



Welcome to this month's edition of NExTNet News. In addition to pertinent announcements, RFAs, and news stories, follow the exciting research advances of NExTNet members and their investigative teams with links to recent findings.

NExTNet News is prepared monthly by Jenny Martz, NExTNet Coordinator. For future editions, please send relevant stories, articles, scientific publications, or announcements to nextnet@uab.edu.

November 2016

Announcements

- Teleconference
 - The next teleconference will take place on Tuesday, December 13, 2016 at 10am CST with Scott Trappe from Ball State University presenting. If you are interested in presenting on a future teleconference please email nextnet@uab.edu.
- Job Postings
 - Faculty position in the Department of Physical Therapy and Athletic Training, University of Utah. Please see attached for full position description. For questions about the position, please contact Search Committee Chair: Micah Drummond (micah.drummond@hsc.utah.edu).

Upcoming Meetings and Conferences

- [BD2K Open Data Science Symposium](#) December 1, 2016, North Bethesda, Maryland
- [EIM Technology Think Tank](#) December 5-6, 2016, Atlanta, Georgia
- [Experimental Biology 2017](#) April 22-26, 2017, Chicago, Illinois
- [ACSM Annual Meeting](#) May 30-June 3, 2017, Denver, Colorado
- [International Conference on Ambulatory Monitoring of Physical Activity and Movement](#) June 21-23, 2017, Bethesda, Maryland

New Findings from NExTNet Investigators

Aging

- [Evaluating Exercise Prescription and Instructional Methods Used in Tai Chi Studies Aimed at Improving Balance in Older Adults: A Systematic Review.](#)
- [Effect of a Long-Term Physical Activity Intervention on Resting Pulse Rate in Older Persons: Results from the Lifestyle Interventions and Independence for Elders Study.](#)
- [Aging, not age-associated inflammation, determines blood pressure and endothelial responses to acute inflammation.](#)

- [Role of Hip Abductor Muscle Composition and Torque in Protective Stepping for Lateral Balance Recovery in Older Adults.](#)
- [Endothelial and inflammatory responses to acute exercise in perimenopausal and late postmenopausal women.](#)

Cancer

- [Relation of Serum Estrogen Metabolites with Terminal Duct Lobular Unit Involution Among Women Undergoing Diagnostic Image-Guided Breast Biopsy.](#)

Cardiovascular

- [A Novel Protein Glycan-Derived Inflammation Biomarker Independently Predicts Cardiovascular Disease and Modifies the Association of HDL Subclasses with Mortality.](#)
- [2016 AHA/ACC Guideline on the Management of Patients With Lower Extremity Peripheral Artery Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines.](#)
- [2016 AHA/ACC Guideline on the Management of Patients With Lower Extremity Peripheral Artery Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines.](#)
- [Physiological responses to interval endurance exercise at different levels of blood flow restriction.](#)
- [Racial and Ethnic Differences in Heart Failure Readmissions and Mortality in a Large Municipal Healthcare System.](#)
- [Habitual aerobic exercise does not protect against micro- or macrovascular endothelial dysfunction in healthy estrogen-deficient postmenopausal women.](#)
- [Abnormal Coronary Artery Calcium Scans in Asymptomatic Patients.](#)
- [Ultrasound Assessment of Flow-Mediated Dilation of the Brachial and Superficial Femoral Arteries in Rats.](#)

Cell and Molecular Biology

- [Intramyocellular ceramides and skeletal muscle mitochondrial respiration are partially regulated by Toll-like receptor 4 during hindlimb unloading.](#)
- [A pilot study examining the impact of exercise training on skeletal muscle genes related to the TLR signaling pathway in older adults following hip fracture.](#)

Exercise – Drug/Diet/Device/Disease/Surgery/Cultural Interactions

- [Effects of weight loss and leptin on skeletal muscle in human subjects.](#)
- [Acute cyclooxygenase inhibition and baroreflex sensitivity in lean and obese adults.](#)
- [Early High-Intensity Versus Low-Intensity Rehabilitation after Total Knee Arthroplasty: A Randomized Controlled Trial.](#)
- [Frailty in HIV: Epidemiology, Biology, Measurement, Interventions, and Research Needs.](#)

Metabolic

- [The Effect of Vigorous- Versus Moderate-Intensity Aerobic Exercise on Insulin Action.](#)
- [Hypoglycemia Detection and Carbohydrate Suggestion in an Artificial Pancreas.](#)
- [Obesity, type 2 diabetes, and impaired insulin stimulated blood flow: role of skeletal muscle NO synthase and endothelin-1.](#)
- [Metabolic characterization of overweight and obese adults.](#)
- [Increasing Insulin Availability Does Not Augment Postprandial Muscle Protein Synthesis Rates in Healthy Young and Older Men.](#)

