

## **10. DON'T GLOW AWAY RAD, JUST GLOW AWAY**

Oral administration of  $^{131}\text{I}$ , a radioactive isotope of iodine, has been a commonly accepted procedure for treating thyroid cancer since the 1940s. Patients who have undergone this treatment, known commonly as radioiodine therapy, are potential radiation hazards for up to a week or more, depending upon dosage. After treatment, radiation is emitted from the patient and radioiodine is secreted in bodily fluids such as sweat, saliva, and urine.

In 1997, the US Nuclear Regulatory Commission (NRC) changed its rules on the management of post-treatment radioiodine patients. The NRC eliminated its requirement for quarantine, and now allows physicians to conduct radioiodine therapy on an outpatient basis, provided they give patients detailed post-treatment instructions for protecting others from radiation. In contrast, Germany continues to require hospital isolation of such patients to protect public health. Some have long suspected that the NRC changed its rule in response to the health insurance lobby's efforts to reduce costs by limiting the length of hospital stays.

In 2007, a patient caused widespread contamination in an Illinois hotel when the used linens were washed with other sheets and towels. The contamination was discovered only because workers from a nearby nuclear facility who stayed at the hotel set off radiation detectors when they returned to work.

Prior to its October 2010 meeting on medical isotopes, US Representative Edward Markey of Massachusetts formally requested the NRC to review and revise its rules surrounding radioiodine therapy patients, after he concluded that patients were exposing their families and the public to unacceptable levels of radiation. Seven percent of the patients from Rep. Markey's Congressional investigation checked into hotels after treatment, where they contaminated linens and room surfaces, and potentially exposed hotel workers and guests to radiation.

Responding to Rep. Markey in January 2011 on behalf of the NRC, Gregory B. Jaczko reported that current rules requiring post-treatment instruction to patients were adequate. He refused to revisit the NRC's 1997 decision, concluding that the current patient release limits did not pose a threat to public health. Nevertheless, radioiodine therapy patients continue to set off radiation alarms at airports and other locations, calling into question the NRC's assessment of risks in nuclear medicine.