



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.

June 2016

Announcements

- Monthly NExTNet Teleconference – July 12, 2016 10am CST – Bill Kraus (Duke) presenting. If you are interested in presenting on a future teleconference please email nextnet@uab.edu.
- If you were unable to attend the Rehabilitation Research: Moving the Field Forward conference at NIH recently you may view the videocast at the following links:
 - Day 1: <https://videocast.nih.gov/summary.asp?Live=18796&bhcp=1>
 - Day 2: <https://videocast.nih.gov/summary.asp?Live=18800&bhcp=1>

Upcoming Meetings and Conferences

- [APS/TPS Joint Meeting: Physiology 2016](#), July 29-31, 2016, Dublin, Ireland
- [APS Conference: Inflammation, Immunity and Cardiovascular Disease](#) August 24-27, 2016, Westminister, Colorado
- [APS Intersociety Meeting: The Integrative Biology of Exercise VII](#) November 2-4, 2016, Phoenix, Arizona

New Findings from NExTNet Investigators

Aging

- [What is the evidence for stress resistance and slowed aging?](#)
- [Chronological Age Does not Influence Ex-vivo Mitochondrial Respiration and Quality Control in Skeletal Muscle.](#)
- [Exercise Promotes Healthy Aging of Skeletal Muscle.](#)
- [The effect of sex on immune cells in healthy aging: Elderly women have more robust natural killer lymphocytes than do elderly men.](#)

Cancer

- [Vulnerable elders survey and socioeconomic status predict functional decline and death among older women with newly diagnosed nonmetastatic breast cancer.](#)
- [Designing exercise clinical trials for older adults with cancer: Recommendations from 2015 Cancer and Aging](#)

Cardiovascular

- [Effects of High-intensity Interval Training and Moderate-intensity Continuous Training on Endothelial Function and Cardiometabolic Risk Markers in Obese Adults.](#)
- [Treatment of anxiety in patients with coronary heart disease: Rationale and design of the UNderstanding the benefits of exercise and escitalopram in anxious patients With coronary heart Disease \(UNWIND\) randomized clinical trial.](#)
- [Metabolic Dysfunction in Heart Failure: Diagnostic, Prognostic, and Pathophysiologic Insights From Metabolomic Profiling.](#)
- [Variant ASGR1 Associated with a Reduced Risk of Coronary Artery Disease.](#)
- [Confounders in the Evaluation of Cardiac Fibrosis by Late Gadolinium Enhancement.](#)
- [Blood Vessels Behaving Badly: Targeting Hypertension in Acute Decompensated Heart Failure.](#)
- [Changes in Function After a 6-Month Walking Intervention in Patients With Intermittent Claudication Who Are Obese or Nonobese.](#)
- [Validating accelerometry as a measure of physical activity and energy expenditure in chronic stroke.](#)
- [Panax ginseng and salvia miltiorrhiza supplementation abolishes eccentric exercise-induced vascular stiffening: a double-blind randomized control trial.](#)
- [Effects of Buddhist walking meditation on glycemic control and vascular function in patients with type 2 diabetes.](#)

Cell and Molecular Biology

- [Environmental Endocrine Disruptor Affects Voluntary Physical Activity in Mice.](#)
- [Effects of exercise in a relapsing-remitting model of experimental autoimmune encephalomyelitis.](#)
- [Effects of intrinsic aerobic capacity and ovariectomy on voluntary wheel running and nucleus accumbens dopamine receptor gene expression.](#)
- [Reduced skeletal muscle satellite cell number alters muscle morphology after chronic stretch but allows limited serial sarcomere addition.](#)

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

- [Gut Microbiota are Linked to Increased Susceptibility to Hepatic Steatosis in Low Aerobic Capacity Rats Fed an Acute High Fat Diet.](#)
- [Studies of Sedentary Behavior, Activity, and Mortality: Duplication or Replication?](#)

Metabolic

- [Reverse fiber type disproportion: A distinct metabolic myopathy.](#)
- [Impaired fasting glucose is associated with increased regional cerebral amyloid.](#)
- [Endothelial function following glucose ingestion in adults with prediabetes: Role of exercise intensity.](#)
- [A 52-week pilot study of the effects of exenatide on body weight in patients with hypothalamic obesity.](#)

Neuroscience and Stroke

- [Comparative Efficacy of Repetitive Transcranial Magnetic Stimulation for Treatment of Depression Using 2 Different Stimulation Devices: A Retrospective Open-Label Study.](#)
- [Direct current stimulation induces mGluR5-dependent neocortical plasticity.](#)

