

linearity and dose-rate independence with respect to risk."

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## References

1. Barish RJ. In-flight radiation: counseling patients about risk. *J Am Board Fam Pract* 1999;12:195-9.
2. Nuclear Issues 1999;21(5). Available from Ruvigny Mansions, Embankment, Putney, London SW15 1LE.
3. Principles and applications of collective dose in radiation protection. NCRP report: no. 121. Bethesda, Md: National Council on Radiation Protection and Measurements, 1995.

The above letter was referred to the author of the article in question, who offers the following reply.

*To the Editor:* I thank Dr. Foster for his thoughtful comments on my article, but he is incorrect in claiming that the linear no-threshold hypothesis (LNTH) of radiation dose versus effect is now discredited. At present there is a debate in the radiation protection community about the applicability of the LNTH. Compelling arguments exist on both sides, and the issue has not been settled.

Some professional organizations, including the American Nuclear Society (ANS), have taken positions on the subject, but none has the authority to discredit the hypothesis. The ANS position statement, with all of its supporting documentation, is readily accessible.<sup>1</sup> They recommend that independent experts conduct a review of available data and perform new studies with the goal of obtaining a better model. Many in the radiation protection community feel that any position statement rejecting the LNTH should not be published unless it is accompanied by a specific alternative hypothesis, advocated as a replacement. The ANS has not done so.

Similarly, Dr. Foster's quote from a National Council on Radiation Protection and Measurements (NCRP) document is taken out of context.<sup>2</sup> That line, in fact, appears in a section that reaffirmed use of the LNTH model as an underlying principle of radiation protection by the Council. Recently, the NCRP convened a panel of experts to examine the issue of the LNTH. The draft report of NCRP Scientific Committee 1-6 "Evaluation of the Linear Nonthreshold Dose Response Model" is available for viewing and comment.<sup>3</sup> It is NCRP policy that draft documents cannot be quoted, so at the time of writing of this letter I can only suggest that interested readers look at the draft themselves and decide whether the LNTH is now discredited.

The issue of dose modeling and the LNTH has also prompted a request by the Environmental Protection Agency (EPA) to the National Research Council/National Academy of Sciences to form a new committee with the purpose of updating the BEIR V report on the biological effects of low-dose radiation.<sup>4</sup> The new committee, which will produce BEIR VII (BEIR VI dealt with radon), has been the subject of intense political activism on the part of interest groups who believe that

proposed members might bring a preexisting bias based on previous associations with pronuclear or antinuclear causes. These issues of membership are presently delaying progress in the committee's activities.

In summary, the use of the LNTH is still endorsed by all of the regulators of radiation exposure in the United States including the EPA, NRC, OSHA, and the FAA. At present there are several professional societies that have taken sides in the ongoing debate about the validity of this model, but none has advocated a specific alternative hypothesis as a replacement. A forthcoming NCRP report will reflect the council's position. The BEIR VII committee will also evaluate the validity of the LNTH versus other dose-effect models. In my article, I was careful to state on page 196, "... the risk of very low dose radiation remains unproved and might in fact be nonexistent. . . ." I believe that I was quite clear in stating that I used the LNTH because it is the model currently advocated by national and international organizations that influence regulatory policy.

At the end of the paper I discussed the possibility of an early warning system for major solar particle events. A pregnant patient could briefly postpone her trip until conditions returned to normal, usually within a day or less. Such a system has now been put into place using a toll-free number that can be contacted just before boarding.<sup>5</sup>

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## References

1. American Nuclear Society. health effects of low-level radiation. Position statement, April 1999. ANS Document PPS-41. Available at [www.ans.org](http://www.ans.org). Accessed 23 April 1999.
2. Principles and applications of collective dose in radiation protection. NCRP report: no. 121. Bethesda, Md: National Council on Radiation Protection and Measurements, 1995.
3. National Council on Radiation Protection and Measurements. Evaluation of the linear nonthreshold dose-response model. Draft Scientific Committee 1-6 report. Available at [www.ncrp.com](http://www.ncrp.com).
4. Upton AC, Stoto MA. Health effects of exposure to low levels of ionizing radiation. BEIR V. Committee on the Biological Effects of Ionizing Radiations, Board on Radiation Effects Research, Commission on Life Sciences, National Research Council. Washington DC, National Academy Press, 1990.
5. In-Flight Radiation Protection Services, Inc. 1-877-SUN-FLARE, or 1-877-786-3527.

## Inpatient Care of Children

*To the Editor:* I read with some interest the article in the March-April 1999 issue of the *JABFP* by Drs. Bertolino and Gessner<sup>1</sup> dealing with pediatric admissions by family physicians and pediatricians in a semirural environment.

My comments and questions relate to the implication and comments made in the article as well as to the proposed conclusions. Although the article did a nice job of reviewing hospitalized patients, it did not do a com-