



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](mailto:nextnet@uab.edu).

## January 2017

### Announcements

- Teleconference
  - The next teleconference will take place on Tuesday, February 14, 2017 at 10am CST. If you are interested in presenting on this or a future teleconference please email [nextnet@uab.edu](mailto:nextnet@uab.edu).

### Upcoming Meetings and Conferences

- [Translational Science 2017](#) April 19-21, 2017, Washington, D.C.
- [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

- [Exercise increases mitochondrial complex I activity and DRP1 expression in the brains of aged mice.](#)
- [Metabolites Associated With Lean Mass and Adiposity in Older Black Men.](#)
- [Lower Extremity Peripheral Artery Disease and Quality of Life Among Older Individuals in the Community.](#)
- [Reductions in central arterial compliance with age are related to sympathetic vasoconstrictor nerve activity in healthy men.](#)
- [The Relative Efficacy of Land-Based and Water-Based Exercise Training on Macro- and Micro-Vascular Functions in Older Patients With Type 2 Diabetes.](#)
- [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 recovery.](#)

#### Cancer

- [Erratum to: Mammographic texture and risk of breast cancer by tumor type and estrogen receptor status.](#)
- [The effect of exercise on body composition and bone mineral density in breast cancer survivors taking](#)

[aromatase inhibitors.](#)

- [Effects and moderators of exercise on quality of life and physical function in patients with cancer: An individual patient data meta-analysis of 34 RCTs.](#)
- [Effects of cognitive behavioral therapy for insomnia and armodafinil on quality of life in cancer survivors: a randomized placebo-controlled trial.](#)
- [Cognitive Complaints in Survivors of Breast Cancer After Chemotherapy Compared With Age-Matched Controls: An Analysis From a Nationwide, Multicenter, Prospective Longitudinal Study.](#)

### **Cardiovascular**

- [Potentiation of the NO-cGMP pathway and blood flow responses during dynamic exercise in healthy humans.](#)
- [Impact of chlorhexidine gluconate intolerance on driveline infection during chronic HeartMate II left ventricular assist device support.](#)
- [Caregiver status and outcomes after durable left ventricular assist device implantation.](#)
- [Habitual aerobic exercise does not protect against micro- or macrovascular endothelial dysfunction in healthy estrogen-deficient postmenopausal women.](#)
- [Intra- and interday reproducibility of high-flow-mediated constriction response in young adults.](#)

### **Cell and Molecular Biology**

- [DNA Methylation Assessment from Human Slow- and Fast-Twitch Skeletal Muscle Fibers.](#)
- [Discovery of Imidazo\[1,2-a\]pyridine ethers and Squaramides as Selective and Potent Inhibitors of Mycobacterial Adenosine Triphosphate \(ATP\) Synthesis.](#)
- [Myogenic Progenitor Cells Control Extracellular Matrix Production by Fibroblasts during Skeletal Muscle Hypertrophy.](#)
- [The effect of polyphenols on cytokine and granulocyte response to resistance exercise.](#)

### **Exercise – Diet/Disease/Device/Cultural Interactions**

- [Physiological limits to endurance exercise performance: influence of sex.](#)
- [No difference in ad libitum energy intake in healthy men and women consuming beverages sweetened with fructose, glucose, or high-fructose corn syrup: a randomized trial.](#)
- [Epidemiology of Physical Activity and Exercise Training in the United States.](#)
- [Longitudinal Body Composition Changes in NCAA Division I College Football Players.](#)
- [Active Workstations Do Not Impair Executive Function in Young and Middle-Age Adults.](#)

### **Metabolic**

- [Metabolic Inflexibility with Obesity and the Effects of Fenofibrate on Skeletal Muscle Fatty Acid Oxidation.](#)
- [Overexpression of PGC-1 \$\alpha\$  Increases Peroxisomal and Mitochondrial Fatty Acid Oxidation in Human Primary Myotubes.](#)
- [Three hours of intermittent hypoxia increases circulating glucose levels in healthy adults.](#)
- [Obesity, type 2 diabetes, and impaired insulin-stimulated blood flow: role of skeletal muscle NO synthase and endothelin-1.](#)
- [Voluntary Running Attenuates Metabolic Dysfunction in Ovariectomized Low-Fit Rats.](#)
- [Loss of UCP1 exacerbates Western diet-induced glycemic dysregulation independent of changes in body weight in female mice.](#)

