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# Deadly Dust: Study Suggests Cancer Risk from Depleted Uranium

by James Randerson

Depleted uranium, which is used in armor-piercing ammunition, causes widespread damage to DNA which could lead to lung cancer, according to a study of the metal's effects on human lung cells. The study adds to growing evidence that DU causes health problems on battlefields long after hostilities have ceased. DU is a byproduct of uranium refinement for nuclear power. It is

much less radioactive than other uranium isotopes, and its high density - twice that of lead - makes it useful for armor and armor piercing shells. It has been used in conflicts including Bosnia, Kosovo and Iraq and there have been increasing concerns about the health effects of DU dust left on the battlefield. In November, the Ministry of Defense was forced to counteract claims that apparent increases in cancers and birth defects among Iraqis in southern Iraq were due to DU in weapons.

Now [researchers at the University of Southern Maine](#) have shown that DU damages DNA in human lung cells. The team, led by John Pierce Wise, exposed cultures of the cells to uranium compounds at different concentrations.

The compounds caused breaks in the chromosomes within cells and stopped them from growing and dividing healthily. "These data suggest that exposure to particulate DU may pose a significant [DNA damage] risk and could possibly result in lung cancer," the team wrote in the journal *Chemical Research in Toxicology*.

Previous studies have shown that uranium miners are at higher risk of lung cancer, but this has often been put down to the fact that miners are also exposed to radon, another cancer-causing chemical.

Prof Wise said it is too early to say whether DU causes lung cancer in people exposed on the battlefield because the disease takes several decades to develop.

"Our data suggest that it should be monitored as the potential risk is there," he said.

Prof Wise and his team believe that microscopic particles of dust created during the explosion of a DU weapon stay on the battlefield and can be breathed in by soldiers and people returning after the conflict.

Once they are lodged in the lung even low levels of radioactivity would damage DNA in cells close by. "The real question is whether the level of exposure is



DEADLY DUST - A 30mm depleted-uranium-tipped armour-piercing cartridge. (AFP/File/Etienne Ansotte)

sufficient to cause health effects. The answer to that question is still unclear," he said, adding that there has as yet been little research on the effects of DU on civilians in combat zones. "Funding for DU studies is very sparse and so defining the disadvantages is hard," he added.

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## 14 Comments so far

1.

pi\_dpiper May 8th, 2007 12:54 pm

Forget about D.U.

These people are the real terrorists!!!!

### CIGARETTES

In the United States, tobacco consumption causes over 400000 deaths per year and contributes to more than one of every six deaths.[14,15] In 1988 alone, teenagers spent \$1.26 billion on cigarettes and smokeless tobacco.[14] Approximately 2 million teenagers begin smoking cigarettes each year.[14] Despite the ban on television advertising of cigarettes, the prominent display of logos, billboards, and banners in televised sports events makes

cigarette advertising on American television more prominent than ever before.[16] In two recent studies, one-third of 3-year-old children and nearly all children older than age 6 were able to recognize the Old Joe Camel logo.[17,18] By age 6 the Camel logo is as familiar to children as Mickey Mouse.[17]

Advertising for Camel cigarettes was more effective among children and adolescents than among adults.[18] Camel's share of the illegal children's cigarette market represents sales of \$476 million per year— one-third of all cigarette sales to minors.[18]

2.

[Jaded Prole](#) May 8th, 2007 1:19 pm

I remember reading an article in Lancet back in 1997 showing an increase in bone cancer among Iraqi children post “desert storm” and clearly linking it to DU. That widely disseminated information did not stop Clinton from using it in Jugoslavia (despite European protests) or Bush from using it in Afghanistan and Iraq. This is a crime that will continue for many generations. Even without the spectre of mushroom clouds, this is a nuclear war.

Nietzsche May 8th, 2007 1:27 pm

Yeah but look how corporate profits are skyrocketing. Who's really going to care about people when the real power brokers are making out like bandits.

This war is almost over. Look for some new "terror threat" to make the next one inevitable.

4.

Lew2007 May 8th, 2007 1:37 pm

DU is a heavy metal like Lead and Mercury and so anybody who has had a high school chemistry class should not be surprised that DU is a health hazard.

The military should be forced to explain how this particular heavy metal is an exception to laws of chemistry and physics and biology and physiology. It is a miracle.

Some engineer made the point of keeping a DU paperweight on his desk to show how harmless it is. However, the paperweight was painted as he knew better than to expose

himself to any minute particles of that dangerous stuff.

5.

Ragdoll May 8th, 2007 1:54 pm

Several years ago we already had a TV documentary showing pictures of birth defects of certain types that were , alas, common in Japan after the A bombs dropped on Hiroshima and Nagasaki. And these cancers and defects very rarely occur in other circumstances!

And, before going to Iraq I believe a lot of soldiers left sperm in sperm banks fearing exposure to various toxic substances and who knows what else in Iraq could lead to birth defects in children they might have after the war.

