

# **SHOAL CREEK ANIMAL CLINIC**

**VETERINARY TECHNICIAN/ASSISTANT MANUAL (REV 2/12)**

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**2226 BARNETT SHOALS RD.  
ATHENS, GA 30605  
WWW.SHOALCREEK.COM  
PHONE: 706-369-0962  
FAX: 706-369-5650  
E-MAIL: ANIMALCLINIC@SHOALCREEK.COM**

## I. General Clinic Policies

- 1) Full time employment is considered to be 35 or more hours scheduled per week. Full time employees are eligible for health and retirement benefits. In addition, paid holidays and paid leave are accrued by full time employees. For specific details regarding benefits, please speak with Dr. Elder or the Office Manager.
- 2) Full time employees must submit leave forms to be paid for vacation or sick time taken.
- 3) Part time employment is considered less than 35 hours scheduled per week. Part time employees do not receive benefits.
- 4) Employees should check clinic e-mail at each shift. Employees should never check personal e-mail or browse the web at work.
- 5) Employees should turn off cell phones while at work. If you are needed in case of an emergency, please provide the clinic phone number to family and friends.

## II. Veterinary Assistant Job Description

### **Position**

Veterinary Assistant

### **Purpose and Scope**

The veterinary assistant performs the following hospital activities: animal care, outpatient and drop-off services, surgery and anesthesiology, laboratory, radiology, housekeeping, front office duties.

### **Duties and Responsibilities**

- 1) Animal Care
  - a) Administer animal care as the primary technical responsibility.
  - b) Ensure that all animals are in a clean and dry environment.
  - c) When indicated, ensure animals have food, water, clean litter pans, and exercise.
  - d) Perform treatments as indicated by the doctor, noting all treatments in medical records and appropriate logs.
  - e) Inform doctor of any changes in condition of hospitalized animals, annotating observations in medical records.
  - f) Initiate and maintain flow charts when indicated.
- 2) Outpatients and drop-off duties
  - a) Review charts on all patients, assuring assigned diagnostic, therapeutic, and prophylactic procedures have been performed in a timely manner and that the medical record, travel sheet and all necessary logs have been updated and routed accordingly.
  - b) Assist doctor in exam rooms and treatment room and perform such laboratory, pharmacy, or medical procedures as directed.
- 3) Surgery and Anesthesiology
  - a) Perform anesthesia and surgery prep.
  - b) Assist the doctor with anesthesia and surgery.
  - c) Monitor anesthetized animals.
  - d) Perform dental prophylaxis as directed by the doctor.
  - e) Assure proper instrument cleaning, wrapping, and sterilization.
  - f) Perform surgical garb laundry and surgery room cleanup.

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- g) Assure proper equipment and supplies are adequately stocked.
- h) Provide care and maintenance of anesthesia machine and other surgery room equipment.
- i) Maintain surgery logbook.
- 4) Laboratory
  - a) Assist and perform laboratory sampling and procedures as needed.
  - b) Ensure laboratory log utilization.
  - c) Ensure that all lab work and associated paperwork is properly prepared and submitted to the appropriate laboratory.
- 5) Radiology
  - a) Performs routine radiographic procedures.
  - b) Routine maintenance of all radiology equipment and supplies.
- 6) Housekeeping
  - a) Maintain cleanliness of hospital and grounds insuring that all cleaning lists are followed and logged appropriately.
- 7) Front Office Duties
  - a) Assists as needed in scheduling appointments, responding to incoming telephone calls, and checking clients in/out.
- 8) General
  - a) Establish and maintain good working relationships with staff and clients.
  - b) Maintain up-to-date knowledge of Shoal Creek Animal Clinic policies and procedures.
  - c) Maintain working knowledge of computer software utilized in hospital.
  - d) Assume other similar duties and responsibilities as assigned.
  - e) The veterinary assistant is expected to be punctual, professional in appearance (adhering to the dress/grooming code of Shoal Creek Animal Clinic), maintain an organized work area, and fulfill all duties and responsibilities as described above.

*Our practice philosophy:* To provide the best veterinary care possible and to maintain a service attitude to our patients, clients, and one other.

*Our motto:* Be a lifelong learner; Pay attention to detail, Maintain a service attitude.

### III. General Procedures

- 1) Morning Protocol
  - a) Patient Care
    - i. Hospitalized Animals
      - 1. Check on any patients that may be in the clinic. Patients are our number one priority! Their needs should be met before the rest of morning protocol.
      - 2. Obtain rectal temperatures, pulse, and respiratory rate on all hospitalized patients. They will receive a physical examination each day.
      - 3. Check treatment board and hospitalization chart for necessary procedures and medications.
      - 4. Feed and water. All animals in the clinic get water except those scheduled for surgery or those with "NPO" (nothing per os/by mouth) written on cage card or hospitalization sheet. Be sure to check for special feeding instructions or diets for each patient who is receiving food.

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5. Walk canine patients and clean their cages.
  6. Change litter pans for feline patients and clean their cages.
  - ii. Drop Off's and Surgeries
    1. Receptionists will send a NetNote to come to lobby for patient.
    2. Obtain cage card for patient and weigh patient on scale.
    3. Take TPR (temperature, pulse, respiration) on all drop off's having PE or surgery.
    4. Walk all canine drop off's and surgery patients before procedures.
    5. Give water to all patients not scheduled for anesthesia or radiographs (radiographic evaluation often requires the patient be sedated).
  - b) Adjust thermostat as needed. Seasonal settings (These are tentative and may be adjusted as needed): Spring, Summer, Fall - 72; Winter - 68
  - c) Turn on power to all in house lab equipment: VetTest, SnapReader, VetAutoread, VetLab Station, large centrifuge (note: VetLyte is always on). Remove dust covers from microscope and VetTest.
  - d) Ensure clinic is clean.
  - e) Ensure exam rooms are well stocked with fecal loops, fecalyzers, heparin, both used and new glass slides, used scalpel blades for skin scrapings, mineral oil, K-Y jelly, exam gloves, thermometer, syringes, needles, and supplies on counter (cotton balls, cotton-tipped applicators, gauze sponges). There is an inventory list in the exam room drawers which should be checked for other items. Make sure the white board is clean and there is a working marker and clean eraser with the board.
  - f) Take out the reserved parking signs and place them in front of the second and third parking spaces in front of the clinic. "Reserved for Shoal Creek Animal Clinic" should be facing towards the parking spaces.
  - g) Patrol the perimeter of the building and parking lot for trash. Sweep as necessary. Pull up any weeds growing through cracks in the paving in front of the clinic or spray them with RoundUp.
- 2) End of Day Protocol
- a) Patient Care. Follow the same instruction as in Morning Protocol.
  - b) Take all the trash in the clinic to the 2 large cans in the kennel. (The trash is then bagged and placed outside in the three large outdoor trash bins.)
  - c) Wipe out large centrifuge with parvosol. Turn off power to in house lab equipment and the large centrifuge. (Note: the VetLyte machine should never be turned off.) Replace dust covers on microscopes and VetTest.
  - d) Check syringe and fecal loop buckets under the sinks in the lab and treatment room.
    - i. All fecal loops, glass slides, plastic cover slips and cups should be cleaned every night.
    - ii. Syringes should be cleaned as needed - usually every couple of weeks.
  - e) Vacuum and mop the clinic. (See the section on housekeeping for proper procedure.)
  - f) Return all items moved for cleaning to their proper location before leaving.
  - g) Bring reserved parking signs into clinic and place on the entryway rugs after the floors have been completely cleaned and dried.
  - h) Before leaving for the day, recheck on any patients to ensure that all their needs have been met. Be sure there is a designated veterinary assistant to walk any dogs staying overnight between 10:00 and 11:00 PM.
  - i) Adjust thermostat as needed.
  - j) Check the End of Day Check List to ensure that all procedures have been completed.

## IV. Patient Care

### 1) Outpatient Appointments

#### a) Doctor Appointments

- i. Receptionist will send a NetNote advising that client and patient are ready to be placed into exam room.
- ii. Greet client and pet and introduce yourself. It is also important to continually inform the client of the procedures that you are performing with their pet.
- iii. Obtain weights on all animals. Animals receiving vaccines are weighed and have their rectal temperatures recorded. Those animals receiving physical examinations vaccines will receive a full "TPR" (temperature, pulse, respiratory rate) and have their weight recorded.
- iv. If an animal has a medical problem (or a recheck of a medical problem), or has a temperature  $>103$ , and is scheduled for vaccines, do not draw up the vaccines without first consulting with the doctor.
- v. Collect any fecal or blood samples that may be needed for parasite examination (sample collection for new clients should wait until after consultation with the doctor, for existing patients - canine samples may be collected prior to doctor examination while feline samples should be collected after the doctor's examination).
- vi. After excusing yourself from the exam room, fill out the travel sheet (see example). It is essential that all services provided are properly annotated on the travel sheet. Marking the travel sheet is the technician/veterinary assistant's responsibility. Place the medical record in the hopper on the back of the exam room door and inform the doctor of the case and that the patient is ready to be seen and in which exam room the patient is located. If the doctor is in his/her office, take the record to the doctor so that he/she can familiarize themselves with the case before actually seeing the patient
- vii. The technician/veterinary assistant is to restrain the patient during examination and treatment. It is the technician/veterinary assistant's job to safely restrain the patient for examination and ensure the safety of the patient, client, and doctor.
- viii. After the doctor has examined the patient and no longer requires assistance, the technician/veterinary assistant may run any needed in house lab work for the patient (see laboratory section), dispense any needed prescriptions, or prepare any outside lab work for submission.
- ix. It is the technician/veterinary assistant's responsibility to follow each patient through to completion. This includes informing the doctor or client of test results, preparing any drugs that may be needed, explaining the prescription instructions to the clients, having the doctor double-check the travel sheet to make sure it is correct, giving the travel sheet to the receptionist, annotating the medical records about any tests run or prescriptions prepared, and, finally, cleaning the room after the patient has left. **Please follow all patients through to completion.**

