

# Hiroshima's Horrors Prove Nuclear Wars Not 'Winnable'

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*On the 70th anniversary of the atomic bombing of Hiroshima and Nagasaki, articles are appearing everywhere discussing the historical, philosophical, scientific, public health and social meaning of this event (I almost wrote 'war crime'). The bombings can be extrapolated onward in time through the atmospheric testing fallout and Chernobyl, to the more recent contamination in Japan after Fukushima.*

Today, the analysis of the health risks from the Japanese A-Bombs is being cleverly twisted to provide a rationale for the development of nuclear weapons and nuclear energy. Hiroshima and Nagasaki are not just some historical tableaux that we can weep crocodile tears over, and discuss as socio-historic phenomena. They are here today, present as ghosts, in all the manipulations and devious calculations made by the international radiation risk agencies and nuclear-industry scientists giving results that continue to permit the release into the environment of the same deadly substances that emerged for the first time in 1945.

I am currently presenting a case for the British Atomic Test veterans in the Royal Courts of Justice in London. The case pivots on the faulty radiation and health risk model that is based on the Lifespan Study of the Japanese A-Bomb survivors. This model, of the International Commission on Radiological Protection (ICRP), is used by the Ministry of Defense in the courts to deny responsibility for the cancers in the Nuclear Test Veterans and the congenital disease in their children and grandchildren.



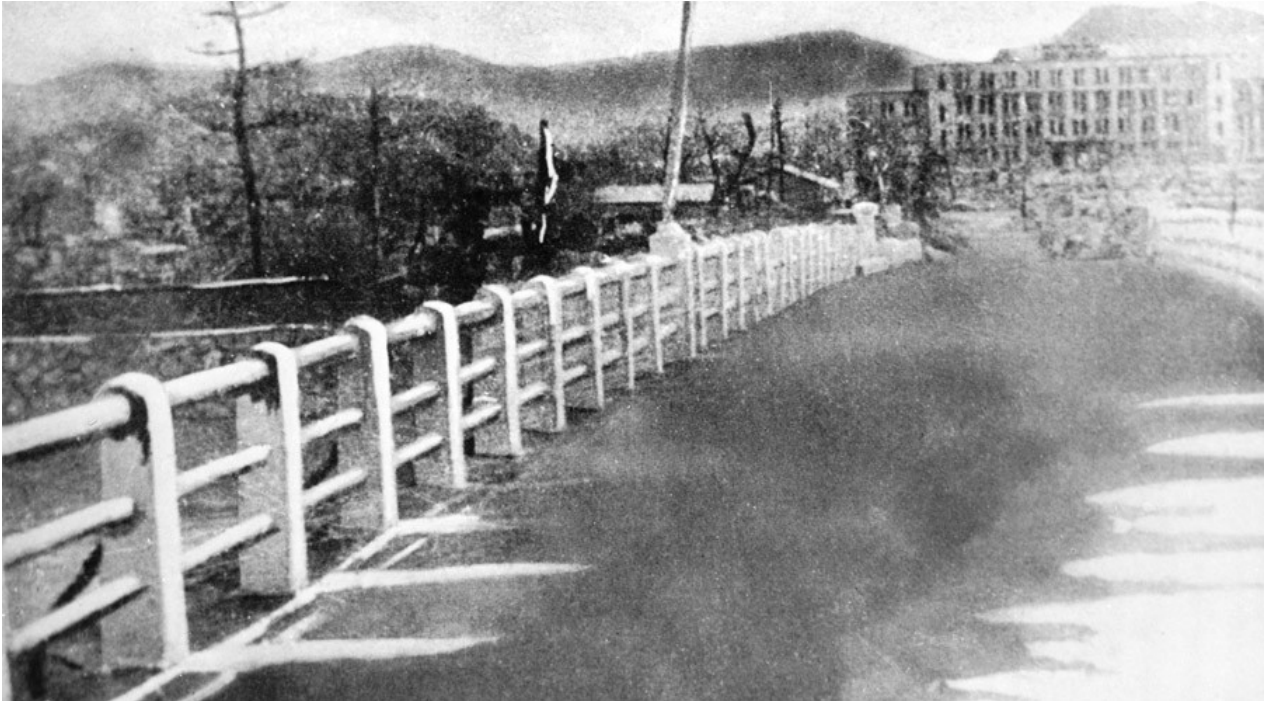
Hiroshima after the US atomic bombing. WWII (1938-1945). © RIA Novosti / RIA Novosti

However, the Hiroshima model also predicts that those exposed to radiation and fallout from future nuclear “exchanges” would suffer little downstream genetic damage. Thus the Drs Strangelove and the generals can argue that a nuclear war is winnable and that the increases in cancer and genetic effects in those exposed to Depleted Uranium (DU) in Iraq somehow don’t exist.

