The primary focus of the laboratory within the domain of Sports Medicine is to study sensorimotor & neurocognitive aspects of musculoskeletal related injury. In addition, there is a strong emphasis on sport-related concussions.

The Athletic Training Research Laboratory was established in Fall of 2003 under the guidance of Dr. Thomas Kaminski. Since then, the laboratory has grown to include 2 additional faculty members, along with UD Physicians Dr. Geoffrey Gustavsen & Dr. Andrew Reisman and 7 PhD and 10 Masters students providing research opportunities to both undergraduate and graduate students. Collaborative projects have been developed within the University of Delaware including the Department of Athletics, Departments of Physical Therapy, Mechanical & Chemical Engineering, Student Health Services, and Intramural Athletics and Recreation Services. In addition, several State of Delaware interscholastic (high school) sports programs and regional Sports Medicine specialists are involved with current research efforts. The laboratory research group has numerous annual peer-reviewed scientific publications, published abstracts, and a multitude of professional presentations ranging from regional clinical meetings to international sports medicine conferences.

A variety of testing models and instrument/software platforms are used to advance this research agenda including the study of chronic ankle instability, the role of fatigue with injuries, the neuropsychological effects of purposeful heading in soccer, the neurocognitive and biomechanical factors related to non-contact injuries, including stability, proprioception and muscle stiffness. The laboratory is equipped with unique combination of clinical instruments and technology including a KinCom AP125 Isokinetic Dynamometer, a Bortec 8 channel EMG system, a pneumatically-driven ankle perturbation device, a custom-designed muscle stiffness and proprioception testing device (SPAD), a pair of computerized neuropsychological testing batteries (ANAM and ImpACT), GAITRite® a portable GAIT Analysis System, Tekscan MobileMat BESS™ a computerized implementation of the Balance Error Scoring System (BESS), Bortec Biomedical LTD© EMG System for electromyographic studies, a portable GE Logic musculoskeletal ultrasound imaging unit, and a Head Impact Telemetry System (HTIS).