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RECORDS SERIES TITLE	ERNEST D. LAWRENCE GENERAL FILES 1920-1959	
BANCROFT/UMARC ID NO.	MSS 72/117C	COPY
CARTON NO.	5/18	
FOLDER NAME	Cyclotron 60" MISC. RES. 1949	
NOTE	Radioiodine - normal children	
FOUND BY/DATE FOUND	M. HONES	11/23/94

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UNIVERSITY OF ARKANSAS

SCHOOL OF MEDICINE

LITTLE ROCK

June 25, 1949

Joseph G. Hamilton, M. D.
2355 Levenworth Street
San Francisco, California

Dear Joe:

I wonder if I could have your considered comments on some of our problems with our radioactive iodine project.

I have with me every two weeks for one day Dr. Raymond R. Edwards, nuclear chemist from the Fayetteville branch of the University, for advice and help, together with a student working toward his master's degree. We all collaborate in the standardization. This is done by working out our geometry factor with radium E and D standards, then the beta and gamma standards of iodine-131 when it arrives from Oak Ridge. The beta and gamma standards are done on an ashed sample of iodine-131 and in liquid formed in plachets. These readings are very similar to one another. We also do a gamma counting of five to ten microcuries in 10 ml. of distilled water contained in a 15 ml. serum bottle. This is counted at the same distance, as in the patient—that is, directly at the liquid level in the serum bottle and four inches removed.

Usually after forty-eight hours, measurements of the hypothyroid patients are hardly above background counts. The up-take sometimes reaches seven or eight per cent in twenty-four hours and falls to practically zero thereafter. A few suspected hypothyroids, who were probably normal, have up-takes of only one to two per cent maximum at thirty-six to forty-eight hours and practically one to two per cent thereafter. We have run a few adult hyperthyroids and find a small up-take, even though using as much as fifty microcuries tracer doses. Our urinalysis, a quite reliable method with us, does not show the forty to sixty per cent output expected of a normal or the higher expected of the hypothyroids.

We feel that we are standardising quite accurately and that we are counting quite accurately. We have a strong suspicion that five to ten microcuries as a tracer dose is

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RECORDS SERIES TITLE	ERNEST O. LAWRENCE GENERAL FILES ¹⁹²⁰⁻ 1959	
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too small to be detected by a thin wall G. M. tube placed directly on the neck and four inches removed and at other lesser distances.

It is realized that these tracer doses in children, five for those up to six years and ten for those up to ten years, are all that are allowed by the A. E. C. Is any one also working with such small doses, whom we could communicate for advise? I wonder if any one else is using five to ten microcuries on normal children? I do not see how our work can be interpreted without such a comparison. We would like permission to use five and ten microcuries on some normals.

With kindest personal regards, I am

Yours truly,

Bill R

Dr. A. Reilly, M. D.
Professor and Head
Pediatric Department

WAR:br

*I am grieved + shocked about Mayo's passing.
This was a great shock to all of us. He seemed
alright when I talked with him in early May
at Atlantic City. He will be greatly missed
and a brilliant career has been cut in half.
Could you tell me anything about his demise.
If ever you have the chance passing this
way I would appreciate a visit from you.
Corry
Bill*

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