Human Performance Laboratory
Minnesota State University, Mankato

About the Lab
We conduct applied research and train students in exercise science, exercise physiology, athletic training, and physical education. Research topics have included exercise testing & prescription, clinical problems in sports medicine and clinical instruction, fall prevention, worksite wellness, and tactical strength & conditioning. We consult on a variety of projects within the region.

Recent Projects
Nutritional Issues
1.) Recovery nutrition for tactical athletes: work in collaboration with the University of Kentucky’s Lab recently published in the National Strength & Conditioning Associations’ Tactical Strength & Conditioning Report (November 2012)
2.) Do the non-caffeine ingredients of energy drinks affect metabolic responses to heavy exercise? (JoLynne Neimeyer) We reported there the purported efficacy of the secondary ingredients in energy drinks do not add to the benefit of caffeine. This study was highlighted by the NY Times along with several radio shows aired throughout the U.S. and Canada.
3.) Does consumption of beer after running adversely affect glycogen storage? Work in collaboration with Colorado Mesa University’s Lab recently highlighted in Runner’s World (February, 2012).

Force Science
1.) Traffic Stop Study in Hillboro, Oregon: we conducted the biomechanical analyses of 94 police officers responding to a lethal force encounter. This work was highlighted by the Oregonian and featured on the Discovery Channel.
2.) Sprint Start Study: we evaluated the variability of 7 different sprinting starts.

Critical Power
1.) Training studies: we conduct two studies on the using the critical power model for systematically training a group of athletes.
2.) Validation and reliability analyses of the 3-min all-out exercise test for cycle ergometry and for running

Gas Exchange Threshold & Maximum Oxygen Uptake
1.) Our lab’s protocol for graded exercise testing is being published at a Technical Review in the Journal of Strength & Conditioning Research
2.) Validation of a new model for verification testing.
Strength Training

1.) Evaluation of the slow cadence vs. normal cadence resistance exercise.
2.) Postactivation potentiation and complex training

Citation of Recently Published Manuscripts


Giant-cell reaction to a bioabsorbable implant. *Gundersen Lutheran Medical Journal, 6:* 21-23.
Spatting restricts ankle motion more effectively than taping during exercise. *International Journal of Exercise Science, 2:* 72-82.