THYROID UPTAKE OF ^{131}I

We among others have experienced a decrease in the normal values for ^{131}I uptake by the thyroid gland. Halpern and coworkers (*1*) caution that a lower uptake can result, as indeed it did in their work, when the ^{131}I is administered by capsulized as opposed to the (oral) liquid form. Others have re-evaluated their normal uptake values and attributed the decrease in normal values to an overall increase in dietary iodine (*2,3*). One of the latter papers cited ^{131}I in capsules as the form of administration used.

Approximately 2 years ago we, too, re-established normal ^{131}I uptake values. We used liquid (oral) dosage and found that our normals came to 8–24% uptake at 24 hr and 4–15% at 6 hr. They were down from previous values of 15–45% at 24 hr and 7–23% at 6 hr.

It cannot be too strongly recommended that each laboratory maintain ongoing evaluation of the methods and results under current operating conditions peculiar to its own situation.

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REFERENCES

1. HALPERN S, ALAZRAKI N, LITTENBERG R, et al: ^{131}I thyroid uptakes: capsule versus liquid. *J Nucl Med* 14: 507–510, 1973

2. PITTMAN JA, DAILEY GE, BESCHI RJ: Changing normal values for thyroidal radioiodine uptake. *N Engl J Med* 280: 1431–1434, 1969

3. BERNARD JD, MCDONALD RA, NESMITH JA: New normal ranges for radioiodine uptake study. *J Nucl Med* 11: 449–451, 1970

THE AUTHORS' REPLY

The authors could not agree more with Drs. Boyett, Mahler, and Jansen that each institution must establish its own normal range of values. We would also like to suggest that until the question of the variation in uptakes occurring with the different forms of administration of the radiopharmaceuticals is resolved, that one not change from capsule to liquid ^{131}I (or vice versa) once their laboratory values have been established. We thank Drs. Boyett, Mahler, and Jansen for their communication.

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ADVERSE REACTIONS TO RADIOPHARMACEUTICALS

There was a helpful discussion of adverse reactions to radiopharmaceuticals at the 1973 annual meeting of the Society of Nuclear Medicine in Miami. To continue discussion of the subject we wish to describe the procedure which we have used in the past to deal with this problem.

When a change or worsening of a patient's condition is observed following the injection of a radiopharmaceutical, all procedures and agents including the radiopharmaceutical should come under suspicion.

The following steps should be taken:

I. Treat the patient if necessary.
II. Begin recording vital signs at frequent intervals.
III. Remove the suspected radiopharmaceutical from further use.
IV. Notify the proper persons that an adverse reaction is suspected.
V. Attempt to establish the probability that the adverse reaction is due to the radiopharmaceutical. *If there is sure evidence that the change in the patient's status is not the radiopharmaceutical, the investigation is dropped. However, so long as it is possible that the radiopharmaceutical is at fault, the investigation continues.*
   A. The probability that the radiopharmaceutical is at fault increases if:
      1. The time sequence of the symptoms are