Neuroscience and Stroke

- [The role of physical exercise in cognitive recovery after traumatic brain injury: A systematic review.](#)
- [A human brain network derived from coma-causing brainstem lesions.](#)
- [Multifocal repetitive TMS for motor and mood symptoms of Parkinson disease: A randomized trial.](#)
- [Resistance training with instability is more effective than resistance training in improving spinal inhibitory mechanisms in Parkinson's disease.](#)

Pediatric

- [Comparison of the Effects of Stable and Dynamic Furniture on Physical Activity and Learning in Children.](#)
- [Proportion of children meeting recommendations for 24-hour movement guidelines and associations with adiposity in a 12-country study.](#)

Respiratory

- [Excess Postexercise Oxygen Consumption After High-Intensity and Sprint Interval Exercise, and Continuous Steady-State Exercise.](#)
- [Exercise, ageing and the lung.](#)

Additional New Findings

- [Effects of crude hydroalcoholic extract of *Syzygium cumini* \(L.\) Skeels leaves and continuous aerobic training in rats with diabetes induced by a high-fat diet and low doses of streptozotocin.](#)
- [Dietary nitrate markedly improves voluntary running in mice.](#)
- [Cerebrospinal Fluid Amyloid Beta and Tau Concentrations Are Not Modulated by 16 Weeks of Moderate- to High-Intensity Physical Exercise in Patients with Alzheimer Disease.](#)
- [Does a combination of physical training, specific exercises and pain education improve health-related quality of life in patients with chronic neck pain? A randomised control trial with a 4-month follow up.](#)
- [The Effects of Acute and Chronic Exercise on Skeletal Muscle Proteome.](#)
- [Automatic Oxygen Titration During Walking in Subjects With COPD: A Randomized Crossover Controlled Study.](#)
- [Objective measurement of free-living physical activity \(performance\) in lumbar spinal stenosis: are physical activity guidelines being met?](#)
- [A cross-sectional study of the relationship between parents' and children's physical activity.](#)
- [Improving the well-being of children and youths: a randomized multicomponent, school-based, physical activity intervention.](#)
- [Longitudinal changes in physical activity and sedentary time in adults around retirement age: what is the moderating role of retirement status, gender and educational level?](#)
- [Individualized vs. group exercise in improving quality of life and physical activity in patients with cardiac disease and low exercise capacity: results from the DOPPELHERZ trial.](#)
- [Does volume of physical exercise have an effect on depression in patients with fibromyalgia?](#)
- [Physical activity barriers and motivators among high-risk employees.](#)
- [Reduced Chest and Abdominal Wall Mobility and Their Relationship to Lung Function, Respiratory Muscle Strength, and Exercise Tolerance in Subjects With COPD.](#)
- [Exercise intolerance and exercise-induced bronchoconstriction in children.](#)
- [The effects of a transcontinental flight on markers of coagulation and fibrinolysis in healthy men after vigorous physical activity.](#)
- [Physical Activity and Intermittent Postconcussion Symptoms After a Period of Symptom-Limited Physical and Cognitive Rest.](#)
- [Insights into the role and regulation of TCTP in skeletal muscle.](#)
- [Role of AMP-Activated Protein Kinase for Regulating Post-exercise Insulin Sensitivity.](#)
- [Barriers and facilitators to physical activity in people with hip or knee osteoarthritis: protocol for a systematic review of qualitative evidence.](#)
- [Does Availability of Worksite Supports for Physical Activity Differ by Industry and Occupation?](#)
- [Walking Aids Moderate Exercise Effects on Gait Speed in People With Dementia: A Randomized Controlled Trial.](#)
- [An in-situ investigation of the acute effects of Bikram yoga on positive- and negative affect, and state-anxiety in context of perceived stress.](#)
- [Are lower levels of cardiorespiratory fitness associated with incident depression? A systematic review of prospective cohort studies.](#)
- [Cardiorespiratory fitness levels and moderators in people with HIV: A systematic review and meta-analysis.](#)
- [Consumer perceptions of, and willingness to use, remotely-delivered service models for exercise management of knee and hip osteoarthritis: A cross-sectional survey.](#)

