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Here is the procedure on the use of tritiated water for measuring total body water.

1. We will provide the HTO. ~~Let us know by return mail if we should send it to you and where, or if you will pick it up when you pass through San Francisco.~~ (Mailed Feb. 1966 to Hawaii.)

2. Give by mouth 1 cc of HTO. Transfer from stock bottle to a glass, cup, or beaker exactly 1.00 cc HTO with a tuberculin syringe (or 1 cc pipette). Add 50-100 cc water and have subject drink entire contents. Add another 50-100 cc water to the vessel and again have subject drink entire contents.

3. Tritium dilution can be determined in either plasma or urine (or both).

If urine samples are collected, follow this procedure: (a) Have subject void about 4 hrs. after taking tritium. (b) Take 10 cc urine samples at approximately 5 hrs., 8 hrs., and 12 hrs. after taking tritium. A 24 hr. sample is useful if it can be obtained. Put the urine sample in a 3 or 5 dram vial with a crystal of thymol and labeled with name or code number, date and time after administration of HTO.

If a plasma sample is taken (in addition to or instead of urine), take the sample about 4 ~~to 6 hrs.~~ after giving the tritium. Put 5 cc of plasma (or serum) in a vial with a crystal of thymol, and an identifying label.

If convenient, store samples cold or frozen, but not essential.

4. Be sure to get weight and height of subjects on day total body water is determined..

5. Return the urine (and/or plasma) samples to me for tritium assay. We will determine the total body water values and mail you the results.

One cc of our stock HTO contains about ~~150~~ 250 μc tritium. Assuming a normal biological half-time for turnover, the accumulative radiation dose in a 70 Kgm. man is about ~~17~~ 12 millirads.