

Research Summit I

Summary of Activities as of December 2006

Grants: Funded

Multi-Center Clinical Outcomes Study: Health Promotion and Physical Activity in Youths with Disability Planning Grant Year 2007. 5 Year Full 5-year grant submission 05/2007. Collaboration with attendees of Pediatric Summit: Carole Tucker (PI), Maggie O'Neil (CoI), Debbie Thorpe (CoI), Maria Fragala-Pinkham (CoI), Don Morgan (Consultant) and James Rimmer (Consultant)
Group Aquatic Fitness Program at 2 community centers – children 6-14 years with disabilities. Yawkey Foundation and Giving Tree Foundation. (Maria Fragala, PI) - (October 2006-2007)
NIH/R21 Project title: Underwater treadmill training in children with cerebral palsy Role: Primary Investigator, \$311,624 (Don Morgan, PI) - (04-07)
NIH/K23 Patient Oriented Mentored Career Award. Secondary Conditions in Adults with CP and Effect of Aquatic Resistive Exercise on Fitness and Function. (Debbie Thorpe, PI) - (9/06-8/11)
SHC Multi-Center Clinical Outcomes Study: Speed-Focused, Supported Treadmill Training Exercise Program for Children with CP. (Carole Tucker, PI) (2007-2009)
NIDRR grant, Obesity and Obesity-Related Secondary Conditions in Youth with Disabilities. Much of the work is related to fitness and health for youth with disabilities. (Jim Rimmer, PI; Jennifer Rowland, Co-I)- (10/06-10/07)
Finishing 3 year award from UCPA “Enhancing Function, Fitness and Participation in Adolescents with CP” (Debbie Thorpe, PI)
NIH (NCMRR) R21 - Effects of Motor-Assisted Cycling in Cerebral palsy (Diane Damiano, PI)
Northern Arizona University Intramural Grant Program: Muscle energy metabolism during locomotion across life span (Kathleen Ganley, PI) - (2007-2008)

Publications

Baynard, T., K.H. Pitetti, M. Guerra, & B. Fernhall. Heart rate variability at rest and exercise in persons with Down syndrome. <i>Archives of Physical Medicine and Rehabilitation</i>
Beets, M. W. & K.H. Pitetti,. Criterion-Referenced Reliability and Equivalency between the PACER and 1-Mile Run/Walk for High School Students. <i>Journal of Physical Activity and Health</i> . 3(Suppl. 2): S17-S29, 2006.
Beets, M. W., R. Vogel, S. Chapman, K.H. Pitetti, & B.J. Cardinal. Parent social support for children’s outdoor physical activity: Do weekdays and weekends matter? <i>Sex Roles</i> .
Beets, M.W., A.G. Eilert, K.H. Pitetti, & J.T. Foley. Student and parent self-reported changes in physical activity behavior while wearing an unsealed pedometer. <i>Pediatric Exercise Science</i> . 18:492-499, 2006.
Beets, M.W., C. Combs, K.H. Pitetti, M. Morgan, R.R. Bryan, & J.T. Foley. Accuracy of pedometer steps and time for youths with disabilities. <i>Adapted Physical Activity Quarterly</i> .
Beets, M.W., K.H. Pitetti, & L. Forlaw, The Role of self-efficacy and referent specific social support in promoting rural adolescent girls’ physical activity. <i>American Journal of Health and Behavior</i> . 31(3): 227-237, 2007
Beets, M.W., R. Vogel, L. Forlaw, K.H. Pitetti, & B.J. Cardinal. Social support and youth physical fitness activity: the role of provider and type. <i>American Journal of Health and Behavior</i> . 30(3): 278-289, 2006.
Begnoche DM, & K.H. Pitetti. Effects of a 4-week intensive physical therapy program with partial body weight training support on motor performance and locomotor skills of children with spastic cerebral palsy: A Pilot Study. <i>Pediatric Physical Therapy</i> .
Chien F, DeMuth S, Knutson L, Fowler E. The use of the 600 yard walk-run test to assess walking endurance and speed in children with cerebral palsy. <i>Pediatr. Phys.Ther</i> . 18:86, 2006.
Damiano DL. Activity, activity, activity: rethinking our physical therapy approach to cerebral palsy. <i>Phys Ther</i> . 2006 Nov; 86(11): 1534-40.
DeMuth S, Fowler E, Knutson L, Wang W, Ervin C. Relationship between Health Related Quality of Life and Physical Function in Children with Cerebral Palsy. <i>Dev. Med. Child Neurol</i> . 48:48, 2006.
Dusing SA, Thorpe DE. A Normative Sample of Temporal and Spatial Gait Parameters in Children using the GAITRite® Electronic Walkway. <i>Gait and Posture</i> , 2007; 25: 135-139.

