advance." The Prodigy also allows researchers to scan small animals to study bone health.

While the Prodigy gives a front-to-back, 2-dimensional view, the peripheral quantitative computerized tomography machine allows researchers to analyze 3-D cross sections of spongy and outer bone. It's designed to reconstruct a volumetric model of bone, from which bone density and, for the first time, bone geometry, can be determined. "We can now look at cross-sectional images where stress fractures are most common," Evans said. "There's also software to quantify muscle mass at that point."

Another scanning instrument is the hand-held ultrasound bone sonometer, which examines bone quality by measuring the speed of sound of ultrasonic waves axially transmitted along the bone. The results can then be used as an aid in bone strength assessment. "We can identify bones that may be at risk," Mello said. "The big thing is the portability so that it can easily be taken to the field."

To help understand the relationship between muscle mass and bone strength, the lab purchased an isokinetic dynamometer to assess muscle strength and endurance for the major joints of the body, except the neck.

"Although research is focused on preventing stress fractures in the military, the information learned can apply to any population of physically active people to help prevent stress fractures," stated Evans.

Upcoming Studies

Four studies by USARIEM are planned in the next year to try to answer how muscle structure and function relates to bone quality. Researchers will examine whether differences in bone density and geometry exist between the right and left tibia, and then look at how that changes through physical training. One objective is to find out the proper training balance, to see where bone strengthening ends and weakening begins.

A third study will look at the effect of three 12-week exercise programs — aerobic training, strength training and a combination of the two — against a sedentary control group. "We want to look at what factors might build up bone," Evans continued. "Maybe we can put recruits on a program before they go to basic training to ward off potential problems."

Building on what they've learned in the experimental study, the plan is to transfer that information to actual basic combat training units to examine what risk factors, such as slender bones or low bone density, predispose trainees to injury. Evans and Friedl gave examples of expected outcomes from current projects that USARIEM is managing. Soldiers with high risk for fracture may simply stand on a platform for 15-minute daily treatments of low-frequency vibration to stimulate bone development. Recruits might benefit from specific guidance on physical training, and calcium and vitamin D supplementation resulting from studies now being conducted with Navy basic trainees.

Various studies at USARIEM could lead to new recommendations on zinc and protein content in operational rations to optimize bone health. Even basic biology studies, such as one that demonstrated a refractory period in response of bone cells after mechanical stimulation, may affect military training with science-based advice to break up physical training into more than one session per day to maximize the benefit to bone health.

For more information about the Soldier Systems Center or USARIEM, go to **http://www.natick.army.mil** and **http://www.usariem.army.mil**.

Assistant Secretary of the Army for Acquisition, Logistics and Technology and the Army Acquisition Executive (AAE) Claude M. Bolton Jr. hosts the Acquisition Senior Leaders' Conference, an invitation-only conference, each year. This year's conference was held Aug. 9-12, 2004, in Louisville and Fort Knox, KY.

The 2004 conference theme was Army Acquisition Corps — *Supporting the Fight, Improving the Force and Building the Future*. Conference focus areas included Army transformation, the criticality of interacting with the U.S. Army Armor Center and School to prepare mounted force warriors for full-spectrum combat operation and the Army Acquisition Corps commitment to provide soldiers with systems critical to decisive victory now and in the future.

The conference highlighted the Army's G-staff for a "hot-seat" panel that enabled invited attendees to interact and ask pertinent questions. In addition, a "Strategic Partner Panel" was held with panel members that included the Army Materiel Command, Army Test and Evaluation Command, Defense Contracting Management Agency, Defense Logistics Agency and Defense Information Systems Agency. On Aug. 12, 2004, attendees ventured to nearby Fort Knox for a live-fire exercise, equipment static display and demonstration area.

Conference attendees were specifically invited by the AAE. Invitees included approximately 300 Army program executive officers, program managers, acquisition commanders and many of the Army's senior leaders.

If you have questions regarding this year's conference, contact Joan Sable at (703) 805-4357, DSN 655-4357 or **joan.l.sable@us.army.mil**. Information is also available online at **http://asc.army.mil/events/conferences/2004/slc_about.cfm**.

Conferences

2004 Network Centric Operations Conference

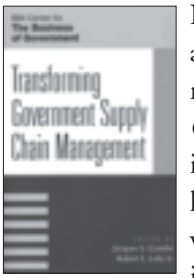
The 2004 Network Centric Operations (NCO) conference *Supporting Operations Abroad and in the Homeland* will be held Sept. 20-23, 2004, in Atlantic City, NJ. Sponsors are the U.S. Army Communications-Electronics Command and Fort Monmouth chapters of the Armed Forces Communications and Electronics Association, the Army Aviation Association of America, the Association of Old Crows and the Association of the U.S. Army.

The conference provides exhibits, tutorials and discussion on many aspects of NCO, including protocols for wireless networks, the impact of NCO on homeland security and on the battlefield, information operations in a networked environment and smart antenna systems. To register or for additional information, go to **www.NetCentricOps04.com**.

Worth Reading

Transforming Government Supply Chain Management

Edited by Dr. Jacques S. Gansler and Robert E. Luby Jr.
Rowman & Littlefield Inc.
Lanham, MD, 2003



National experts in supply chain management announced a series of recommendations in a new book, *Transforming Government Supply Chain Management,* which could dramatically increase the federal government's ability to deliver services more quickly and more reliably, while also generating billions of dollars in savings to taxpayers. The book is a collaborative project of the Center for Public Policy and Private Enterprise and the IBM Center for the Business of Government. It is co-edited by Dr. Jacques S. Gansler, Interim Dean and Professor at the University of Maryland School of Public Affairs, and Robert E. Luby Jr., Partner at IBM Business Consulting Services. Gansler previously served as the Under Secretary of Defense for Acquisition, Technology and Logistics. He is the Roger C. Lipitz Chair at the Center for Public Policy and Private Enterprise. Featured prominently in the book is the role of information technology in planning, tracking, ordering, controlling inventories and moving products.

"The intent of this book is to speed up the public sector's transformation to the best supply chain management techniques in use by the private sector," Gansler explained. "There is an urgent need to improve the government's ability to deliver its broad range of products and services, particularly in the area of responding to threats of domestic terrorism and international conflicts."

The book looks at essential techniques to enable government to achieve standards that the commercial sector has already mastered. It incorporates findings from a series of dialogues between top government officials and top business leaders from companies including General Electric, Boeing Co., Cisco Systems, Caterpillar, Visa USA and Covisint. Senior government representatives also participated.