

Contamination from depleted uranium found in urine 20 years later

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Inhaled depleted uranium (DU) oxide aerosols are recognised as a distinct human health hazard and DU has been suggested to be responsible in part for illness in both military and civilian populations that may have been exposed.

University of Leicester geologist, Professor Randall R Parrish will be giving this message to the 119th annual meeting of the Geological Society of America at the Colorado Convention Center in Denver on 28 October 2007.

In his talk entitled: 'Depleted uranium (DU): its environmental dispersion and human uptake' he will outline his research findings on a new method of tracing DU.

The issue has been the subject of investigations by the Royal Society (UK), the National Academy of Science (US) and other bodies, but studies of individuals who have been clearly exposed to environmental contamination are lacking.

Professor Parrish commented: "Our objective was to develop a high sensitivity method of EU detection in urine, using MC-ICP mass spectrometry that would be capable of detecting an individual's exposure to DU up to 20 years after the event.

"We developed this method and applied it to individuals, either known or likely to have had a DU aerosol inhalation exposure, and to a large

voluntary cohort of 1991 Gulf conflict veterans to assess DU exposure screening reliability and accumulate data on exposure.”

Using his method, Professor Parrish and his research team have found traces of DU in urine more than 20 years later, in those cases where exposure to DU aerosol has been unambiguous and in sufficient quantity. This is true even when the U concentration is at the low end of the normal range.

Most such samples would return a negative screening result with other, less sensitive, methods.

Professor Parrish added: “Our method has been used to show that it is capable of resolving legal cases based on a claim of DU exposure. Also it shows that the occurrence of DU in 1991 Gulf Conflict veterans is likely to be uncommon to rare, but if a significant inhalation exposure occurred then it can be detected in urine for decades to come.

“It offers a way to resolve debates about DU and health and provide perspective on the issue. Resolving the potential implications of DU to health in contaminated populations is best done by properly testing exposed cohorts. The cohorts in need of study are those living in DU-contaminated areas of Iraq, or those living in the vicinity of DU munitions factories with large DU contamination footprints.”

Source: University of Leicester

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