UNIVERSITY of WASHINGTON

Animal Use Training Session
Dog Lab Handout
Researchers

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ANIMAL USE TRAINING SESSION: DOG LAB FOR RESEARCHERS

I. Introduction

This handout is designed as a supplement to the information provided in the Dog Animal Use Training Session. Remember that in order to perform any of the techniques described in this handout all personnel and the experimental procedure being done must be on an approved Institutional Animal Care and Use Committee (IACUC) protocol. In addition, we strive to ensure consistency in handling and training techniques used with the dogs between research staff, veterinary staff, and animal husbandry staff.

II. Training

In order to provide adequate human interaction, socialization, and enrichment for the dogs, we have initiated a dog enrichment and training program. Together the animal husbandry staff and animal training staff work to provide social interaction to the animals through walks, voluntary play, grooming, and training. Together this not only benefits the animal's overall mental well-being but it also helps to improve the ability to handle the animals with minimal stress for daily interactions and research purposes. In order to make this training a success, it is important that everyone interacts with the dogs in a consistent manner. We will briefly discuss information regarding the specific handling and training techniques and cues for dogs during the second portion of this class, however, if you run into questions about specific handling ques or how to react in specific situations, you can contact Sara Kerner, selotto@uw.edu or Stacey Meeker, sm45@uw.edu.

Dog socialization / play should not interfere with research needs. A schedule is maintained by Sara Kerner, selotto@uw.edu. If dogs should not be handled or interacted with during specific periods of time for research reasons please contact Sara Kerner (selotto@uw.edu) AND the facility supervisor James Mendoza (amespodi@uw.edu).

III. Training Terms

A. Training Marker = dog's name
B. Primary Reinforcer:
    1. Low value treat (dog kibble)
    2. High value treat (Milk Bone, Natural Balance Mini-Rewards)
    3. Verbal/physical affection (petting)
    4. Toy (novel, trainer and dog play with the toy together)
C. Release Cue = say the words "ALL DONE" to release the dog from the training behavior
D. Opening Kennel Gate = only open the gate when dogs have four paws on the floor
E. Kennel-up = dogs return to their kennel on cue
F. Room Entry/Exit = dogs do not exit or enter a room until calm and have four paws on the floor

G. Jumping / mouthing – To avoid dog's jumping up on people, side-step, step back or turn back to dog. Try not to use your hands to push dogs down. **Once dog has 4 feet on the ground or is sitting, give reward/verbal/physical attention to the dog**.

IV. General

A. **DO NOT** take pictures of any of the animals.
B. Try to make interactions with the dogs a positive experience. Use dog treats to reward good behavior and re-inforce training ideas.
C. **Only use dog's name as a training marker = positive situations**. If the dog does something negative, try not to use the dog's name or the word "NO". Remove the causative negative distraction
D. Talk gently and reassuringly, move slowly.
E. Animal feed is located in room ARCF B226. A handful of kibble or a few high reward treats will be sufficient for dog play/training sessions.
    1. All dogs receive High Density Canine Diet 5L18.
    2. If a dog is on special feed, there will be a sign posted on the kennel stating which dog and what food they are allowed to have. In these situations, **NO OTHER FOOD OR TREATS CAN BE GIVEN!**

V. PPE

A. Scrubs or a clean, designated lab coat
    1. Can use the scrubs you enter the facility in (ARCF)
    2. Avoid wearing disposable gowns unless specifically directed to do so by husbandry staff or veterinary services
B. Shoe covers
C. Gloves

VI. Handling

A. **LEASHES MUST BE WORN BY DOGS IN HALLWAY AT ALL TIMES.** This includes being carried.
    1. Ensure the dog being leashed has already been separated from the rest of their kennel mates.
    2. Check the collar to ensure the dog cannot easily slip its head out.
B. **DOGS SHOULD ONLY BE CARRIED BY PERSONNEL WHO HAVE BEEN ADEQUATELY TRAINED** to ensure the safety of both the dog and the handler.
    1. Dogs should never be picked up by the front or back legs.
    2. When carrying a dog, one must ensure adequate support of the entire body.
    3. It is important to be trained to lift dogs properly to avoid injury to the back of the individual lifting the dog. Large dogs should **NOT** be routinely lifted.
C. Female dogs in estrus are **NOT** allowed outside of their housing room as it has the potential to trigger aggressive behavior among the un-neutered male dogs.