The bogus analysis of the health outcomes from Hiroshima has left the world with a major public health problem. In an effort to refute the mounting evidence, the ICRP model was launched by the Lancet to coincide with the Hiroshima anniversary. A whole issue is given over to the presentation of wacko accounts of the health consequences of Hiroshima, Chernobyl and Fukushima through articles (at least partly) written by those who hold the reins of the ICRP chariot. The key issue is accurately described at the start:

*The linkages between Hiroshima, Nagasaki and Fukushima are thus more than just symbolic, having shaped current health management practices, and the institutions that run them, as well as public responses to these events.*

Correct: However, these current health management practices are wildly in error.



A bridge in Hiroshima following the atomic bombing. A photo taken in August 1945. © RIA Novosti / RIA Novosti

## Nuclear War

Everyone has seen the photos of Hiroshima. The primitive Uranium-235 bomb 'Little Boy' that fell on Hiroshima with an explosive power of 13 kilotons (13,000 tons of TNT, the conventional chemical explosive) flattened the city and killed some 80,000 people of which 45,000 died on the first day. Within four months the death toll was about 140,000. Three days after Hiroshima, a 20kT Plutonium bomb 'Fat Man' was dropped on Nagasaki (Why? Did the US think perhaps the Hiroshima bomb might have been overlooked?). Both weapons were mostly made of Uranium. Note that. Since then, from 1950, a study of the survivors by the US funded Atomic Bomb Casualty Commission ABCC (and later the Radiation Effects Research Foundation) has defined the relationship between radiation dose and cancer.

In passing, recall that the explosive power was 13 kilotons (Anyone who wants nightmares should buy the standard work: *The Effects of Nuclear Weapons*, by Samuel Glasstone, the physical chemist. The more recent versions of this book have a nifty little plastic calculator in the back where you may, by rotating the bezel, inform yourself of the radii of blast, radiation dose, building destruction etc. for any size of bomb). The US has spent lots of money and time blowing up stuff in the Nevada and Pacific test sites to obtain these data. Modern thermonuclear warheads, of which there are currently some 15,000, pack about 800kT. Just one of these jobs would put paid to most of New York, Tehran or Jerusalem. I visualize some poor civil defense chief sitting in a shelter somewhere desperately twisting the scales on this pretty "Nuclear Bomb Effects Computer" (developed by the Lovelace Research Institute in Albuquerque, New Mexico) whilst waiting for the ground to disappear. The problem we have in the world in 2015 is that the economic system and power relations between countries encourages those taking big decisions to think in terms of geopolitical strategies that include the use of nuclear weapons. There are potential resource wars; there are food-production issues following changes in global weather patterns, there are technological developments in what were historically manipulatable countries. Nuclear weapons are now in the hands of nine nations including three which are not party to the non-proliferation treaty (and why should they be?): India, Pakistan and North Korea.



Negotiations with Iran are currently argued to be “*of tremendous importance*” in a region where Israel has the nuclear potential to wipe out all the local Arab states at a sitting. The Russians have massive nuclear capability and are being baited on their borders in Ukraine by NATO and those who control NATO. This shit-stirring now has moved to the Baltic States. I live in Latvia, and this Spring I saw a new tank with a Latvian flag rolling through the center of Ropazi, a small town 40km west of Riga near where I live. Every day, the sky overhead had big helicopters and transport aircraft, donated to the Latvians by the US. Why? The Baltic States and Poland are conscripting armies to defend the motherland against invasion by the Russians. What’s going on? Those who sow the wind reap the whirlwind, my grandmother would say. Let us hope not.



Hiroshima aftermath © U.S. Navy Public Affairs Resources Website / Wikipedia

In all the high level strategic thinking that is associated with this nuclear warmongering, the post attack population death yields from fallout are computed according to the ICRP risk model. But that Hiroshima model is a chimeric construction, built in the Cold War to back up the atmospheric testing. The observable effects (increases in infant mortality, the 1980s cancer epidemic) were covered up following a 1959 agreement between the International Atomic Energy Agency and the World Health Organization, which left the IAEA, the nuclear physicists, the bomb makers, the deniers of Chernobyl and Fukushima effects, in charge of the research into health. And so it remains today with the Lancet article. The health effects of the atmospheric tests is written (in part, we assume) by particle physicist Richard Wakeford, ex-head of research of British Nuclear Fuels at Sellafield, nuclear industry representative on the UK CERRIE committee, member of the ICRP, adviser to the Japanese on Fukushima, and so forth.

