

UM-OAIC Funded Pilot Projects – Year 01 (1994) to Year 23 (2017)

Year 01 (1994-1995)

Effects of Exercise on Blood Pressure, Hyperinsulinemia and Renal Function in the Elderly

Donald R. Dengel, Ph.D., Research Associate (Andrew Goldberg, M.D., Matthew Weir, M.D., Mentors)

Exercise Rehabilitation Programs for the Treatment of Claudication Pain

Andrew W. Gardner, Ph.D., Assistant Professor (Eric Poehlman, Ph.D., Mentor)

Effect of Weight Loss and Exercise Training on Lipoprotein Lipid Metabolism in Elderly with Atherogenic LDL Phenotype

Leslie I. Katzel, M.D., Ph.D., Assistant Professor (Andrew Goldberg, M.D., Mentor)

Costs of Congestive Heart Failure among the Elderly

Ernest Moy, M.D., MPH, Assistant Professor (James Hudson, M.D., Mentor)

The Effects of Strength Training on Insulin Sensitivity and Glucose Tolerance in Post-Menopausal Women with Impaired Glucose Tolerance

Alice Smith Ryan, Ph.D., Research Fellow (Dariush Elahi, Ph.D., Mentor)

Year 02 (1995-1996)

Cognitive Functioning of Hip Fracture Patients in the Hospital: Components, Predictors, Trajectories, Outcomes, and Implications for Intervention

Ann L. Gruber-Baldini, Ph.D., Research Associate (Jay Magaziner, Ph.D., M.S. Hyg., Mentor)

Aerobic Exercise in the Elderly Stroke Population

Richard F. Macko, M.D., Assistant Professor (Andrew Goldberg, M.D., Mentor)

Effects of Aerobic Exercise in Endogenous Fibrinolysis in Elderly Patients with Intermittent Claudication and Stroke

Lois Killewich, M.D., Ph.D., Assistant Professor (William Flinn, M.D. and Andrew Goldberg, M.D., Mentors)

Assessment of Leg Perfusion in Intermittent Claudication

Andrew Gardner, Ph.D., Research Assistant Professor (William Flinn, M.D., Mentor)

Year 03 (1996-1997)

The Impact of Computer-Assisted Data Collection in a Geriatric Population

Roopak Manchanda, M.S. and Mitchell Rosen, Ph.D. (Douglas Bradham, Dr.P.H., Mentor)

Lower Extremity Strength in Vascularly Disabled Individuals: Peripheral Arterial Disease and Stroke

Kenneth Silver, M.D., Associate Professor (Andrew Goldberg, M.D., James Hagberg, Ph.D., Mentors)

Year 04 (1997-1998)

The Effect of Exercise on Recovery of Function Following Hip Fracture

Perry Colvin, M.D., Assistant Professor (Jay Magaziner, Ph.D., Mentor)

The Effect of Risk Factor Modification (Diet, Weight Loss, Smoking Cessation, Exercise) on Endothelium-Dependent Brachial Artery Vasoactivity in Older Men and Women

Mary Corretti, M.D., Assistant Professor (Stephen Gottlieb, M.D., Leslie Katzel, M.D., Ph.D., Mentors)

Electromagnetic Motor Evoked Potentials (MEPs) as a Prognostic Measure of Functional Outcomes in Stroke Patients

Gerald Smith, Ph.D., P.T., Assistant Professor (Mary Rodgers, Ph.D., PT, Mentor)

Year 05 (1998-1999)

Muscle Fiber Plasticity in Hemiparetic Patients after an Aerobic Exercise Program

Patrick DeDeyne, Ph.D., MPT, Assistant Professor (Andrew Coggan, Ph.D., Mentor)

Analysis of Cardiac Na/Ca Exchanger During Aging

Abdul Ruknudin, Ph.D., Research Assistant Professor (John Lederer, M.D., Ph.D., Mentor)

Upper Extremity Training in Stroke Patients: A Feasibility Study

Sandra McCombe-Waller, M.S., Clinical Instructor (Jill Whittall, Ph.D., Mentor)

Year 06 (1999-2000)