1. Exception: It is okay to weigh female dogs in estrus once a week. They should be weighed after the males.

D. If animal room doors are secure and appropriated signage is posted, dogs may be off leash and allowed to train/play. In the rooms, leashes should not be used when multiple dogs are present.
   1. Ensure all door signage is posted when working with the dogs.
      a. Dog holding room (**DOG LOOSE IN ROOM! PLEASE KNOCK LOUDLY BEFORE ENTERING AND WATCH FOR DOG AT THE DOOR!!!**)
      b. Large Animal Procedure Room (**PLEASE DO NOT ENTER PROCEDURE IN PROGRESS**)
      c. Dog Play Room (**DOGS AT PLAY PLEASE OPEN DOOR CAREFULLY**)

E. Pet/scratch dogs on chest / under collar. Do not place hand over dog's head.

F. To avoid dog's jumping up on self, side-step, step back or turn back to dog. Try not to use your hands to push dogs down. **Once dog has 4 feet on the ground or is sitting, give reward/verbal/physical attention to the dog**.

G. If dog(s) are running at you, lower self to their level to avoid jumping behavior. Alternatively, stay standing, move to the side and turn away from dog(s) before they reach you.

H. If a dog grabs an off-limit item and releases it for you, let them investigate the item on your terms (if that is a safe alternative).

VII. Housing

Dogs are socially housed unless there are medical, behavioral, or scientific indications that preclude social housing for specific animals. Animals are closely monitored for group dynamics and care is taken to minimize stress and behavioral issues.

A. Dogs should only be housed / rehoused with animals that they are currently caged with. **NEVER** combine dogs that are not already housed together in the same kennel. Dogs are separated into groups for various reasons (i.e. fighting, sex of animal). If your research needs require different housing configurations, they need to be discussed with facility supervisors, enrichment staff (Sara Kerner) and veterinary services prior to initiating any changes.

B. **ALWAYS reintroduce** a dog to their kennel-mates before placing them back into the enclosure. Signs of successful reintroduction include nose-to-nose sniffing between the fence, and a decrease in excitement among the dogs. Do not interact with any of the dogs during reintroduction.

C. Dogs not currently housed together should not be loose in any of the housing / procedure / or play areas together.

VIII. What to Do in the Event of a Dog Fight

A. **DO NOT PHYSICALLY ATTEMPT TO SEPARATE THE DOGS.** This puts you at an increased risk of a dog bite.

B. If a dog fight occurs, use a 'startle' mechanism to break up the fight. A loud noise is ideal (air horn, loud clap) or you can spray the dogs with the water hose. Once dogs have stopped fighting, exit the room as soon as possible and find someone to help you (Vet Services, Animal Husbandry Staff).
C. Together you and Vet Services or Animal Husbandry can re-enter the room, separate animals as needed and assess for any injuries.
D. If you cannot startle the dogs into stopping their fighting, leave the room and get help immediately.

IX. Animal Husbandry

A. Daily care practices for the animals is provided by the Animal Husbandry staff.
    1. Animals are separated for feedings twice daily. Each animal gets its own food dish to monitor food intake.
        a. Animals that leave all or a portion of their food are noted on the Food Log located in the holding room and are reported to Veterinary Services.
    2. All dogs get weighed at least once weekly and assessed for body condition score as needed.
    3. Cages/runs are spot cleaned daily and fully cleaned once a week.
    4. Room temperature and humidity are monitored daily.
    5. Pay attention to signs/cage cards that indicate:
        a. DO NOT FEED or RESTRICTED FEED as those animals do not receive any treats.
        b. VET CHECK as those animals may not be able to participate in enrichment activities. Consult with Vet Services for more information.
B. Environmental Enrichment
    1. The Department of Comparative Medicine has a SOP on the Environmental Enrichment for Dogs that outlines what types of enrichment the dogs are allowed to have.
    2. Any enrichment items must be approved through the DCM Environmental Enrichment Committee.
        a. **NO TOYS OR FOOD/TREATS FROM HOME**
    3. Special Enrichment items consist of:
        a. Novel toys that the dog and handler play with together. Such items should not be left in the kennel with the dogs after the handler/researcher leaves.
        b. Dog brushes that the handlers can brush the dogs with.
        c. Food treats and puzzles such as Kongs.
    4. Exceptions to environmental enrichment need to be clearly outlined in the approved IACUC protocol and communicated to the facility supervisor via a

Special Services Request form. This form should then be posted in the room so such exceptions are clear to all staff.

