Dedicated to providing the most progressive and safest therapeutic solutions throughout the San Antonio region, the Mission Veterinary Specialists Surgical Department is comprised of a skilled and compassionate team of board-certified surgeons and experienced technicians. The MVS surgical team’s main goal is to provide the best possible outcomes for your patients.

Under the leadership of veteran surgery specialists Tige Witsberger, DVM, DACVS and Brian Beale, DVM, DACVS, we are proud to offer a full spectrum of routine and specialized surgical treatment options including:

- Orthopedic
- Neurologic
- Oncologic

MINIMALLY INVASIVE SURGERY: LAPAROSCOPY, THORACOSCOPY, AND ARTHROSCOPY

We are frequently asked about the benefits of Minimally Invasive Surgery (MIS) and its various applications. Traditional surgery is more invasive, requiring a longer incision through the skin, subcutaneous tissues and muscles. For MIS, we create a small incision through the skin to allow for access to the surgery site. Smaller incisions allow for a faster recovery and less post-operative infection and pain.

Additionally, minimally invasive surgery offers patients:

- Less tissue damage
- Less scarring
- Greater precision
- Better outcomes
- Shorter hospital stays (often outpatient)

Surgeries that CAN be performed with Minimally Invasive Surgery:

**SOFT TISSUE:**

- Cryptorchidectomy
- Cystotomy (laparoscopic-assisted)
- Exploratory laparoscopy to evaluate for metastases
- Exploratory thoracoscopy
- Liver, pancreatic, renal, and intestinal biopsies
- Lung and pericardial biopsies
- Ovariohysterectomy and Ovariectomy (OVH requires longer incision and more surgery time to remove the uterus)
- Partial lung lobectomies
- Pericardial window
- Prophylactic gastropexy (laparoscopic-assisted)

**ORTHOPEDIC:**

- Shoulder, elbow, carpal, hip, stifle, tarsal problems
- OCD
- Elbow dysplasia
- Fracture repair
- TPLO
- Meniscal surgery

Surgeries that CANNOT be performed with Minimally Invasive Surgery:

- Large, bleeding or infected mass removals or masses on large vessels
- Cases with peritonitis or adhesions from previous surgeries

TAKE A LOOK INSIDE: ARTHROSCOPIC PROCEDURES

Arthroscopic procedures are now a common practice in veterinary orthopedic surgery. In an arthroscopic examination, the surgeon makes a small incision in the animal’s skin and inserts long, thin instruments that contain a small lens and lighting system to magnify and illuminate the structures inside a joint. Arthroscopy is often used for treatment of ACL and meniscal tears, as well as elbow dysplasia and shoulder OCD.

YOUR PARTNER IN SPECIALTY CARE

As always, we look forward to partnering with you when specialty care is needed. We are committed to ongoing communication with you while your patient is with us. If you would like to discuss a patient’s case for referral consideration, or to learn more about our surgical services, please feel free to email our surgeons directly at:

- dwitsberger@missionvetspecialists.com
- drbeale@missionvetspecialists.com

We also welcome your call at 210.737.7373.
A 4-year-old mixed breed dog tested positive on routine heartworm test. Owners noted cough and wheezing, and he was referred for pre-adulticide evaluation. Physical exam was unremarkable, except for a persistent cough.

**Chest x-rays**
A marked, diffuse bronchointerstitial pulmonary pattern. Right-sided cardiomegaly with a pulmonary artery bulge is noted, especially on the ventrodorsal view. The pulmonary arteries are enlarged and tortuous.

**Echocardiogram**
Several heartworms in the main, right and left pulmonary arteries. Tricuspid regurgitation velocities were measured and pulmonary hypertension was also diagnosed.

**Clinical pathology**
Routine lab work was unremarkable. Urine protein was elevated as measured on a urinalysis dipstick.

**Treatment**
The dog was started on ivermectin-based preventative once a month, a 4-week course of doxycycline and an anti-inflammatory dose of prednisone on a tapering schedule. Two months after diagnosis, he was treated with one injection of Immiticide in the lumbar musculature according to the manufacturer instructions. He was discharged with strict cage restriction, and instructions to return in a month for two injections of Immiticide 24 hours apart.

**Discussion**
Heartworm disease is endemic to the Southern United States, and any dog not on monthly heartworm prevention is at risk for becoming infected. The vector is the mosquito. Mosquitos ingest a blood meal from a dog and if the temperature does not fall below 64 degrees Farenheit, maturation of the microfilariae (L1) to the L3 stage occurs between 1 month and 10 days depending on temperature. Then, L3 transmission occurs to the host. The L3 migrates through the subcutaneous tissues until it molts to an L5, where it enters a peripheral vein and migrates to the pulmonary arterial tree, its final destination. Heartworms can live up to 7 years in a dog.

