

WEIRD SCIENCE

To the Editor: We expect many things from the Federal Government. It is supposed to provide for the national defense, collect taxes, and, if I remember my history correctly, "promote the general welfare." However, what we have learned not to expect from the Federal Government, with the exception of the National Institutes of Health, is good science. Once again, the government has lived up to our expectations.

Many of you may recently have seen a paper entitled, "A Follow-Up Study of Persons Who Had Iodine-131 and Other Diagnostic Procedures During Childhood and Adolescence." This was published in August 1989 by the Department of Health and Human Services, Public Health Service, Food and Drug Administration. It is, in fact, an absolutely fascinating paper. The question is, why was it published? What good does it do anyone in the general public, and can anything in it be believed?

The basis of good science is scientific method. Scientific method, among other things, embodies the discussion of statistically valid results. When conclusions cannot be drawn because results are statistically invalid, one does not draw conclusions. Yet, the authors of this federally funded/federally conducted study acknowledge that their results are not statistically significant and then proceed to draw conclusions from this data.

Specifically, they state that children who received thyroid doses from below 10 rads to over 2,000 rads are subject to a higher incidence of malignant thyroid tumors. Additionally, they state categorically that an increased risk of benign thyroid conditions is also noted in the exposed group.

However, in the following sentence, they note that, "The results described above fail to fulfill the requirements for statistical significance, because of the small number of cases, but are suggestive of a radiation effect." Physicians are notoriously poor scientists. However, were I looking at a medical test upon which that statement was based, I wouldn't use the test. What meaning does this type of data have? The answer is, simply, none.

In fact, the results do not document that there is any risk in the study population. Rather, the prejudice of the authors is demonstrated by their desire to take previously published data of groups of 60,000 to 100,000 patients, and extrapolate it downward to a group of 3,000 patients. That is difficult, if not impossible, to do.

This type of publication in the radiation medicine literature simply serves to inflame the general public and to further the radiation hysteria. It should not have seen the light of day. Perhaps the authors are correct, perhaps there are such effects. However, until an appropriate study is conducted in which there is statistical validity, one should not present this data under the imprimatur of the Federal Government.

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**A THANKLESS
PROFESSION**

To the Editor: Every time I read *The Journal of Nuclear Medicine Technology*, a variety of articles and editorials discuss the growing shortage of nuclear medicine technologists. Let me give you my perspective on this

crisis, as a technologist with ten years of experience.

I have worked almost exclusively in small community hospitals, where the majority of technologist positions in the country exist. As the "chief" technologist, I am responsible for complying with the rules and regulations of the Nuclear Regulatory Commission, the Joint Commission on Accreditation of Healthcare Organizations, and the Wisconsin Department of Transportation. I also must perform the scanning procedures, operate and troubleshoot the computer, answer the phone, schedule appointments, perform and evaluate quality control images and tests, order, prepare, calibrate, and inject all radiopharmaceuticals, and on and on and on.

In ten years, I have had one job "promotion," which granted me a \$0.30/hr raise! I have never received a Christmas bonus, nor a bonus for increased productivity. I am never asked if I can stay late and complete scans—it is expected of me. I must be on call for the whole weekend every third weekend and I still make the same hourly stand-by rate (\$1.00/hr) that I made ten years ago!

My goal at this time is to leave the medical field and go into a business where hard work and long hours are sometimes rewarded by substantial raises and promotions, including such perks as profit-sharing and other incentives. Then, maybe I'll even see a little blurb in the local newspaper that I've "done good." When was the last time you read about a nuclear medicine technologist or X-ray technician being promoted, praised, rewarded, or otherwise compensated for a job well done? I've had it!

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