

Test to Reveal Levels of Depleted Uranium in Army Personnel

March 5 2007

A test recently used by the UK government's Independent Depleted Uranium Oversight Board to detect exposure to UK troops by depleted uranium (DU) during the 1991 Gulf Conflict was developed by a team led by a University of Leicester geologist.

Randall Parrish, Professor of Isotope Geology, developed the test with Postdoctoral Fellow Dr Axel Gerdes, who now works at the University of Frankfurt, Germany, and his colleague Matt Horstwood at the British Geological Survey, using advanced mass spectrometry.

Prof Parrish's team has tested more than 350 individuals as part of the programme, with the result that none so far tested had any demonstrable DU exposure resulting from their participation in the 1991 Gulf Conflict, though the extent of actual initial exposure of tested individuals to DU is unknown.

Depleted uranium (DU) is a by-product from the manufacture of enriched uranium, used for fuel in nuclear reactors or in weapons. It is 60 per cent as radioactive as natural uranium.

Because of its hardness, it has been used in engineering projects, as well as in the construction of military tanks and anti-tank weapons, such as those used in the 1991 Gulf War, in Bosnia in 1994-5, Kosovo in 1999 and in the latest conflict in Iraq.

While DU weapons can reduce casualties amongst the forces using them,

there may be long-term risks to the health of those exposed to them, either through shrapnel wounds or inhalation, and risks, also, to the environment.

The test was designed to detect after 15 years even a modest exposure to DU, on the basis of accepted knowledge about the retention and solubility of DU in the human body. The test is applicable even to those who excrete extremely low levels of uranium in urine.

Professor Parrish's and his colleagues' work, undertaken to help in the planning of the UK DU testing programme, explored the sensitivity and accuracy of urine tests to measure uranium concentrations and isotope ratios.

The testing programme was set up in 2001, to investigate concerns amongst UK Service personnel from the Balkans and the 1991 Gulf War, following media coverage about Depleted Uranium.

Professor Parrish commented: "Dr Gerdes and I continue to collaborate on this test, which is by far the most sensitive and accurate of all uranium isotope test for urine worldwide. It uses multiple isotopes to ascertain the extent of contamination.

"Our facility has used this test in the monitoring of more than 400 UK veterans of the 1991 Gulf War, under the testing programme administered by the Depleted Uranium Oversight Board over the past two and a half years – a testing programme that is nearly finished."

Source: University of Leicester

retrieved 9 April 2024 from

<https://phys.org/news/2007-03-reveal-depleted-uranium-army-personnel.html>

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