

What's New

This section is devoted to descriptions of new products in nuclear medicine. Each of the items on the following two pages was condensed from information supplied by the manufacturers. The items are published as a service to professionals working in the field of nuclear medicine. Their inclusion here does not in any way imply an endorsement by the Editorial Board of the JNMT or by the Society of Nuclear Medicine.

New Multicrystal Scintillation Camera

A computerized multicrystal scintillation camera capable of observing up to 350,000 counts per second from a 25-mCi ^{99m}Tc dose has been introduced by Baird-Atomic. The new unit, System Seventy-Seven, has evolved out of the company's original multicrystal model, the System Seventy, and offers more sophisticated software for converting data to clinically useful formats. Changes in the design of the front-end detector and shielding configuration are intended to improve static resolution as well as count-rate capability. The heart of the camera unit is a multicrystal detector head consisting of a 14×21 matrix of NaI(Tl) crystal optically coupled by a light-pipe assembly to 35 photomultiplier tubes. Data reduction is accomplished by a computer interfaced to a rotating disk memory with a storage capacity of 2,000 frames of data. Data output can be in the form of visual display by black-and-white or color monitor operated from a pushbutton console, hard-copy record by photography or printer, or digital magnetic storage in computer-retrievable form. The system has special application to nuclear cardiology.—*Baird-Atomic, Inc., 125 Middlesex Turnpike, Bedford, MA 01730.*

Three New Syringe Shields

Three manufacturers have introduced syringe-shielding devices to provide radiation protection during loading and injection of radiopharmaceuticals.

Atomic Products Corporation is marketing a model developed by the National Institutes of Health. Using tantalum as a shielding material, the NIH design is said to have a finger exposure reduction factor exceeding 200. Tantalum has a higher density than lead, is harder than steel, and will not dent or deface when dropped. The protective shield will fit all brands of disposable syringes.—*Atomic Products Corp., Center Moriches, NY 11934.*

A retractable shielding device based on a tungsten alloy 62% denser than lead is being offered by Telstar Electronics Corporation. The Series SST Retractable Syringe Shield is built so that the loaded syringe stays in the shield during calibration. The model uses a telescoping shield and a tapered barrel, features also developed by the National Institutes of Health, and will fit any manufacturer's disposable syringe.—*Telstar Electronics Corp., 700 Hummel Ave., Southold, NY 11971.*

The third type, "the roll your own" Slim-Line syringe shield, is shipped as flat precut sheets of painted lead. In use, the lead sheet is wrapped tightly around a syringe, adding only slightly to its bulk and thus contributing to ease of handling. The wraparound shields are sized for all popular makes of 1- to 10-ml syringes and are shipped ten to a package. The product reduces personnel exposure to ^{99m}Tc radiation by a factor of more than 100, according to the manufacturer.—*Atomic Development Corp., 7 Fairchild Court, Plainview, NY 11803.*

^{99m}Tc Chromatography

MAC-2, a new binary miniaturized radiochromatographic system for determining the chemical state of ^{99m}Tc in sulfur colloid, MAA, and microspheres has been placed on the market by General Radioisotope. The system employs a color-coded chromatography procedure to separate free pertechnetate from chemically bound particulated technetium. According to the manufacturer, the process can be completed in approximately 5 min.—*General Radioisotope Products, 3120 Crow Canyon Rd, San Ramon, CA 94583.*

Radioimmunoassay Kits and Reagents

Bio-Rad Laboratories has added two new items to its line of radioassay products. The first, Quanta-Count T-4, is an RIA system offering the convenience of small sample size and few pipettings. The system makes use of a highly specific antibody immobilized in a solid state for both the reaction and separation of free from bound material. The second, Quanta-Count Folate, is a radioisotopic assay package using a ^{125}I tag and achieving separation of free from bound material by means of a charcoal tablet. This system permits assays to be completed within one hour, according to the manufacturer, and maintains stable PGA standards.—*Bio-Rad Laboratories, 32nd and Griffin Ave., Richmond, CA 94804.*

