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APPENDIX 2, CONT'D

Case Cal-2^a

This case, a 4-yr-10-mo-old white male of slight build, was suffering from osteogenic sarcoma with pathologic fractures. He was injected 4/26/46 i. v. with 0.169 μ Ci of ²³⁹Pu(VI) nitrate, and tissue samples were obtained 7 days p. i. during a biopsy. Body weight was estimated to be 15.5 kg from Mühlmann's Tables¹³⁰ and Bayer and Bayley's curve¹³¹ of retarded growth. Blood volume was estimated to be 7.5% of the body weight with a pcv = 0.4. Skeletal weight was estimated to be 2300 g, and the weight of the femora to be 0.125 of the skeletal weight from Theile's measurements¹³² of children's bones. Died, 1/6/47, no autopsy.

<u>Samples</u>	<u>Wet weight</u>	<u>% Dose</u>	<u>%/g</u>
Cortex	4.05	0.237	0.0585
Tumor and adjacent trabecular bone	3.7	0.129	0.0349
Tumor adjacent to cortex	3.7	0.59	0.159
Calcified tumor and muscle.	0.61	0.0285	0.047
Soft tumor and muscle	0.92	0.00085	0.00092
Periosteum	0.65	0.00056	0.00086
Plasma - 1 hr		5.78	0.0043
" - 4 days		0.77	0.00063

Reconstruction of whole bone (femur):

$$\frac{(0.237 + 0.00056 + 0.129) \%}{(4.05 + 0.65 + 3.7) \text{ g}} = \frac{0.372}{8.4} = 0.0436 \%/\text{g}$$

^aData of J. G. Hamilton, K. G. Scott, and B. V. A. Low-Beer. Unpublished.