#### b) Technician/Veterinary Assistant Appointments

- i. Technician/Veterinary Assistant appointments are appointments that the doctor does not need to see. They include:
  1. Fecal examinations
  2. Heartworm examinations

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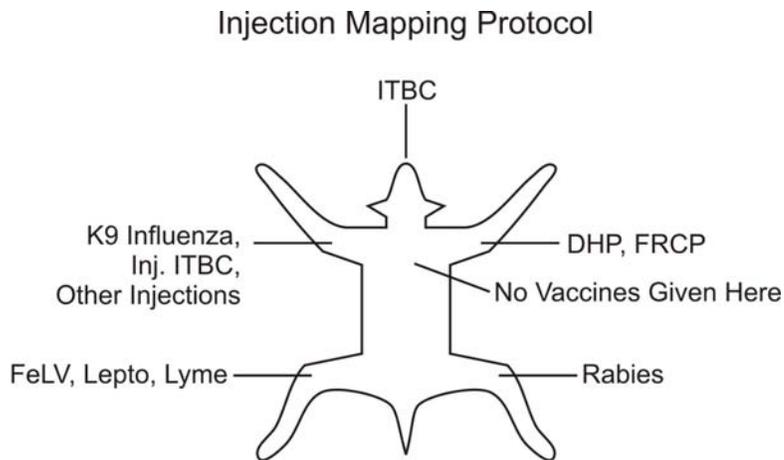
3. Leptospirosis vaccinations
  4. ITBC (Tracheobronchitis or "Kennel Cough") vaccinations
  5. FeLV vaccinations
  6. Deworming
  7. Nail trims
  8. Anal sac expression
- ii. If the owner requests the doctor perform these procedures, we will accommodate them.
  - iii. All technician/veterinary assistant appointments involving a treatment, injection, or vaccination should have a weight and temperature obtained first.
  - iv. If the owner gives any indication that their pet is not "normal" please consult the doctor on duty for guidance prior to administering any vaccinations.
  - v. After completing the necessary treatment, the travel sheet should be marked and any prescriptions annotated on the travel sheet and in the record. The travel sheet should then be given to the receptionist so the clients can be checked out.
  - vi. If a patient originally scheduled for a technician appointment has a medical problem requiring an examination by the doctor, do not draw up or administer vaccines until after the doctor's evaluation is complete.
- vii. Record annotation
1. Check Box Protocol
    - a. When annotating the record, please use the following designations for the check boxes:
      - i. [✓] RA = done (completed!) by RA
      - ii. [X] RA = not done - need to state reason, for example, "temp too high" (usually, it is the doctor who will be making an "X" annotation
      - iii. [D] RA = Client declined recommendation. A "D" in the check box with your initials means that you explained the service/procedure fully to the client and, for whatever reason, they declined.
  2. Annotating Prescriptions
    - a. Rx Name of Medication Concentration of Medication Quantity of Medication [✓] RA
    - b. Sig: Instructions for use of Medication
    - c. Refills: Refill annotation
- viii. Injection Mapping
1. When administering vaccines, be aware that injections are administered in specific locations. Be sure to annotate in the record where the vaccines were given using the body map figure on the SOAP (medical history) form. Below is the correct placement for each vaccine type and how they should be annotated.
  2. In 1998 SCAC changed the locations for the administration of vaccines to comply with the most recent recommendations from the Advisory Panel on Feline Vaccines of the American Association of Feline Practitioners and the Academy of Feline Medicine.
  3. Although these recommendations are specifically for cats, we apply them to dogs for the sake of consistency.
  4. The following vaccine sites are recommended:
    - a. Distemper (FRCP, DHP) should be administered over the lateral aspect of the right forelimb as close to the elbow joint as practical.

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- b. Rabies should be administered over the lateral aspect of the right hindlimb as close to the stifle joint as practical.
- c. K9 Influenza, Injectable ITBC and any other injections should be administered over the lateral aspect of the left forelimb as close to the elbow joint as practical.
- d. Feline Leukemia (FeLV), Leptospirosis, and Lyme should be administered over the lateral aspect of the left hindlimb as close to the stifle (knee) joint as practical.
- e. Intranasal ITBC is administered in one nostril.
- f. No vaccines or drugs are ever given in the suprascapular area.

Notes: It is important that these vaccines be given as distally as is practical. Other subcutaneous injections (steroids, antibiotics, post-op pain medication, etc.) should be administered over the lateral aspect of the left forelimb as close to the elbow as practical. Intramuscular injections should be given in the right or left epaxial muscles (between the wing of the ileum and the dorsal spinous processes) or in the triceps/quadriceps. Indicate the locations of miscellaneous injections in the record with the following abbreviations: Right/Left Side - RSd/LSd, Left Shoulder - LSh, Right Epaxial - RE, etc. The suprascapular regions should be avoided for all injections if possible with the exception of subcutaneous fluid administration.

The following diagrams the recommendations above:



c) Drop-off Appointments

- i. Obtain body weights on all animals before they are brought to the back. Animals receiving vaccines get weighed and have their rectal temperatures recorded. Those receiving Physical Exams get a full "TPR" (temperature, pulse, respiratory rate) and their weights recorded. Be sure to get a cage card from receptionist before bringing a patient to the back. The cage card will identify the pet, owner, and reason for visit. After the patient has been situated properly in a cage, the technician should return to

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the receptionist for the medical record and carefully annotate on the treatment board the pet's name and the procedures to be performed. When situating a pet in their cage, use the following guidelines:

1. Dogs with leashes should have the pet's name written on a scratch piece of paper. This name sheet should be attached to the coiled leash with a rubber band and the leash should be placed in the holding box on the shelves in the dog ward. (Rubber bands, paper supply and marker are next to the holding box.)
  2. All dogs should have a bowl of water placed in the cage with them unless they are scheduled for a procedure that requires anesthesia/sedation. Dogs should be walked as soon as possible after arriving in the clinic and before their procedures are performed. If a fecal or urine sample is required, these may be obtained during the walk if the pet urinates or defecates.
  3. All cats should have a folded towel for bedding, a litter pan, and a bowl of water placed in the cage with them unless they are scheduled for a procedure which requires anesthesia/sedation. In such cases, water should be withheld.
  4. Cats that are being dropped off for urinalysis should not have a litter pan, newspaper, or towel in their cage.
- ii. Obtain any fecal or blood samples that may be needed for parasitic examination.
  - iii. The medical records for drop-off patients are kept in the hoppers by the Treatment Room white board. The instructions for each patient should be written on the board by the technician who took the pet to the back. However, always double check scheduled procedures with the medical record. Prescriptions should also be put on the white board indicating they need to be filled.
  - iv. The technicians/veterinary assistants should keep the doctor aware of any procedures he/she may need to do on animals that are dropped off. Ex. - PE, Sx's, etc.
    1. Everything that doesn't require a doctor should be completed by the technicians/veterinary assistants as soon as possible.
    2. Be sure that the travel sheets are filled out and any prescriptions that are needed are prepared. Unlike out-patient appointments, the travel sheet always stays with the record on drop-off's and surgeries. **Please follow patients through to completion.**
- d) Hospitalized Patients
- i. Hospitalized patients are patients that for medical reason have been kept in the clinic by a doctor. They usually require more intensive care than normal drop-offs.
    1. Each patient should have their own ICU/Hospitalization flow chart. The flow chart will have the instructions for the animal's daily care (see example on following page). The flow charts are located in the filing cabinet in the pharmacy/lab. Clipboards are used to attach the flow chart to the door of the patient's cage and may be found on top of the ICU cages or in the dog ward cabinet by the sink.
    2. Be sure each time a procedure is performed on an animal that it is recorded on the flow chart and on the treatment board as indicated.
    3. All hospitalized patients should have a towel, litter pan (if feline), food and water unless otherwise specified.
    4. All patients should have their temperature, pulse and respiration recorded daily and sometimes more often. On some occasions, body weight will also need to be recorded daily.
- e) Hospital Logs

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- i. There are 5 logs that are routinely kept in the hospital: Surgery, Controlled Substance, Laboratory (In House and Outside Lab), and Radiology.
  1. Surgery Log. Kept in a red three ring binder in the pharmacy. All information must be filled in for every surgery performed in the hospital.
  2. Controlled Substance Log. Kept in a purple three ring binder in the pharmacy. All controlled substance usage must be recorded in the log. Each controlled substance has its own page.
  3. Laboratory Logs
    - a. Outside Lab Log. Kept in a blue notebook in the pharmacy. Any lab work that is sent outside the clinic must be recorded and initialed. When the results come in the receptionists should note the results on the form. When sheets become full they are placed in the back of the notebook. If the lab work is being sent to Antech Laboratories, the technician is responsible for calling the lab for a pick-up, annotating the confirmation number in the appropriate areas and making sure the labwork is in the pick-up box if the courier does not come before closing.
    - b. In House Log. A folder is kept next to the microscope in the laboratory. All in house laboratory procedures and results must be annotated (See Sample).
  4. Radiology Log. Kept in the purple radiology notebook in the cabinet across from the x-ray machine. All radiographs are recorded. (See Sample)
- f) Walking Dogs
  - i. All dogs should be given the opportunity to urinate/defecate while spending the day in the clinic, at least once in the morning and once in the afternoon.
  - ii. All dogs must be on lead. The slip-type clinic leads must be used as some pets will back out of their collars. The technician should always have their hand completely through the lead handle so that it is around their wrist. If a pet arrived at the clinic wearing a harness, the pet must be walked with this harness, not with the slip-lead around the neck.
  - iii. Dogs are to be walked in the grass by the entrance to the Kroger parking lot.
  - iv. All feces should be picked up after a patient has been walked. (The Pooper Scooper is in the kennel storage closet.) Dispose of feces in a plastic bag, tie it off, and then place it in the outside trash bins. Be sure to thoroughly clean the scoop with Parvosol/HDQ.