Neuroplasticity and Upper Extremity Training in Stroke Patients

Larry Forrester, Ph.D., PT, Associate Professor (Jill Whittall, Ph.D., Daniel Hanley, M.D., Gerald Smith, Ph.D., PT, Mentors)

Year 07 (2001-2002)

The Construct of a Hip Fracture-Specific Functional Test and Feasibility of a New Training Program

Gad Alon, Ph.D., PT, Associate Professor (Perry Colvin, M.D., Jay Magaziner, Ph.D., M.S. Hyg., Mentors)

Short-term Neural Adaptations with Treadmill Training in Chronic Hemiparetic Stroke Patients

Larry Forrester, Ph.D., Assistant Research Professor/Research Associate (Daniel Hanley, M.D., Richard Macko, M.D. Mentors)

Development of a Rodent Model Using Aerobic Exercise as Rehabilitative Intervention after Focal Cerebral Ischemia

Daniel Hanley, M.D., Professor (Johns Hopkins University)

Peripheral Arterial Occlusive Disease, Cognition, and Magnetic Resonance Abnormalities in Older Adults

Shari Waldstein, Ph.D., Assistant Professor (Leslie Katzel, M.D., Ph.D., Eliot Siegel, M.D., David Lefkowitz, M.D., Abraham Obuchowski, M.D., Mentors)

Year 08 (2002-2003)

Muscle Protein Profile in Patients with Stroke

Patrick G. DeDeyne, Ph.D., M.P.T., Associate Professor (Richard Macko, M.D., Mentor)

Progressive Rate Training (PRT) Post Stroke

Carwile LeRoy, M.D., Associate Investigator/Fellow (Richard Macko, M.D., Mentor)

Assessing Treatment Fidelity in the Pepper Center: Enhancing Intervention Research

Denise Orwig, Ph.D., Assistant Professor (Jay Magaziner, Ph.D., M.S. Hyg., Mentor)

Medical Cost Implications of Changes in Functional Status

Bruce Stuart, Ph.D., Professor

Central Motor Control Mechanisms Associated with Hand Dominance and Their Adaptability to Unilateral and Bilateral Training

Sandra McComb Waller, MS, PT, Assistant Professor (Jill Whittall, Ph.D., Mary Rodgers, Ph.D., Mentors)

Year 09 (2003-2004)

Impedance-Controlled Ankle Robotics: A Novel Technology for Gait Rehabilitation after Stroke

Larry Forrester, Ph.D., Assistant Professor (Richard Macko, M.D., Igo Krebs Ph.D., Christopher Bever, M.D., Mentors)

Age, Lifestyle, Muscle Mechanisms in Insulin Resistance (Training Only)

Lyndon Joseph, Ph.D., Assistant Professor (Alice Ryan, Ph.D., Andrew Goldberg, M.D., Mentors)

Morphometrical and Volumetrical Characteristics of the Lesioned Brain as Predictors of Therapeutic Benefits of BATRAC and AEX

Andreas Luft, M.D., Assistant Professor, University of Tübingen, Germany (Daniel Hanley, M.D., Mentor)

Skeletal Muscle Size and Performance in HIV and Individuals of Differing Functional Status

David Russ, P.T., Ph.D., Assistant Professor (Les Katzel, M.D., Ph.D., Andrew Goldberg, M.D.)

Year 10 (2004-2005)

Adipose Tissue Production of Inflammatory Cytokines: Cellular Sources and Changes with Age

Jacob Blumenthal, M.D., Assistant Professor (Susan K. Fried, Ph.D. Andrew P. Goldberg, M.D.)

The Effects of Exercise on Renal Function as Measured by Cystatin C Versus Creatinine-based Estimates of Glomerular Filtration Rate

Jeffrey Fink, M.D., Associate Professor of Medicine (Les Katzel, M.D., Ph.D., mentor)

Does side of Stroke Affect Central Motor Control Mechanisms in Response to Short-term Unilateral Versus Bilateral Training?

Sandy McCombe Waller, Ph.D., PT, Assistant Professor (Jill Whittall, Ph.D., Daniel Hanley, M.D.)

