

## Letter to the Editor



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## Comment on ‘the role of radiation protection professionals in the landscape of low dose radiation’

I read with interest the article written by Armin Ansari entitled ‘The role of radiation protection professionals in the landscape of low dose radiation’ (2019 *J. Radiol. Prot.* <https://doi.org/10.1088/1361-6498/ab15e6>). I find the piece to be to be biased, not scholarly and not worthy of publication.

- Although Ansari states that ‘Over the last several decades, the radiation protection community has benefited from a large volume of research from molecular, cellular, and animal experiments as well as large epidemiological studies investigating the health effects of radiation exposure’, and that ‘the health and risk messages we communicate also need to be based on the best scientific information available. He defends the ‘linear, no-threshold’ (LNT) hypothesis while ignoring the abundant research that refutes it. Is he unaware of this literature, or has he chosen to intentionally ignored it? The 2018 NCRP report has been challenged by many responsible parties, and no mention of this appears in this article.
- Ansari intentionally cherry-picks comments from The French Academy report to support his arguments in favor of LNT. The major conclusion of that report was that ‘...this report raises doubts on the validity of using LNT for evaluating the carcinogenic risk of low doses (<100 mSv) and even more for very low doses (<10 mSv).’
- He states that ‘ It is expected that radiation protection professionals, consistent with the core mission of institutions that represent them, practice radiation protection according to the same principles [as ‘authoritative scientific bodies’]’ and that ‘If radiation protection professionals provide advice contrary to the recommendations and advice of regulatory and authoritative scientific bodies, it can erode public confidence in the system of radiological protection and harm the credibility of our profession.’ The International Commission on Radiological Protection (ICRP) was, for many decades, an organisation of high scientific competence as well as high ethical integrity. This unfortunately changed in the latter years of the 20th century. Elements of the ICRP abandoned any reliance on science to promote the lowering of radiation dose limits for workers and the public to almost impossibly low levels, with no scientific basis whatsoever, simply based on the mindless mantras that ‘there is absolutely no safe dose of radiation’ and that ‘lower is always better.’ They are now a principally a political, not scientific, organisation. When our regulatory and scientific bodies abandon reason and science, I assert that it is the DUTY of responsible scientific professionals to criticise them. Ignoring real data and blindly following flawed leadership represents an abdication of our responsibilities as professionals.
- Ansari states that, ‘despite inherent limitations, ‘the LNT model is, in regulation and practice, the most widely used and recommended approach for prospectively managing radiation risks’.’ Science is not established by a consensus vote. There was strong

consensus for many years that spontaneous generation explained the creation of new living creatures, that the Earth was the center of the solar system, and that there were canals on Mars. Clear and irrefutable scientific evidence relegated these ideas to the dustbin of history, and current scientific data has done the same with the LNT hypothesis, regardless of the continued denials of such by its adherents.

- Ansari claims that the difference between risk management and risk assessment is ‘an important distinction that is often overlooked.’ Many authors have noted and discussed this difference, going back to Laurie Taylor in 1980.
- Ansari worries that criticism of ‘authoritative bodies’ (who have really abandoned their authority by their adherence to LNT, when large amounts of literature have refuted it) will ‘erode public confidence’ in these bodies. What has eroded public confidence in many of our institutions is the constant changing of dose limits—the public wonders... ‘yesterday you said 5 mSv is safe, but now you say it has to be 1 mSv?’ And I wonder if tomorrow if it will be 1  $\mu$ Sv, then 1 pSv? Because of course ‘there is absolutely no safe dose of radiation.’ The ‘lower is always better’ rationale has caused people to have irrational fears of low radiation doses, resulting in their refusing needed medical radiation; it has also caused real deaths due to unnecessary evacuations in Fukushima, and has cost society billions to protect people from radiation at levels orders of magnitude lower than children in Denver, CO receive while sitting in an ice cream shop, at the urging of the ICRP.

In conclusion, this obviously biased and flawed paper should never have passed peer review and been published, and should be retracted.

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