The evidence from real studies of the offspring of the test veterans, and the soldiers and civilians exposed to Depleted Uranium, is that a nuclear war will be the end of life on earth as we know it. The test veterans have a 10-fold excess risk of children with birth defects, 9-

fold in the grandchildren. Although millions will be blasted away, the real outcome will be global sterility, cancer and malformation. All the Mad Max stuff but worse: Hollywood got it right.

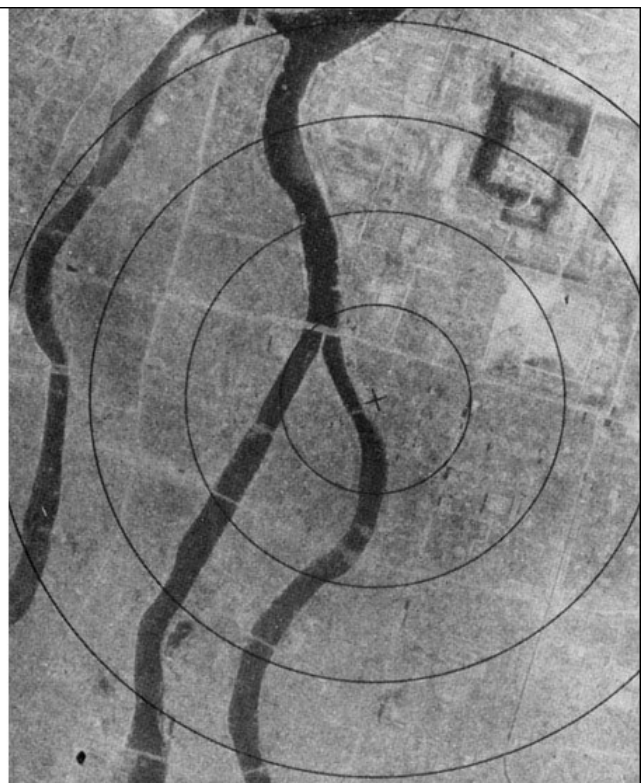
## Evidence and errors in the Hiroshima lifespan studies

If you find that there is a doubling of breast cancer or child leukemia in those living downwind of a nuclear power station, at an “estimated dose” less than external background, the ICRP model tells you that the effect cannot be due to the releases from the power station because the dose is too low. The epidemiologist Martin Tondel found in 2004 that there was a significant excess cancer risk in Northern Sweden after Chernobyl. He was told to shut up because what he found was impossible: In other words, the dose was too low. The same in Belarus and Ukraine where my colleague Alexey Yablokov has collected together an enormous compilation of peer reviewed evidence of appalling effects. Most recently we see the Hiroshima-based denials in the case of thyroid cancer in Fukushima prefecture (see below).

The study groups for the Atomic Bomb Casualty Commission (ABCC) probe were assembled in 1950. Thus there were 5 years in which those who were badly affected by the radiation could die. The study was of a “*healthy survivor*” group, something which the late Dr Alice Stewart demonstrated. But that is not the worst accusation. There were roughly 109,000 individuals recruited, including six dose groups from 0 to 200 rad (0-2+ Gy) and two Not in City (NIC) groups, the 4,607 Early Entrants (NIC-EE) and 21,915 Late Entrants (NIC-LE). These NIC groups should have been the controls, but they were not. If you look at the reports you find they were abandoned as being “too healthy.” The final exposure groups were defined by how far they were from the detonation.



**Hiroshima before the bombing.**



**Hiroshima after the bombing.**

© Wikipedia

But all groups were exposed to residual radioactivity from the bombs. The US and ABCC

denied (and still denies) this. There were internal exposures to all the groups whatever their external dose had been at the detonation. The origin was the “*black rain*” which contained Uranium-235, Uranium-238 and particularly Uranium-234, which is the missing exposure, and is probably responsible for most of the cancer effects in all the survivors. We know that the Uranium was there because it was measured by Japanese scientists in 1983. A recently declassified US document tabulates the enormous U-234 content of the enriched Uranium used in the bombs, codename: Oralloy. The Uranium nanoparticles in the Hiroshima (and Nagasaki) black rain were available for inhalation by all the exposure groups in the ruins of Hiroshima for years after the bomb. All the bombs were made of Uranium, about 1 ton per Megaton yield. For all those tests in Nevada, the Marshall Islands, Kazakhstan, Christmas Island, the results were the same: Down came the nanoparticles to be inhaled by anyone nearby and distant.