Pediatric

- [Sex Differences in the Relationship between Fitness and Obesity on Risk for Asthma in Adolescents.](#)
- [Canadian 24-Hour Movement Guidelines for Children and Youth: An Integration of Physical Activity, Sedentary Behaviour, and Sleep.](#)
- [Combinations of physical activity, sedentary behaviour and sleep: relationships with health indicators in school-aged children and youth.](#)
- [Systematic review of sedentary behaviour and health indicators in school-aged children and youth: an update.](#)
- [Systematic review of the relationships between objectively measured physical activity and health indicators in](#)

[school-aged children and youth.](#)

- [Perceptions of Obesity Treatment Options Among Healthcare Providers and Low-Income Primary Care Patients.](#)
- [Perceived and objective neighborhood support for outside of school physical activity in South African children.](#)

Respiratory

- [Reproducibility of Brachial Vascular Changes with Alterations in End-Tidal Carbon Dioxide.](#)

Additional New Findings

- [Vitamin D and Physical Activity in Patients With Colorectal Cancer: Epidemiological Evidence and Therapeutic Implications.](#)
- [Effects of Warm-Up and Fatigue on Knee Joint Position Sense and Jump Performance.](#)
- [Exercise Prevents Upregulation of RyRs-BKCa Coupling in Cerebral Arterial Smooth Muscle Cells From Spontaneously Hypertensive Rats.](#)
- [The slow component of pulmonary O₂ uptake accompanies peripheral muscle fatigue during high intensity exercise.](#)
- [Moderate-intensity exercise alters markers of alternative activation in circulating monocytes in females: a putative role for PPAR \$\gamma\$.](#)
- [Cardiorespiratory Improvements Achieved by American College of Sports Medicine's Exercise Prescription Implemented on a Mobile App.](#)
- [Exercise prescription for the older population: The interactions between physical activity, sedentary time, and adequate nutrition in maintaining musculoskeletal health.](#)
- [A survey of social support for exercise and its relationship to health behaviours and health status among endurance Nordic skiers.](#)
- [Neuropsychological Benefits of Neuro-exergaming for Older Adults: A Pilot Study of an Interactive Physical and Cognitive Exercise System \(iPACES™\).](#)
- [A Community-based Healthy Living Promotion Program Improved Self-esteem Among Minority Children.](#)
- [Weakness in the Emergency Department: Hypokalemic Periodic Paralysis Induced By Strenuous Physical Activity.](#)
- [The effect of individualized gradable stabilization exercises in patients with chronic low back pain: Case-control study.](#)
- [Comparison of effectiveness of different exercise programs in treatment of failed back surgery syndrome: A randomized controlled trial.](#)
- [New exercise-integrated technology can monitor the dosage and quality of exercise performed against an elastic resistance band by adolescents with patellofemoral pain: an observational study.](#)
- [Physiological correlates to spontaneous physical activity variability in obese patients with already treated sleep apnea syndrome.](#)
- [Effects of doxorubicin administration on bone strength and quality in sedentary and physically active Wistar rats.](#)
- [Electromyographic changes of trunk muscles during the graded lumbar stabilization exercises.](#)
- [Effects of continuous and intermittent exercise on executive function in children aged 8-10 years.](#)
- [A new method to calculate external mechanical work using force-platform data in ecological situations in humans: Application to Parkinson's disease.](#)
- [Organized Sport Trajectories from Childhood to Adolescence and Health Associations.](#)
- [Differences in functional exercise capacity and pulmonary function tests between acute respiratory distress syndrome \(ARDS\) of pulmonary and extrapulmonary origin.](#)
- [Torque and mechanomyogram relationships during electrically-evoked isometric quadriceps contractions in persons with spinal cord injury.](#)
- [Exercise therapy after ultrasound-guided corticosteroid injections in patients with subacromial pain syndrome: a randomized controlled trial.](#)
- [Exercise-Dependent Regulation of NK Cells in Cancer Protection.](#)
- [Prevalence and predictors of unsupervised walking and physical activity in a community population of women with fibromyalgia.](#)

