

NExTNet

National Exercise Clinical Trials Network

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.

December 2015

Announcements

- Internship Opportunities
 - Duke University Integrated Health Sciences Internship Program <http://dmpi.duke.edu/center-living-internship>
 - UAB Center for Exercise Medicine <http://www.uab.edu/medicine/exercise/training-ed/125-training-ed/81-undergradinternship>
- Personalized Medicine Initiative Cohort Program Director Vacancy https://www.jobs.nih.gov/vacancies/executive/pmi_director.htm
- Monthly NExTNet Teleconference January 12, 2015 10am CST

Upcoming Meetings and Conferences

- [Advances in Skeletal Muscle Biology in Health and Disease](#) January 20-22, 2016, University of Florida
- [ACSM Health & Fitness Summit & Expo](#) March 29 - April 1, 2016, Orlando, FL
- [ACSM Annual Meeting, World Congress on Exercise is Medicine and World Congress on The Basic Science of Energy Balance](#) May 31 - June 4, 2016, Boston, MA
- [Rehabilitation Research at NIH: Moving the Field Forward](#) May 25-26, 2016, Bethesda, MD

New Findings from NExTNet Investigators

Aging

- [Prostaglandin E2 / cyclooxygenase pathway in human skeletal muscle: Influence of muscle fiber type and age.](#)
- [Successful aging: Advancing the science of physical independence in older adults.](#)
- [Effects of Resistance Training on Classic and Specific Bioelectrical Impedance Vector Analysis in Elderly Women.](#)
- [Nocturnal enuresis as a risk factor for falls in older community-dwelling women with urinary incontinence.](#)
- [The Relationships between Age and Running Biomechanics.](#)

Arthritis

- [ARE unilateral and bilateral knee osteoarthritis patients UNIQUE subsets of knee osteoarthritis? A biomechanical PERSPECTIVE.](#)

Cancer

- [Post-treatment weight change in oral cavity and oropharyngeal squamous cell carcinoma.](#)
- [Modafinil Moderates the Relationship Between Cancer-Related Fatigue and Depression in 541 Patients Receiving Chemotherapy.](#)
- [A Dyadic Exercise Intervention to Reduce Psychological Distress Among Lesbian, Gay, and Heterosexual Cancer Survivors.](#)
- [YOCAS® Yoga Reduces Self-reported Memory Difficulty in Cancer Survivors in a Nationwide Randomized Clinical Trial: Investigating Relationships Between Memory and Sleep.](#)

Cardiovascular Disease

- [Targeting Iron Deficiency Anemia in Heart Failure.](#)
- [Smoking Behaviors and Arterial Stiffness Measured by Pulse Wave Velocity in Older Adults: The Atherosclerosis Risk in Communities \(ARIC\) Study.](#)
- [The effects of exercise on the lipoprotein subclass profile: A meta-analysis of 10 interventions](#)

Cell and Molecular Biology

- [Genomic and transcriptomic predictors of triglyceride response to regular exercise](#)
- [High Intrinsic Aerobic Capacity Protects against Ethanol-Induced Hepatic Injury and Metabolic Dysfunction: Study Using High Capacity Runner Rat Model.](#)
- [Influence of muscle metabolic heterogeneity in determining the V.O₂p kinetic response to ramp-incremental exercise.](#)
- [Exercise and gut immune function: evidence of alterations in colon immune cell homeostasis and microbiome characteristics with exercise training.](#)
- [Moderately Fermentable Potato Fiber Attenuates Signs and Inflammation Associated with Experimental Colitis in Mice.](#)

Exercise – Drug/Diet/Device/Surgery Interactions

- [The anabolic response to a meal containing different amounts of protein is not limited by the maximal stimulation of protein synthesis in healthy young adults.](#)
- [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.](#)
- [Validity of near-infrared interactance \(FUTREX 6100/XL\) for estimating body fat percentage in elite rowers.](#)

Metabolic

- [Using a Verification Test for Determination of V\[Combining Dot Above\]O₂max in Sedentary Adults With Obesity.](#)
- [Effects of ovariectomy and intrinsic aerobic capacity on tissue-specific insulin sensitivity.](#)
- [Integrative mRNA-microRNA analyses reveal novel interactions related to insulin sensitivity in human adipose tissue.](#)
- [A high-fat, high-saturated fat diet decreases insulin sensitivity without changing intra-abdominal fat in weight-stable overweight and obese adults.](#)