The Effects of Resistive Training on Muscle Atrophy and Insulin Sensitivity in Hemiparetic Stroke Patients

Alice S. Ryan, Ph.D., Associate Professor and Fred Ivey, Ph.D., Assistant Professor (Richard Macko, M.D., Andrew P. Goldberg, M.D.)

Exercise Rehabilitation in Parkinson Disease

Frank Skidmore, M.D., Assistant Professor (Richard F. Macko, M.D., Lisa M. Shulman, M.D., William J. Weiner, M.D.)

Year 11 (2005-2006)

SAA Reduction as a Beneficial Mechanism of Weight Loss by Exercise

Da-Wei Gong, M.D., Ph.D., Assistant Professor (Andrew P. Goldberg, M.D., Alice Ryan, Ph.D.)

Feasibility Study for the Measurement of Lower Extremity Muscle Strength, Muscle Composition and Cardiovascular Fitness Following Hip Fracture

Ram Miller, MDCM, MSc, Assistant Professor (Jay Magaziner, Ph.D., Alice Ryan, Ph.D., Richard Macko, M.D., Charlene Hafer-Macko, M.D.)

Aging and HIV

Kris Ann Oursler, M.D., Associate Professor (Les Katzel, M.D., Charlene Hafer-Macko, M.D.)

Effects of Ambulatory Exercise Training on Risk Factors for Sudden Cardiac Death in Stroke Patients

Eric Rashba, M.D., Associate Professor (Richard Macko, M.D., Frederick Ivey, Ph.D.)

Cerebral Hypoperfusion and Cognitive Dysfunction in Chronic Kidney Disease (CKD)

Stephen Seliger, M.D. MS, Assistant Professor (Shari Waldstein, Ph.D., Les Katzel, M.D., Ph.D., Jeffrey Fink, M.D., MS, Eliot Siegel, M.D.)

Year 12 (2006-2007)

The Effect of Treadmill Training on Recovery of Lower Extremity Function and Inflammatory Cytokines in Hip Fracture Patients

Ram Miller, MDCM, MSc, Assistant Professor (Jay Magaziner, Ph.D., Alice Ryan, Ph.D., Richard Macko, M.D., Charlene Hafer-Macko, M.D.)

Mechanisms of Cellular Regeneration and Repair in the Functional Recovery of Skeletal Muscles from Older Animals Following Eccentric Injury

David Russ, P.T., Ph.D., Assistant Professor (Les Katzel, M.D., Ph.D., Andrew Goldberg, M.D.)

Short-Term Adaptations in Paretic and Lower Extremity Motor Control after Stroke: Bilateral Coupled Robots vs. Passive Manual Exercise.

Larry Forrester, Ph.D., Assistant Professor (Richard Macko, M.D., Igo Krebs Ph.D., Christopher Bever, M.D., Mentors)

Year 13 (2007-2008)

Adaptive Physical Activity in Hemiparetic Stroke

Kathleen Michael, Ph.D., Assistant Professor (Richard Macko, M.D., Andrew Goldberg, M.D., Mentors)

Effects of Aerobic Exercise Training on VEGF, Angiogenesis and Glucose Metabolism in Older Adults

Steven Prior, Ph.D. Assistant Professor (Alice Ryan, Ph.D., Andrew Goldberg, M.D., Heidi Ortmeier, Ph.D., Mentors)

Immunologic Dysfunction in Elderly Subjects who undergo Aerobic Exercise Rehabilitation

Wilbur Chen, M.D., Assistant Professor (Andrew Goldberg, M.D., Alice Ryan, Ph.D., Mentors)

The Effect of Home-Based Exercise Training on Recovery of Lower Extremity Function and Inflammatory Cytokines in Hip Fracture Patients

Ram Miller, M.D.C.M., Assistant Professor (Jay Magaziner, Ph.D., Les Katzel, M.D., Ph.D., Mentors)

Resistive Training and Skeletal Muscle Insulin Action in Hemiparetic Stroke Patients

Alice S. Ryan, Ph.D., Professor and Fred Ivey, Ph.D., Assistant Professor (Richard Macko, M.D., Mentor)

Year 14 (2008-2009)

Endothelial Function and Cognitive Dysfunction in Chronic Kidney Disease

Afshin Parsa, M.D., Ph.D., Assistant Professor (Les Katzel, M.D., Ph.D., Mentor)

