

How many times have we heard professional and college athletes talk about “going into battle” or “preparing for war” prior to a big game? We expect highly paid athletes to be in outstanding physical shape and to have the best sports medical care possible when they step onto the field of “battle,” but what about our country’s true soldiers? How are we helping our military “athletes” achieve optimal physical fitness levels and prevent injuries while keeping them in the most important “game” of all – protecting the country!

Military readiness commanders became increasingly aware of the implications of injuries in the armed forces in the early 1990s. In response to recommendations from the Office of the Army Surgeon General, the Armed Forces Epidemiological Board formed the Injury Prevention and Control Work Group in 1994. Because of the strong emphasis placed upon soldiers’ physical fitness to ensure their readiness for combat, training-related injuries continue to be a major concern for the U.S. military.

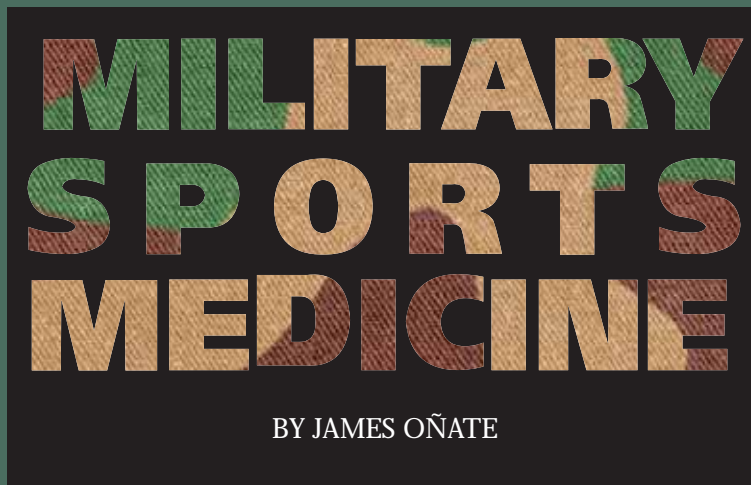
In a 1999 report, the Department of Defense

(DoD) listed military training-related injuries as the leading causes of disability, decreased military readiness and lost productivity. In Operation Desert Shield and Operation Desert Storm, musculoskeletal injuries sustained off duty while participating in sports and recreational activities, as well as during physical fitness programs, were the leading causes of medical evacuations and hospitalizations for Army personnel. According to the DoD, the Department of Veterans Affairs spends approxi-

mately \$13 billion and the armed forces pay \$1.5 billion annually to treat soldiers with disabilities caused by unintentional injury. Musculoskeletal and orthopedic-related injuries account for 63 percent of all disabilities.

In 2003, the Naval Environmental Health

Center issued a focus statement targeting five key areas for combating the effects of injury: determine the existence and size of the problem of injuries; identify causal risk factors of injuries; determine what prevents injuries from occurring; develop and provide guidance for implementing prevention strategies; and continue surveillance and monitoring of injury prevention methods.





Preventing
Injuries and
Keeping Our
Future Soldiers
in the “Game”

The Military Sports Medicine Injury Research Consortium

Because Hampton Roads is home to the U.S. Atlantic Fleet, Special Warfare Operations and numerous military training centers, it was an obvious decision to make military sports medicine a focus of Old Dominion University's sports medicine research laboratory. Faculty from the Department of Exercise Science, Sport, Physical Education and Recreation and the School of Physical Therapy established the Military Sports Medicine Injury Research Consortium (MSMIRC) last fall to discuss methods to improve the health care of military personnel.

Participants included faculty from the colleges of Education and Health Sciences, certified athletic trainers from the Naval Warfare Special Operations sports medicine health care group, the head of the physical therapy department at Naval Medical Center Portsmouth, ODU Reserve Officers Training Corps commanders and cadets, and ODU physical therapy and athletic training graduate students. The consortium's goal is to become a global leader in providing a multidisciplinary approach to the investigation of injuries that commonly afflict active-duty and retired military personnel.