Neuroscience and Stroke

- [Preliminary Upper Estimate of Peak Currents in Transcranial Magnetic Stimulation at Distant Locations from a TMS Coil.](#)
- [Effects of Endurance Exercise Training on The Motor and Non-Motor Features of Parkinson's Disease: A Review.](#)
- [Sex differences in autonomic function following maximal exercise.](#)

Pediatric

- [Obesity, Asthma, and Exercise in Child and Adolescent Health.](#)

- [Noninvasive Brain Stimulation in Pediatric Attention-Deficit Hyperactivity Disorder \(ADHD\): A Review.](#)
- [Physical Activity and Obesity in Pediatric Exercise Science.](#)

Respiratory

- [Use of FEV1 as a measure of lung health in the UK BiLEVE study.](#)

Additional New Findings

- [Exercise as medicine - evidence for prescribing exercise as therapy in 26 different chronic diseases.](#)
- [Physical exercise and pelvic girdle pain in pregnancy: A nested case-control study within the Danish National Birth Cohort.](#)
- [Pulmonary capillary reserve and exercise capacity at high altitude in healthy humans.](#)
- [Symmorphosis and Skeletal Muscle VO₂max : In Vivo and In Vitro Measures Reveal Differing Constraints in the Exercise-trained and Untrained Human.](#)
- [Compliance with national recommendations for exercise during early pregnancy in a Danish cohort.](#)
- [Factors associated with leisure-time physical activity among patients undergoing hemodialysis.](#)
- [Coronary microvascular function, insulin sensitivity and body composition in predicting exercise capacity in overweight patients with coronary artery disease.](#)
- [Effects of exercise in the whole spectrum of chronic kidney disease: a systematic review.](#)
- [Does PGC1a/FNDC5/BDNF Elicit the Beneficial Effects of Exercise on Neurodegenerative Disorders?](#)
- [The optimal exercise to rest ratios in repeated sprint ability training, in youth soccer players.](#)
- [Efficacy of eccentric exercise for lower limb tendinopathies in athletes.](#)
- [Management of knee osteoarthritis by combined stromal vascular fraction cell therapy, platelet-rich plasma, and musculoskeletal exercises: a case series.](#)
- [Prognostic utility of cardiovascular magnetic resonance upright maximal treadmill exercise testing.](#)
- [The Effect of a Community-Based Exercise Program on Inflammation, Metabolic Risk, and Fitness Levels Among Persons Living with HIV/AIDS.](#)
- [Republished: Basic science behind the cardiovascular benefits of exercise.](#)
- [Effect of short term aerobic exercise on fasting and postprandial lipoprotein subfractions in healthy sedentary men.](#)
- [Working Out the Woes: An Analysis of the Impact of Exercise on Depression.](#)
- [Relation of Risk of Atrial Fibrillation With Systolic Blood Pressure Response During Exercise Stress Testing \(from the Henry Ford Exercise Testing Project\).](#)
- [Inflammatory marker changes in postmenopausal women after a year-long exercise intervention comparing high versus moderate volumes.](#)
- [Effects of exercise on physical limitations and fatigue in rheumatic diseases.](#)
- [Changes in Non-Enzymatic Antioxidants in the Blood Following Anaerobic Exercise in Men and Women.](#)
- [Current Scientific Evidence for a Polarized Cardiovascular Endurance Training Model.](#)
- [Multiple myeloma and physical activity: a scoping review.](#)
- [Exposure to "Exergames" Increases Older Adults' Perception of the Usefulness of Technology for Improving Health and Physical Activity: A Pilot Study.](#)
- [Can previously sedentary females use the feeling scale to regulate exercise intensity in a gym environment? an observational study.](#)
- [Validity of treadmill- and track-based individual calibration methods for estimating free-living walking speed and VO₂ using the Actigraph accelerometer.](#)
- [Kilimanjaro Abruzzo expedition: effects of high-altitude trekking on anthropometric, cardiovascular and blood biochemical parameters.](#)
- [The relationship between arterial stiffness and the lifestyle habits of female athletes after retiring from competitive sports: a prospective study.](#)
- [Omega-3 Fatty Acids and Skeletal Muscle Health.](#)
- [Pre-menarcheal physical activity predicts post-menarcheal lean mass and core strength, but not fat mass.](#)

