

Message from Dean Herbert Whiteley

University of Illinois College of Veterinary Medicine

Dr. Peter Constable, interim head of our clinical medicine department, is looking for exciting things ahead from our orthopedic biology group. “We clearly have a critical mass of scholars, with good breadth and depth,” he says.

The foundation for our program in orthopedic biology was established by Dr. Ann Johnson, who has been at Illinois since 1981. A world leader in small animal orthopedic surgery and instruction, she has written three definitive textbooks—including one due out this year—and has served as the recorder, regent, president, and chair of the Board of Regents of the American College of Veterinary Surgeons. Dr. Johnson remains integral to our teaching and clinical service programs despite moving to a half-time appointment last year.

Over the past three years, we’ve added two new small animal orthopedic surgeons: Dr. Dianne Dunning and Dr. Dominique Griffon. Both perform surgical procedures ranging from tibial plateau leveling osteotomies to hip replacement to fracture repair. Dr. Griffon, who has a PhD, has developed a laboratory evaluating biomaterials for orthopedic applications, including osteochondral tissue engineering, drug delivery and resorbable cements. Dr. Dunning started the Companion Animal Rehabilitation Program to improve outcomes for recovering surgical patients. She is studying how these therapeutic options can benefit patients with a host of orthopedic and other conditions.

Two equine surgeons who also came aboard in recent years are contributing to advances in orthopedic biology. Dr. Chris Byron is conducting basic and applied research on cartilage physiology, including the effects of shock wave therapy on cartilage cells and on patients with navicular disease. Dr. Allison Stewart is testing the protective effect of hyaluronic acid on the cartilage surface of the joint and looking at cartilage repair using bone-marrow-derived

mesenchymal stem cells. Both are especially interested in orthopedic surgeries that address joint disease and fracture repair.

Dr. Matthew Stewart is a clinical medicine faculty member with a full-time research appointment in orthopedic biology. After nearly 10 years of clinical equine practice in Australia, he went on to earn a PhD in molecular and cellular biology of chondrocytes at Cornell University in Ithaca, N.Y. He is focusing on genetic factors to stimulate the growth of cartilage cells.

Clinical and research efforts at the Veterinary Teaching Hospital are supported by excellent technical resources, ranging from state-of-the-art diagnostic imaging modalities such as digital radiology, force-plate platform, ultrasonography, CT, MRI, and nuclear scintigraphy to surgical arthroscopy for small and large animal patients to our full-service pathology and clinical pathology laboratories for supporting diagnostic information. A DEXA (Dual Energy X-ray Absorptiometry) machine to measure bone density and body composition, and, thanks to a generous gift from Pfizer, a \$50,000 Tekscan system for analyzing canine gait problems expand our orthopedic diagnostic capabilities.

Breakthroughs made in basic cartilage research will have clinical relevance for equine, canine, and human patients. We hope veterinary practitioners throughout the Midwest will look to Illinois faculty for clinical consultations in orthopedic problems and will support our research efforts by referring patients for ongoing clinical trials (see list).

Please feel free to contact me with your ideas at [dean@cvm.uiuc.edu](mailto:dean@cvm.uiuc.edu). --Herb

[for sidebar]

**Current or upcoming orthopedic and rehabilitation trials at Illinois are seeking:**

- Horses with navicular disease for a study that evaluates the benefit of shock wave therapy

- Labrador retrievers with unilateral cranial cruciate ligament disease and healthy Labrador retrievers for a study designed to generate a predictive model for cruciate disease.
- Dogs with hind limb paralysis that have undergone a decompressive laminectomy for the treatment of intervertebral disc disease for a study to determine the effects of rehabilitation.
- Dogs with elbow dysplasia and osteoarthritis for a study to test the effects of rehabilitation on return to function following arthroscopy of the elbow; an additional component of this study examines the effect of Deramaxx® in conjunction with rehabilitation.
- Dogs with naturally occurring cranial cruciate ligament rupture and osteoarthritis for a study that provides surgical stabilization of the stifle and rehabilitation with and without Deramaxx®.
- Overweight but healthy dogs to evaluate the combined effects of diet and exercise on body composition.
- Dogs with mild to moderate dilative cardiomyopathy or mitral valvular insufficiency to develop a standardized exercise protocol and control values for cardiovascular training in dogs with heart disease utilizing the underwater treadmill.