New Center Core Facilities

The Metabolic Core at the Rockefeller University Center for Clinical and Translational Science offers investigators the use of several metabolic and body composition testing devices that they can incorporate into their protocols. Below is a brief description of each test. For more information, please contact Suzanne Magnotta at smagnotta@rockefeller.edu; 212-327-8397.

Estimation of Resting Energy Expenditure

The VMAX Encore Indirect Calorimeter is used to determine resting metabolic rate. This test is important to those investigators who are conducting metabolic diet studies and who need to accurately assess a subject's weight maintenance calorie needs. Respiratory Quotient (RQ) measurement is also available to determine what substrate a subject is burning for fuel at a given time-point.

Free Living Energy Expenditure

To measure free living energy expenditure, the "Intelligent Device for Energy Expenditure and Activity" (IDEEA; MiniSun, Fresno, CA) can analyze body motion, measure physical activity, monitor behavior patterns, and estimate energy expenditure in a free-living situation on 24-hour basis. The IDEEA consists of five small sensors that are attached to the body via flexible cables: one on the chest, two on the anterior part of thighs, and two on the feet. The IDEEA is a small 200-gram data collection device that can be clipped to a belt. During testing periods, subjects are connected to the device for 3 days while they perform ad lib activities. The output analyses include assessment of physical activity and energy expenditure, with high accuracy of activity type identification.

Exercise Testing

The VMAX Encore is capable of performing exercise testing when combined with a treadmill or ergonomic cycle. VO2 Max, heart rate and blood pressure are measured as a subject performs a timed, incremental exercise test to determine baseline exercise capabilities, or improvement/detraining over time.

Body Composition Measurements

The BodPod Body Composition Tracking System provides accurate, fast and safe measurements of body fat and lean body mass using air displacement technology. By measuring how much air a person's body displaces while enclosed in a known volume container, the amount of body mass, fat and fat-free mass can be calculated. The BodPod offers a more convenient method of body composition analysis than hydrostatic (underwater) weighing, without sacrificing accuracy. Total Body Water is a relatively low cost, highly accurate method of determining body fat mass. It can be determined through mass spectrometry using deuterium oxide (D_2O) and Oxygen 18 stable isotope methods. The CCTS at Rockefeller University is now offering this test of body composition to its investigators. The principle is based on the theory that water is distributed in all parts of the body except body fat.

Total Body Dual energy X-ray absorptiometry (DEXA) scans measure fat and fat-free body mass. During a DEXA scan, the subjects will be positioned supine with their arms at their sides on the scanner. The software first divides pixels into bone mineral content and soft tissue compartments and then divides soft tissue compartments into fat-free mass and fat mass. Estimates of

Center Partners with Clinical Directors Network on Community Engagement

As part of its commitment to community engagement, the Rockefeller University Center for Clinical and Translational Science has developed a partnership with the Clinical Directors Network (CDN). CDN is a nonprofit organization that conducts clinical studies in community health centers throughout the United States, often in partnership with academic institutions. It is dedicated to providing and improving comprehensive and accessible community-oriented primary and preventive health care services for the poor, minority and underserved populations; its overall goal is the translation of clinical research into clinical practice. Since 1992, more than 47,000 patients in community health centers participated in studies conducted by CDN, of whom 49% were African American and 34% were Latino/a. CDN has also developed a sophisticated electronic network to support educational webcasts for physicians and other health care providers at the different community health center sites. CDN currently works with Community/Migrant Health Centers in New York, New Jersey, Maine, Connecticut, New Hampshire, Massachusetts, Pennsylvania, West Virginia, Virginia, Florida, Oklahoma, Utah, Puerto Rico, the US Virgin Islands, and Washington DC. If you would like additional information about CDN, you can visit its website www.cdnetwork.org

On March 15, 2007 the senior leadership of Rockefeller University Center for Clinical and Translational Science (CCTS) met with Dr. Jonathan Tobin, President of CDN, and his colleagues at their office in Manhattan. Based on that discussion, Dr. Tobin has joined the Advisory Committee on Clinical and Translational Science Subcommittee on Inter-institutional Collaboration, Recruitment, and Community Engagement to offer advice on community outreach and participant recruitment. The CCTS is sponsoring a series of 6 webcasts on a variety of topics of interest to primary care physicians. This will provide them with information on recent scientific and medical advances and inform them of potential opportunities for their patients to participate in studies being conducted by Rockefeller investigators. The CDN webcasts provide an opportunity to educate a wide network of primary care clinicians, patients and the general public about new scientific and medical advances and increase awareness of the University's research portfolio.

On June 20 Dr. Martin Markowitz, Clinical Director of the Aaron Diamond AIDS Research Center, presented the first webcast, Acute HIV Infection- Clinical Presentation, Diagnosis and Management. Acute HIV Infection was selected as the topic to coincide with community outreach activities scheduled at individual health centers in observance of National HIV Testing Day on June 27. Dr. Markowitz provided a case presentation and illustrated the challenges associated with accurately diagnosing new HIV infections.