

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](#)

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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

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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
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 Glycated Hemoglobin A Health Behavior Health Status Disparities
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 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 Behavior 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