activity is achieved by the use of a test dose of 1–5 mCi of ^{131}I. The patient is viewed in the supine position, 75 cm from the camera, and measurements are carried out immediately after the receipt of the test dose and again 72 hr later. The collimator's axis is aimed at the patient's xyphoid, excluding the lower extremities from the measurement. Retention, expressed as percentage of the dose, is calculated from the patient's 100% value, and the 72-hr measurement is corrected for efficiency variations by comparison with a dose aliquot. Errors due to counting geometry and redistribution are found to be tolerable. Results obtained with this technique in hypothyroid patients, without residual thyroid tissue, correspond well with data obtained with conventional whole-body counters (*5*).

For many years our technique of quantitating and visualizing iodine retention has proven to be a valuable method for the early detection of iodine concentrating tissue in patients with thyroid cancer. The method is of particular interest to institutions without whole-body-counting facilities. It is obvious that the method with an uncollimated crystal (*2*) offers the advantage of a lower test dose. However, in a nuclear medicine department with changing background conditions, the use of collimation seems more reliable. In addition, the point-source response using the pinhole collimator shows better uniformity than with the open crystal.

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FOOTNOTE

*Searle Radiographics Pho/gamma Scintillation Camera, Chicago, Ill.

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Reply

We thank Willvonseder and Höfer for their comments on our recent publication (*1*). We have read with interest the description of their technique using the scintillation camera as a whole-body counter. We agree with their comment that this method could be of great interest in institutions that do not have whole-body-counting facilities. In reply to their specific questions, we scheduled our patients during a slow period of the day (usually early morning) when background was at its lowest, since other patients were not being studied in the clinic at that time. We agree that a fluctuating background could be a major problem with this technique. Careful adherence to a prestudy background determination, shielding the patient from other patients in the clinic, and performing the procedure at "off times" seems to control this problem adequately. We also evaluated the pinhole collimator, but found that it took considerable time to obtain a reasonable number of counts. We therefore returned to using the uncollimated method as described in our article (*1*).

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REFERENCE

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Quenching Curves

I would like to make comments regarding a number of inaccuracies in the paper by Barrows, Samols, and Becker (*1*).

First, in Fig. 1, the equations for efficiency should be read as follows: Eff. $= 99 - 75\chi + 30\chi^2$ for C-14 instead of Eff. $= 99 + 75\chi + 30\chi^2$; and Eff. $= 98 - 190\chi + 91\chi^2$ for H-3 instead of Eff. $= 98 + 190\chi + 91\chi^2$.

In Fig. 2, the equation for H-3 efficiency should read: Eff. $= -13.2 + 21.3\chi - 0.96\chi^2$ as opposed to Eff. $= 13.2 + 21.3\chi - 0.96\chi^2$.

Also, Table 1 has been amended.

TABLE 1. SAMPLE PRINTOUT FOR ALDOSTERONE RADIO IMMUNOASSAY

Tube	Channel A	Channel B	Corrected B	A/B	Efficiency (%)
1	17,114	43,847	116,292	0.3903	37.70
2	18,154	45,807	123,825	0.3963	36.99
3	18,393	46,417	125,450	0.3963	37.00
Averaged c.p.m.			121,855		
4	436	1,295	2,920	0.3367	44.35
5	367	1,068	2,457	0.3436	43.45
6	517	1,507	3,462	0.3431	43.52
Averaged c.p.m.			2,946		