X. Physiologic Data (note: Physiologic parameters can vary based on the size and breed of the dog. It is important to get an idea of normal range for the specific animals you are working with).

A. Body temperature.....38-39ºC (100.4-102.2°F)
B. Heart beats/min.....60-120
C. Breathing rate/min 10-30
D. Weight, adult male.....10-30 kg
E. Weight, adult female .....10-30 kg
F. Birth weight.....300-500 g
G. Sexual maturity .....6-10 months
H. Estrous cycle frequency .....6-7 months
I. Duration of estrus .....7-9 days
J. Gestation period .....58-67 days
K. Litter size.....4-12 pups
L. Begins eating dry food .....3-4 weeks
M. Weaning age .....6-8 weeks
N. Breeding life .....6-14 years
O. Life span .....12-14 years

XI. Dog Anatomy: http://www.vetmed.wsu.edu/ClientED/anatomy/

XII. Health Assessment

A. Performing a Physical Exam
1. Assess the overall attitude, activity, and appearance of the animal prior to handling it. Is it alert and active in the cage? Is the fur smooth, shiny and well groomed?
2. Take rectal temperature (if appropriate)
3. Listen for heart sounds on chest, just behind left elbow
    a. Dogs may have a sinus arrhythmia- heart rate gets faster than slower with breathing. This can be normal.
    b. Count the number of beats in 15 seconds. Multiply the results x 4 to determine the heart rate (HR) in beats per minute.
4. Listen to breathing over both sides of rib cage
    a. Count the number of respirations in 15 seconds. Multiply the results x 4 to determine the respiratory rate (RR) in respirations per minute.
5. Palpate pulse at both femoral arteries
6. Examine dog's mucous membrane color and capillary refill time (use gums.)
7. Look for signs of jaundice in sclera (white of eye) or inside of ears

8. Evaluate hydration; skin turgor, sunken eyes
9. Take weight (very important for assessing disease and fluid retention)
10. Assess the overall body condition score of the animal. See appendix A.
11. Observe feces/urine in the stall
12. Evaluate appetite (treats are an effective gauge). Also pay attention to the food log located in the room.
13. Observe for unusual gait (limping, etc.)

B. General health concerns that should be reported to Vet Services are:

1. Diarrhea
2. Vomiting
3. Lethargy
4. Limping
5. Ear problems (redness, odor, shaking head)
6. Dermatitis (flaking skin, itching, crusting, redness, pustules)
7. Coughing
8. Ocular or nasal discharge
9. Lumps/bumps/scrapes
10. Not as playful/interactive
11. Broken equipment/toys (were potentially eaten) –turn in any broken or pieces of toys to veterinary services
12. Inappropriate social/aggressive behavior
13. Elevated body temperature (rectal)
    a. > 102.5ºF
14. Painful or swollen surgical site, evidence of discharge from surgical site

C. Sick Animal Report (SAR)

1. If noticed any of the above health concerns, complete a SAR and turn in to Vet Services. Sick animal reports can be found outside the vet services office, in the animal housing room, or online at https://depts.washington.edu/compmed/veterinary/vetforms.htm.
2. If **URGENT**, page the On Duty Vet at (206) 583-1853.
3. Vet Services will examine the dog, determine a treatment plan and notify the research group.
4. When in doubt, REPORT the animal to Vet Services.

XIII. Training Behaviors

A. Opening Kennel Gate

1. Place pointer finger and middle finger together in a pointing gesture parallel to the floor and move arm/hand in a downward motion to signal 'down' for dogs to place all four feet on the ground. NOTE: There is no need for the verbal command "DOWN".

2. After all 4 feet are on the floor, touch the gate latch with the opposite hand. If dogs jump when you touch the latch, remove your hand from the latch and signal 'down' to dogs and touch the gate latch after all four feet are on the ground.
3. Repeat this process until all dogs are in the 'down' position (standing, sitting) then open the kennel gate.