### **Neuroscience and Stroke**

- [Antidepressant Effect of Low-Frequency Right-Sided rTMS in Two Patients with Left Frontal Stroke.](#)
- [Finding the imposter: brain connectivity of lesions causing delusional misidentifications.](#)
- [Resting-state connectivity biomarkers define neurophysiological subtypes of depression.](#)
- [Anxiety independently contributes to elevated inflammation in humans with obesity.](#)
- [Distinguishing Neural Adaptation and Predictive Coding Hypotheses in Auditory Change Detection.](#)
- [Exercise is an effective treatment for positive valence symptoms in major depression.](#)
- [Demographic and clinical characteristics of current comorbid psychiatric disorders in a randomized clinical trial](#)

for adults with stimulant use disorders.

- [An ounce of prevention: A pre-randomization protocol to improve retention in substance use disorder clinical trials.](#)

### **Pediatric**

- [Health-Related Quality of Life and Lifestyle Behavior Clusters in School-Aged Children from 12 Countries.](#)
- [Does oral glutamine improve insulin sensitivity in adolescents with type 1 diabetes?](#)
- [Parent's Physical Activity Associated With Preschooler Activity in Underserved Populations.](#)

### **Additional New Findings**

- [Frequent and intensive physical activity reduces risk of cardiovascular events in type 1 diabetes.](#)
- [Quality and acceptability of measures of exercise adherence in musculoskeletal settings: a systematic review.](#)
- [Exercise testing for long-term follow-up in arrhythmogenic right ventricular cardiomyopathy.](#)
- [Typologies of neighbourhood environments and children's physical activity, sedentary time and television viewing.](#)
- [Triathlon training for women breast cancer survivors: feasibility and initial efficacy.](#)
- [A walking program for people with severe knee osteoarthritis did not reduce pain but may have benefits for cardiovascular health: a phase II randomised controlled trial.](#)
- [Transcription Factor EB Controls Metabolic Flexibility during Exercise.](#)
- [Changes in systolic arterial pressure variability are associated with the decreased aerobic performance of rats subjected to physical exercise in the heat.](#)
- [Physical Activity During and After Adjuvant Treatment for Breast Cancer.](#)
- [Effects of different doses of high-speed resistance training on physical performance and quality of life in older women: a randomized controlled trial.](#)
- [The impact of physical activity on motor preparation in young adults.](#)
- [Left atrial mechanics strongly predict functional capacity assessed by cardiopulmonary exercise testing in subjects without structural heart disease.](#)
- [Impact of physical activity on cardiovascular status in obesity.](#)
- [Effect of Exercise on Ovulation: A Systematic Review.](#)
- [Effect of progressive high-impact exercise on femoral neck structural strength in postmenopausal women with mild knee osteoarthritis: a 12-month RCT.](#)
- [Effects of gait training with body weight support on a treadmill vs. overground for individuals with stroke.](#)
- [\[Physical activity during cancer: Can we define participants' profiles?\]](#)
- [Maintained Physical Activity Induced Changes in Delay Discounting.](#)
- [Physical activity and sedentary behavior in people with major depressive disorder: A systematic review and meta-analysis.](#)
- [A mixed-methods investigation of successful aging among older women engaged in sports-based versus exercise-based leisure time physical activities.](#)
- [Partner Influence in Diet and Exercise Behaviors: Testing Behavior Modeling, Social Control, and Normative Body Size.](#)
- [The Effects of Exercise Training on Brachial Artery Flow-Mediated Dilation: A Meta-analysis.](#)
- [\[The role of regular physical activity in the prevention and intervention of symptoms of anxiety and anxiety disorders\].](#)
- [Effects of weekly-supervised exercise or physical activity counseling on fasting blood glucose in women diagnosed with gestational diabetes mellitus: a systematic review and meta-analysis of randomized trials.](#)
- [The effect of  \$\alpha\$ -adrenergic blockade on post-exercise brachial artery flow-mediated dilatation at sea level and high altitude.](#)
- [Effect of cadence on locomotor-respiratory coupling during upper-body exercise.](#)
- [Cardiac dysfunction in cancer survivors unmasked during exercise.](#)
- [Gut microbiota composition associated with alterations in cardiorespiratory fitness and psychosocial outcomes among breast cancer survivors.](#)

