

*You always hurt the one you love, the one you shouldn't hurt at all
...So if I broke your heart last night, it's because I love you best of all.*
Old love song, immortalized by Spike Jones

FIRST: DO NO HARM
BEING “CAUTIOUS” ABOUT RADIATION IS KILLING PEOPLE

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ABSTRACT

Hippocrates warned physicians, “First: Do no harm!” He did not think that doctors would intentionally harm their patients. On the contrary, he was concerned that cautious doctors might pursue a particular health objective with such focused zeal that they fail to see that the patient is being harmed by other effects of the treatment. It’s not lack of heart he’s addressing, it’s lack of perspective. You can try so hard to avoid one problem that you back right into another. You can, despite your best intentions, hurt the one you love. That is what we’re doing with radiation protection.

To avoid doing harm, we must evaluate the cost of presuming that even sub-ambient doses of radiation are harmful. Defenders of this premise concede that “few experimental studies and essentially no human data, can be said to prove, or even provide direct support, for the concept” (NCRP-121). And there is a vast body of credible scientific evidence that flatly contradicts it. The evidence shows that low-dose radiation is *not* harmful, and can in fact be *beneficial*. This evidence has never been refuted. Policy-makers and advisors just dismiss it, with the argument that “we want to be cautious.” But that is not a proper way to deal with reports written by credible scientists, published in peer-reviewed, mainstream journals that reach unequivocal conclusions that flatly contradict existing policy. Such reports should be openly and honestly evaluated by knowledgeable scientists with no conflict of interest. If it is judged that the reports’ conclusions are not valid, the detailed rationale for so concluding must be spelled out and disseminated for review by the scientific community at large. By ignoring this evidence and continually building unwarranted fear of radiation, we scare people away from life-saving medical procedures, pollution-free electricity generation, and many valuable commercial and industrial uses of radiation. It’s time to look at the scientific evidence.

Since the radiation protection community has not been willing to do this, RSH and others have taken the issue to court, charging that the US Environmental Protection Agency, in its latest rule that sets zero goals for each radioisotope, has been arbitrary and capricious in not basing its rule on “the best peer-reviewed scientific data,” as required by law.

INTRODUCTION

Al Gore (and others before him) offer a dangerous variation on the theme of “Do no harm.” They call it, “Better safe than sorry.” This is known as the Precautionary Principle. It says that some things are so important that you must do anything to save them, regardless of cost. We have looked at national security that way. In *Earth in the Balance*, Gore says this worked so well, we should use it to protect the environment. What could possibly justify any course of action or inaction, if it might lead to destruction of the environment?

I suggest that a good antidote to Gore's advice is Hippocrates'. Consider briefly how the Precautionary Principle actually works in practice. During the Cold War, we put large numbers of people to work, analyzing various improbable scenarios that might endanger the national security. Once we came up with one, we didn't worry too much about the effects of preventing it. “Better safe than sorry.” So we scrupulously analyzed the scenario that we then spared no effort to prevent. But we gave little thought to the scenario that actually resulted. We knew, for example, that the Afghan rebels were anti-communist, so we trained them in terrorist techniques and supported them in overthrowing the Soviet-backed government. Then the scenario we didn't bother to study ensued. The terrorists we trained were Islamic fundamentalists, who turned on us the weapons and training we gave them, and bombed the World Trade Center and other strategic points.

“Oops” is the usual reaction to watching the unexamined scenario unfold. We have seen similar situations evolve as we applied the Precautionary Principle to the environment. Dams endanger salmon, and the decaying vegetation they flood produces more carbon dioxide than the equivalent coal plant. Windmills kill eagles and other rare birds. Solar panels produce more toxic waste than nuclear, but with *infinite* half-life. Making ethanol to replace gasoline burns up more fuel than it produces. A clean-air gasoline additive pollutes the ground water. A carbon tax is created, to encourage cleaner fuels; then the Energy Minister (UK) says, “Of course we'll apply the tax to nuclear, otherwise nuclear would have an unfair advantage over coal.” Such examples are numerous and serious. To ensure that we do no harm, we must put first things first. We must not burn a village in order to save it.

APPLICATION TO RADIATION

The Precautionary Principle “validates” virtually any number that can be calculated by multiplying a tiny radiation level by a large number of people. For example, the US Department of Energy released a study of the effects of trucking shielded casks of radwaste across the country. No individual would receive a significant radiation dose as the truck drove by. Yet by adding all these trivial doses, the Department was able to conclude that 23 persons would die from radiation-induced cancer. It is clearly impossible for any one person to die from a trivial dose, just because others were irradiated. Similarly, statements are repeatedly made that 20,000 or 30,000 people will die from the fallout from Chernobyl, nearly all of whom are in a large population trivially irradiated. Swedes were warned to stay inside their houses and keep windows closed when the fallout came over. But Professor Gunnar Walinder points out that each minute inside a typical Swedish house imposes a radiation dose from natural radon equal to many hours in the fallout.

Such statements, made in many cases by authorities one should be able to trust, have serious consequences. It has been reliably reported that about 100,000 additional, unnecessary abortions were performed downwind of Chernobyl in the year following the accident, presumably because women had been given reason to believe, falsely, that they might bear a “nuclear monster.” The widespread stories of the fallout’s dreadful power caused a marked increase in the rate of suicides, alcoholism and depression. Mammography centers report a disturbingly high number of women who refuse the procedure, fearing it will cause cancer. A number of nuclear medicine facilities have been shut down, unable to cope with increasingly burdensome regulations and uncertainty as to handling and disposal requirements. Such harmful consequences have not been taken into account in maintaining the falsely called “cautious” approach to regulating radiation.

It’s time to look at the data.