Hip Muscle Composition: Relationships with Neuromechanical Performance, Lateral Stability, and Risk of Falls in Older Adults

Mark Rogers, Ph.D., P.T. Professor (Andrew Goldberg, M.D. and Alice Ryan, Ph.D. Mentors)

UM-OAIC & MERCE Joint Pilot Collaboration

Assessment of Motor System Connectivity in Stroke Rehabilitation

Alan McMillan, Ph.D., Research Associate (Jill Whittall, Ph.D., Mentor)

Year 15 (2009-2010)

Impact of Inflammatory Bowel Disease and Aging on Body Composition and Functional Performance

Raymond Cross, M.D., MS, Associate Professor (Les Katzel, M.D., Ph.D., and Alice Ryan, Ph.D., Mentors)

The Effects of Aging on Airway Smooth Muscle Contraction and Relaxation

Deepak Deshpande DVM, Ph.D., Assistant Professor (Andrew Goldberg, M.D., Mentor)

Task-Oriented Exercise and Behavioral Intervention to Promote Activity in Stroke

Kathleen Michael Ph.D., RN, CRRN, Assistant Professor (Richard Macko, M.D. and Andrew Goldberg, M.D., Mentors)

UM-OAIC & MERCE Joint Pilot Collaboration

Cortical and Biomechanical Dynamics of Lower Extremity Robot Assisted Training at Different Levels of Motivational Incentive Implications for Stroke Survivors

Ronald Goodman, Ph.D., Research Fellow (Richard Macko, M.D. and George Wittenberg, M.D., Ph.D., Mentors)

Myasthenia Gravis Exercise Program to Increase Physical Activity and Fitness and Reduce Cardiovascular Risk

Charlene Hafer-Macko, M.D., Associate Professor (John Sorokin, M.D., Ph.D. Mentor)

Plasticity, Kinetics and Kinematics of Bilateral Reaching Therapy in Chronic Stroke

Lauren Jones-Lush, Ph.D., Assistant Professor (George Wittenberg, M.D., Ph.D., Mentor)

Year 16 (2010-2011)

Role and Mechanism of Exercise Induced Facilitation of Recovery after Experimental Traumatic Brain Injury

Alan Faden M.D., Professor (Richard Macko, M.D., Mentor)

Pilot Study of Prehabilitation Prior to Elective Surgery in Older Adults

Ram Miller M.D., CM, Assistant Professor (Jay Magaziner, Ph.D., M.S.Hyg, Mentor)

Effect of a Progressive, Adaptive Physical Activity Regimen on Functional Outcomes and Musculoskeletal Composition in Elderly Survivors of Critical Illness

Giora Netzer, M.D., MSCE, Assistant Professor (Michael Terrin, M.D., CM, MPH, Mentor)

Functional and Metabolic Benefits of Rehabilitation in HIV

Kris Ann Oursler, M.D., Assistant Professor and Heidi Ortmeier, PhD, Assistant Professor (Charlene Hafer-Macko M.D., Alice Ryan Ph.D., Andrew Goldberg, M.D., Mentors)

UM-OAIC & MERCE Joint Pilot Collaboration

Does Strength Training Improve Balance Training in Older Adults?

Brock Beamer, M.D., Assistant Professor (Andrew Goldberg, M.D., Mark Rogers Ph.D., PT, Mentors)

Year 17 (2011-2012)

Improving Walking Symmetry and Functional Mobility in Stroke Survivors with Split-Belt Treadmill Training

Amy Bastian, Ph.D., Assistant Professor, Johns Hopkins University, Inter-Pepper collaboration (Daniel Hanley, M.D., Mentor)

Aerobic Exercise (AEX) to Improve Regulation of Endothelial Progenitor Cells (EPCs) and Vascular Function in T2DM

Steven Prior, Ph.D. Assistant Professor (Alice Ryan, Ph.D., Andrew Goldberg, M.D., Heidi Ortmeier, Ph.D., Mentors)

Effects of Vitamin D Repletion (D) with and without Multi-Component Lifestyle Exercise Training (MLife) on Muscle Function, Inflammation and Glucose Metabolism in D Deficient Older Adults