- Effects and mechanism of moderate aerobic exercise on impaired fasting glucose improvement.
- [Sleep-related movement disorder symptoms in SHR are attenuated by physical exercise and an angiotensin-converting enzyme inhibitor.](#)
- [Interval training based on ventilatory anaerobic threshold increases cardiac vagal modulation and decreases high-sensitivity c-reactive protein: randomized clinical trial in coronary artery disease.](#)
- [Effects of high-intensity aerobic exercise on psychotic symptoms and neurocognition in outpatients with schizophrenia: study protocol for a randomized controlled trial.](#)
- [Physical exercise, neuroplasticity, spatial learning and memory.](#)
- [Electromyography activity of the deltoid muscle of the weight-bearing side during shoulder flexion in various weight-bearing positions.](#)
- [Green exercise as a workplace intervention to reduce job stress. Results from a pilot study.](#)
- [Is early rehabilitation a myth? Physical inactivity in the first week after myocardial infarction and stroke.](#)
- [Intensive cycle ergometer training improves gait speed and endurance in patients with Parkinson's disease: A comparison with treadmill training.](#)
- [Exercise during pregnancy protects against hypertension and macrosomia. Randomized Clinical Trial.](#)
- [Walk2Bactive: A randomised controlled trial of a physical activity-focused behavioural intervention beyond pulmonary rehabilitation in chronic obstructive pulmonary disease.](#)
- [Acceptability and feasibility of a low-cost, theory-based and co-produced intervention to reduce workplace sitting time in desk-based university employees.](#)
- [Physical activity over a decade modifies age-related decline in perfusion, gray matter volume, and functional connectivity of the posterior default mode network - a multimodal approach.](#)
- [The beneficial effects of Tai Chi exercise on endothelial function and arterial stiffness in elderly women with rheumatoid arthritis.](#)
- [Change in energy expenditure and physical activity in response to aerobic and resistance exercise programs.](#)
- [Does physical activity increase or decrease the risk of sickle cell disease complications?](#)
- [The effects of manual therapy or exercise therapy or both in people with hip osteoarthritis: A systematic review and meta-analysis.](#)

RFAs

- Regenerative Rehabilitation Pilot Grant Applications <http://www.ar3t.pitt.edu/pilot/pilot.html>
- NIH Precision Medicine Initiative Funding Opportunities <http://www.nih.gov/precision-medicine-initiative-cohort-program/funding-opportunities>
- MoTrPAC Genomics, Epigenomics, and Transcriptomics Chemical Analysis Sites and Metabolomics and Proteomics Chemical Analysis Sites <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-15-010.html> and <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-15-011.html>
- MoTrPAC Bioinformatics Center <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-15-012.html>
- MoTrPAC Preclinical Animal Study Sites <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-15-013.html>
- MoTrPAC Consortium Coordination Center <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-15-014.html>
- MoTrPAC Clinical Centers <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-15-015.html>
- Physical Activity and Weight Control Interventions Among Cancer Survivors: Effects on Biomarkers of Prognosis and Survival (R01) <http://grants.nih.gov/grants/guide/pa-files/PA-15-311.html>
- Diet and Physical Activity Assessment Methodology (R01) <http://grants.nih.gov/grants/guide/pa-files/PAR-15-170.html>
- Diet and Physical Activity Assessment Methodology <http://grants.nih.gov/grants/guide/pa-files/PAR-15-171.html>
- Testing Interventions for Health-Enhancing Physical Activity (R01) <http://grants.nih.gov/grants/guide/pa-files/PAR-14-315.html>
- School Nutrition and Physical Activity Policies, Obesogenic Behaviors, and Weight Outcomes (R21) <http://grants.nih.gov/grants/guide/pa-files/PA-13-098.html>
- School Nutrition and Physical Activity Policies, Obesogenic Behaviors and Weight Outcomes (R03) <http://grants.nih.gov/grants/guide/pa-files/PA-13-099.html>

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<http://grants.nih.gov/grants/guide/pa-files/PA-13-100.html>

In the News

- [Does Exercise Help Keep Our Brains Young?](#)
- [Soothe Sore Joints with Water Exercise](#)
- [How Exercise May Help Us Fight Off Colds](#)
- [How to Exercise at Work \(Without Messing Up Your Hair and Makeup\)](#)
- [8 Ways to Burn Big Calories This Winter That Don't Involve the Treadmill](#)
- [How Fit Are You? A Fitness Test for Adults](#)