## V. Surgery

### 1) Surgery & Treatment Room Setup

#### a) Treatment Room

- i. Set up the heating pad (should be done first in AM as requires a 20 minute warm up).
- ii. Move anesthesia machine to front end of tub table.
- iii. Plug oxygen hose into drop down connector.
- iv. Plug Scavenger System power cord into drop down connector.
- v. Plug scavenging hose into drop down connector (Note: be careful not to pull down on the drop down fixtures while making connections).
- vi. Turn on the oxygen by turning the knob on top of the tank. Notice how much oxygen is left in the tank. If it's getting low (into the red zone on the gauge) - notify the doctor.
- vii. Place the "O2" sign on the outside of the door.

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- viii. Check Isoflurane level in the anesthesia vaporizer (level should be at the top of the uppermost black dot) ... add if needed. Check date on sodasorb. The sodasorb should be changed every three to six months or if there is any color change to blue.
- ix. Place three endotracheal tubes on a clean paper towel on the anesthesia machine. (Note: choose the size you feel is correct as well as one size above and one size below. Be certain cuffs are completely deflated and that cuff ends of tubes are moistened with water.).
- x. Set out the following on the anesthesia machine:
  - 1. Two 8 to 12 inch pieces of masking tape to (1) hold doppler on the animal and (2) secure the anesthesia hoses.
  - 2. 2 to 3 foot length piece of roll gauze to secure the endotracheal tube.
  - 3. Ophthalmic lubricant (Artificial Tears).
  - 4. Ultrasound transmission gel.
  - 5. An ultrasonic doppler machine.
  - 6. Set out the laryngoscope.
  - 7. If the induction agent is drawn up, set it on the anesthesia machine with an alcohol swab.
- xi. Set out the vacuum cleaner.
- xii. For surgeries, set out chlorhexidine scrub, distilled water, and gauze sponges.
- xiii. If you are preparing for a dental procedure, set out the dental equipment (be sure dental machine is filled with distilled water).
- xiv. Set out needed dental instruments in dental tray on top of dental unit.
- xv. Don't forget safety equipment! (mask, face shield, goggles, gloves).
- xvi. Make sure that the light is in position and plugged in.
- xvii. Attach "tail probe" to pulse oximeter - set out probe cover just in case you will need to place it per rectum.
- xviii. Set out the clippers
- xix. Set-up tips
  - 1. Will there be a need for a catheter and IV drip?
  - 2. If so, get out the appropriate sized catheter, IV line, and bag of IV fluids. You'll also need a strip of white tape (about a foot or less in length depending on the animal). It's best to go ahead and set up the IV line and fluids for use. Prepare a syringe of flush.
  - 3. Is there a need for the light?
  - 4. Did the tongue clamp/probe tip get cleaned since the last animal used it?
  - 5. Do the anesthesia hoses and rebreathing bag fit the size of the animal?
    - a. cats/small dogs under 10 lbs. - non-rebreathing circuit
    - b. cats/small dogs 10 to 24 lbs. - smaller hoses and 1 L bag
    - c. dogs between 25 - 48 lbs. - 2 L bag and large hoses
    - d. dogs over 48 lbs. - 3 L bag and large hoses
    - e. Are there some extra towels (large and small) in the cabinet?

2) Surgery suite

- a) NOTE: the surgery suite should be set up for the next surgery after being cleaned at the end of the surgery day. **YOU MUST BE WEARING CLEAN SCRUBS, SHOE COVERS, A FACE MASK AND CAP WHENEVER GOING INTO THE SURGICAL SUITE.**

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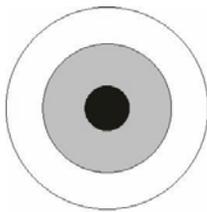
- b) Make sure that all machines and equipment are plugged into the proper outlets.
  - c) Scavenger hose is attached to the wall outlet.
  - d) Scavenger power cord is plugged in.
  - e) Oxygen hose is connected to the oxygen supply in the wall.
  - f) Power cord to surgery table is plugged in.
  - g) Heating pad plugged in.
  - h) Pulse oximeter power plugged in and appropriate probes plugged in to unit.
  - i) Turn on the heating pad (check distilled water level).
  - j) If you are preparing for a procedure on a dog, place the thoracic positioner on the table in the middle of the table and slightly toward the door (this gets the patient closer to the doctor during surgery).
  - k) Place the heating pad on top of the thoracic positioner or directly on the table (if the surgery is on a cat).
  - l) Make sure that all tie-down ropes are ready-and-waiting in the corners of the surgery table.
  - m) If the patient is going to be brought in on the gurney, make the height of the surgery table equal to or slightly less than the height of the gurney.
  - n) Get a piece of masking tape (about a foot long) and gently attach it to the “head” of surgery table (this is used to secure the hoses when the patient is in position).
  - o) Make sure appropriate sized anesthesia hoses are attached to the anesthesia machine and that there is also a Y-piece attached to the end of the hoses (less than 10 pound = non-rebreathing).
  - p) Double check the level of Isoflourine in the anesthesia machine and the date on the Sodasorb.
  - q) On the anesthesia machine, set out the following:
    - i. a clean paper towel
    - ii. chlorhexadine scrub
    - iii. distilled water
    - iv. the canister of autoclaved gauze sponges
    - v. chlorohexadine solution
    - vi. Allerspray
    - vii. tissue adhesive
  - r) Put the proper drape pack on top of the pass through.
  - s) Set the correct surgery pack on the instrument stand.
  - t) Place a small towel on the surgery table over the heating pad.
  - u) Turn on the surgery light.
  - v) Make sure that the cords are out of the way by hanging them on the adjustment knob away from the surgery table.
  - w) Center the light over the expected surgical area.
  - x) Make sure there is a fresh trash can liner in place.
  - y) Start filling out the Sx log and Control Substance log with as much info as you have available to you. These logs are located by the computer in the pharmacy in a red notebook and blue notebook, respectively.
- 3) Pre-anesthesia, Induction, Anesthesia, Monitoring and Recovery
- a) Pre-anesthesia

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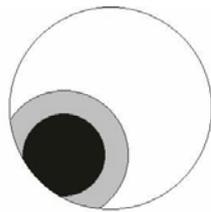
- i. Preanesthetic drugs are given to relax/sedate the patient and thereby reduce the amount of anesthetic drug needed and to counter some of the potentially adverse effects of anesthesia. **All medications should be discussed with the doctor on the case prior to drawing up or administration.**
  - ii. Standard pre-anesthetic drugs used at Shoal Creek Animal Clinic include:
    1. Acepromazine Maleate (a tranquilizer, also has some anti-arrhythmic properties).
    2. Atropine Sulfate (cardiovascular stimulant, also decreases bodily secretions; e.g., salivary).
    3. Butorphanol Tartrate (an opiate with both sedative and mild analgesic properties).
  - iii. Dosages
    1. Atropine - 0.027 mg per pound of body weight. (This is easily calculated by dividing the weight of the animal by 20 to give the necessary volume in milliliters.)
    2. Acepromazine - 0.05 mg per pound of body weight. (This is easily calculated by dividing the weight of the patient by 200 [or the calculated Atropine volume by 10] to give the necessary volume in milliliters.)
    3. Butorphanol - dogs - 0.2 mg per pound; cats - 0.2 mg per kg.
  - iv. Additional notes:
    1. Patients that are geriatric (8 years and over) or brachiocephalic (Bulldogs, Pekinese, Persians, etc.) only receive one half the normal amount of acepromazine (0.025 mg per pound of body weight).
    2. The maximum injectable dose of Acepromazine for any patient is 0.30 ml regardless of their body weight.
    3. It is always prudent to check with the doctor before calculating drug dosages to find out if he/she plans to alter standard protocols due for specific medical reasons.
    4. The pre-anesthetic medication is given at the doctors order (usually 15 minutes prior to induction). Always share the calculated dose with the doctor prior to administration.
  - v. Examples: A 60lb dog receives 3.0 ml of atropine ( $60 \div 20 = 3.0$  ml). The same patient would receive 0.3ml of acepromazine ( $3 \div 10 = 0.3$  ml). If the patient was geriatric or brachiocephalic it would only receive 0.15 ml of acepromazine ( $3 \div 10 = 0.3$  ml and  $0.3 \div 2 = 0.15$  ml).
  - vi. No pre-anesthetic drugs are to be administered until pre-surgical lab work is complete and the results have been shared with the doctor.
- b) Induction - the process of taking a patient from an awake state to a surgical plane of anesthesia.
- i. There are three primary induction agents used at SCAC:
  - ii. Ketamine/Diazepam - neurolept analgesic/benzodiazepine.
  - iii. Propofol - short-acting, injectable hypnotic agent.
  - iv. Isoflurane - inhalent general anesthetic.
- c) Dosages
- i. Ketamine/Diazepam is dosed at 0.05 ml of each medication per kilogram of body weight.
    1. Examples: A 20 lb. dog would get 0.45 ml each of Ketamine and Diazepam.
  - ii. Propofol is dosed at 2.5 mg (0.25 ml) per pound of body weight.
    1. Example: A 50 lb. dog would get 12.5 ml of Propofol.

