RulemakingComments Resource

From: Francisco Nunez <fdnunez1975@gmail.com>
Sent: Thursday, September 03, 2015 3:15 PM
To: RulemakingComments Resource
Subject: [External_Sender] Strong Support Hormesis Standards for Radiation Protection

To Whom it May Concern,

I am an ABR Board Certified Medical Physicist with over 10 years experience. I have worked in radiation oncology centers as a Theraputic Radiation Physicist, and I have also done work as an RSO (Radiation Safety Officer in a hospital). I would like to state that I very strongly support the proposal of setting standards of radiation protection based on a hormesis model as opposed to a Linear No Threshold model. In my opinion, and from the extensive readings I have done, there is at best no evidence that small amounts of radiation are bad for you, and it does look quite possible that small amounts of radiation are good for you, as the hormesis model suggests. Instead of doing an exhaustive literature review, which I am sure you are presently in the process of, I will focus on two areas where I believe relaxing the regulations of radiation protection will have a positive effect.

In my brief time as and RSO, I held a radiation safety meeting in which one of the attendees, a Radiologist told me a story about reviewing a pediatric brain CT. He was not a pediatric radiologist, but he had been called in on the weekend, and since he was present, one of the x-ray tecs has asked his opinion on the images. He said that the image quality was very poor, which can be directly attributed to low dose techniques being used in the CT scanner. The techniques were set so low because that was the standard protocol for pediatrics. This I find very scary. We are so afraid of radiation dose and go so far out of our way to protect the public from radiation, we risk misdiagnosing a pediatric brain injury. I vowed on that day that if either one of my children ever has a brain injury which requires a CT, I will stand directly behind the tech and make sure that they use techniques which will be of the correct amount of radiation dose to allow the physicians to have a clear image with which to do a diagnosis. The idea of a hypothetical, unproven risk overriding the use of proper techniques to evaluate a real, life-threatening risk is absolutely unacceptable. Now, of course, work can be done on the CT scanner to balance those values and to properly tune the technique, but there is only so much you can do if you limit the number of photons going through the patient. The proper diagnosis of a brain injury should always supersede the concerns associated with a moderate amount of radiation that has NEVER been proven to cause harm.

Secondly, we have the greenhouse effect. It is important that our legislators and government agencies begin this conversation of more logical regulations on radiation, because there is simply no possible way we are going to slow the warming of the earth without using nuclear power. Much of the fear of nuclear power is driven by the fear of radiation in general, a fear that is totally unwarranted, and one that if the government took the first move to show that small amounts of radiation are nothing to be feared, this could go a long way towards more widespread acceptance of nuclear power. There is MUCH more data in support of the theory that the earth is currently warming because of greenhouse gases than there is data suggesting that small amounts of radiation are bad for you. Relaxing the regulations which nuclear power companies have to follow could also have the potential for decreasing the cost of nuclear power (although I am afraid I don't know by how much), which would reduce our reliance on foreign oil as well as help curb the effects of global warming so that our children can have a stable earth in the future.

In summary, in my opinion, it is completely about weighing the risks that we know very well, such as misdiagnosis of a brain CT or climate change, with risks that at best have not been proven one way or another - the dangers of low-level radiation. The data I have seen in general do seem to support the hormesis model in

general, but again, I will leave the statistical details of that debate, along with the literature review to the academics.

Thank you for your time and consideration. I sincerely hope you implement regulations based on the hormesis model.

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