B. Kennel-up Group Training
    1. Starting outside of the dog's kennel use the training marker (dog's name) and give primary reinforcer (treat) for coming to you. Trainer will use "ALL DONE" cue to release the dogs' attention.
        a. Saying the individual dog's name will help with reward aggression as you are verbally signaling which dog will receive the reward.
        b. Trainer can also use the cue "SIT and dog's name". This also allows for the dog to be verbally signaled when a reward is about to be given.
    2. Once dogs are doing well with training marker, primary reinforcer and release cue at the initial spot, the trainer can move closer to the kennel door and continue with training marker (dog's name) and primary reinforcer (treat) for coming to you. Remember to give release cue prior to moving on, as well as saying the individual dog's name prior to giving the treat.
    3. Move into the kennel and say "KENNEL-UP" as the dogs are crossing the threshold into the area, mark with the dog's name and deliver the primary reinforcer *inside the kennel*.
        a. Try to block the kennel door with your body while rewarding the dogs. You should have the dogs at attention in front of you while the open kennel door is directly behind you.
        b. Feel free to treat multiple times to start building duration in the kennel after the cue. Give the release cue before the dogs lose interest.
        c. Repeat the cue "KENNEL-UP" a few times so the dogs get an appropriate amount of training.
        d. At the end of the last 'kennel-up' training session, place a small amount of reward (kibble) on the floor for each dog and calmly exit the kennel.

C. Enter/Exit Room
    1. Place hand on door handle and wait for dog to be in 'paws down' position (standing, sitting) before opening any room door.

D. Walking on a Leash
    1. Always walk one dog at a time. Dogs can be walked in the Dog Play Area as well as in the main hallway of the facility. **Do not go beyond the C-Wing doors** (6th floor facility) or **ARCF double-doors** (stay in B200A corridor)

2. After completing the walk with a dog, reintroduce the dog back with its kennel mates prior to rehousing the dog.
    a. Please reference above section VII. Housing.
3. Have dogs walk. Do not allow too much slack in the leash as this can lead to 'pulling'. If dog is pulling on leash, do not yank on the leash. Stop walking and hold the leash taught at your side and wait for dog to stop pulling. Prevent dogs from jumping on other researchers in the hallway. If others are walking towards you, move to the side and use treats to maintain the dog's attention and prevent them from lunging / jumping.

XIV. Injection/Drug Administration Techniques

A. Subcutaneous

Sites:	dorsal shoulders and neck region
Equipment:	18ga or 20ga needle with syringe, antiseptic
Volume per site:	Depends on substance being administered (may be 3-5ml or up to 100ml/site)

Photos from Washington State University http://www.vetmed.wsu.edu/ClientED/dog_fluids.aspx

B. Intravenous

Sites:	cephalic or saphenous veins
Equipment:	21-22ga needle with syringe **OR** 21-23ga butterfly catheter with syringe, **OR** 18-24ga indwelling catheters

Volume per site: Depends on substance being administered (usually, volume rarely exceeds 1% body weight)

C. Oral "pilling"
   1. Administer by hiding pill in small ball of canned dog food or pill pocket, **OR**
   2. Gently grasp dog's upper jaw in one hand. With the other hand (holding the pill), open mouth by pressing down on teeth of lower jaw. Firmly and quickly push pill to back of tongue, then close jaw and stroke throat to stimulate swallowing.

