# Depleted Uranium And The Iraq War's Legacy Of Cancer

**Depleted uranium was used in Iraq warzone weaponry, and now kids are playing in contaminated fields and the spent weapons are being sold as scrap metal.**

*By Frederick Reese* *@FrederickReese* | *July 2, 2014*

An infant born with severe deformities in Fallujah Iraq, allegedly due to the heavy use of depleted uranium by US forces (Image from documentary "Beyond Treason")

As instability in Iraq is forcing the United States to consider a third invasion of the Middle Eastern nation, the consequences of the first two invasions are coming into focus. For large sectors of the Iraqi population, American intervention has led to sharp spikes in the rates of congenital birth defects, premature births, miscarriages and leukemia cases.

According to Iraqi government statistics, the rate of cancer in the country has skyrocketed from 40 per 100,000 people prior to the First Gulf War in 1991, to 800 per 100,000 in 1995, to at least 1,600 per 100,000 in 2005.

The culprit behind all of these health issues is depleted uranium, a byproduct of uranium enrichment. With a mass fraction a third of what fissile uranium would have, depleted uranium emits less alpha radiation — up to 60 percent less than natural uranium, according to the U.S. Department of Defense. This "relative" safety offered a rationale for many nations — particularly, the U.S. — to put the waste material to use.

As depleted uranium is 1.67 times denser than lead, a depleted uranium projectile can be smaller than an equivalent lead projectile but produce similar results. This smaller size means a smaller diameter, less aerodynamic drag and a smaller area of impact, meaning that depleted uranium bullets can travel faster and inflict more pressure on impact, causing deeper penetration. Additionally, depleted uranium is incendiary and self-sharpening, making depleted uranium ideal for anti-tank ammunition. It is also used as armor plating for much of America's tank fleet.

The problem with using depleted uranium, however, lies in the fact that depleted uranium is mostly de-energized. In practical terms, depleted uranium can have — at a minimum — 40 percent the radioactivity



## About the

## Frederick Reese

Frederick Reese is lead staff writer for Mint Press specializing in race, poverty, congressional oversight and technology. An award winning data journalist and creative writer for over 15 years, Frederick has written about and worked for social advocacy projects and personal awareness efforts. Frederick is a jack-of-all-trades, with work experience as a teacher, a pastry chef and a story writer.

of natural uranium with a half-life that can be measured in millennia (between 703 million to 4.468 billion years). While the depleted uranium presents little to no risk to health via radiation due to its relatively weak radioactivity, direct internal contact with the heavy metal can have chemical toxicity effects on the nervous system, liver, heart and kidneys, with DNA mutations and RNA transcription errors being reported in the case of depleted uranium dust being absorbed in vitro.

While depleted uranium is not as toxic as other heavy metals, such as mercury or lead, pronounced toxicity is still possible through repeated or chronic exposure.

## The politics of depleted uranium

With the Iraqi government currently crippled by the insurgency efforts of the Islamic State of Iraq and Syria — a group requesting that it be known simply as "the Caliphate" or "the Islamic State," reflecting its perceived lack of challenge to its claims — and with the U.S. and the United Kingdom holding to the stance that depleted uranium presents no direct threat to Iraqi civilians, there is no active effort to properly dispose of the material.

As little information on the dangers of the material has been shared with the Iraqi people, depleted uranium and depleted uranium-tainted metals are regularly sold for scrap metal and re-used for any numbers of purposes — including machinery parts, cookery implements and home furnishings. Children play in depleted uranium-contaminated fields, which presents a heightened risk of unintentional ingestion due to hand-to-mouth activity. Abandoned vehicles salvaged for metal present a particularly high risk, as depleted uranium dust could accumulate from depleted uranium munitions, without access to an active airflow to dissipate it.

This lack of shared information may be intentional, though. The U.S. and the U.K. are actively blocking or opposing a binding international response to or study of the use of depleted uranium in warzones. Citing previous studies from the World Health Organization, NATO and the International Atomic Energy Agency, France, the U.S. and the U.K. — the world's primary users of military-grade depleted uranium — argue that future studies are unnecessary and are being requested in a bid to ultimately hold the U.S. and its primary allies responsible for a health situation in Iraq that may have nothing to do with those countries. This, despite the fact that the studies cited by the U.S., the U.K. and France in their rebuttal did not look into the health implications of depleted uranium exposure, but simply depleted uranium radiation.

Depleted uranium is commonly used in the civilian market — from the triggering sensor in smoke detectors to a colorant used in dental porcelain. As it is weakly-radioactive, the radiation exposure danger of the metal does not typically exceed the ambient radiation normally present at sea level. It is believed that it would take more than 200 years for the radioactivity from a piece of depleted uranium to penetrate a person's skin if that person was grasping the metal in his bare hand. This, however, does not mitigate or dismiss risk the metal poses to internal organs.

## A known problem

However, according to Wim Zwijnenburg, policy advisor for security and disarmament for PAX, a Dutch pro-peace organization, and author of the paper "Laid to Waste: Depleted uranium contaminated military scrap in Iraq," the U.S. is aware of the dangers of depleted uranium because the country has spent millions safeguarding its bases and military personnel from it.

As of 1999, military regulations on how to deal with vehicles contaminated with depleted uranium have been implemented, and in 2005, the General Accounting Office alleged that the Department of Defense was not monitoring the soil in Iraq to ascertain exposure to hazardous materials by American service members. At the time, however, a number of states, Congress members and military service organizations were actively challenging the Defense Department's assertions that depleted uranium had minimal effect on the lives of the Iraq War veterans claiming depleted uranium poisoning.

