TO THE EDITOR: In a recent article, Dr. Allweis et al. presented a retrospective study of the frequency of sialadenitis following iodine-131 (^{131}I) therapy (*1*). In ten of 87 patients there were subjective findings of sialadenitis. They pointed out, that objective measurements will be needed to define accurately the prevalence and natural history of salivary gland abnormalities following ^{131}I therapy.

This has been studied by others (*2*) as well as by our group (*3*). We use computerized scintigraphy with technetium-99m pertechnetate as an objective method for the assessment of salivary gland function and calculate excretion ratios to get numerical figures for this assessment (*4*).

There is a significant correlation between persistent loss of salivary gland function and accumulated dose of ^{131}I (Table 1). There will be a further decrease after additional doses (*2*) and after more than 1.0 Ci ^{131}I xerostomia will be a common finding. Flow-increasing food like lemons will shorten transit times through salivary glands and therefore reduce radiation exposure to 1/5 to 1/10 (*2*). Therefore, continuous lemon sucking is part of our ^{131}I treatment for thyroid carcinoma.

TABLE 1
Sequential Salivary Gland Scintigraphy 6 mo After Last Treatment* Excretion Ratios (ER) for Different Cumulative ^{131}I Doses (in Ci)

n	16	20	8	5
^{131}I	0	<0.3	0.5–1.0	1.1–3.2
ER	53±-11	44±-12	29±-5	23±-4

*All groups are significantly different from each other (adapted from [*3*]).

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REPLY: We appreciate the letters of Dr. Creutzig and Drs. Speigel, Reiners, and Börner which called our attention to several studies concerning salivary gland function following iodine-131 therapy for thyroid carcinoma published in the German literature. We were unaware of those studies and are pleased that our results confirmed those found by the above workers, which indicate that the relatively high proportion of individuals who receive therapeutic doses of radioactive iodine develop salivary gland abnormalities. Those groups of investigators recommend that patients suck on lemon candies and/or chew gum in order to increase saliva flow and, therefore, reduce radiation exposure to the salivary glands. We also advise our patients to do this. We made this recommendation in the original manuscript submitted to *The Journal of Nuclear Medicine* but it was deleted after one of the reviewers pointed out that we were unable to provide objective proof that increasing salivary flow decreased radiation damage to the salivary glands.

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Nuclear Medicine Procedures in Nuclear Power Plant Employees

TO THE EDITOR: The American College of Nuclear Physicians estimates that 9 million nuclear medicine imaging and radionuclide therapeutic procedures are performed annually in the United States. In addition, as of January 1984, 86 nuclear power reactors operate in approximately 55 sites in this country (*1*), employing 62,079 people directly (*2*). Inevitably, there is some overlap between the two spheres, but no reports of this are to be found in the literature of nuclear medicine or health physics. This communication describes the problems encountered subsequent to radioiodine therapy of thyroid disease in two nuclear power plant employees and the solution we have jointly adopted to avoid similar pitfalls in the future.

The first patient was a female, 38, with papillary/follicular thyroid carcinoma, treated first with subtotal thyroidectomy and later with 136 mCi (5.032 GBq) of iodine-131 (^{131}I) for ablation of the thyroid remnant. The second patient was a male, 54, with a diffuse toxic goiter, treated with 5.5 mCi (203.5 MBq) of ^{131}I.

When both of these patients attempted to return to work, they activated radiation detectors at the plant entrance. The subsequent confusion caused considerable embarrassment to all concerned.

The radiation safety program of the nuclear power generating station is extensive and complex but can be summarized briefly.

a. Personal monitoring with thermoluminescent dosimeters (TLDs);

b. Portal monitoring with a scintillation detector at the entrance/exit of the facility;

c. Geiger counters placed within the monitored areas and throughout the reactor building; and

d. Monitoring and spectroscopy of sewage and other effluent streams from the entire plant.