**Blood Flow Restricted Exercise Mechanisms and Adaptations: Where do we go from here?**

**Kyle J. Hackney, PhD, CSCS, CCD** is an Associate Professor and the current Graduate Coordinator in the Department of Health, Nutrition, and Exercise Sciences (HNES) at North Dakota State University (NDSU). He received a Bachelor’s degree in Exercise Science and Psychology at Hope College in Holland, Michigan and Master’s degree in Exercise Physiology from Wayne State University in Detroit, Michigan. His PhD was granted from Syracuse University in Syracuse, New York after completing 2 year fellowship at the National Aeronautics and Space Administration (NASA) and 2 years as a government contractor with Wyle, Science, Technology, and Engineering in Houston, Texas. At NDSU, Dr. Hackney leads the Muscle, Metabolism, and Ergogenics workgroup and is currently exploring a variety of projects in aging, disuse, and performance enhancement with undergraduate, masters, and doctoral level students. The overarching aims of his research are to: 1) understand how exercise and nutritional factors interact to produce a desired training outcome (skeletal muscle growth, strength gain, and fatigue resistance); and 2) to implement these regimens across a variety populations (recreational exercisers, athletes, aging adults, or special/clinical populations). His doctoral dissertation explored the combination of protein intake and blood flow restricted (BFR) exercise during limb unloading and was funded by (NASA) as it pertained to preventing disuse-induced muscle atrophy and strength loss. There are multiple similarities between disuse or inactivity-induced muscle and strength loss and the mechanisms involved with sarcopenia and dynapenia, (aging-related muscle and strength loss). Please explore current research at the link below: <https://www.ndsu.edu/fileadmin/hnes/Research_projects_docs/Muscle_Metabolism_Ergogenics_Group.pdf>

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