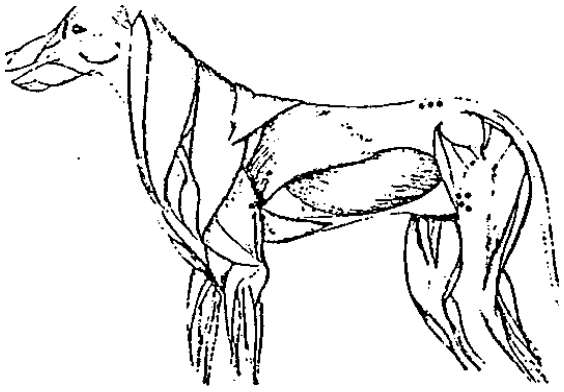
D. Intramuscular

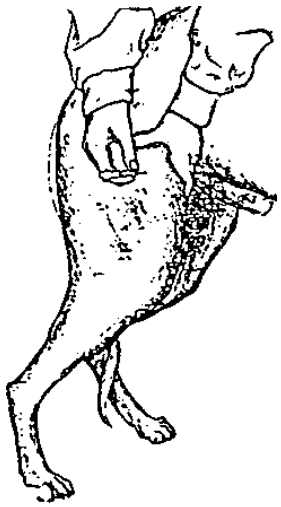
Sites: quadriceps, triceps, (see figures below from the *Manual of Clinical Procedures in the Dog and Cat*)

Avoid administering injections in the muscles located posterior to the femur because of the risk of causing sciatic nerve injury and paralysis

Equipment: 23 or 25ga needle with syringe, antiseptic

Volume per site: small dog = 1-2ml; large dog = 3-5ml





Muscle groups Injection Site for Quadriceps

From Manual of Clinical Procedures in the Dog and Cat, Steven E. Crow and Sally O. Walshaw

E. Venipuncture

Sites:	cephalic, saphenous, or jugular veins (See Appendix C)
Equipment:	needle with syringe **OR** butterfly catheter with syringe
Needle size:	cephalic or saphenous = 22-23ga, jugular = 21-22ga
	Using a needle that is too small slows the withdrawal and increases RBC damage

XV. Anesthetics

A. Please discuss anesthetic options directly with Veterinary Services (206) 543-6257 or vsreview@uw.edu. This is a complex topic and anesthetic options may vary depending on the procedure being performed, the condition and age of the animal, and the experimental goals.

XVI. Analgesics

A. **Remember:** Approach pain assessment with the view that if a procedure causes pain or discomfort in humans, then it will do the same in animals. Consult with Veterinary Services (206) 543-6257 or vsreview@uw.edu for recommended analgesia doses and frequencies. A list of commonly used analgesics can be found at https://depts.washington.edu/compmed/veterinary/files/Recommended%20Analgesics%5B1%5D.pdf

B. **Signs of pain/discomfort may include:** lying still or standing crouched, lack of interest in food or treats, restlessness, shivering, increased respirations with panting, whimpering or howling when left alone, growling without apparent provocation, changes in behavior, aggression when handled, or biting or scratching at painful regions. Veterinary medical staff should be consulted to determine appropriate intervention methods (e.g., analgesia, medical treatment, or euthanasia).

XVII. Euthanasia

A. **General Information:** Animals communicate with sounds and smells humans cannot perceive. Do not expose animals to the death of others. Be sensitive to other animals and people in the vicinity.

B. An overdose of injectable barbiturates is the most commonly used euthanasia agent in dogs. (e.g., Pentobarbital containing euthanasia solutions such as Euthasol or Beauthanasia Solution).

C. After administering euthanasia agent, always confirm death by ausculting heart with stethoscope.

XVIII. Requirements for Surgical Procedures on Dogs

A. All personnel must be listed on the IACUC approved protocol and have passed the required surgery training courses.

B. When planning to do a surgical procedure for the first time, obtain advice from a Laboratory Animal Veterinarian or Veterinary Technician in Veterinary Services (206) 543-6257 and ensure individuals are certified.

C. Non-Survival Surgery
   1. Animals are not allowed to recover from anesthesia.

D. Survival Surgery
   1. Animals are allowed to recover from anesthesia.
   2. Must be performed in an operating suite used only for aseptic surgery. There must be a separate surgical support area, an animal preparation area, operating room, surgeon scrub area, and post-operative care area. If gas anesthesia is used, a scavenger system for exhausting waste anesthetic gas from anesthetic machines must be provided.
   3. Must be performed by an individual certified by a designee of the Attending Veterinarian. See policy here (https://uwnetid.sharepoint.com/sites/OAWRSS/OAWRSSWebsite/Policies).

E. Aseptic surgical technique must include the wearing of sterile surgical gloves, gowns, caps, and face masks, the use of sterile instruments, and aseptic preparation of the surgical field. Appropriate facilities and equipment for post-surgical care must be provided and animals must be observed and supported to ensure uneventful recovery from anesthesia and surgery.