"In regards to the U.S. responsibility for the depleted uranium, the Iraqi government has been put under pressure by the U.S. government not to publish too much information about it or to speculate on what it thinks has happened and to limit government resources to this issue," Zwijnenburg told MintPress News, "as the Iraqi government still receives a lot of support from the U.S. government. Additionally, the Iraqi government does not want to scare off investment, particularly in the south, such as oil investors who may be scared off with talk of depleted uranium contamination.

Frederick has publication credits with Yahoo!, B. Couleur, and more. A native New Yorker, Frederick graduated from Colgate University in 1999 and Johnson & Wales University in 2003. Frederick started his journalistic career writing for his university's newspaper, "The Colgate Maroon-News," before starting and heading his own magazine, "The Idealist." Most recently, Frederick received a data journalism award from the International Center for Journalists for his minimum wage coverage for MintPress. Follow Frederick on Twitter: @frederickreese

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"Also, the Saddam Hussein regime used depleted uranium use as a propaganda tool against the U.S. So, there is a generation of Iraqis that — in large portions — believe that the Americans gave them these diseases, including cancer. While there is an increase in the rise of cancer in Iraq, it cannot be easily attributed to [depleted uranium] use. However, the difficulty in studying the effects leave the issue in contention."

## Heavy metal America

The U.S. has suffered from its own heavy metal contamination crisis. Steve Fetter, professor at the University of Maryland's School of Public Policy and co-author of the paper "The Hazard Posed by Depleted Uranium Munitions," suggested to MintPress an analogous comparison to the use of depleted uranium in Iraq in order to highlight the danger of the depleted uranium.

From the 1920s to the mid-1970s, tetraethyl lead was added to gasoline to boost octane and increase fuel economy. The problem is that tetraethyl lead is toxic. The patent holders knew it was toxic, but used it anyway, despite the fact that ethanol was widely available at the time and was also known to be an octane booster.

The choice between tetraethyl lead and ethanol was a question of profit. At the time, ethanol was commonly distilled in backyard stills and mixed with gasoline to prevent "knocking," or the misfiring of an engine's cylinder before the air-gas mixture is properly compressed. As the use of ethanol in gasoline was a known procedure, it was not patentable, and therefore, not controllable.

As tetraethyl lead had the added benefit of sealing the microwelds used for the cylinder heads of early cars — extending the life of the car — the additive was pushed through. Although, this was done despite the fact that a collaborator on the development of the chemical wrote that "it's a creeping and malicious poison." During its first three years of production, eight workers died from lead poisoning at DuPont's manufacturing plant in Deepwater, New Jersey, and another five died and 45 were hospitalized from the Baywater, New Jersey, Standard Oil plant.

Despite the known dangers, the Public Health Service ruled that the need for fuel outweighed the danger to people or the environment, and it allowed leaded gasoline to be sold until the Environmental Protection Agency ordered a scheduled phase-out of tetraethyl lead in 1974. Auto manufacturers ultimately backed this move when it was discovered that leaded gasoline clogged catalytic converters.

During the 50 years of leaded gasoline use, lead concentration in the blood rose 400 percent. As car use is heaviest in urban centers, the inner city and the populations that live there — the poor, blacks, Latinos and migrant populations — experienced the effects of lead toxicity the most. These effects include mental retardation; high blood pressure; neurological issues, including spasms, mood swings, memory loss, tingling and/or numbness in the extremities, muscle weakness and headaches/migraines; miscarriages or premature births; reduced or mutated sperm; and severe bodily pain.

As lead is naturally-occurring and a stable, non-decomposing element, lead concentration inside the body will not diminish under normal processes. If someone was exposed to lead, then, the effects of the metal could continue to cause harm even after the source had been cut, and for women of child-bearing age, the contamination could be transferred in vitro.

While comparing the United States' use of leaded gasoline to Iraq's depleted uranium is not a perfect analogy — lead is more toxic than uranium, for example, and there is an estimated 440,000 kilograms of depleted uranium in Iraq, compared to over a million tons of lead per year by the time the rollback began — the moral parallels are striking.

In the aftermath of leaded gasoline — which is still sold in the U.S. for non-consumer automotive uses — the U.S. is still dealing with entire socioeconomic groups affected by lead poisoning. The negative effects have manifested in a host of illnesses and disabilities in the black community and have been pointed to as a likely cause for the spike in criminality in the inner city.

When looking at the potential of inflicting the same level of hardship on the Iraqis, caution indeed becomes the better part of virtue. While it can be argued that depleted uranium is likely not a threat to the Iraqis, the danger of the chemical should not be dismissed. (It should be noted, too, that early testimony for leaded gasoline similarly suggested that there was no risk to the public.)

"Contaminated vehicles and fragments of depleted uranium penetrators abandoned on the battlefield represent an 'attractive nuisance.' Curious passers-by, both adults and children, will enter the vehicles and thereby be subject to potentially significant levels of uranium exposure from resuspended and ingested aerosols. Fragments of penetrators may be picked up and taken home as souvenirs." read the conclusion to

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"The Hazard Posed by Depleted Uranium Munitions."

"In the absence of more costly decontamination efforts, we would propose that all [depleted uranium]-contaminated vehicles be filled with concrete and buried and that [depleted uranium] penetrator fragments be picked up and buried as low-level radioactive waste."

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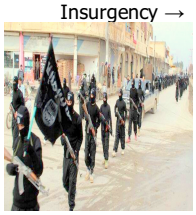



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It took two Christians talking themselves into doing it to Iraq.

It only took one atheist to convince China to do it to itself. (Cultural revolution.)

Make of that what you will. As for me, I think war is always sweet to those who do not know it: Christian or naivete that makes the difference.

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