Health Risks from Ionizing Radiation

TO THE EDITOR: Thank you for taking the time to read this correspondence.

Special Contributor Jennifer Prekeges' article on radiation hormesis (*1*), however thoughtful and interesting, has a statement that could be considered insensitive to the people who work in the radiation industry.

I accept the cautionary and conservative view that ALARA is the best thing we have now to reduce health risks associated with ionizing energy. For her to state that "regulations aimed at reducing health risks from radiation have associated costs in the billions. . . these costs have essentially no demonstrable benefit. . . . " borders on irresponsible.

Your journal is read worldwide. There is no justification for printing rhetorical opinions. Imagine being quoted as a source—"regulations have *no* benefit." I thank you for your hard work at JNMT and consider it very credible.

REFERENCES

1. Prekeges JL. Radiation hormesis, or, could all that radiation be good for us? *J Nucl Med Technol.* 2003;31:11–17.

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REPLY: I am pleased by Mr. Poppe's interest in my article. My purpose in publishing the article was to encourage people in the field of nuclear medicine to reconsider their understanding of the potential for harmful effects from radiation, and clearly Mr. Poppe is giving this topic some renewed thought.

With regard to the specific statement that Mr. Poppe takes exception to, the last part of the sentence as it reads in the article is: "no demonstrable benefit. . . according to proponents of the radiation hormesis hypothesis." The sentence lists 2 references. The first, by Theodore Rockwell in *Nuclear News,* cites an incident in which reactor fuel rods, being moved from one cooling pond to another, dripped water onto a gravel road. The road was dug up and repaved, using dirt that contained more natural radioactivity than the contaminated roadway. This incident shows how radiation protection regulations are often carried to an extreme. The second reference, by Kenneth Mossman, includes this statement: "Regulatory compliance costs are steadily growing while desired public health benefits are increasingly difficult to measure." Although it can be argued that my statement is rhetorical, I tried to make it clear that others share this opinion.

In the larger sense, however, Mr. Poppe has found the crux of the issue. If the linear no-threshold (LNT) hypothesis is true, then it can be argued that the billions of dollars spent is worthwhile because it saves lives. If the LNT hypothesis is not true, then we are spending a lot of money for no reason. If in fact the radiation hormesis hypothesis is true, those billions are actually decreasing the overall health of the population. As indicated in the article, the debate is raging. Each individual's opinion depends on his or her understanding of the scientific evidence. My article encourages nuclear medicine technologists to take a fresh look at that evidence.

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