- iii. Isoflurane is an inhalent anesthetic. When used for induction, the patient is either placed in the induction chamber or has a mask applied to the muzzle. The oxygen flow rate should be set to 4 liters/minute when using the induction chamber (1 L/min with mask) and the vaporizer set to the highest setting. Once the patient has been induced, the flow rate can be reduced to 1 L/min and the vaporizer set to a maintenance concentration of Isoflurane (around 2%).
  - d) Inducing a patient (can only be performed by a doctor or registered technician): Ideally, this takes place about 15 minutes after an animal has had pre-anesthetics (if any are used).
  - e) Share the name of the animal, weight, induction agent and dose with the doctor before administering the drug(s) to the patient.
  - f) Be sure to apply ophthalmic lubricant (Artificial Tears) liberally to both eyes upon induction.
  - g) The assisting staff member holds the patient's mouth open while the doctor or registered technician inserts the endotracheal tube.
  - h) Once the endotracheal tube is in place, the patient may be placed in right lateral recumbency. The assisting staff member should then hold the patient's mouth shut with one hand until the tube is tied in.
  - i) Turn on the anesthesia machine and attach the anesthesia hoses to the endotracheal tube. The oxygen flow rate should be set to 1 (or 1.5 if using the non-rebreathing circuit) and the vaporizer to 5 for the first few minutes then adjust to a maintenance concentration (around 2%). The scavenging device should be turned on immediately after the vaporizer.
  - j) The assistant should monitor the femoral pulse until the doppler and pulse oximeter are in place and working properly.
  - k) Place the heating pad under the animal. Remember: only lift the patient slightly and slide the pad underneath their body. You want to minimize the movement of the head and endotracheal tube. If more movement is needed, detach and cap the hoses while moving the patient.
  - l) Don't forget to turn the isoflurane down to maintenance level.
- 4) Overview of anesthesia monitoring
- a) Stages of anesthesia (each stage of anesthesia has particular areas of concern).
    - i. Induction - patient goes from consciousness to unconsciousness.
      - 1. Characterized by rapidly changing physiological states: changes in heart rate, blood pressure, and respiratory rate. Special concerns: some drugs can cause apnea (cessation of breathing).
      - 2. Danger of leaving pop-off valve closed when testing endotracheal tube.
      - 3. Danger of setting an incorrect fluid rate when starting perioperative fluid therapy.
    - ii. Maintenance - prolonged period of anesthesia
      - 1. Special concerns: as patient become hypothermic their anesthetic needs decrease.
      - 2. Positive pressure ventilation Q 5 minutes.
      - 3. Record Iso level, O<sub>2</sub> level, SPO<sub>2</sub>, Pulse, Respiration, and PPV (+/- Temp) Q 5 minutes.
    - iii. Recovery - patient returns to conscious state.
      - 1. Special concerns: When removed from anesthesia machine, patient is going from 100% oxygen to room concentration (~20%).
      - 2. Upon extubation, no longer have a protected airway.

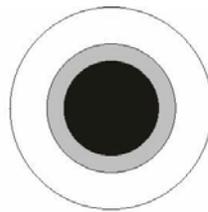
3. Certain breeds have extra pharyngeal tissue which can drop into airway (particularly when they are relaxed).
  4. Some animals may regurgitate or vomit on recovery and can aspirate the fluid.
- b) Monitoring the Anesthesia Machine
- i. Is oxygen on and at appropriate level? circuit: 1L/min., non-rebreathing: 1L/5 lbs /min.
  - ii. Is isoflurane on and at appropriate level? circuit: 2-3, non-rebreathing: 1.5-2
  - iii. Is pop-off valve open?
- c) Monitoring the Monitors
- i. Doppler (pulse rate and blood pressure) - pulse: Dog = 60-180, Cat = 140-220 (changes in volume of doppler can be a crude indicator of blood pressure).
  - ii. Pulse Oximeter (pulse rate and oxygen saturation)
    1. O<sub>2</sub> saturation: >95%.
    2. Respiration monitor: 6-20 breaths per minute.
    3. Can also provide core body temperature reading and audio monitoring of heart via esophageal stethoscope but not at same time respiratory monitor is in use.
- d) Monitoring patient
- i. Pulse: pulse rate and blood pressure (Pulse Oximeter's red bar also gives a very crude indication of blood pressure).
  - ii. Respiratory Rate - Dog = 5-30 breaths per minute, Cat = 20-40.
  - iii. Mucous Membrane Color
    1. pink = good.
    2. blue, white, brick red = bad!
  - iv. CRT (Capillary Refill Time) - an indication of peripheral perfusion - How well is blood getting to the capillary beds? normal: < 2 sec.
  - v. Palpebral Reflex - gently touch the skin at the medial canthus of the eye. If the pet blinks, it is in a light state of anesthesia or waking.
  - vi. Eye Position and Pupil Size
    1. light plane of anesthesia - constricted pupil, pupil centered
    2. surgical plane of anesthesia - the eye is rolled toward the midline and down, pupil somewhat dilated
    3. deep plane of anesthesia - fully dilated pupil, pupil centered



Light



Surgical Plane



Deep

- vii. DANGER of Poor Anesthetic Regulation
    1. Too Light - feel pain during procedure, awaken during procedure, leading to shock, cardiopulmonary arrest
    2. Too Deep - decreased blood pressure, heart rate, respiratory rate can cause poor oxygenation of tissues which could result in slow recovery, hypothermia, blindness, organ failure, cardiopulmonary arrest.
- e) What's a technician to do?
- i. BE VIGILANT - LOOK, LISTEN - CALL FOR THE DOCTOR!

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- ii. What if the monitor says the oxygenation is decreasing?
  1. Check the probe for position (with lingual probe, also check for tongue movement or dryness).
  2. Check the O<sub>2</sub> flow rate on the anesthesia machine.
  3. Check the patient's depth of anesthesia and adjust the anesthesia machine accordingly.
  4. Ventilate with positive pressure (close pop-off valve) - 12 breaths/ minute.
- iii. What if having difficulty feeling pulse before monitors attached?
  1. Listen with stethoscope.
  2. Monitor patient - just after induction the patient should have brisk palpebral response, pupils constricted, good CRT with pink mucous membranes.
- iv. What if heart rate is decreasing?
  1. Check patient's depth of anesthesia.
  2. Atropine (under doctor's direction).
- v. What if animal is regurgitating or vomiting on recovery (or you just notice the abdominal contractions)?
  1. Place patient in sternal recumbency and lower head below level of abdomen.
- vi. What if patient "turns blue" on recovery?
  1. Oxygen, oxygen, oxygen with mask or prepare to re-intubate.
  2. Place in sternal recumbency.
- vii. What if there is anesthetic emergency?
  1. Everyone should know where atropine and epinephrine are kept.
  2. Be ready to place catheter, obtain fluids.
  3. Be ready to administer CPR.

5) Patient Preparation

- a) Shave the animal. For spays, use the end of the sternum, the vulva, and the borders of the rib cage as your guidelines. For neuters, use the prepuce and scrotum as guidelines. The Dr. will give you instructions about other surgeries. When you have finished shaving, throw out all hair that can be picked up by hand and use the vacuum cleaner to clean up all the remaining hair on the animal. Use your fingers as a guard so you do not put unnecessary pressure on the animal's skin. Wipe the skin with a wet sponge to get off any loose hair the vacuum did not get.
- b) Surgical Scrub
  - i. "Dirty Scrub" - Scrub the entire area with chlorhexidine scrub to remove any dirt and debris. If the animal is very dirty, this may have to be performed twice.
  - ii. Begin the surgical prep by placing a small amount of chlorhexidine scrub on the incision site. Take a clean sponge and wet it using distilled water. Start scrubbing the area by using a circular/oval pattern from the center of the surgery site out to the border. Always expand the diameter of the scrub pattern...do not move inward over areas already scrubbed. When the outer extent of the surgical field is reached, wipe off the first scrub by taking 2 clean gauze sponges, touching only one side of them, start in the middle and wipe away from the incision site. Repeat this on each alternating side of the first wipe until all the soap has been removed. This entire process is repeated a second time and the soap will be left on until the animal is in the surgery room.
- c) After the animal has been moved into the Sx room, secure the patient with the cord restraints. Each limb must be secured.