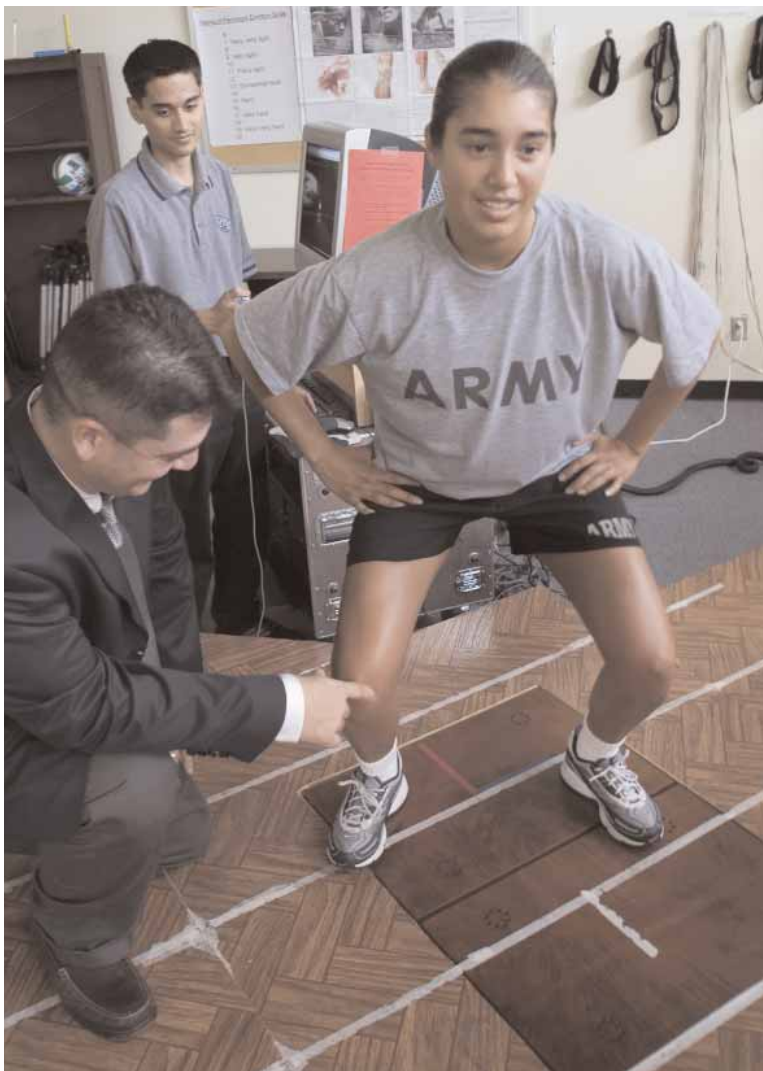
Joining me on the MSMIRC initial development team were Old Dominion colleagues Bonnie Van Lunen, director of the graduate athletic training program; Martha Walker, director of the physical therapy school's

motion analysis laboratory; Elizabeth Dowling, graduate program coordinator for the exercise science programs; and Michael Tamburello, assistant professor of physical therapy. The group plans to invite representatives from Virginia Commonwealth University and the University of North Carolina at Chapel Hill to a second MSMIRC meeting this fall.

Preventing Military Training-Related Injuries

Lower-extremity musculoskeletal injuries resulting from physical training, such as ankle sprains, knee and thigh injuries, and shin splints, are particularly prevalent in the

military population. These injuries result in loss of training time, and thus decreased military readiness. Risk factors associated with musculoskeletal injuries include low levels of current physical fitness, low levels of previous occupational and leisure time physical activity, previous injury history, high levels of running, high amounts of weekly exercise, smoking, age and biomechanical factors. Using this data, researchers have been able to focus on establishing injury-prevention methods. While numerous studies have been conducted on Army, Navy, Marine and Air Force cadets during basic training, there is no current research on university ROTC training programs and their incidence of training-related injuries. Empirical data are needed to categorize and classify ROTC training-related injuries in order to develop



While numerous studies have been conducted on Army, Navy, Marine and Air Force cadets during basic training, there is no current research on university ROTC training programs and their incidence of training-related injuries. Empirical data are needed to categorize and classify ROTC training-related injuries in order to develop prevention strategies for members of this physically active population who may one day be called to get in the "game."

prevention strategies for members of this physically active population who may one day be called to get in the “game.”

For its initial projects, the Military Sports Medicine Injury Research Consortium will conduct one on-campus and one off-campus investigation. The consortium will also provide healthcare tips as part of a three-year study tracking the incidence of injury among the university’s ROTC cadets. These studies will test the feasibility of conducting injury screenings of biomechanical lower-extremity risk factors, including the evaluation of movement patterns and analyses of body composition. The ultimate goal is to keep cadets healthy during the rigorous demands of military training. The second collaborative project involves the joint efforts of Old Dominion, UNC-Chapel Hill and the military academies of the Army, Navy and Air Force. The epidemiology of anterior cruciate ligament (ACL) tears, a debilitating knee injury, will be prospectively analyzed in recruits over their

four-year military academy careers to identify the risk factors for ACL injury occurrence.

MSMIRC’s Future

Old Dominion University is quickly establishing itself as a vital resource in the field of military sports medicine. In the future, the consortium will explore establishing ROTC sports medicine clinical centers which would offer care similar to that provided to varsity athletes; organizing internship opportunities for graduate athletic training program students at Naval Special Warfare Operations sports medicine clinics; and increasing collaborative efforts with researchers from VCU, UNC-Chapel Hill and the Naval Environmental Health Center in tracking the incidence of training-related injuries among ROTC cadets.

James Oñate, assistant professor of exercise science, sport, physical education and recreation, is director of ODU’s Sports Medicine Research Laboratory. He helped develop one of the tools for biomechanical analyses of injury risk and will be directly responsible for the Military Sports Medicine Injury Research Consortium’s ACL injury study at one of the nation’s military academies.