- [Hatha Yoga practice decreases menopause symptoms and improves quality of life: A randomized controlled trial.](#)
- [A yoga & exercise randomized controlled trial for vasomotor symptoms: Effects on heart rate variability.](#)
- [Physical Activity Interventions for Neurocognitive and Academic Performance in Overweight and Obese Youth: A Systematic Review.](#)
- [Promoting Optimal Physical Exercise for Life: An Exercise and Self-Management Program to Encourage Participation in Physical Activity after Discharge from Stroke Rehabilitation-A Feasibility Study.](#)
- [Effects of Swimming Exercise on Limbic and Motor Cortex Neurogenesis in the Kainate-Lesion Model of Temporal Lobe Epilepsy.](#)
- [Impact of Exercise on Innate Immunity in Multiple Sclerosis Progression and Symptomatology.](#)
- [Movement-Related Cortical Potential Amplitude Reduction after Cycling Exercise Relates to the Extent of Neuromuscular Fatigue.](#)
- [How much physical activity do people with schizophrenia engage in? A systematic review, comparative meta-analysis and meta-regression.](#)
- [The association between midlife cardiorespiratory fitness and later life chronic kidney disease: The Cooper Center Longitudinal Study.](#)
- [Correlates of physical activity in children and adolescents with physical disabilities: A systematic review.](#)
- [Impact of aerobic exercise training during chemotherapy on cancer related cognitive impairments in patients suffering from acute myeloid leukemia or myelodysplastic syndrome - Study protocol of a randomized placebo-controlled trial.](#)
- [The Antioxidant Effect of Exercise: A Systematic Review and Meta-Analysis.](#)
- [Effect of physical activity on IGF-1 and IGFBP levels in the context of civilization diseases prevention.](#)
- [An analysis of changes in in vivo cartilage thickness of the healthy ankle following dynamic activity.](#)
- [Development and validation of the intuitive exercise scale.](#)
- [Exploring enhanced menu labels' influence on fast food selections and exercise-related attitudes, perceptions, and intentions.](#)
- [Impact of antipsychotic medication on physical activity and physical fitness in adolescents: An exploratory study.](#)
- [The Acute Impact of Different Types of Aerobic Exercise on Arterial Wave Reflections and Inflammation.](#)
- [\$\beta\$ -endorphin regulates alcohol consumption induced by exercise restriction in female mice.](#)
- [Mechanical, Metabolic and Perceptual Response during Sprint Training.](#)
- [Brain and Cardiorespiratory Responses to Exercise in Hot and Thermoneutral Conditions.](#)
- [Rac1 in muscle is dispensable for improved insulin action after exercise in mice.](#)
- [Parasympathetic Activity and Bronchial Hyperresponsiveness in Athletes.](#)
- [Implementing intelligent physical exercise training at the workplace: health effects among office workers-a randomized controlled trial.](#)
- [Spatiotemporal, kinematic, force and muscle activation outcomes during gait and functional exercise in water compared to on land: A systematic review.](#)
- [Sex differences in jaw muscle duty factors during exercise in two environments: A pilot study.](#)
- [Sitting time, physical fitness impairments and metabolic abnormalities in people with bipolar disorder: An exploratory study.](#)
- [Physical activity and sedentary behavior in people with bipolar disorder: A systematic review and meta-analysis.](#)
- [The Call for a Physical Activity Vital Sign in Clinical Practice.](#)
- [The effect of single-task and dual-task balance exercise programs on balance performance in adults with osteoporosis: a randomized controlled preliminary trial.](#)
- [Corticosterone and dopamine D2/D3 receptors mediate the motivation for voluntary wheel running in C57BL/6J mice.](#)
- [Adequate muscular strength may help to reduce mortality risk in those with an elevated gamma gap.](#)
- [Physical Activity in Puerto Rican Breast Cancer Survivors.](#)
- [Accuracy of Heart Rate Watches: Implications for Weight Management.](#)
- [Physical Activity, Self-Efficacy and Self-Esteem in Breast Cancer Survivors: A Panel Model.](#)
- [Effects of resistance training on expression of IGF-1 splice variants in younger and older men.](#)
- [Effects of powdered Montmorency tart cherry supplementation on acute endurance exercise performance in](#)

- [aerobically trained individuals.](#)
- [Comparison of 1- versus 3-minute stage duration during arm ergometry in individuals with Spinal Cord Injury.](#)

RFAs / FOAs

- Mechanisms Mediating Osteoarthritis in Aging: R01 <https://grants.nih.gov/grants/guide/pa-files/PA-16-239.html>; R21 <http://grants.nih.gov/grants/guide/pa-files/PA-16-240.html>
- Dissemination and Implementation Research in Health: R01 <http://grants.nih.gov/grants/guide/pa-files/PAR-16-238.html>; R21 <http://grants.nih.gov/grants/guide/pa-files/PAR-16-236.html>; R03 <https://grants.nih.gov/grants/guide/pa-files/PAR-16-237.html>
- Physical Activity and Weight Control Interventions Among Cancer Survivors: Effects on Biomarkers of Prognosis and Survival <https://grants.nih.gov/grants/guide/pa-files/PAR-16-122.html>
- Testing Interventions for Health-Enhancing Physical Activity: R01 <http://grants.nih.gov/grants/guide/pa-files/PAR-14-315.html>

In the News

- [Exercise Releases Brain-Healthy Protein](#)
- [Safeguarding Young Athletes from Concussions](#)
- [Active Medicine: How Children's Hospitals Support Weight Management](#)

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