Elizabeth Streeten, M.D., Associate Professor and Heidi Ortmeier, Ph.D., Assistant Professor (Andrew Goldberg, M.D., Mentor)

Resistance Training (RT) and Protein (Pro) Supplementation to Improve Muscle Physiology and Reduce Fatigue in Breast Cancer Survivors

Monica Serra, Ph.D., Research Fellow (Andrew Goldberg, M.D., Alice Ryan, Ph.D., Mentors)

A High-Density Electroencephalography (EEG) Neural Decoding Study of Dynamical Cortical Mapping

of Gait in Humans after Stroke

Jose Contreras-Vidal, Ph.D., Professor, University of Houston (Richard Macko, M.D., Larry Forrester, Ph.D., Mentors)

Year 18 (2012-2013)

Comparison of Reactive Step Training and Voluntary Task-Oriented Training to Induce Neuromotor Changes for Improving Balance and Preventing Falls

Douglas Savin, Ph.D., P.T. Assistant Professor (Mark Rogers, Ph.D., P.T., Mentor)

Development of a Rehabilitation Strengthening and Mobility Program for Ventilator Dependent Older Patients

Avelino Verceles, M.D., Assistant Professor (Andrew Goldberg, M.D. and Michael Terrin, M.D., C.M., M.P.H., Mentors)

Probing the Neural Basis and Influence of Cognitive Changes on Impaired Balance in Older Adults

Kelly Westlake, Ph.D., MSc., P.T., Assistant Professor (Mark Rogers, Ph.D., P.T., Shari Waldstein, Ph.D., Tula Adele, Ph.D., Rao Gullapalli, Ph.D., and George Wittenberg, M.D., Ph.D., Mentors)

Using Self-Triggered, Sensory-Enhanced Gaze Shift to Improve Axial Turning Deficits in Persons with Parkinson's Disease

Robert Creath, Ph.D., Assistant Professor (Mark Rogers, Ph.D., P.T., Mentor)

Year 19 (2013-2014)

Early Mobilization of Older Adults after Emergency Surgery

Laura Buchanan, M.D., Assistant Professor (Jay Magaziner, Ph.D., M.S.Hyg, Mentor)

The Effect of Voluntary Exercise on Microglial Activation Phenotypes in the Aged Injured Brain

David Loane, Ph.D., Assistant Professor (Richard Macko, M.D. and Daniel Hanley, M.D., Mentors)

Year 20 (2014-2015)

Ambulatory Activity in Elderly Patients in a Shock Trauma Center

Ivonne-Marie Berges, Ph.D., Assistant Professor (Jay Magaziner, Ph.D., M.S.Hyg, Mentor)

Targeting Corticostriatal Plasticity for Parkinson's Disease Treatment

Brian Mathur, Ph.D., Assistant Professor (Mark Rogers, Ph.D., P.T., George Wittenberg, M.D., Ph.D., Mentors)

Circulating MicroRNAs in Older Adults

Jeffrey Deuliis, Ph.D., Assistant Professor (Alice Ryan, Ph.D., Mentor)

Modulation of Interhemispheric Interactions and Arm Activity after Stroke

Michael Dimyan, M.D., Assistant Professor (George Wittenberg, M.D., Ph.D., Mentor)

Multimodal Rehabilitation and High Protein Supplementation to Minimize ICU- Associated Sarcopenia in the Elderly

Avelino Verceles, MD, Assistant Professor (Andrew Goldberg, M.D. and Michael Terrin, M.D., Mentors)

Year 21 (2015-2016)

Muscle and Functional Assessment in Leakage Study

Tatiana Sanses, M.D., Assistant Professor (Alice Ryan, Ph.D., Mentor)

The Development of a New Biomarker for the Diagnosis of Concussion

Neeraj Badjatia, M.D., M.Sc., FCCM, Associate Professor (Alan Faden, M.D., Mentor)

Towards Next-Generation Phenotyping in Parkinson Disease: Quantitative Analysis of Gait and Balance Using a Portable Biosensor Device

Rainer von Coelln, M.D., Assistant Professor (Lisa Shulman, M.D., Mentor)

Can Lateral Step Training Improve Initial Postural Adjustments in Stroke?