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- d) Remove the second scrub the same way as in “b” above. Perform one more scrub, let it stay on for 5 minutes and wipe off.
  - e) Take the spray bottle of chlorhexidine solution that is hanging on the back of the anesthesia machine and spray the surgery site. Apply an even coat but do not apply so much that it runs. DO NOT WIPE OFF.
- 6) Assisting the Surgeon
- a) When the doctor is through scrubbing, open a surgery gown.
  - b) Tie the doctor’s surgery gown and open up the surgery gloves.
  - c) Assist the doctor in the surgery room as needed.
  - d) During surgery, empty the rebreathing bag regularly (every 5 minutes).
- 7) Patient Recovery
- a) When the surgery is over, the technician is responsible for cleaning the surgery site (distilled water only -- no hydrogen peroxide), turning off the O2 and anesthesia, untying the endotracheal tube, and deflating the cuff of the endotracheal tube. Spray the surgical site with Allerspray to deter licking when the patient wakes.
  - b) After the patient is out of the surgery room, the technician is responsible for extubation (process of removing the endotracheal tube from the animal). At the first sign of chewing, the animal needs to be extubated. This is done by pulling the endotracheal tube out, by following the curve of the tube and the neck. The recovering technician may also turn off the doppler and remove it. If the patient is on fluids, they are usually disconnected at this time unless otherwise instructed.
  - c) At this time any appropriate pain medication is administered and the animal is made comfortable in an ICU cage with a towel for warmth. Annotate the amount of post operative pain medicine given in the chart and appropriate logs.
- 8) Surgery Clean Up
- a) Remove all instruments from the surgery room and clean the surgery room with parvosol/HDQ. All equipment should be sprayed and wiped down on all surfaces, even the undersides!
  - b) Put away all equipment and turn off the oxygen tanks (turn to the right).
  - c) Vacuum and mop the surgery room.
  - d) After the surgery room has been thoroughly cleaned, it should be set up for the next day's surgery.
  - e) The instruments should be put in a blue tub (located under treatment room table), covered with cold water, and allowed to soak for about 5 - 10 minutes. Drain dirty water, refill with cold water and add ½ capful of the Miltex instrument cleaner.
  - f) Scrub the instruments using a soft bristle miltex brush (wire brush should be used on teeth if instruments have dried debris), rinse with tap water and then place in the ultrasonic cleaner. The instruments should be open. Use 1/2 capful of Miltex surgical instrument cleaner and fill cleaning unit with distilled water only. Set timer for 20 minutes. Afterwards, the instruments are rinsed with water and then sprayed with lubricant. The instruments are now ready to be wrapped.
- 9) Surgery Packs
- a) OHE packs - The OHE pack consists of:
    - i. Olsen-Hagar needle holders (1)
    - ii. Mayo scissors (1)
    - iii. Carmalt hemostats (3)

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- iv. Kelly hemostats, straight (2)
  - v. Kelly hemostats, curved (2)
  - vi. Sharp-blunt scissors (1)
  - vii. Mosquito hemostats, straight (2)
  - viii. Mosquito hemostats, curved (2)
  - ix. Spay hook (1)
  - x. Soft tissue forceps (1)
  - xi. Brown-Adson tissue forceps (1)
  - xii. Scalpel blade holder (1)
  - xiii. Metzenbaum scissors (Miltex packs only) (1)
  - xiv. Bauchus towel clamps (6)
  - xv. Gauze sponges (20)
- b) All instruments except the tissue forceps, scalpel holder and towel clamps are placed on the spay hook in order of decreasing size on a folded piece of blue drape material. The other instruments are placed next to those on the spay hook. Twenty gauze sponges are then placed on top of the instruments in two stacks of ten. A sterilization indicator strip is placed on top of the gauze sponges.
- c) The instruments are now wrapped using an accordion type fold, with the free end pointing in the direction the fold originates from. Three corners are done in this manner with the last being tucked under the others to complete the wrap. This wrap is placed in the same manner on a second wrap and the process repeated. The towel clamps will be placed on top of the first wrap before the second wrap is applied. After completion of the second wrap, the tab end will be secured with a piece of masking tape and a piece of autoclave tape. On the masking tape write the date, what is inside (ex.- OHE, 4 drapes, gown, towel , brush...), and initials. The pack is now ready to be autoclaved.
- d) This double wrap process is used for all other packs as well.
- e) Gown packs:
- i. The inner wrap consists of the gown.
  - ii. These are wrapped using surgical drape material.
  - iii. Be sure to place a sterilization indicator strip on top of the gown.
- f) 4 drape packs:
- i. This pack consists of 4 drapes folded with an accordion fold.
  - ii. The 4 drapes are wrapped using 2 layers of surgical drape material. An indicator strip is placed on top of the drapes prior to wrapping.
- g) Single drape pack - the same as above except with one drape.
- h) Towel and brush packs - They are wrapped with the towel and brush placed beside each other. Don't forget the indicator strip!
- i) Bowl with 20 gauze sponges - 20 sponges are placed in a medium stainless steel bowl and wrapped as above.
- j) Laceration pack:
- i. needle holder (1), carmalts (2), mosquito forceps - curved and straight (2 each), sharp - blunt scissors (1), Metzenbaum scissors (1) Brown-Adson tissue forceps (1), towel clamps (4), dressing forceps (1), scalpel blade holder (1).
  - ii. It is wrapped in the same manner as the OHE pack.
- k) Towel pack - it contains 2 towels stacked one on top of the other and wrapped in blue drape material.

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- l) Balfour retractor - it is wrapped alone.
  - m) Laparotomy pads - four Lap. pads are placed on top of each other and will have an indicator strip placed on top of them prior to autoclaving.
  - n) Surgery Packs are good for 1 month from date of autoclaving. After a month, they need to be re-autoclaved. Before this can be done, the packs need to be opened and a new indicator strip placed inside the inner wrap. The packs are then re-wrapped and a new piece of autoclave tape and regular tape placed on the outside. At this point, the packs can be re-autoclaved and placed back in the pass-through cabinet. Surgery Packs should be checked at least twice a week to make sure that the dates are current. There is a checklist on the filing cabinet in the treatment room that should be used the first Wednesday of every month to help ensure that surgical supplies are properly stocked and in date.
  - o) Some instruments, sponges, and cotton-tipped applicators are autoclaved in sterilization pouches.
  - p) Packs of sponges - 2 stacks of 10 sponges are placed in sterilization pouches. Seal the pouches by removing the layer off the sticky end of the pouches and folding them down. Initials and the date need to be written on the pouches.
  - q) Cotton-tipped applicator packs - place 10 applicators in a pouch and seal as above.
  - r) The following single instruments are done in the same manner. Spay hook; Brown Adsons Mosquitos: straight, curved; Allis forceps; Towel clamps; Needle holder; Carmalts; Scissor straight blunt, straight sharp; Metzenbaums; Iris scissors; Scalpel blade holder.
  - s) Some instruments are kept in a chlorhexidine solution in the "Cold Pack". The Cold Pack includes seven items: Needle Holders w/o scissors, Brown-Adson tissue forceps, Sharp-blunt scissors, straight mosquito forceps, curved mosquito forceps, soft tissue forceps, scalpel blade holder
    - i. These instruments are cleaned in the same manner as other instruments (including the ultrasonic cleaner).
    - ii. The solution in the cold pack is a 50/50 solution of chlorhexidine solution and distilled water. It should be changed on a monthly basis.
    - iii. The lid to the cold pack should be kept closed except when in use.
    - iv. The "Cold Pack" can be found in the treatment area on the counter behind the tub table. It is a black and white container. Don't move it too quickly - it will spill!
- 10) Operating Autoclave
- a) First remove the cap from the top of the autoclave and make sure there is plenty of distilled water in the autoclave. The level of the water needs to be at or near the bottom of the copper pipe. If not, fill to this point using only distilled water.
  - b) Place packs in the autoclave. Do not over pack the autoclave. It is better to go through another cycle than to over pack.
  - c) Turn on the autoclave using the green button. Turn the lower knob to "fill" and watch for the water to reach the indented fill line. When the water reaches this level, turn the knob to STE.
  - d) Close the door and turn the handle until it touches and then turn another ½ turn to seal. Do not over tighten.
  - e) Turn the timer to 45 minutes for a cold start (first load of instruments) or 35 minutes for a warm start (back to back loads) and press the start button. Turn all knobs only clockwise, never counterclockwise.

- f) When the cycle is complete and the bell rings, the lower knob should be turned to Exhaust/Dry to release the pressure.
- g) After the pressure has reached zero (white needle on the pressure gauge) and the handle turns easily, the door should be opened. Never force the handle.
- h) Leave the door slightly cracked and turn the timer to 25 minutes, so the packs can be dried. For certain items, you may have to set the timer for a longer period of time.
- i) After drying, the packs can be placed in the pass-through in their correct place.
- j) If needed, repeat process for more packs. If there are no other packs turn autoclave off.