It's a good thing the above article is drawing attention to the dangers of DU but it really doesn't go far enough, in fact, I find it so "timid" it resembles spin. Remember when we had no PROOF of global warming, no PROOF of the dangers of smoking, no PROOF of any dangers in genetically modified grains? I recall when manufacturers had to be sure their products were SAFE before selling them but I guess

that has gone out of style.

6.

ontheres May 8th, 2007 2:06 pm

Am so glad to see this effort to put out in to the open the horrible effects of DU. There is good reason to suspect DU in the tremendous rise in birth defects in Iraq and a relationship between DU and birth defects among children of returned servicemen.

One of the first articles published on the subject, can still be found on the web at:

[http://www.chugoku-np.co.jp/abom/uran/index\\_e.html](http://www.chugoku-np.co.jp/abom/uran/index_e.html)

It was published by The Chugoku Shimbun, Hiroshima, Japan. If any people are sensitive to radiation poisoning, they certainly have reason to be. There were only a handful of references to DU when the current war in Iraq started, most of these had to do with the increase in birth defects with new Iraqi mothers wanting to know more if their baby was normal than what sex it was. Now there are over a million references.

I've seen first hand the devastation in Vietnam from the poison of Agent Orange, and I've sat with a young woman whose husband came home sick from Iraq - his illness and suffering denied by the military.

We have a long way to go to get rid of the callousness of mankind, but the continuance of a human race depends on it. I encourage any who read this to acquaint themselves with both the research on DU and the lack of testing by the US military. Information is easily obtainable simply by "googling" depleted uranium. Although legitimate outrage may begin small, it grows exponentially.

7.

Tony Christini May 8th, 2007 2:09 pm

Yes, this article doesn't go remotely far enough.

The great reporter John Pilger, among others, wrote about the devastating effect of depleted uranium years ago. I relied on such research, Pilger's in particular, quoted extensively below, in creating this scene and more in Homefront:

In his tent one night in Kuwait, just before the March 2003 invasion of Iraq, US soldier Aaron Thompson pulled out some photocopied papers and read them over again. One was an article based on the work of a British journalist, John Pilger, who had interviewed Dr. Al-Ali, a cancer specialist at a hospital

in Basra, Iraq. Dr. Al-Ali was also a member of Britain's Royal College of Physicians.

“Before the Gulf War,” the first Gulf War, the Iraqi doctor said, “we had only three or four deaths in a month from cancer. Now it's 30 to 35 patients dying every month, and that's just in my department. That is a 12-fold increase in cancer mortality. Our studies indicate that 40 to 48 per cent of the population in this area will get cancer – in five years' time to begin with, then long afterwards. That's almost half the population. Most of my own family now have cancer, and we have no history of the disease. We don't know the precise source of the contamination, because we are not allowed to get the equipment to conduct a proper survey, or even test the excess level of radiation in our bodies. We strongly suspect depleted uranium, which was used by the Americans and British in the Gulf War right across the southern battlefields. Whatever the cause, it is like Chernobyl here; the genetic effects are new to us.”

When Dr. Al-Ali was asked what he says to people who deny the connection between depleted uranium and physical ailments, he answered, “How

much proof do they want?  
There is every relation between congenital malformation and depleted uranium. Before 1991, we saw nothing like this at all. If there is no connection, why have these things not happened before? I have studied what happened in Hiroshima. It is almost exactly the same here; we have an increased percentage of congenital malformation, an increase of malignancy, leukemia, brain tumors – the same.”

One thing was for sure, Aaron Thompson did not want any of these diseases hitting him and his buddies, and what came next in the article was even more frightening.

A physicist from the US Army, Professor Doug Rokke told the reporter, “I am like many people in southern Iraq. I have 5,000 times the recommended level of radiation in my body. Most of my team are now dead.”

The article concluded that what happened in the Gulf was “a form of nuclear warfare,” and that the fourteen-year embargo against Iraq, sponsored by the United Nations Security Council and supported by the US for over a decade, did not allow into the country the equipment

needed to decontaminate. ...

May we be forgiven, Aaron thought, if we know not what we do. ...

Or know and don't care.

Extended scene and information here:

<http://apragmaticpolicy.wordpress.com/2007/05/08/depleted-uranium-against-iraq/>

8.

canuckchuck May 8th, 2007 2:59 pm

DUH!! WHAT NEXT?  
SKYDIVING WITHOUT A PARACHUTE IS REALLY NOT BAD FOR YOUR HEALTH, JUST THE RAPID DECELERATION THAT FOLLOWS?

This is the way the USA gets rid of their excess nuclear waste.. just blast it all over the countries of people you dont like...unfortunately, it kills women, children and US soldiers indecrimintely as well.

9.

kittyladyoregon May 8th, 2007 4:13

pm

I have been railing against DU for the past 5 years. and more. It is responsible for the birth defects in American children of soldiers from Gulf War I, the birth defects in Iraqi children after that same war. We now shall have massive defects in both Iraqi, Bosnian, Afghani, Albanian and Serbian children, not to mention the American children of GIs who served in both Iraq and Afghanistan. The entire Bush/Cheney crime family need to be tried as War Criminals for crimes against humanity.

