

## Uranium Coverup 06/21 - Health effects

The health effects depend on the quantity of uranium oxide dust inhaled or ingested, frequency, and duration of exposure. A high initial dose can cause acute respiratory failure and poisoning, leading to death within a few days. Smaller doses cause hair loss, reduced regeneration of skin and nails, physical weakness, fatigue, flu-like symptoms, diarrhea, and immune and peripheral nervous system damage manifested up to a few months after the initial exposure.

After a year and longer, medium to high doses may cause birth defects in infants of pregnant women, leukemia, and rapid-onset cancers, followed later by slower cancers. Smaller initial doses longer-term may produce multiple physical and mental symptoms, and nervous debilitation.

Damage of immune system in exposed population could be a major mortality factor in Afghanistan, where several hundred tons of uranium was released from hard-target weapons. Plagued by winter cold and starvation, uranium casualties with reduced immunity would have greatly reduced chances of surviving common diseases. Many could have died without being diagnosed with uranium exposure. The same factor could increase morbidity and mortality in Iraq and Yugoslavia – both countries under international embargo, and consequent impoverishment of the population coupled with reduced ability of local authorities to care for the sick. A team from the Uranium Medical Research Center (UMRC) reported after a visit to hard-target bomb sites in Afghanistan [[www.umrc.net](http://www.umrc.net)]: "The UMRC field team was shocked by the breadth of public health impacts coincident with the bombing. Without exception, at every bombsite investigated, people are ill. A significant portion of the civilian population presents symptoms consistent with internal contamination by Uranium."

The acute symptoms above have been reported by Gulf War veterans, including post-conflict military personnel exposed to targets contaminated by DU. The slower onset illness and disorders have been reported by Gulf veterans, and doctors and health researchers who have worked with civilians exposed to DU in Iraq. Leukemia, cancers and birth deformities are on an increase among international soldiers and policemen who served in Bosnia, and among local population exposed to DU ammunition. The rates of all cancers in Sarajevo between 1995 and 2000 increased from 46 to 264 per 100,000 according to a Sarajevo registry report of January 2001 [[www.llrc.org](http://www.llrc.org)].

As the contaminants spread over the years, so will the health problems. Low but chronic exposure risks may arise from air, water or food contamination in areas surrounding a population. The contaminants could build up and bio-accumulate over years from the initial fallout. Local terrain, ecosystem, meteorological conditions, agricultural practice and food habits are some of the factors that would determine the secondary exposures and doses.

Most DU research to date has assumed healthy, young male soldiers and low-dose initial exposure from 30 to 120 mm armour-piercers (mass of DU 0.3 to 4.5 kg per bullet). If uranium is used in warheads having a mass of up to several tons, then humans surviving the explosion will suffer acute health effects from much higher doses. Being unprecedented, these exposures require a new analysis of uranium fate-effect relationships. The closest analogy would be fires of DU ammunition as at the Doha base, UK Royal Ordnance factory fires, or the burning of DU counterweights in jet crashes, but no medical reports are available. Wider area residents are vulnerable to initial small doses from the fallout from large

uranium weapons, and to ongoing, indirect exposure to contamination of air, water and food. Exposures in Iraq's Basrah region could be analogous.

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