## VI. Laboratory

### 1) Running In-House Tests

- a) Heart worm checks - filter and occults:
  - i. Filter tests - need 1 ml of whole blood for this test.
    1. Mix 1 ml of whole blood with 6 ml of Difil (Iysing) solution.
    2. Pass the solution through a filter membrane by placing the filter membrane holder on the end of your syringe and pressing.
    3. Next, pass a syringe full of tap water through the holder in the same manner, two times.
    4. Then dry the membrane by pushing two full syringes of air through the filter holder.
    5. Take the membrane out of the holder and place on a clean slide.
    6. Place 1 drop of Difil test stain to the membrane and place a clean cover slip on the slide. It is easier to read this test if you don't put quite a full drop onto the slide.
    7. The slide is now ready to be read for microfilaria.
  - ii. Occult tests - need at least 1/4 ml to run an occult test.
    1. Canine occult tests require 3 drops of blood, plasma, or serum. A canine test has to run for 10 minutes for whole blood and 5 minutes for serum or plasma.
    2. For Feline occult tests, plasma or serum is preferred. Run for 5 minutes.
- b) Intestinal Parasite/Fecal Examination
  - i. Performing Centrifuge Fecal Exams:
    1. Place 1 gram of feces in a dixie cup. One gram is approximately equal to a cube which is 1/2 inch on a side. If unable to obtain 1 gram of feces, use as much as available.
    2. Add enough zinc sulfate flotation medium to the cup to liquify the sample.
    3. Strain the mix through the tea strainer into a second dixie cup to remove large particles and then pour the liquid into a plastic conical centrifuge tube. Top off tube with fecal flotation medium until there is a bulging meniscus.
    4. Place a plastic cover slip on top of the meniscus and tap gently to firmly seat the cover slip.
    5. Place the tube in the centrifuge. Make certain the cover slip is parallel to the edge of the centrifuge - i.e. the corner of the cover slip cannot be pointed toward the center nut or it will touch the center when the machine starts spinning and fall off.
    6. The centrifuge needs to be balanced before spinning - there has to be 2 samples in the centrifuge opposite each other. If there is only one animal sample place the

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balance tube across from it. A balance tube is made by filling a conical tube with zinc sulfate, NOT WATER, and placing a screw top on it.

7. Spin the sample at 1300 rpm for 6 minutes.
  8. Remove the tube from the centrifuge and place the coverslip on a glass slide for evaluation.
- c) IDEXX SNAP TESTS (Feline Immunovirus Test - FELV/FIV, 3DX, etc.).
- i. The test kits are stored in the refrigerator.
  - ii. Whole blood, plasma or serum can be used.
  - iii. Follow instructions in the test kit's box.
  - iv. The tests must be at room temperature before running.
- d) Urinalysis - Chemstrip, Refractometer, and Cytology.
- i. Chemstrips
    1. Collect urine sample - unless otherwise specified by a doctor, a voided sample is acceptable.
    2. Using a pipette, place one drop of urine on each test square. Start timer.
    3. Read and log values at the designated time intervals on the result sheets and place sheet in medical record.
  - ii. Refractometer
    1. Hold the refractometer with the glass lid open and place one drop of urine in window.
    2. Close lid and hold up to light to read - use the graph on the right. e.g. 1.010, 1.025, >1.040 (if off the scale).
    3. This test measures specific gravity (urine concentration).
    4. Flush the window and lid with water from faucet. Dry only with "Kim Wipes."
    5. Record value on urinalysis result sheet.
  - iii. Cytology
    1. Fill a 10 ml urine centrifuge tube with 5 ml of urine. If you have collected less than 10 ml of urine, please reserve at least 1 ml for additional testing in a separate container.
    2. Spin in centrifuge for 5 minutes at 1600 rpm.
    3. Show tube to doctor.
    4. Pour off urine (leaving sediment and approximately 1/2 ml of liquid).
    5. Tap tube on the counter to mix sediment and remaining urine.
    6. Use a pipette to put one drop of unstained urine on one end of a new slide and put a glass cover slip on it.
    7. Add 1 drop of urine sedi-stain to the tube.
    8. Tap tube on the counter to mix urine with stain.
    9. Use a pipette to put one drop of stained urine on the other end of the new slide and put a glass cover slip on it.
    10. It is now ready to be read. Place the slide in the microscope and notify the doctor it is ready to read.
    11. NOTE: Dispose of urinalysis slides in the sharps container.
- e) Glucose - Blood glucose is frequently performed in house.
- i. The Glucometer is found in the treatment room on the first shelf.
  - ii. Use the instructions found in the test kit manual.
- f) PCV/TS (Packed Cell Volume/Total Solids)

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- i. Collect blood sample - if for this test only, can be collected using a 25 gauge needle and venipuncture until the hub of the needle is full.
  - ii. Fill 2 microhematocrit/capillary tubes up to the black lines with blood.
  - iii. Seal the tubes by pressing the end farthest away from the black line into the modeling clay tray.
  - iv. Place both tubes in the Crit Carrier and the Crit Carriers in opposite centrifuge tubes. Centrifuge at 5000 rpm for 8 minutes.
  - v. Read the PCV on the graduated lines to either side of the tubes before removing them from the centrifuge. Be sure the tube is set so that the blood starts at zero. This is the packed cell volume. Record results in the record.
  - vi. To measure total solids, the end of the capillary tube with the red blood cells should be carefully broken off and discarded.
  - vii. Gently blow the remaining plasma onto the surface of the refractometer, without touching it to the refractometer. Close the lid down.
  - viii. Read the results by looking through the refractometer and reading the graduated lines all the way to the left. Flush the glass surface with water and dry with Kem Wipe only. Record results in record.
- g) Dif Quick Stain - ear swab cytology.
- i. The slide with the sample is allowed to air dry.
  - ii. After air drying the slide is repeatedly dipped directly into the wide mouth bottle marked # 1 10 times. The slide is held up out of the bottle and excess fixative drained off.
  - iii. The slide is repeatedly dipped directly in the bottle with fluid #2 10 times. It also is held up out of the bottle to drain off excess stain.
  - iv. The slide is finally repeatedly dipped in fluid #3 10 times.
  - v. Gently rinse back side of slide with tap water and allow to air dry on slide rack.
- h) Fungal Cultures
- i. The culture vials (Dermatophyte Test Medium) are found in the refrigerator. You will also need a clean pair of mosquito forceps.
  - ii. The mosquito forceps are used to pluck some hair from the peripheral edge of a suspected lesion.
  - iii. The hair is then placed on the medium inside the culture vial and the top is loosely screwed on.
  - iv. It is then labeled with the patient's name and the date and placed on the end of the bottom shelf in the pharmacy nearest the treatment room.
  - v. A fungal culture monitoring form should be filled out and placed in the binding ring on the shelf with the culture.
  - vi. It is the veterinary assistants' job to examine the fungal culture daily for any changes, annotate them on the monitoring form, and notify the doctor of these changes. A red color change with minimal colony growth indicates a positive culture.
  - vii. It takes 14 days before a test can be determined negative. Check with Doctor at 14 days.
- i) Skin Scrapings
- i. Materials needed include - used scalpel blade, clean microscope slide, mineral oil.
  - ii. A drop of oil is placed on the clean slide and set aside.

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- iii. The scalpel blade will be used to scrape the skin in an area that looks suspicious for mange mites. The skin has to be scraped to the point of just drawing blood. Between scraping the test site should be squeezed to help exude mites from the skin.
  - iv. The matter on the scalpel blade is then smeared in the oil on the slide.
  - v. The slide is now ready to be read under the microscope to look for demodectic mange mites or sarcoptic mange mites.
- j) Ear swab preparation
- i. For yeast and bacteria examination, roll the swab onto the slide and prepare as above for Dif Quik stain. Examine under low and high power magnification.
  - ii. For ear mite examination, place 1 - 2 drops of mineral oil onto the slide and roll the swab onto the slide. Examine under low power magnification.
- 2) Preparing Outside Lab Work
- a) There are forms in the Pharmacy for all outside lab work. These forms are located in the bottom drawer next to the refrigerator. They are in folders marked as follows:
    - i. Slides - slides should be placed in slide cover boxes. The boxes should be marked with the clinic stamp, patient name, and the date.
    - ii. Blood, urine - collection tubes should be marked with the patient's name, date, and doctor's name, sample (i.e. serum, blood, urine, etc.). Samples sent to Antech also need the account number written on the tube.
    - iii. Swabs - Are generally used for culture and sensitivity. The same info used for blood should be used on swabs with the addition of where the swab was located (ear swab, pustule swab, urine swab, fecal swab).
    - iv. Biopsies - Biopsy samples are placed in appropriate sized containers with formaldehyde. There should be 10x the amount of formaldehyde compared to the volume of the tissue. The bottle should be labeled with the same info as #3 above.
  - b) If there is lab work waiting to be picked up or taken to a lab, the lab designation sign in the files by the refrigerator for that particular lab need to be placed on the refrigerator with a magnet as a reminder.
  - c) If the Antech courier has not come for samples before staff leaves at the end of the day, it will be necessary to place the samples in the pick up box. The box is kept in the back closet. Place the sample and enough ice packs to keep it cool in the box and hang it on the outside of the back door. The key for the box is in the drawer beside the sink in the kennel. Please put it back after using it.

## VII. Radiology

### 1) Taking Radiographs

- a) All staff assisting with radiographs should have a dosimetry badge and should utilize the following protective gear: thyroid shield, lead apron, and lead gloves.
- b) Load the appropriate size cassette in/on the x-ray machine. Remember the focal film distance needs to be adjusted when moving from film tray to table top techniques. Move the beam by grabbing the entire lamp and sliding it up or down until in the correct position as determined by the guide on the upright lamp support.
- c) Measure the patient in centimeters for the appropriate study using the calipers. There is a wall chart next to the x-ray machine that can be used as a guide.