CONTACT INFORMATION

Veterinary Services

ARCF 221-4803

E-mail..... vsfoege@uw.edu

6th Floor 543-6257

E-mail ..... vs6floor@uw.edu

Brotman 897-1508

E-mail ..... vsmercer@uw.edu

Central Animal Surgery 543-6150

Pathology Services 685-3040

Office of Animal Welfare (OAW)..... 685-7363

OAW E-mail ..... oawrss@uw.edu

OAW Web Page..... http://oaw.washington.edu/

Animal Use Training Program 221-7709

Training E-mail ..... auts@uw.edu

Training Web Page ..... http://depts.washington.edu/auts/

6th Floor Facilities Manager 543-4295

ARCF Facilities Manager..... 221-1385

Brotman Facilities Manager 897-1500

Animal Purchasing..... 543-0640

Purchasing E-mail..... animals@uw.edu

Purchasing Web Page ..... http://depts.washington.edu/compmed/animal/index.html

Environmental Health and Safety

Occupational Health Nurse Consultant 221-7770

Occupational Health Nurse Consultant E-mail ..... ohnurse@uw.edu

Employee Health Clinic – Hall Health..... 685-1026

Environmental Health & Safety Web Page ..... http://www.ehs.washington.edu

ONLINE RESOURCES

Drug Services …… 598-6058

Website ..... http://depts.washington.edu/drugsvcs/home/

