The American Council on Science and Health has long been a vigorous proponent of food irradiation. Indeed, when I first got involved in this debate, before I had either stated my views in public or published any article, a representative of the American Council on Science and Health wrote a long letter to the Dean of my medical school demanding to know why I was being allowed to speak on this issue and suggesting that I would disgrace the medical school because of my ignorance on the subject. Dr. Kava agrees that irradiation can lower the vitamin content of food. Actually, the most vulnerable of the vitamins is not thiamin or vitamin C, but rather vitamin E. In one of the five studies cited by the FDA as impeccable in supporting the safety of food irradiation, the irradiation virtually eliminated vitamin E and produced vitamin E deficiency in the rats, creating abnormalities that were not reversed until this was discovered and vitamin E was added. One of the potential problems with irradiated food is that with further processing there can be additional and excessive vitamin losses. Furthermore, nutrient loss is likely to be dose-related; additionally, there may be differences in nutrient loss with the newer technique of linear acceleration compared to irradiation with cobalt or cesium. If Dr. Kava agrees that irradiation can reduce vitamin content, why not then agree to what I have asked, namely that every food that is irradiated before it is sold to the public be checked for vitamin or other nutrient loss at the dosage and with the irradiation technique to be used. The results should then be put on the label. I cannot imagine any nutritionist opposing this.

In regard to all foods being irradiated, one of the country’s most vocal epidemiologists in a meeting in Washington, DC, urged government and the industry to make sure that irradiated foods could not come into contact with non-irradiated foods. That means virtually irradiating everything. To suggest that the radura is proper labeling is ludicrous. Besides, I am sure the industry intends to remove all evidence of irradiation as soon as possible. If a food is irradiated, that should be stated on the label, not just indicated by a flower-like or smiling face-like symbol.

Dr. Kava gets to an important point when asking if I am concerned about older adults who are susceptible to food poisoning or who are on immunosuppressive medications. Of course I am. That should be a central issue in the debate. Only a small percentage of older people are going to experience food poisoning severe enough to require hospitalization, and only a small percentage will be on immunosuppressive medications. On the other hand, irradiating their foods exposes all of them to potential nutritional deprivation. Looked at another way, food irradiation will have benefits in preventing a certain percentage of the cases of foodborne diarrhoea, but the trade-off could be less nutritious foods for a huge number of people in the United States and the rest of the world. That may be an unacceptable trade-off and, at the very least, it is a trade-off that should be discussed.

I think it is not productive to continue attacks on the Indian study as Dr. Thayer does in his letter. There is a nice review of the whole issue in Nutrition Research. That review analyzes differences in studies and offers some suggestions as to differences in methodologies that may account for the differences in results. The Indian study has major flaws and is controversial, but it has not been refuted. The Chinese study is still unsettled. An article in the Chinese Medical Journal is cited. Dr. Thayer refers to a presentation in 1986, that is hardly a peer-reviewed publication. I do not think it is worth debating.
the issue. Why not just do a proper study in the United States? It does not matter whether a Chinese study is better than an Indian study; that is what irradiation proponents insist is the case. The fact is two contradictory studies have been reported in different populations in other parts of the world. Why would anybody want to adopt the technology in the United States without doing a local study?

My concerns are well-founded and can be answered simply. The question now is why the industry and the irradiation proponents are unwilling to conduct the studies or provide us with information to which the public is entitled.

References


Donald B. Louria, MD
Professor and Chairman Emeritus
Department of Preventive Medicine and Community Health
New Jersey Medical School
Newark, New Jersey