An all-liquid reagent system for T_3 and T_4 assays is now being

marketed by Oxford Laboratories. Speed and convenience are claimed for both the Oxford StaT₃ Liquid Thyroid Function Test, which provides results in 20 min, and the Oxford StaT₄ Test, which requires 40 min. "Hands on" time for the technologist is stated as 5 min for the StaT₃ and 10 min for the StaT₄ tests. Each test calls for one count per sample, with no correction for incubation time or temperature. The liquid phase is counted in leakproof test vials. Shelf life for StaT₃, available in 100-test lots, is 16 weeks; for StaT₄, in 50-test lots, 13 weeks.—*Oxford Laboratories Inc., 1149 Chess Drive, Foster City, CA 94404.*

Two new RIA kits are forthcoming from Clinical Assays, Inc. The GammaCoat ¹²⁵I-Phenytoin kit will make use of tubes coated with specific antibody material to provide rapid solid phase separation and will utilize an ¹²⁵I-phenytoin derivative for convenient gamma counting. The kit includes five ready-to-use serum standards covering the range 2–40 µg/ml. Patient samples are diluted before assay (1:101) and only two pipettings are required. The assay can be completed in 90 min and requires 20 min of technologist time. The GammaCoat ¹²⁵I T₄ kit it will also provide antibody-coated tubes and comes with five prepared serum standards (range, 0–30 µg%). Included as well are ¹²⁵I-thyroxine concentrate and pH adjusted buffer concentrate. In use, tracer and buffer concentrates are mixed and brought up to volume with water before the assay is performed. Total time needed for this test is less than 1 hr. Precision and accuracy are claimed for both the hypo- and hyperthyroid ranges.—*Clinical Assays, Inc., 237 Binney St., Cambridge, MA 02142.*

A new gamma-labeled DPH Test Set for RIA testing of serum anticonvulsant levels provides reagents

for 100 assay tubes at a cost of about 70¢ per tube. A product of Wien Laboratories, Inc., the test is said to have a correlation of 0.950+ with the ³H method and a coefficient of variation of ±6%. The full testing procedure requires 60 min running time per batch, with technologist time estimated at 15 min. The product is aimed at the smaller laboratory, making it possible to perform anticonvulsant testing on a gamma counter rather than a beta counter. A new RIA test for serum estradiol levels is also being offered by Wien. The Estradiol Test Set permits determination of estradiol levels without chromatograph separation but instead by simple extraction. Test time is described as about 2 hr, with technologist time of 30 min. The test is sensitive to 5 pg, performs with less than 1% cross-reactivity with other estrogens, and has a coefficient of variation of ±7%. It is designed to yield a linear calibration curve.—*Wien Laboratories, Inc., P.O. Box 227, Succasunna, NJ 07876.*

A radioassay material designed to accept as much as its own volume of added RIA sample has been introduced by Isolab. The product, Merit, is said to allow users to miniaturize the size of their counting cocktails, since only a small amount of the medium is needed to handle an entire RIA test. Such savings are the result of the high tritium-counting efficiency of the medium, even in the presence of high proportions of sample, according to the makers. Cost savings of up to 8¢ per test are claimed.—*Isolab, Incorporated, Drawer 4350, Akron, OH 44321.*

Accurate and simplified CPB procedures for thyroid testing are claimed for the new DATA-tope System T₃, T₄, CT₄ by the manufacturer, DADE. The system approach to in vitro thyroid function testing comprises T₃ uptake, T₄, compensated T₄, and controls. Pro-

cedures are described as requiring no washing, precount, or special temperature control. The system features a short incubation/mixing time. Kits are obtainable in 10-, 50-, and 100-test sizes for T₃ uptake and T₄, and in 10- and 50-test sizes for CT₄. Smaller-size kits contain all test materials, but 100-test kits do not include test tubes.—*DADE Division, American Hospital Supply Corporation, P.O. Box 520672, Miami, FL 33152.*

A new RIA T₄ kit for in vitro immunoassay of thyroxine is now being marketed by Amersham/Searle. The range covered by the kit is 0–22 µg/100 ml, and tests require 50 µl of serum. The package has been tested clinically on more than 1200 subjects for diagnostic accuracy. Clinical trial performance data are said to demonstrate a coefficient of variation of 8% or less in the normal range, and both high specificity—minimizing cross-reactivity with thyroid hormone analogs and drugs—and high sensitivity are claimed. Four freeze-dried human serum standards are provided with each kit, and kits can be purchased for either 50 or 100 determinations.—*Amersham/Searle Corporation, 2636 S. Clearbrook Drive, Arlington Heights, IL 60005.*