

SURGERY UPDATE

WHAT'S NEW IN SMALL ANIMAL SURGERY?

Dog Owners and Breeders Symposium

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The small animal surgery department at the University of Florida has been very progressive in recent years. As a service, we are dedicated to the continual process of improving our methods of diagnosing and treating surgical diseases. Some of the advancements we have utilized have completely changed our approach to many surgical problems.

NEW DIAGNOSTIC TOOLS:

To more accurately determine a diagnosis and the extent of a given problem or disease, surgeons are relying on more advanced methods of diagnostic imaging, such as magnetic resonance imaging (MRI), computed tomography (CT/"CAT" scan), and intraoperative x-rays with a C-arm fluoroscope.

Although MRI has been available (one day per week) to our hospital for some time through Shands Teaching Hospital, it wasn't until this July that our cases could have access to CT scanning. Unlike the MRI arrangement with Shands, we now have unlimited access to CT imaging. Though MRI is superior to CT scans for soft-tissue imaging (e.g. brain scans), CT scans provide better images of bone. CT images give us invaluable anatomical information that can guide us in the decision making process when considering how to manage a given surgical problem/disease. More specifically, we can better determine the extent of certain cancers (e.g. invasion into underlying bony structures) and what surgical procedure is most appropriate. Other surgical conditions CT can be useful for include: middle ear/tympanic bulla disease in dogs and cats, spinal cord disorders, joint diseases, thoracic and abdominal cavity diseases.

We have also recently purchased a new C-arm fluoroscope, which allows us to take radiographs (x-rays) during surgery and in motion/real time. The benefits of the C-arm are great, as we can perform more orthopedic surgical procedures without making a skin incision. We can also evaluate the accuracy of our orthopedic procedures (correcting bone deformities and repairing fractures) during the surgical procedure. This allows us to modify our work, if necessary, before the animal is taken out of the operating room, subjecting the animal to less anesthesia and saving the client money.

In addition to using the C-arm for orthopedic procedures, we have also started performing intraoperative angiograms (x-ray studies of blood vessels). These studies are enabling us to identify portosystemic shunts and study the vascularity of certain tumors and organs.

NEW TREATMENT MODALITIES:

On the soft tissue surgery side, we are continuing with our feline renal (kidney) transplant program. This has been a highly successful program with great public interest. Although we have only been performing transplants for three years we have several cats out in excess of two years and we believe our success will only improve with time.

We have also recently added a CO₂ laser to our Nd:YAG laser equipment and now offer full laser capabilities. We have utilized the CO₂ laser for treatment of oral papillomatosis, removal of gingival hyperplasia and plan to start using it for certain conditions seen in brachycephalic breeds, such as elongated soft palate.

Another recent development in the treatment of portosystemic shunts is the ameroid constrictor/ring. We are using this device to gradually constrict portosystemic shunts. Previously, many shunts could not be completely ligated (tied-off) during surgery without causing fatal portal hypertension.

We are frequently looking to the human surgical arena for ideas and treatment tools that we could apply to animals with similar problems. Tracheal collapse is a problem common to several small breed dogs, such as the Yorkshire Terrier. Earlier this year we used a human device called a tracheobronchial stent to treat a dog with a collapsed trachea. The procedure involved the placement of an intraluminal (inside the trachea) prosthesis. This device expanded the flattened area of the trachea and will remain in place for the remainder of the dog's life.

The orthopedic section, under Drs. Lewis and Cross, continues to offer state of the art external fixation treatment for limb lengthening and angular limb deformities. Specifically, this involves the use of circular external skeletal fixators (A.K.A. ring fixators). It is a very flexible system that allows us to address very severe developmental bone problems and fractures that previously posed a great challenge to us to repair.

We have added sophisticated arthroscopy equipment to our surgical armamentarium. Although this has been utilized greatly by the large animal (equine) surgeons for some time, small animal surgeons have found more difficulty using the equipment in the smaller joints of dogs. Through the use of special instruments, including a high-resolution video camera, we can now work inside a joint to inspect and repair certain defects without opening the joint up completely with a long incision. This will allow us to diagnose and evaluate canine joint diseases such as ruptured cranial cruciate ligament, torn meniscus, fragmented coronoid process and osteochondrosis dissecans of the shoulder, elbow and stifle. The reduced invasiveness of the technique allows us to perform more bilateral procedures because it is easier for the patient to recover from the smaller incisions/approaches. Although not all joint problems can be resolved with this tool, we have performed a number of arthroscopic procedures at our hospital and are optimistic that our use of the equipment will continue to grow.