10.

NMBill May 8th, 2007 6:20 pm

It takes 4.5 billion years for DU to reach half it's level of radiation!

11.

phelicks May 8th, 2007 9:36 pm

No, no, no!!! Don't you know. It was only deadly when Clinton used it. Bush's compassionate version is kinder and gentler.

12.

Steve Osborn May 9th, 2007 1:14 am

## Depleted Uranium

Depleted Uranium, the new  
panacea  
The Arms Maker's choice with a  
half-life of only 4.5 billion years.  
Workers in DU must wear  
exposure suits and respirators  
Just a creative use of atomic  
leftovers.

Dense, hard, it punches  
through armor like tissue,  
Vaporizes and fragments into  
dust and tiny chunks.  
Dust to be breathed and  
chunks to be imbedded  
As shrapnel or become buried  
in earth.

Battle tested in Desert Storm  
and Kosovo,  
Now everyone is making them,  
and selling them,  
To armies around the globe,  
eager for the latest thing.  
Meanwhile, the Iraqi desert and  
Kosovo are laden with tons.

Pay no attention to the sick and  
the dying.  
The Government says it is  
anything but DU.  
Agent Orange was all in the  
mind, too.

Birth defects and cancer are  
coincidence in Govspeak.

A hundred or a thousand years  
from now,  
When Hussein and Imperial  
America are long forgotten,  
Or are but spooky tales told  
around the campfire,  
As a new civilization tries to  
grow.

Peasants, trying to coax food  
from the ground will stir up  
clouds of dust.  
They, their children and their  
animals will slowly sicken and  
die,  
And they will know not why.  
Just collateral damage from a  
weapon long ago.

Steve Osborn  
19 February 2003

13.

mekong May 9th, 2007 2:04 am

pi\_dpiper is right on one level in  
that health officials restricted  
tobacco on the inference that  
smoking caused cancer  
amongsts other things. The  
same restrivctions did not  
proscribe the use of DU,  
although as another writer  
acknowledges morbidity in  
nations where DU has been

used show a higher rate of cancers, particularly in children. Takashi Morizumi a Japanese photographer who lives in Nagasaki and not surprisingly is particularly interested in the effects of radioactivity on civilian populations. His haunting photo collection, the Children of the Gulf War records the legacy left by the DU used in the first Iraqi invasion by the US. I took that exhibition to Australia in 2000 and it made a huge impact on public opinion. Radioactivity tends to effect rapidly growing cells and fat cells as are found in children so leukaemias and breast cancers are on the rise. The global increase in breast cancer could be a side effect of increased background radiation levels. But Piper is wrong to equate tobacco and DU and say tobacco is worse.. or to play the double jeopardy game. While smokers choose to keep smoking despite adverse publicity, people do not choose to have war rained upon their heads, much less to be left with a radioactive legacy of 45 billion years which is the half life of U 238. UNEP has found DU in tea plants and livestock in Kosovo. It was first used against the Egyptians by the Israelis in 1973, so we have had lots of time to research it. Incidentally the Israelis used it against the Lebanese but it may come home to haunt them as desert winds and traffic lift

and carry the extremely fine oxides which do not recognise borders. DU has been found in clouds above Greece and dust from Iraq traced as far as England. DU was used extensively in the US in proving ground trials and Livermore continues to use it and test it.

It is a weapon of indiscriminate and ongoing destruction.

Now if Piper wanted to compare tobacco to illegal drugs and the ever ridiculous war on drugs he/she would have me on side.

14.

[Chuck Cliff](#) May 9th, 2007 3:42 am

This article starts with a couple of misleading statements:

“DU is a byproduct of uranium refinement for nuclear power.”  
“It is much less radioactive than other uranium isotopes”

Whether this is due to spin or ignorance, I have no idea.

First of all, DU is NOT an isotope — U238 is an isotope. “Virgin” uranium is a cocktail of

U isotopes, mainly U238 and U235. This is refined not only for nuclear power, but also for weapons. The by-product is NOT a pure isotope (U238) as implied in the article — it still contains other, more unstable (=radioactive) isotopes.

Furthermore, virgin ore contains other radioactive elements than uranium — and this applies even more to the material refined from breeder reactors (mainly for weapons production). The reason for this is simple: ALL radioactive material decays in a cascade to other elements, many of which are much much more unstable (=radioactive) than the original element (and that DOES include U238)

As alpha emitters, none of the U isotopes are dangerous — OUTSIDE the body! An alpha particle is basically a helium nucleus with a high velocity, that is kinetic energy. As it has a positive electric charge, it can't go far through the air and cannot even penetrate the outer layers of the skin. Inside the body, the only thing to stop it are living cells.

Finally, although the lungs are obviously a bad place to have an alpha emitter lodged — the material, as dust or larger

particles can also be ingested along with food or liquids. In that case it will mostly end up in kidneys.

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