Vicki Gray, P.T., Ph.D., Post-Doctoral Fellow (Mark Rogers, Ph.D., P.T., Mentor)

Functional Benefit of Exercise Therapy after Endovascular Intervention in Older Patients with PAD

Rishi Kundi, M.D., Assistant Professor (Brajesh Lal, M.D., Mentor)

Year 22 (2016-2017)

Feasibility of Extended Post-Acute Intervention for Hip Fracture Patients with Cognitive Impairment (HipERS)

Ann Gruber-Baldini, PhD, Professor (mentor: Elizabeth Galik, PhD, CRNP)

NMES as an Adjunct to Improve Hip Abductor Muscle Quality and Reduce Fall Risk

Odessa Addison, DPT, PhD, Research Associate, (mentors: Alice Ryan, PhD and Les Katzel, MD, PhD)

Blood Functional Genetics as Prognostic Biomarkers and Potential Pharmacotherapy Targets for Upper Arm Motor Recovery in Chronic Stroke Patients

Huichun Xu, MD, PhD, Instructor (mentor: George Wittenberg, MD, PhD)

Towards Next Generation Phenotyping in Parkinson Disease: Quantitative Analysis of Gait and Balance Using a Portable Biosensor Device

Rainer von Coelln, MD, Assistant Professor (mentor: Lisa Shulman, MD)

Inflammatory Biomarkers and Neuropsychiatric Changes after Hip Fracture

Boris Sabirzhanov, PhD, Research Associate and Bogdan Stoica, MD, Assistant Professor (mentors: Jay Magaziner, PhD, MS Hyg and Alan Faden, MD)

Year 23 (2017-2018)

Trajectories of Physical and Psychological Performance Following Mild Traumatic Brain Injury in Older Adults

Jennifer Albrecht, PhD, Assistant Professor (mentor: Jack Guralnik, MD, PhD, MPH)

Bioenergetics and Inflammation as Mechanisms for Post-Stroke Fatigue: A Novel Pathway to Improve Function

N. Jennifer Klinedinst, PhD, MPH, MSN, RN, FAHA, Assistant Professor (mentor: Alice Ryan, PhD)

Characterizing the Heterogeneity and Role of Depressive Symptoms in Hip Fracture Recovery

Alan Rathbun, PhD, MPH, Research Associate (mentor: Jay Magaziner, PhD, MS Hyg)

Serum Metabolomic Profiles in Association with Physical Function and Bone-Related Outcomes at two months and six months after Hip Fracture

Shabnam Salimi, MD, MSc, Research Associate (mentor: Jay Magaziner, PhD, MS Hyg)

The Microtubule Network as a Novel Target in Sarcopenia

Chris Ward, PhD, Associate Professor (mentor: Alice Ryan, PhD)

Year 24 (2018-2019)

Evaluating the Progression of Rotator Cuff Intramuscular Fatty Infiltration in Older Adults Receiving Physical Therapy for Initial Management of Painful Supraspinatus Full-Thickness Tendon Tear: A Longitudinal Prospective Cohort Study

Derik Davis, MD (mentor: Michael Terrin, MDCM, MPH)

Mobility Function as a Predictor of Community Function Among Older Adults with Psychotic Disorders

Anjana Muralidharan, PhD (mentor: Richard Goldberg, PhD)

Year 25 (2019-2020)

Home Exercise Program (HEX) for Homebound Older Adults

Alyssa Stookey, PhD (mentor: Odessa Addison, DPT, PhD)

Immune Mechanisms Responsible for the Impaired B Cell Responses to New Antigens in the Elderly

Franklin Toapanta, MD, PhD (mentor: Wilbur Chen, MD)

Relations of Glucose Variability with Cognitive Function and Functional Status among Older Adults at Risk for Diabetes

Tasneem Khambaty, PhD (mentor: Shari Waldstein, PhD)

Year 26 (2020-2021)

Age-Dependent Changes in Nuclear Mechanotransduction as a Driver of Sarcopenia

Richard Lovering, PhD, PT (mentor: Alice Ryan, PhD)