

16th International Conference and Exhibition on**OBESITY & WEIGHT MANAGEMENT**
&**17TH WORLD FITNESS EXPO** November 13-15, 2017 | Atlanta, USA**A comparison of two types of resistance exercises, machine weight versus elastic band exercises, on glucose and insulin responses in postmenopausal women****H George Philippi**
Radford University, USA

Limited research has looked into the acute effects of exercise on insulin/glucose metabolism by comparing machine weight and elastic band resistance exercises. The purpose of this study was to compare two forms of resistance exercise, machine weight versus elastic band exercise, for effects on glucose and insulin responses in postmenopausal women. Ten healthy, normoglycemic (fasting glucose: 85.6±5.3 mg/dL), sedentary postmenopausal women completed the study (57±8.3 years). Each participant performed three trials, one using machine weight exercises, one using elastic band exercises and a rest trial. The resistance exercise trials were conducted in circuit fashion for three sets and were comprised of 10 total exercises. Eight of ten exercises were with resistance for upper and lower body, while the remaining two exercises were unloaded core exercises. Each exercise set consisted of 12-15 repetitions. Dietary intake was recorded for three days prior to each trial and analyzed. After an overnight fast, an oral glucose challenge was performed 18–24 hours after the two exercise and one rest trials. No main-effect for trial (MWRE, ELBRE, Rest) were observed on insulin, C-peptide or glucose compared to rest ($p>0.05$); no main effect differences between insulin, C-peptide and glucose area under the curve ($p>0.05$); no main effect difference for trial on the Cederholm insulin sensitivity index ($p>0.05$); and no main effect for trial by 3-day or 1-day macronutrient intake (all $p>0.05$). Resistance exercises utilizing both machine weight and elastic band had comparable (no) effect on insulin, C-peptide and glucose metabolism after an acute bout for these particular healthy, sedentary, postmenopausal women. The practical application for elastic band resistance exercises, from this study, are questionable compared to more traditional resistance exercises for possibly altering insulin, C-peptide and glucose responses.

Biography

H George Philippi is currently working as an Assistant Professor of Health and Exercise Science, Radford University, Radford. He did his education: BS of Physical Education from UNT (formerly NTSU) (1983), MA of Human Performance from New Mexico Highlands University (1991) and PhD TWU Exercise Physiology in Kinesiology Department (2017). He has worked as a Personal Trainer, Strength Coach and Educator. He worked with athletes from many different sports (football, soccer, track and field, tennis, swimming, martial arts, baseball, rugby, boxing, volleyball, softball, basketball, hockey, runners, power lifters and Olympic lifters). His areas of interest lie in the utilization of resistance exercise for the prevention and/or betterment of pre-diabetes, better known as metabolic syndrome and the use of novel training implements/methodologies for improving strength, power, flexibility and mobility at all stages of our lifespan.

hphilippij@radford.edu

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