Dusing SC, Thorpe DE, Rosenberg A, Mercer V, Escolar M. Gross Motor Abilities in Children with Hurler Syndrome. <i>Developmental Medicine and Child Neurology</i> , 2006; 48: 927-930.
Eskew, B. 5th ed. <i>Neurologic Rehabilitation</i> Ch 29 "Aging with Dignity and Chronic Impairments" Section I Adults with Developmental Disabilities
Fragala-Pinkham MA, Bradford L, Haley SM (2006) Evaluation of the nutrition counseling component of a fitness program for children with disabilities. <i>Pediatric Rehabilitation</i> 9(4): 378-388.
Fragala-Pinkham MA, Haley SM, Goodgold S. (2006) Evaluation of a community-based group fitness program for children with disabilities. <i>Pediatric Physical Therapy</i> ; 18:159-167.
Goulopoulou, S., Baynard, S. Callier, I. Giannopoulou, A. Figureroa, M. Beets, K.H. Pitetti, & B. Fernhall. Cardiac autonomic control in individuals with Down syndrome. <i>American Journal of Mental Retardation</i> . 111(1): 27-34, 2006.
Haley SM, Fragala-Pinkham, M, Ni P. (2006) Sensitivity of a computer adaptive assessment for measuring functional mobility changes in children enrolled in a community fitness program. <i>Clinical Rehabilitation</i> 20(7): 616-622.
Keefer, D.J., Tseh, W., Caputo, J.L., Apperson, K., McGreal, S., and Morgan, D.W. (2005). Within- and between-day stability of walking $\dot{V}O_2$ in children with hemiplegic cerebral palsy. <i>Gait and Posture</i> , 21:80-84.
Lennon, N. "The Relationship of Fitness Measurements to P Step Totals for Children with Cerebral Palsy: A Pilot Project" (Abstract DMCN Sept 2006, Full paper submitted to DMCN Jan 07)
Lennon, N. "The Importance of Normalizing Oxygen Based Energy Measures of Gait" Abstract <i>Gait and Posture</i> April 2007
Morgan, D. (2006). Economy of locomotion. <i>Pediatric Exercise Science</i> , 18: 166-170.
Ondrak, K. and Morgan, D. (2007). Physical activity, calcium intake and bone health in youth. <i>Sports Medicine</i> (in press).
Ondrak, K. and Morgan, D.W. (2006). Factors influencing bone mineral density and content in young girls. <i>Pediatric Exercise Science</i> , 18: 101-112.
Pitetti, K.H., A.D. Rendoff, T. Grover, & M.W. Beets. The impact of a 9-month walking program on the exercise capacity and weight reduction for adolescents with severe autism. <i>Journal of Autism and Developmental Disorders</i> .
Rose, J., Morgan, D., and Gamble, J. (2005). Energetics of walking. In: <i>Human Walking</i> , 3 rd edition, J. Rose and J. Gamble (Eds.), Baltimore: Lippincott, Williams, and Wilkins, 77-102.
Schlough, Nawoczinski Case, Nolan and Wigglesworth. "The Effects of Aerobic Exercise on Endurance, Strength, Function and Self-Perception in Adolescents with Spastic Cerebral Palsy: A Report of Three Case Studies" in <i>Pediatric Physical Therapy Journal</i> . Winter 2005, Vo. 17, #4, pp 234-250.
Siebert K, Fowler E, DeMuth S, Knutson L. Development of a stationary cycling intervention for children with cerebral palsy. <i>Pediatr. Phys. Ther.</i> 17:83, 2005.
Wesdock K, Kott K, Masiello G, Sharps C. Quantitative Evaluation of Hand Function in Cerebral Palsy: A Case Series. Submitting to <i>Journal of Hand Therapy</i> . February 2007.
Wiens, G.A., & K.H. Pitetti. Methodology to Measure the Effects of an Adapted Seating Device on the Vertical and Cross Midline Reaching Capacity of Toddlers with Spastic Cerebral Palsy: A Study of Feasibility and Objectivity. <i>Pediatric Physical Therapy</i> . 18:226-228, 2006
Wondra, V.C., K. H. Pitetti, & M.W. Beets. Reliability of temporal and spatial gait parameters in children with motor disabilities including cerebral palsy using the GAITRite® electronic walkway system: A pilot study. <i>Pediatric Physical Therapy</i> .
Wondra, V.C., K.H. Pitetti, & M.W. Beets. Isolating the effect of partial body weight treadmill training on motor function and gait patterns of children with gross motor delays. <i>Archives of Physical Medicine and Rehabilitation</i>

