The Energy Balance Core Laboratory offers various analytical techniques to evaluate energy expenditure, energy intake, physical activity, and body composition to investigators researching relations between nutrition, physical activity, and health and nutrition-related conditions and diseases in humans. The Core focuses on high quality services while providing consultation and state-of-the-science tools and resources to investigators involved in clinical and translational research. In addition, the Core provides research training and education and encourages collaborative research and resource sharing.

**Keywords:** Energy Metabolism, Energy Balance, physical activity intensity, Methods

The Core is dedicated to measure energy expenditure and energy intake as the key determinants of energy balance. Body composition and function are in turn impacted by energy balance, with ultimate health and disease outcomes. This fundamental approach to energy balance is critical to a better understanding of chronic nutrition- and sedentary behavior-related disorders like obesity and diabetes type 2 so that appropriate prevention and intervention strategies can be developed and tested.

**Specific Objectives:**
- Provide services to investigators conducting research in the area of energy balance in healthy and diseased humans.
- Promote service capabilities to provide needed consultative expertise and tools/resources.
- Provide quality control standards for all investigations using Core services.
- Foster interaction among investigators to encourage collaborative research and the sharing of resources.
- Provide research training and education.

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**Publications / Citations**

   - Primary publication · 25335442 (PubMed) · PMC4748955 (PubMed Central) · Added on 7/30/2015

   - Primary publication · 25026915 (PubMed) · PMC4115362 (PubMed Central) · Added on 1/20/2015

   - Primary publication · 24727999 (PubMed) · PMC3984076 (PubMed Central) · Added on 7/30/2015

   - Primary publication · 24572040 (PubMed) · PMC3985818 (PubMed Central) · Added on 7/30/2015

   - Primary publication · 23296459 (PubMed) · PMC3775931 (PubMed Central) · Added on 12/10/2013

   - Primary publication · 23229731 (PubMed) · PMC3610772 (PubMed Central) · Added on 12/10/2013

   - Primary publication · 23162610 (PubMed) · PMC3498462 (PubMed Central) · Added on 12/10/2013

   - Primary publication · 23071718 (PubMed) · PMC3465282 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 22876880 (PubMed) · PMC3501581 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 22576635 (PubMed) · PMC3515022 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 22525772 (PubMed) · PMC3443532 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 22469621 (PubMed) · PMC3383057 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 22332693 (PubMed) · PMC3523743 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 22113348 (PubMed) · PMC3543733 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 21952413 (PubMed) · PMC3527833 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 21482607 (PubMed) · PMC3387864 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 21408154 (PubMed) · PMC3050879 (PubMed Central) · Added on 12/10/2013

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    - Primary publication · 20414197 (PubMed) · PMC3742000 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 19959770 (PubMed) · PMC2822669 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 19544390 (PubMed) · PMC2733167 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 19544390 (PubMed) · PMC2733167 (PubMed Central) · Added on 12/10/2013

    - Primary publication · 19420404 (PubMed) · PMC2800047 (PubMed Central) · Added on 12/10/2013

MeSH Terms

Abdomen  Absorptiometry, Photon  Acceleration  Accelerometry  Actigraphy  Activities of Daily Living  Adiponectin  Adipose Tissue

Adiposity  Adolescent  Adult  African Americans  Aged  Aged, 80 and over  Age Factors  Age of Onset  Aging  Algorithms

Anemia, Sickle Cell  Ankle  Anthropometry  Basal Metabolism  Biomarkers  Blood Glucose  Blood Pressure  Body Composition

Body Fluid Compartments  Body Height  Body Mass Index  Body Water  Body Weight  Bone Density  Bromides  C-Reactive Protein

Body Caloric Restriction  Calorimetry  Calorimetry, Indirect  Cannabis  Cardiovascular Diseases  Case-Control Studies  Child  Child, Preschool

Chronic Disease  Cross-Sectional Studies  Deuterium  Deuterium Oxide  Diet, High-Fat  Disease Susceptibility  Educational Status

Electric Impedance  Energy Intake  Energy Metabolism  European Continental Ancestry Group  Exercise  Exercise Test  Exercise Therapy

Exercise Tolerance  F2-Isoprostanes  Familial Primary Pulmonary Hypertension  Fatigue  Feasibility Studies  Female  Follow-Up Studies

Forecasting  Gastric Bypass  Geriatric Assessment  Glucose Intolerance  Health Behavior  Health Status Disparities

Hemoglobin A, Glycosylated  Hip  Hispanic Americans  Hospitalization  Humans  Hypertension, Pulmonary  Inflammation  Insulin

Insulin Resistance  Intra-Abdominal Fat  Isoprostanes  Isotope Labeling  Leptin  Life Style  Linear Models  Longitudinal Studies  Male

Marijuana Abuse  Meals  Metabolic Syndrome X  Metabolism  Methylhistidines  Middle Aged  Models, Statistical  Molecular Sequence Data

Monitoring, Ambulatory  Monitoring, Physiologic  Motor Activity  Multivariate Analysis  Muscle Proteins  Myofibrils  Nonlinear Dynamics

Norepinephrine  Obesity  Obesity, Morbid  Osmolar Concentration  Overweight  Oxidation-Reduction  Oxidative Stress  Oxygen Consumption

Oxygen Isotopes  Parent-Child Relations  Parenting  Patient Compliance  Pediatric Obesity  Phenotype  Pilot Projects

Plethysmography, Impedance  Polymorphism, Single Nucleotide  Postprandial Period  Predictive Value of Tests  Premenopause

Prospective Studies  Pseudohypoparathyroidism  Puberty  Pure Autonomic Failure  Radiation-Protective Agents  Radiography

Reference Values  Regression Analysis  Reproducibility of Results  Rest  Risk Factors  Seasons  Sedentary Lifestyle  Self Report

Sensitivity and Specificity  Severity of Illness Index  Sex Factors  Sleep  Socioeconomic Factors  Sodium Compounds

Southeastern United States  Sports Equipment  Surveys and Questionnaires  Tennessee  Thermogenesis  Time Factors  Triglycerides

United States  Urine  Wakefulness  Walking  Water  Water-Electrolyte Balance  Weight Gain  Weight Loss  Wrist  Young Adult

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