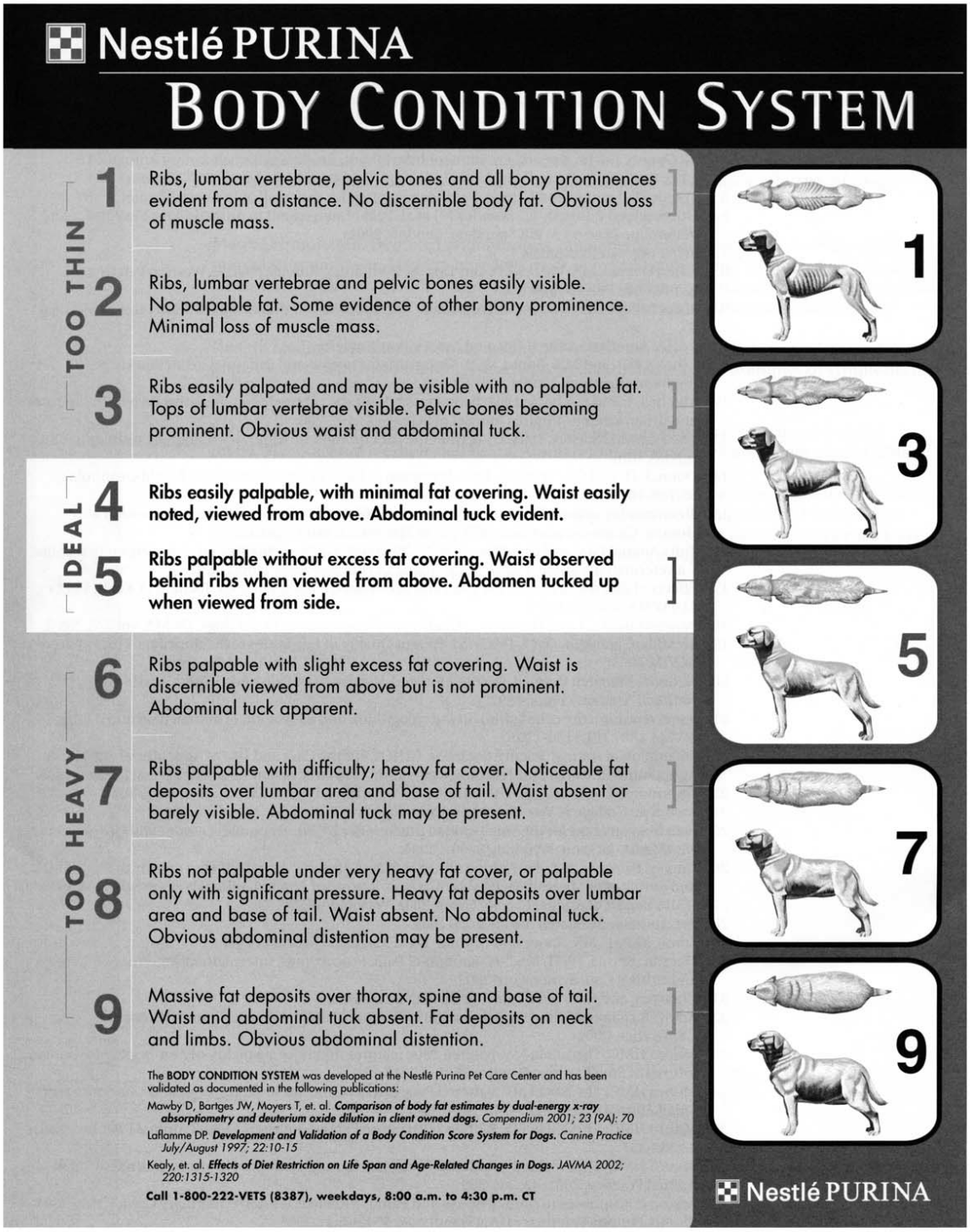
Fax 598-3808

Email.....drugsvcs@uw.edu

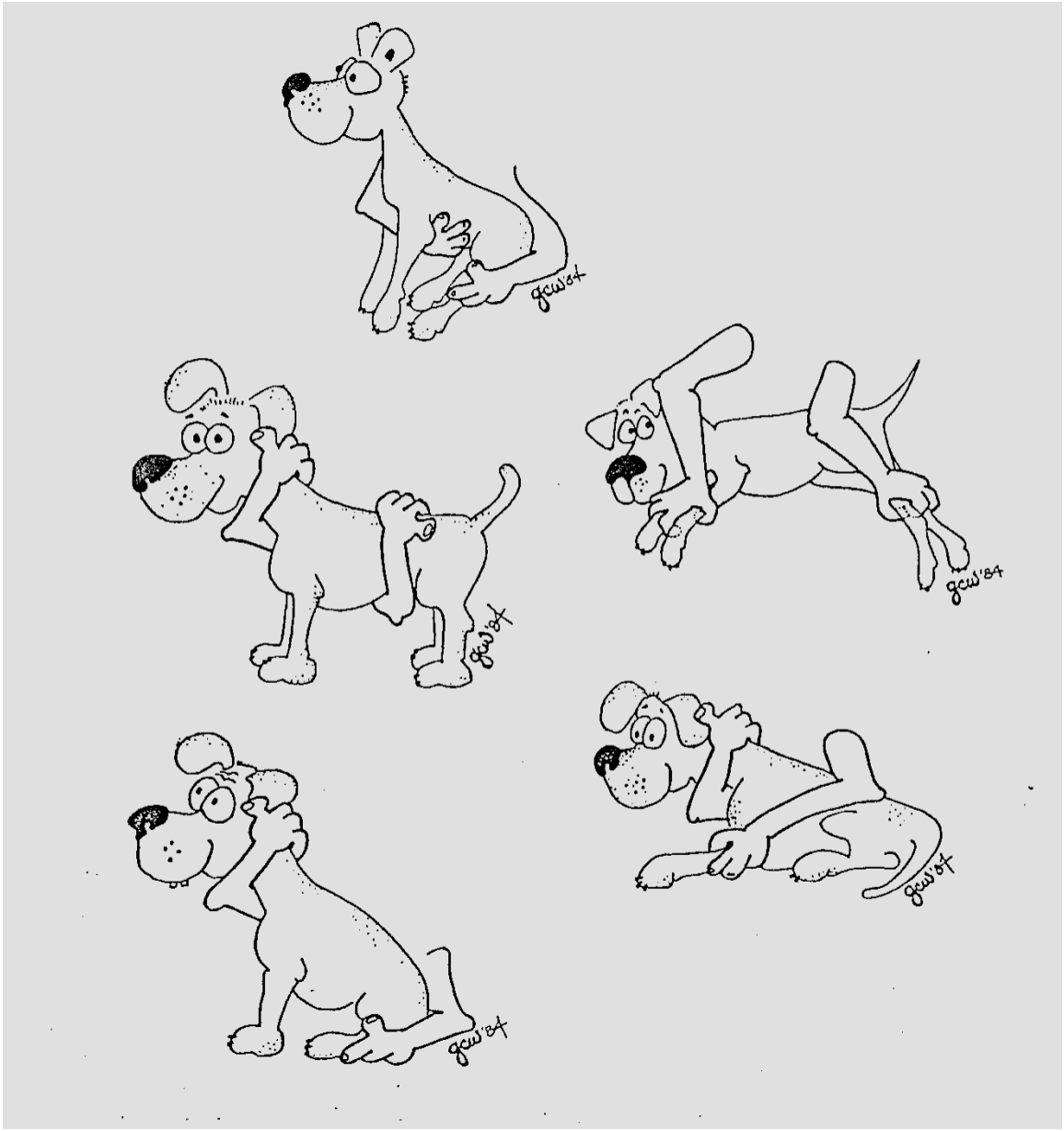
Instrument Sharpening

Website ……..https://depts.washington.edu/hsasf/scientific-instruments/machine-shop/

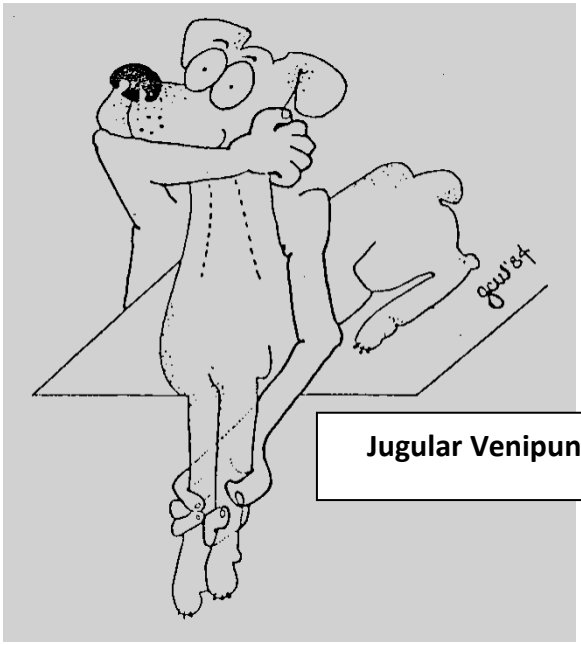
APPENDIX A: BODY CONDITIONING SCORE



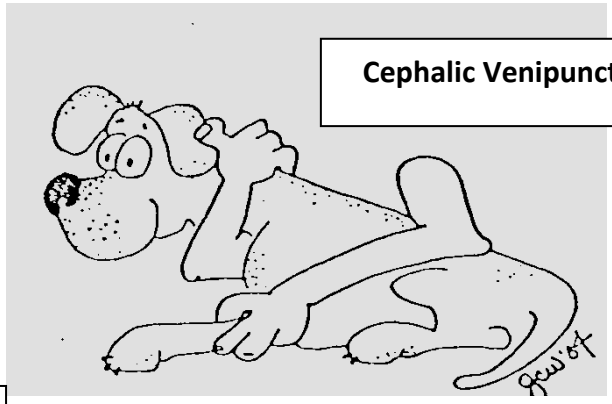
APPENDIX B: DOG RESTRAINT METHODS



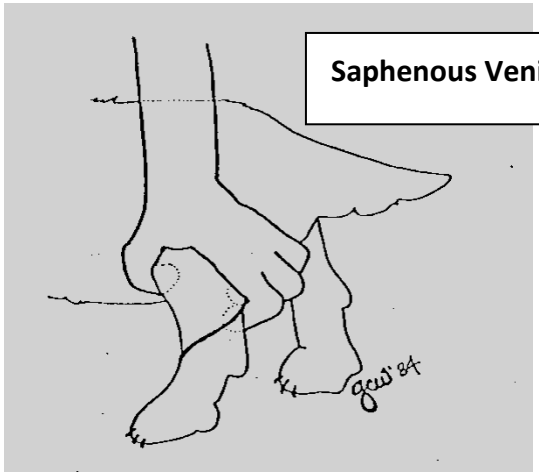
APPENDIX C: VENIPUNCTURE RESTRAINT METHODS



Jugular Venipuncture



Cephalic Venipuncture



Saphenous Venipuncture