Presentations

Beets, M. W., Vogel, R., Chapman, S., Maxfield, J., Cardinal, B. J., & Pitetti, K. H. (2006). Relationship Between Social Support and Children's Activity: Pedometer Versus Self-Report. Abstract presented at the 2006 AAHPERD National Convention and Exposition, Salt Lake City, UT.
Beets, M. W., Vogel, R., Pitetti, K. H., Chapman, S., & Cardinal, B. J. (2006). Modeling the Relationship Among Social Support, Self-Efficacy, and Adolescent Girls' Activity. Abstract presented at the 2006

AAHPERD National Convention and Exposition, Salt Lake City, UT.
Damiano, D. IISTEP Main & regional courses. Salt Lake City, UT, 2006.
Fay, J. and Morgan, D. Physical activity, body fat, and bone mass in asthmatic girls. American College of Sports Medicine, Nashville, TN, June, 2005.
Lennon, N. "The Importance of Normalizing Oxygen Based Energy Measures of Gait" GCMAS April 07
Lennon, N. "The Relationship of Fitness Measurements to Daily Step Totals for Children with Cerebral Palsy: A Pilot Project" Nominated for Gayle Arnold Award AACPDM Sept 06
Morgan, D. Fitness testing for children with disabilities. Invited presentation, Shriner's Hospital, Philadelphia, PA, March, 2006.
Morgan, D. Health-related measures of physical fitness in youth with cerebral palsy. Submitted for presentation as an instructional course at the 2007 AACPDM meeting in Vancouver, BC
Morgan, D. Improving functional performance in youth with cerebral palsy: A walk to a better tomorrow. Research Symposium, University of Tennessee, March, 2007.
Morgan, D. Pediatric exercise physiology: responses to acute and chronic endurance exercise. Tutorial presented at the Southeast American College of Sports Medicine meeting, Charlotte, NC, February, 2005.
Morgan, D. Physical activity and childhood obesity. Tennessee Public Health Association Conference, Franklin, TN, November, 2006.
Morgan, D. and Pate, R. Obesity prevention in children. Joint Commission for Sports Medicine and Science, British Columbia, Canada, February, 2006.
O'Neal, M. Health behaviors and stage of change in physical activity and eating habits for children with disabilities and their parents. Shriner's Hospital conference, March 2006.
Ondrak, K. and Morgan, D. Factors influencing bone mineral density in young girls. Southeast American College of Sports Medicine meeting, Charlotte, NC, February, 2005.
Pitetti, K. "Hemodynamic responses to submaximal cycle ergometry in individuals with Down syndrome," and "Heart rate variability responses in handgrip and cycle ergometry in persons with Down syndrome." Denver, CO, The American College of Sports Medicine annual meeting.
Pitetti, K. "Age-related changes in aerobic capacity in individuals with mental retardation: a 20-year review," & "The accuracy of pedometer steps and time during walking in youth with disabilities." Charleston, SC, 14 th North American Society for Pediatric Exercise Medicine.
Souza, Richard B. ¹ ; Fowler, Eileen G. ² ; De Muth, Sharon ¹ ; Siebert, Kara ² ; Salem, George. "The influence of knee extensor and flexor strength on knee kinematics and kinetics of children with cerebral palsy. " ¹ Peds Research presentation by Rich Souza at this years CSM
Tieman B, Minick P, Tolbert-Sullivan N, Cook A, Ayers A, Barrow J, Clark A, Cooley K. Parental perspectives of mobility in children with cerebral palsy. Boston, MA, APTA Combined Sections Meeting, 2007.
Tseh, W., Caputo, J.L., Keefer, D.J., Corbin, A., Moorhouse, D., and Morgan, D.W. Determination of validity and reliability of the BOD POD self-tracking body composition system. To be presented at the American College of Sports Medicine meeting, New Orleans, LA, May, 2007.
Tucker, C. Fitness for Children with CP. SHC_PHL 8 th Annual CP Conference, 04/2006
Tucker, C. Fitness for Youths with Disability. Bellevue, WA, ACP 11/2006
Wesdock K, Gewanter H, Shah S, Masiello G, Sharps C. Improving Hand Function in Childhood Scleroderma Using Continuous Passive Motion. Arthritis College of Rheumatology Annual Conference (ACR/ARHP) Poster Presentation in Washington, DC – November 2006
Wesdock K, Masiello G, Rasnake EB, Blair S, Sharps C. Validation of a Clinically Useful Kinematic Model for Upper Limb Motion Analysis in Hemiplegic Cerebral Palsy and Brachial Plexus Palsy. Joint European Movement Analysis Conference (ESMAC + GCMAS) Poster Presentation in Amsterdam – September 2006

Respondents:

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