- [Influences of prior miscarriage and weight status on perinatal psychological well-being, exercise motivation and behavior.](#)
- [Treatment guidelines for depression: Greater emphasis on physical activity is needed.](#)
- [Dose-Response Effects of Aerobic Exercise on Quality of Life in Postmenopausal Women: Results from the Breast Cancer and Exercise Trial in Alberta \(BETA\).](#)
- [Associations of sedentary time and moderate-vigorous physical activity with sleep-disordered breathing and polysomnographic sleep in community-dwelling adults.](#)
- [The effectiveness of specific exercise types on cardiopulmonary functions in patients with ankylosing spondylitis: a systematic review.](#)
- [Acute Effects of Resistance Exercise With Continuous and Intermittent Blood Flow Restriction on Hemodynamic Measurements and Perceived Exertion.](#)
- [Controlled Pilot Study of High-Impact Low-Frequency Exercise on Bone Loss and Vital-Sign Stabilization in Adolescents With Eating Disorders.](#)
- [Identification of the IGF-1 processing product human E_c/rodent E_b peptide in various tissues: Evidence for its differential regulation after exercise-induced muscle damage in humans.](#)
- [The Relationships between Muscle Power and Physical Activity in Older Men with Chronic Obstructive Pulmonary Disease.](#)
- [Quantifying Training Loads in Contemporary Dance.](#)
- [An Exercise in Resistance: Inoculation Messaging as a Strategy for Protecting Motivation during a Monotonous and Controlling Exercise Class.](#)
- [Redistribution of Mechanical Work at the Knee and Ankle Joints During Fast Running in Minimalist Shoes.](#)
- [Effects of home-based tele-exercise on sarcopenia among community-dwelling elderly adults: Body composition and functional fitness.](#)
- [Effects of Physical Exercise on Markers of Cellular Immunosenescence: A Systematic Review.](#)
- [Long-term effects of high-intensity interval training in heart transplant recipients; a 5-year follow-up study of a randomized controlled trial.](#)
- [Evidence of compensatory joint kinetics during stair ascent and descent in Parkinson's disease.](#)
- [Vitamin D supplementation affects the IGF system in men after acute exercise.](#)
- [Influence of maternal physical activity on infant's body composition.](#)
- [Physical Activity and Correlates of Physical Activity Participation Over Three Years in Adults with Rheumatoid Arthritis.](#)
- [Self-perceived Health Status and Sleep Quality of Older Adults Living in Community after Elastic Band Exercises.](#)
- [Respiratory muscle strength in patients with pulmonary hypertension: The relationship with exercise capacity, physical activity level and quality of life.](#)
- [Group III/IV locomotor muscle afferents alter motor cortical and corticospinal excitability and promote central fatigue during cycling exercise.](#)
- [Prediction of peak oxygen uptake in patients with Chagas heart disease: Value of the Six-minute Walk Test.](#)
- [Effectiveness of an educational physiotherapy and therapeutical exercise program in adult patients with hemophilia. A randomized clinical trial.](#)
- [Vascular cell transcriptomic changes to exercise training differ directionally along and between skeletal muscle arteriolar trees.](#)
- [The impact of overweight/obesity duration and physical activity on telomere length: An application of the WATCH paradigm.](#)
- [Effect of an aerobic exercise intervention on cardiac autonomic regulation: A worksite RCT among cleaners.](#)
- [Circadian urinary citrate excretion in a rat model of exercise.](#)
- [Satellite cell activation induced by aerobic muscle adaptation in response to endurance exercise in humans and rodents.](#)
- [Dog ownership and physical activity among breast, prostate, and colorectal cancer survivors.](#)
- [Clinical improvement and reduction in serum calprotectin levels after an intensive exercise programme for patients with ankylosing spondylitis and non-radiographic axial spondyloarthritis.](#)
- [Effect of the LIVESTRONG at the YMCA **exercise** program on physical activity, fitness, quality of life, and fatigue in cancer survivors.](#)

- [Are Older Adults Physically Active Enough - A Matter of Assessment Method? The Generation 100 Study.](#)
- [Determining Whether a Dosage-Specific and Individualized Home Exercise Program With Consults Reduces Fall Risk and Falls in Community-Dwelling Older Adults With Difficulty Walking: A Randomized Control Trial.](#)
- [Resistance Training Improves Muscle Function and Cardiometabolic Risks But Not Quality of Life in Older People With Type 2 Diabetes Mellitus: A Randomized Controlled Trial.](#)

RFAs / FOAs

- The NIH national Rehabilitation Research Resource to Enhance Clinical Trials ([REACT](#)), based at the University of Alabama at Birmingham (UAB), invites letters of intent for pilot studies that address novel scientific questions related to medical rehabilitation and that will lead to more definitive clinical trials. [2017 REACT Center Pilot Award Request for Applications](#)
- Rehabilitation Research Career Development Programs (K12; [RFA-HD-17-021](#)) Eunice Kennedy Shriver National Institute of Child Health and Human Development.
- BRAIN Initiative: Research Career Enhancement Award for Investigators to Build Skills in a Cross-Disciplinary Area (K18; [RFA-DA-17-022](#))

In the News

- [New Skin Patch Analyzes Your Sweat During Exercise](#)
- [Born to Move](#)
- [It's not a cure, but now there's hope you can prevent Alzheimer's](#)
- [Exercise may prevent the inflammation that comes with overeating](#)