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[Thyroid](#). 2001 Jul;11(7):671-5.

Estimation of total body iodine content in normal young men.

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Abstract

Total body iodine content was estimated in six normal young men, who underwent 125I balance studies during 64-92 days of daily 125I administration. Total body retention of 125I was measured as the difference between total administered 125I and that collected in the urine and feces. Extrathyroidal 125I was the difference between total and thyroidal 125I content. The time-activity data for the ratio of extrathyroidal to total retained 125I were fitted to a growth (inverse exponential) function. Fits of this growth function to the individual data sets yielded asymptotes, the equilibrium extrathyroidal/total 125I ratios. The slopes of this function predicted the time that would have been required to achieve 125I/127I equilibration (approximately 10 months). Geometric mean for the asymptotic extrathyroidal/total 125I ratio was 0.34 (range, 0.19-0.63), if it was assumed that measured urine and feces represented all of the 125I lost to the body. If 90% measurement of 125I loss was assumed, the geometric mean ratio was 0.32 (range, 0.17-0.60). Assuming that 90% of total loss is reflected in measured excreta and that total iodine content of the thyroid gland is 10 mg, geometric mean for total body iodine in these subjects was 14.6 mg (range, 12.1-25.3 mg).

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