1991-2004,” 20 June 2004, pp. 20-21, www.danfahey.com.

²⁶ See <http://www.antenna.nl/wise/uranium/dissgw.html#GWSTUDIT>.