Heartworm infestations that are left untreated can cause severe and sometimes irreversible damage to the lungs, pulmonary vasculature, and right heart. The presence of the worms leads to pulmonary arteritis, causing thickening of the arteriolar walls. This can lead to pulmonary hypertension, which then leads to a pressure overload to the right heart, and right heart enlargement. Eventually right-sided congestive heart failure can occur.

Recently, focus has been placed on a gram negative endosymbiont of the *Dirofilaria immitis* nematode, *Wolbachia* sp. It is thought that some of the inflammatory response to the adulticide therapy as well as the acute signs seen with rapid microfilarial kill may be partially attributable to a Wolbachia surface protein (WSP). Thus, treatment with a course of doxycycline prior to and during adulticide therapy may provide additional benefit to our patients.

Treatment with a tapering, anti-inflammatory dose of steroids prior to, and during adulticide therapy may also help reduce inflammatory signs.

Most importantly to emphasize to clients, Heartworm disease is completely preventable with monthly chemoprophylaxis!

For further information, visit the American Heartworm Society webpage at www.heartwormsociety.org.
As a board-certified small animal surgeon, Dr. Witsberger enjoys all aspects of veterinary surgery, including soft tissue, orthopedic, and neurologic. He enjoys performing procedures through small keyhole incisions – also known as minimally invasive surgery. He chose surgery as his area of specialization because of the challenge of fixing a pet that is “broken” (whether it is a fractured bone, torn ligament or a large tumor) and the immediate impact treatment may have.

Previously an instructor at Texas A&M, he enjoys educating pet owners and making them feel comfortable with their pet’s procedure. In his spare time, Dr. Witsberger enjoys running and training for half marathons, golfing, and building woodworking projects. He has two dogs (both adopted from Texas A&M) – Stella and Levi, and one cat named Kitty.

The use of Doppler blood pressure (BP) monitoring can be a tedious task yet has the ability to provide accurate, rapid results if performed properly. Doppler BP monitoring is a vital component of patient monitoring and is recommended for all anesthetized and hospitalized veterinary patients.

Recommendations:
- Place the patient in right lateral recumbency
- Digitally palpate the following arteries
  - Digital palmar artery (above large pad on bottom side of front paw)
  - Digital plantar artery (above large pad on bottom side of rear paw)
  - Dorsal pedal artery (top of rear foot)
  - Coccygeal artery (ventral to base of tail)
- Shave small patch of hair over one of the arteries
- Place cuff attached to a sphygmomanometer proximal to the palpable pulse
  - Appropriate cuff size should be 40% of the limb/tail circumference
  - Small cuffs overestimate BP while large cuffs underestimate BP
- Apply aqueous gel to Doppler flow probe and LIGHTLY place over artery
- Inflate the cuff until the pulse disappears
- Gradually deflate the cuff. When an audible pulse returns, the measurement on the sphygmomanometer is equivalent to the patient’s systolic arterial pressure (measured in millimeters of mercury - mmHg)
- Perform 3 blood pressure measurements and then average the results

In the upcoming months, our hospital will be going through some exciting changes. We are in the process of finalizing our designs for expanding our facility to nearly double the square footage for specialty-dedicated space. This will add three new operating rooms and increase the treatment space for orthopedic, soft tissue, and neurosurgeries. To complement our MRI and digital x-ray capabilities, we will be adding a CT scanner to provide additional imaging modalities for our specialists to assist with diagnosis and treatment.

We will also be adding more treatment rooms, runs, cage space, and a conference room to hold our Lunch and Learn and other CE events. All of these enhancements will further allow us to deliver the best and most advanced specialty care available.

– Ryan Buck, CEO

A Veterinary Technician Specialist (VTS) is a veterinary technician who has chosen to specialize in a specific discipline in the field of veterinary medicine. A VTS is recognized by the National Association of Veterinary Technicians of America (NAVTA) and first must be a credentialed veterinary technician. After becoming credentialed, they must undergo a rigorous process that includes education, specialized training, hands-on experience, and testing in their chosen field before they can earn the designation of VTS. A VTS possesses a high level of expertise, experience, and professionalism in their chosen field and is dedicated to promoting the best possible patient care. We are proud to have Karen Ellis, RVT, VTS (Surgery) and Kim Majoy, CVT, VTS (Anesthesia) as members of the Mission team.

NAVTA website for Veterinary Technician Specialties: https://www.navta.net/specialties/specialties
Lola had neck surgery Friday night with Dr. Witsberger and his team. Prior to surgery, she was unable to lift her neck and her mood was down because of the severe pain. Today, she got to come home and she’s back to her usual spunky self : ) We even had to pull over the car on the way home because she was so eager to give me kisses!!

She has her spirit back and I cannot thank Dr. Witsberger and his team enough!

Thank you to everyone at Mission Veterinary Specialists for their love and support throughout this entire experience. My little Lola Bear is my whole world and because of your team – she’s able to live without pain!!

Thank you again,
Taylor Jones