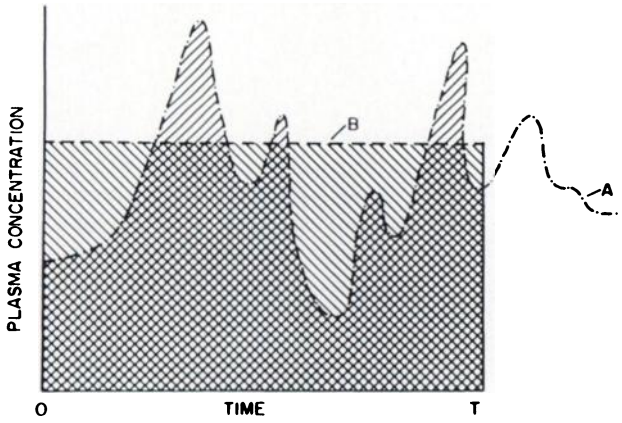

FIGURE 1
Curve A (- • -) is plasma activity curve. Area under this curve from 0 → T (Area A; ▨) = $\int_0^T P dt$. Curve B (- - -) is mean plasma activity curve. Area under this curve from 0 → T (Area B; ▧) = $\bar{p}xT$. Area A = Area B. Therefore either Area A or area B may be used in clearance formula (see text). This figure graphically demonstrates that actual plasma concentration can vary widely and that compartmental analysis is not needed to calculate clearance by our method

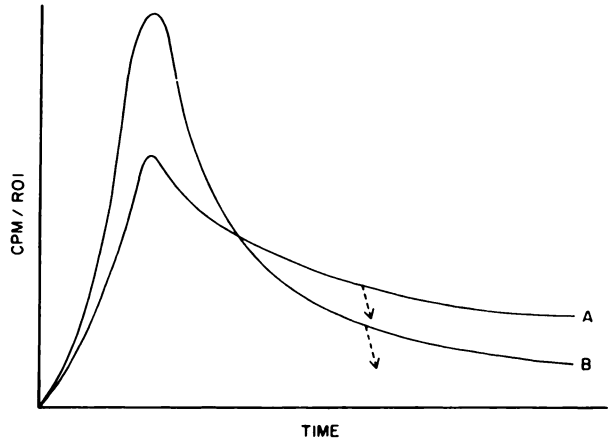

FIGURE 2
Projected salivary gland activity curves for Patients A and B as designated in text. Note rates of uptake, peak uptake, and rates of washout are different for two patients with same clearance who are otherwise identical except for volume of distribution. Arrows (- - →) project effect of lemon juice

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Peter W. Blue
John J. Jackson
Nuclear Medicine Service
Fitzsimons Army Medical Center
Aurora, Colorado

Efficacy of the Four-Hour Radioiodine Uptake Determination Prior to Radioiodine Therapy for Hyperthyroidism

TO THE EDITOR: We agree with Floyd et al. (*1*) that the 4-hr radioiodine uptake provides a clinically useful and logistically advantageous measure of thyroid function and have employed this interval as the standard in our laboratory for more than 15 yr, using an upper limit of normal of 20%. However, we do not agree that the 24-hr value needs to be obtained on all potential therapy patients. We have found the 4-hr value to provide adequate information in the vast majority of patients (>90%) referred for radioiodine therapy for hyperthyroidism. This 4-hr value has been used in our laboratory to assist in determination of therapy dose with resultant control of hyperthyroidism in >75% of patients with one dose and with approximately a 35% incidence of hypothyroidism at 10 yr. These figures compare well with those reported from other institutions using the 24-hr value in dose determination (*2*). Only those patients whose 4-hr values are not clearly elevated but who are clinically suspected of hyperthyroidism are asked to return for a 24-hr value prior to therapy. In our practice, this occurs infrequently.

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Robert J. Cowan
James D. Ball
Nat E. Watson
Bowman Gray School of Medicine
Winston-Salem, North Carolina