The Exercise Physiology Core Laboratory (EPCL) supports clinical research related to metabolic, cardiovascular and biochemical responses to exercise. In addition, the EPCL provides expertise in measures of body composition and regional distribution of body fat, physical function, resting metabolism and imaging. The EPCL serves both research and community users.

History

The Exercise Physiology Core Laboratory was established in 1990 as part of the NIH funded General Clinical Research Center to promote the expansion and enhancement of clinical research that incorporated exercise physiology and body composition into either the research questions or the research design. The UVA EPCL was the first NIH supported GCRC EPCL and over the years approximately 30 other institutions modeled their GCRC EPCL's after ours. In March of 2011 the EPCL transitioned to the Research Cores of the School of Medicine.

Services

- Exercise evaluation (CPET)
- Supervised exercise training
- Indirect calorimetry (resting metabolism)
- Body composition
- Regional distribution of body fat
- Functional measures (6 minute walk tests)
- Ultrasound imaging of brachial artery (flow-mediated dilation)
- Physical activity assessment/accelerometry

Exercise Evaluation including metabolic, cardiovascular and biochemical measurements

Body Composition

- Regional Distribution of Body Fat

Ultrasound Imaging

Resting Metabolism

Grant Supported Projects

- Reversing vascular dysfunction in type 1 diabetes  E Barrett, NIDDK NIH
- Exercise Dosing Trial for Individuals With Parkinson's Disease M Barrett, APDA Center for Advanced Research at the University of Virginia
- Cardiac magnetic resonance imaging & cardiac resynchronization training R03 HL135463-01  K Bilchick, NIH
- Assessment of Perfusion Reserve and Effects of Exercise in Microvascular Angina  J Bourque, NIH K23
- Translational study of motor fatigue in MS  M Goldman, NIH
- Comprehensive magnetic resonance in PAD  C Kramer, NIH
- Insulin Action in Human Cardiac and Skeletal Muscle Microvasculature  Z Liu, NIH
- Effect of diet and exercise on immuno metabolism and insulin resistance in patients eligible for bariatric surgery  S Malin, Diabetes Action Research Award
- Circulating Micro-RNA signatures in patients with heart Failure with Preserved Ejection Fraction with Out of Proportion or Idiopathic Pulmonary Hypertension. S Mazimba, George Beller Research Award
- Characterization of heart failure with preserved ejection fraction (HF-PEF) patients using cardiac magnetic resonance (CMR) technology to quantify cardiac fibrosis M Salerno, Astra Zeneca

Current and Past Users Include Investigators From

School of Medicine
- Allergy & Clinical Immunology
- Cardiovascular Medicine
- Endocrinology
- General Medicine
- Hematology/Oncology
- Obstetrics & Gynecology
- Orthopedic Surgery
- Neurology
- Nephrology
- Pediatrics
- Physical Medicine & Rehabilitation
- Public Health Sciences
- Radiology
- Surgery

School of Education
- Exercise Physiology
- Sports Medicine

School of Engineering
- School of Nursing