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- d) Using the measurements and the radiology notebook found in the cabinet across from the x-ray machine, set the x-ray machine to the proper values.
  - e) The animal should now be positioned and the radiograph taken by depressing the foot pedal until the beep is heard.
  - f) All radiographs should be properly logged.
  - g) The film cassettes are taken into the dark room to be developed.
- 2) Developing Radiographs
- a) Fill out an imprint card and place in imprinter.
  - b) Turn on safe light, place towel under door, and turn off the overhead light.
  - c) Take the film out of the cassette and place in the imprinter and press using a quick, swift motion. The longer the light stays on (indicating exposure of the imprint card) the harder it will be to read the card's contents - make it fast!
  - d) Place film in automatic processor and feed until processor takes film.
- 3) Storing Radiographs
- a) Place films in an envelope with the client name, patient name, client code, date, and doctor name. Alphabetical file folder labels for the first three letters of the client's last name should be placed on the sealed edge of the envelope.
  - b) Radiographs of active patients taken within the last year are stored in the dark room cabinet on left hand side in alphabetical order. Those that are older than one year are stored on the shelves in the dark room. Radiographs on deceased or inactive patients are stored in the shed behind the clinic.

## VIII. Grooming

### 1) Baths

- a) If possible, set up cages for patients receiving baths prior to their arrival. Place the appropriate sized drying rack in the cage. Place a bowl of water in the cage. It is OK to put a towel or litter pan in the cage with a cat but they should be removed when the pet is returned to the cage for drying. The towel and litter pan can be put back in the cage after the pet is dry.
- b) Prepare all shampoos before getting the animals out of the cages. Shampoo is mixed by filling a bottle ½ full of warm water and ½ full of shampoo. This mixture should be used on both dogs and cats that are having flea baths or medicated baths.
- c) All baths at Shoal Creek include nail trim, express anal sacs, and clean ears. It is best to perform these procedures on the pet in the treatment room prior to bathing. These procedures are only performed if needed.
- d) Take animal out of cages and secure in tub.
- e) For dogs, this is done by placing a leash around their necks and tying them to the screw hook coming out of the wall. Be sure to use a quick release knot.
- f) For cats, first place a small grate in the tub, then place a leash around the cats neck and then form another loop behind the cats front legs. Now you can tie the cat to the screw hook in the wall - this is a type of figure 8 harness for cats.
- g) Place a small amount of artificial tears in both eyes of the animal
- h) Bathing the animal from the head back, making sure not to miss any areas, including under legs and around anus.

- i) After lathering the whole animal and working the soap all the way to the skin, let the shampoo stand 5 minutes. You may now rinse soap off. **Be sure to rinse all soap off, especially with CATS.**
  - j) Towel dry and place in drying cage (cage with appropriate sized drying rack in place). Always set dryer heat to medium...never highest heat. Always place a water bowl in the cage with the patient. Set timer for 20 minute intervals and reset as needed until pet is dry.
  - k) Brush pet when dry.
- 2) Medicated baths
- a) For medicated baths, follow the instructions of the doctor regarding shampoo type to use for the bath. Note - **Nu Salt and Lytar shampoos cannot be used on cats.**
  - b) The instructions for mixing shampoo and bathing are the same as for the above flea bath. However, medicated shampoos should be in contact with skin for at least 10 minutes. Be sure and use your fingers and fingernails to loosen any scales or scabs when using keratolytic shampoos - they need to come off!
  - c) All animals that are bathed and dipped should be put on grates, given water, and have a dryer placed on their cage as soon as possible. **Keep a check on animals with dryers on their cages. Make sure they don't get too hot and make sure they don't run out of water!**

## IX. Housekeeping

### 1) Cleaning Floors

- a) Vacuuming the clinic:
  - i. Vacuum all rugs/mats and get everything off the floors such as stools, trash cans, and mats.
  - ii. Vacuum the entire clinic excluding the surgery room. Be thorough and deliberate in vacuuming motion. Get total coverage. The absence of hair in the mop water after mopping is the best guide to one's proficiency at vacuuming.
  - iii. **FYI:** Don't forget to move drying racks, cabinets on wheels by back door, ICU cages, pharmacy filing cabinet, and cat ward cages in order to be as efficient as possible.
- b) Mopping the clinic:
  - i. The mop water contains 2 oz of Parvosol cleaner in 4 gallons of water.
  - ii. Mop the entire clinic excluding the surgery room. Mopping should be thorough and aggressive. Pay attention to detail. Each mop head rinse and cleaning solution replenishment should only cover about a 15-20 square foot area.
  - iii. After mopping, the water needs to be changed. This is done every night.
    1. Empty the mop bucket in the tub and spray out with water.
    2. Fill bucket to the 4 gallon mark and add 2 ounces of Parvosol.
    3. Rinse off mop ringer and mop, and then put back in closet.
    4. Mop head should be changed every Monday. Dirty mop head should be laundered with 3 - 4 towels using bleach and air-dried.

- 2) Cleaning Lists - There are cleaning lists in every room in the clinic. These lists have tasks on them that are to be done on a regular basis. Some tasks are done once daily, others once weekly, and others once monthly. These are not for slow times in the clinic, they need to be completed to maintain the cleanliness of the clinic.

3)Cleaning Cages - Cages must be cleaned anytime they are used. The following explains the proper way to clean a cage:

- a) Remove the door and place in the tub in the kennel to be cleaned.
- b) Remove any newspaper, pans, and towels.
- c) Spray the entire cage with parvosol.
- d) Wipe the top of the cage first from back to front.
- e) Wipe the sides of the cage from back to front.
- f) Wipe the back of the cage from top to bottom.
- g) Wipe the bottom of the cage from back to front.
- h) Clean the door in the tub by spraying with parvosol and scrubbing with white bristle brush.
- i) Spray door off with water, shake off excess water, and replace on cage.
- j) Place newspaper in the bottom of the clean cage.

4)Cleaning Exam Tables

- a) Exam tables must be cleaned anytime an animal has been on one.
- b) Get all hair and toe nails off of table and into the trash.
- c) Spray the table with parvosol.
- d) Wipe the table from the wall out in a linear fashion moving from one side of the table to the other.
- e) The gurney is cleaned in the same manner as a table.

5)Cleaning tub table

- a) Take the grate to the tub in the kennel and spray with parvosol. Scrub it thoroughly with a brush to remove all blood, exudate, etc. Rinse thoroughly with hot water.
- b) Remove all hair, toenails, and other objects from the tub table with a paper towel.
- c) Rinse any loose debris which could not be picked out with a paper towel down into the drain trap then remove this with a paper towel and throw in trash.
- d) Any areas of dried blood or exudate should be scrubbed with the brush kept in the cabinet below the tub table and the area rinsed down with hot water. The brush should be cleaned with Parvosol when finished.
- e) If the tub table is to be used again before closing, spray the table down with parvosol, let sit for several minutes and then rinse thoroughly with hot water.
- f) If cleaning table at the end of the day (or after a particularly dirty procedure), sprinkle the inside of the tub with Bar Keepers Friend and scrub with sponge. (Note: at this stage of the cleaning, there should not be any blood, exudate, hair, etc, as those materials should have been thoroughly removed in steps b, c, & d.) Rinse the tub out thoroughly with hot water so as not to leave white powder in the tub table. Spray down with parvosol and then rinse again with water.

## X. Inventory Management

1)Receiving Inventory

- a) Ordered inventory generally comes between 11 a.m. and 2 p.m. via UPS.
- b) Open packages and take out the packing slips.
- c) Check items in using the packing slip.
- d) Place a check by the quantity shipped if it is correct.

- e) If the quantity shipped is not correct, **circle it**. Annotate by the line item an explanation for discrepancies, for example, “ordered 10, only sent 2.”
- f) If nothing is wrong with an individual order then place an “OK”, your initials, and the date on each page of the packing slip.
- g) If there are errors with the order then only place your initials and the date and notify the Office Manager.
- h) When you are through checking in an order, place the packing slips in the Office Manager’s box.
- i) When putting away inventory items, rotate stock -- that is, ensure items with nearest expiration dates are placed in front and, ideally, used first.

## XI. Flea and Heartworm Products

### 1) Flea Control Products

- a) Flea Facts - A female flea can lay an average of 40-50 eggs a day, or hundreds of eggs in the course of a lifetime. Within 2-12 days, the eggs hatch into maggot like larvae. The larvae then burrow into carpeting and crevices, where they eventually spin cocoons. Within seven days to a year, an adult flea hatches out of the cocoon and finds a suitable host to live on. A flea might live a year and a half under ideal conditions. These include the right temperature, food supply, and humidity. Generally speaking, though, an adult flea only lives for 2 or 3 months. Without a host for food, a flea's life might be as short as a few days. But with ample food supply, the adult flea will often live up to 100 days.
- b) There are many products available for flea control. Topical products are available to treat the yard, household environment (carpets, upholstery, etc.) as well the pet. In addition, there are several types of flea collars available. Finally, there are prescription flea control products.
  - i. Household Treatments
    - 1. Yard Treatments - although traditional insecticides have been used to treat outdoor environments, they have very little efficacy against fleas as the predominant form in the environment are eggs and pupae which resist these compounds. Some feel that when adult fleas emerge from the cocoon, they may at that point be subject to the effects of the pesticides.
    - 2. Household Sprays & Foggers - Most of these products contains adulticides as well as IGRs (Insect Growth Regulators) and kill existing adult fleas, flea larvae, as well as ticks, cockroaches, and houseflies. According to manufacturers, foggers also provide 30 days of residual protection against reinfestation from flea larvae. When using foggers, all humans and pets must vacate the home for at least two hours. If using a fogger in the garage, motor vehicles should be removed. One fogger should be used for every 750 square feet of area. However, brands and sizes may vary. Area Treatment Sprays work like foggers, except the owner does the spraying. Pets should be removed from the area being treated, but humans can remain in the area. If spraying in a garage, motor vehicles should be removed. One 16 oz. bottle covers approximately 2000 square feet.
    - 3. Collars
      - a. *Scalibor collars* contain Deltamethrin and kills fleas and ticks. Most effective product for ticks.

