

CHILDHOOD EXPOSURE TO DEPLETED URANIUM: CONSEQUENCES OF THE 2003 ARMED CONFLICT IN IRAQ

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Background and Aims: Ravages of war include widespread environmental and human health consequences, some becoming apparent years or decades after the conflict. Radioactive depleted uranium (DU) is used as armour-piercing munitions in current warfare. This analysis describes the exposure of Iraqi children to DU during the 2003 armed conflict.

Methods: Children are exposed to radioactivity while playing in and around abandoned military vehicles struck by DU munitions. Due to the paucity of data for 2003, analysis of DU ammunitions use during the 1991 Iraq war, as presented by Marshall (2005), was extrapolated to estimate the degree of exposure and the resulting health risks for Iraqi children during the 2003 war.

Results: Greatest exposure to DU was secondary to children playing inside discarded military vehicles. Inhalation of airborne particulate in this setting accounted for a maximum cumulative exposure of 2.077 grams, while gastrointestinal ingestion resulted in a cumulative exposure of 43.269 grams, resulting in equivalent doses of radiation to the lungs, bone surface, and colon of 0.039, 0.033, and 0.003 Sieverts, respectively. Effects of such exposure include an incremental birth defect risk of 0.052% for progeny of the exposed, with an increased incremental fatal cancer risk of 2.388%.

Conclusions: The outcomes of DU exposure are not insignificant and include increased risk of fatal malignancies and birth defects in offspring. In order to prevent such exposures, production and use of radioactive weapons should be stopped and their contamination ceased.

References

Marshall, A. C. (2005). *Sandia report: An analysis of uranium dispersal and health effects using a Gulf War case study*. No. SAND2005-4331. Albuquerque, NM: Sandia National Laboratories.