

1. In 1932, wealthy socialite Eben Byers died from radiation injuries following extensive use of the quack remedy Radithor (Medicine: Radium Drinks, 1932). According to the cited article, what were some roles of the regular medical community with respect to both the promotion and demise of Radithor? In what ways do modern quacks exploit the regular medical community as a promotional avenue?
2. Radiation hormesis—the postulate that low doses of ionizing radiation have health benefits—is currently contentious (Baldwin & Grantham, 2015) and the basis claimed for adding radioactive materials to a great variety of consumer products, including cosmetics and underwear, available in online global marketplaces. With the Baldwin article as background, how would you classify the aforementioned products on the science-pseudoscience spectrum, and what regulatory posture would you propose for such products? How have the nuclear engineering and radiation protection professional communities related to radiation hormesis?
3. Another current application of radioactive material in quack consumer health products is premised on generating healthful negative ions. Some of these products are described in (Lin & Huang, 2020) and (Tsroya, Pelled, Abraham, Kravchik, & German, 2016). How do calculated doses from some of these products relate to US occupational dose limits? What are the specific health risks of intended use? What regulatory posture would you promote?
4. Based upon current patterns of distribution, ownership, use, and regulatory control, which do you think is the greater public health concern: radioactive quack remedies of the classic era—as described in (Dotinga, 2020)—or modern radioactive quack remedies of the types described in the two preceding questions?

References

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- Tsroya, S., Pelled, O., Abraham, A., Kravchik, T., & German, U. (2016). Enhanced radioactive content of 'balance' bracelets. *Radiation Protection Dosimetry*, 170(1-4), 288-291.