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- b. *Flea Collars* Most contain pyrethrins and offer limited effect against adult fleas.
4. Frontline Plus and Frontline Spray
- a. Spray - Once a month treatment kills adult fleas and ticks.
  - b. Topical- Once a month treatment kills adult fleas and ticks and breaks the life cycle of fleas.
  - c. Important Points on Frontline Plus
    - i. Kills both ticks and fleas (100% of fleas are dead within 24 hours, 100% of ticks are dead within 48 hours).
    - ii. In dogs, has been reported to protect against fleas for up to 3 months and ticks up to a month. In cats, protects against fleas for at least a month.
    - iii. The drug is Fipronil.
    - iv. No adverse reactions at 5 times the recommended dose.
    - v. Spray: Can be used on eight week old puppy and kittens.
    - vi. Topical: Can be used on eight week old puppies and eight week old kittens.
    - vii. Kills without the flea or tick having to bite the animal.
    - viii. May cause salivation in cats.
    - ix. Water does not affect the duration of efficacy of this product.
    - x. Has no effect on mammals except in pure solution. Works on invertebrates by blocking the passage of chloride ions through the GABA regulated chloride channel.
5. Advantix
- a. Kills and repels both ticks and fleas.
  - b. Must not be used in cats or in dogs that may be groomed by a cat as the active ingredients are toxic to cats.
  - c. The drug is Imidacloprid and Pyrethrin.
  - d. Topical: Can be used on eight week old puppies.
  - e. Water does not effect the duration of efficacy of this product. Bathing should not occur within 1 day of applying the product (either before or after application).
6. Advantage Multi (imidacloprid and moxidectin)
- a. Feline:
    - i. *This is a prescription drug and requires a valid doctor-patient relationship with an associate of this clinic.*
    - ii. Prevents and controls flea infestations.
    - iii. Breaks the life cycle of fleas.
    - iv. Prevents heartworm disease.
    - v. Treats and controls ear mites.
    - vi. Treats and controls hookworms and roundworms.
    - vii. 98% of fleas killed within 36 hours in lab studies.
    - viii. More than 90% of flea infestations controlled within one month of first dose.
  - b. Canine:

i. *This is a prescription drug and requires a valid doctor-patient relationship with an associate of this clinic as well as a current (within past 12 months) negative heartworm examination.*

ii. Prevents and controls flea infestations.

iii. Breaks the life cycle of fleas.

iv. Prevents Heartworm Disease.

v. Treats and controls ear mites.

vi. Treats and controls sarcoptic mange and demodectic mange (European label).

vii. Treats and controls hookworms, roundworms and whipworms.

#### 7. Trifexis (milbemycin oxime and spinosad) - For Dogs only!

a. *This is a prescription drug and requires a valid doctor-patient relationship with an associate of this clinic as well as a current (within past 12 months) negative heartworm examination.*

b. Kills fleas and prevents infestations.

c. Prevents Heartworm Disease.

d. Treats and controls roundworms, hookworms and whipworms.

#### 2) Heartworm preventive medications

a) Oral products - the most commonly recommended oral heartworm preventive medications for canines and felines are Heartgard, Interceptor and Trifexis. These medications prevent heartworm disease and contain intestinal parasite preventatives.

b) Topical products - the most commonly recommended topical product is Advantage Multi.

c) Refer to product information for detailed parasite control.

## XII. Vaccination Information

### 1) Canine Vaccines

a) Rabies

b) "Distemper" (DHP) = Distemper, Hepatitis, Parvovirus

c) ITBC = Infectious Tracheobronchitis = "Kennel Cough" or Bordetella

i. Intranasal protects against Bordetella and Parainfluenza, 6 month duration.

ii. Injectable protects against Bordetella, 6 month duration, both requires a 3 week booster when first administered.

d) Leptospirosis

e) K9 Influenza

f) Lyme

### 2) Feline Vaccines

a) Rabies

b) "Distemper" (FRCP or FVRCP) = Feline Viral Rhinotracheitis, Calicivirus, Panleukopenia

c) FeLV = Feline Leukemia Virus

d) FIV = Feline Immunodeficiency Virus

e) ITBC = Infectious Tracheobronchitis = "Kennel Cough" or Bordetella; an intranasal vaccine.

### 3) Brief info on the diseases

a) Rabies - affects the nervous system, public health concern.

- b) Canine Distemper - affects the respiratory system, GI system and CNS.
- c) Canine Hepatitis - primarily a disease of the liver.
- d) Leptospirosis - caused by a spirochete, affects liver, kidneys, public health concern.
- e) Parainfluenza - upper respiratory disease.
- f) Parvovirus - gastrointestinal disease - vomiting, bloody diarrhea.
- g) Coronavirus - gastrointestinal disease - vomiting, bloody diarrhea.
- h) Infectious Tracheobronchitis = "Kennel Cough" - upper respiratory disease in dogs characterized primarily by severe, "honking" cough. The disease is caused by many different viral organisms. We can protect against three of them: Bordetella, Parainfluenza, Adenovirus (Type 2).
- i) Lyme - caused by a spirochete *Borrelia burgdorferi*, vector borne (ticks), symptoms include renal disease, polyarthritis, can affect people.
- j) Feline Distemper - gastrointestinal disease - vomiting, bloody diarrhea.
- k) Feline Upper Respiratory Disease - caused by many different viral organisms. We can protect against four of them: Rhinotracheitis, Calicivirus, Chlamydia, Bordetella.
- l) Feline Leukemia - can affect many body systems - immune system, CNS, GI, can cause tumor formation.
- m) Feline Immunodeficiency Virus - similar to HIV in people.
- n) Feline Infectious Peritonitis - multiple organ systems affected.

### XIII. Rabies Information

- 1) We frequently get calls about animals and people being bitten. The following information should enable you to be better prepared to answer such questions.
- 2) Management of a dog or cat that has been bitten or scratched by a potentially rabid animal is difficult when the biting animal is not available for testing because the dog or cat must be considered as having been exposed to a rabid animal.
- 3) The final decision concerning the management of exposed animals generally is made by local or state public health authorities. (*Athens-Clarke County Public Health Department: 706-542-8600*)
- 4) Guidelines from the National Association of State Public Health Veterinarians:
  - a) Post-exposure management of a dog or cat:
    - i. If the animal is unvaccinated, euthanize immediately, or quarantine in a secure enclosure for 6 months and vaccinate 1 month before release.
    - ii. If the animal is current on rabies vaccination, it should be re-vaccinated immediately and kept under owner control for 45 days.
    - iii. If the animal is overdue on rabies vaccination the public health authorities will need to make a case by case determination.
  - b) Management of animals that bite humans:
    - i. All incidents of animal bites must be attended to by a physician. The physician is responsible for notifying the Public Health Department and filing all appropriate forms.
    - ii. Prior vaccination of the animal may not preclude euthanasia and testing. This matter is ultimately a decision of the Public Health Department.
    - iii. If a healthy, owned dog or cat bites a person:
      - 1. The animal should be confined and observed for 10 days.
      - 2. The form of confinement is decided by the Public Health department.

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3. Rabies vaccine should not be administered during the observation period.
  4. The animal should be examined by a veterinarian at the first sign of illness during confinement and this reported to the Public Health Department.
  5. If signs are suggestive of Rabies, the animal should be euthanized, its head removed, and the head shipped under refrigeration for examination by a state designated laboratory.
- iv. If a sick, stray or unwanted dog or cat bites a person: The animal may be euthanized and the head submitted as above.
- 5)GA Poison Center: Rabies and Animal Bite Help 24 Hours a Day.
- a) Since 1970, the Georgia Poison Center has been the 24-hour poison emergency treatment and prevention resource for medical and non-medical residents of Georgia. The Poison Center is also the official statewide resource for the provision of treatment and prevention advice regarding animal bites and rabies. This service is provided in association with the Georgia Department of Human Resources, Division of Public Health, Epidemiology and Prevention Branch.
  - b) Services regarding animal bites and rabies include:
    - i. Provision of advice for animal bites.
    - ii. Provision of recommendations for rabies treatment.
    - iii. Consultation on unusual animal bite cases.
    - iv. Public and professional education.
    - v. Research and data collection.
  - c) Bite and poisoning victims can call 24 hours a day, 7 days a week:
    - i. In metro Atlanta call 404-616-9000
    - ii. Outside of metro Atlanta call 1-800-222-1222