- [Effect of Socioeconomic Status on Propensity to Change Risk Behaviors Following Myocardial Infarction: Implications for Healthy Lifestyle Medicine.](#)
- [Considerations for the inclusion of cardiorespiratory fitness as a vital sign in the clinical setting.](#)
- [Supervised neuromuscular exercise prior to hip and knee replacement: 12-month clinical effect and cost-utility analysis alongside a randomised controlled trial.](#)
- [\[Validation of the Borg scale in participants with type 2 diabetes mellitus\].](#)
- [Physical Activity, Sedentary Time, and Fatness in a Biethnic Sample of Young Children.](#)
- [Interventions to prevent or reduce the level of frailty in community-dwelling older adults: a scoping review of the literature and international policies.](#)
- [Cardiorespiratory fitness and brain volumes in men and women in the FINGER study.](#)
- [An examination of the anxiolytic effects of exercise for people with anxiety and stress-related disorders: A meta-analysis.](#)
- [The effects of voluntary wheel running on neuroinflammatory status: Role of monocyte chemoattractant protein-1.](#)
- [Physical activity and exercise for chronic pain in adults: an overview of Cochrane Reviews.](#)
- [T-cell redeployment and intracellular cytokine expression following exercise: effects of exercise intensity and cytomegalovirus infection.](#)
- [Exercise as treatment for alcohol use disorders: systematic review and meta-analysis.](#)
- [Activity levels and exercise motivation in COPD patients and their resident loved ones.](#)
- [Evaluation of Serial High Sensitivity Troponin T Levels in Individuals Without Overt Coronary Heart Disease Following Exercise Stress Testing.](#)
- [A lifestyle intervention among elderly men on active surveillance for non-aggressive prostate cancer: a randomised feasibility study with whole-grain rye and exercise.](#)
- [Exercise-induced effects on UCP1 expression in classical brown adipose tissue: a systematic review.](#)
- [Prescribing exercise for prevention and treatment of gestational diabetes: review of suggested recommendations.](#)
- [Examining methods, messengers and behavioural theories to disseminate physical activity information to individuals with a diagnosis of schizophrenia: a scoping review.](#)
- [Moderate physical activity promotes basal hepatic autophagy in diet-induced obese mice.](#)
- [Aquatic Exercise Therapy for People with Parkinson's disease: a Randomized Controlled Trial.](#)
- [A systematic review of cognitive effects of exercise in depression.](#)
- [Relationships between exercise, smoking habit and mortality in more than 100,000 adults.](#)
- [A group-mediated physical activity intervention in older knee osteoarthritis patients: effects on social cognitive outcomes.](#)
- [Do post concussion-like symptom responses change following exercise or sports participation in a non-concussed cohort?](#)
- [Exercise training decreases NADPH oxidase activity and restores skeletal muscle mass in heart failure rats.](#)
- [Fat mass and obesity associated \(FTO\) gene influences skeletal muscle phenotypes in non-resistance trained males and elite rugby playing position.](#)
- [Quality of life after quitting smoking and initiating aerobic exercise.](#)
- [EFFECT OF PULMONARY REHABILITATION ON TIDAL EXPIRATORY FLOW LIMITATION AT REST AND DURING EXERCISE IN COPD PATIENTS.](#)

### **RFA's / FOAs**

- Development and Evaluation of Sports Concussion Prevention Strategies [RFA-CE-17-002](#) from Centers for Disease Control and Prevention
- BRAIN Initiative: Research Career Enhancement Award for Investigators to Build Skills in a Cross-Disciplinary Area (K18; [RFA-DA-17-022](#))
- Research Innovations for Scientific Knowledge (RISK) for Musculoskeletal Diseases (R61/R33) [RFA-AR-17-009](#)
- Short-term Measurements of Physical Resilience as a Predictor of Healthspan in Mice (R01) [RFA-AG-17-040](#)

### **In the News**

- [Exercise Can Be a Boon to People With Parkinson's Disease](#)
- [Too Much Sitting Ages You Faster](#)
- [Short Stretches of Exercise May Have Anti-Inflammatory Effect](#)
- [Working Out – in a Museum](#)
- [Why Creative Exercise Leads to Better Entrepreneurial Performance](#)