Why does this matter? New research has been carried out on Uranium. We find that Uranium targets DNA through chemical affinity. This causes terrible and anomalous genetic damage, out or all proportion to its “*dose*” as calculated by ICRP. Other fallout components also bind chemically to DNA, e.g. Strontium-90, Barium-140. Those exposed: Uranium miners, Gulf Veterans, Test Veterans, DU civilians, Nuclear Uranium workers, Nuclear Site downwinders, all suffer chromosome damage, cancer, leukemia, heart disease, the works. All this is published, as are the results of laboratory and theoretical studies showing mechanisms. But in the Lancet: nothing.

SL Simon and A Bouville who wrote the article on the health effects of the nuclear testing did not even mention Uranium there, nor in their epic 2010 study of the Marshall Islands exposures. The Nevada site data that they used for their baseline calculations ignored it totally. In 2012, I made a presentation for the Marshall Islanders at the UN Human Rights Council in Geneva, attacking the Simon et al analysis. In their Lancet nuclear test article, Simon and Bouville major on Iodine effects. So let’s look at those.

## Scientific Evidence

In Fukushima Prefecture, surveys have confirmed 103 thyroid cancers in 380,000 individuals between 0-18 years old (25 or so are still being checked out). The Lancet article by Wakeford et al. presents an excess Relative Risk culled from the Hiroshima studies of 0.6 per Sievert (Fig 2 p 473). In the very same issue, the maximum thyroid dose was given as 18mSv with the median dose as 0.67mSv. So in the two years of screening, if everyone screened got the maximum thyroid dose of 18mSv we should expect an increase of  $0.018 \times 0.6 = 0.011$ , a 1.1 percent increase in the background rate. This background is about 1 per 100,000 per year or 7.6 in two years in 380,000. So the radiation should increase this to 7.7 cases (i.e. one extra case in 10 years). There are 103, that is 95 more cases than expected, an error in the ICRP model of  $95/0.14 = 678$ -fold. That is, there are 678 times more thyroid cancers than the Hiroshima-based ICRP model predicts.





People pray for victims in front of the cenotaph for the victims of the 1945 atomic bombing, at Peace Memorial Park in Hiroshima, western Japan, August 6, 2015. © Toru Hanai / Reuters

This calculation is based on what was written in the Lancet – but nobody made the calculation. This on its own should show the authorities (and the public) that the game is up. But instead of doing the simple calculation, another article in the Lancet, written by Geoff Watts, praises the work of those at Fukushima Medical University, who are busy telling everyone that the increases in thyroid cancer cannot be caused by the radiation. In other words, once again, the predictions from Hiroshima are believed, rather than the evidence in front of their eyes. It's a kind of mass hypnosis (or maybe not).

In case you think this is all mad stuff, there does at last seem to be some measure of concern evolving in this area of internal radiation, though no one in the Lancet articles mentions it. The European Union radiation research organization MELODI has finally moved into action, led by the French radiation protection agency IRSN. The matter was raised (by me) at the inaugural MELODI conference in Paris in 2011, but nothing seemed to develop. I said that there are likely to be dose estimation problems associated with internal exposure to nuclides which bind to DNA, and particularly Uranium; that this potentially falsified the Hiroshima risk model. A hugely expensive European research project has now been proposed. It is CURE: Concerted Uranium Research Europe. In the report launching this development in March 2015 the authors wrote: a large scale integrated collaborative project will be proposed to improve the characterization of the biological and health effects associated with uranium internal contamination in Europe. In the future, it might be envisaged to extend collaborations with other countries outside the European Union, to apply the proposed approach to other internal emitters and other exposure situations of internal contamination, and to open the reflections to other disciplines interested in the effects of internal contaminations by radionuclides.

In the future, Hiroshima should not be remembered for the destruction of its inhabitants so much as for being the flag for the epidemiological cover-up of the biggest public health scandal in human history, whose victims number hundreds of millions – in cancer deaths and miscarriages, infant deaths, loss of fertility and the introduction of genomic instability to all creatures on Earth. Let us pray that it will not be allowed to sanction the final nuclear

exchange, on the mistaken prediction that such an event will be winnable.

*Christopher Busby is an expert on the health effects of ionizing radiation. He qualified in Chemical Physics at the Universities of London and Kent, and worked on the molecular physical chemistry of living cells for the Wellcome Foundation. Professor Busby is the Scientific Secretary of the European Committee on Radiation Risk based in Brussels and has edited many of its publications since its founding in 1998. He has held a number of honorary University positions, including Visiting Professor in the Faculty of Health of the University of Ulster. Busby currently lives in Riga, Latvia. See also: [www.chrisbusbyexposed.org](http://www.chrisbusbyexposed.org), [www.greenaudit.org](http://www.greenaudit.org) and [www.llrc.org](http://www.llrc.org).*

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