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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, animal husbandry staff, and volunteers.

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, animal training staff, and voluntary dog handlers work to provide human socialization and 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 overall handleability of the animals for daily interactions as well as research purposes. In order to make this training a success, it is important that everyone interacts with the dogs in a consistent manner. A separate training course can be arranged through auts@uw.edu to provide additional information regarding the specific handling and training techniques and cues for dogs.

Voluntary dog socialization / play should not interfere with research needs. A volunteer schedule is maintained by Julia Lister, julialister94@gmail.com. If dogs should not be handled or interacted with during specific periods of time for research reasons please contact Vickie Sillers, vwl@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 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
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. Talk gently and reassuringly, move slowly.
   D. Animal feed is located in room D607. A handful of kibble or a few high reward treats will be sufficient for dog play/training sessions.
      1. All 6th Floor dogs receive dog kibble from the white barrel (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. **NO OTHER FOOD OR TREATS CAN BE GIVEN!**

V. PPE
   A. Scrubs or a clean, designated lab coat
      1. Can use scrubs from Central Animal Surgery (CAS) room 606A as long as they are returned.
   B. Plastic 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 is 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 trunk of the 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. 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 G609 (green sign DOG LOOSE IN ROOM! PLEASE KNOCK LOUDLY BEFORE ENTERING AND WATCH FOR DOG AT THE DOOR!!)

b. Large Animal Procedure Room H608 (white sign PLEASE DO NOT ENTER PROCEDURE IN PROGRESS)

c. Dog Play Room (white sign DOGS AT PLAY PLEASE OPEN DOOR CAREFULLY)

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

e. 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.**

f. If dog(s) are running at you, lower self to their level to avoid jumping behavior. If too overwhelming, stand up and turn away from dog(s).

g. **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.

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).

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 ‘shock’ or ‘startle’ 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 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 every Friday morning.
   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/volunteer leaves.
      b. Dog brushes that the handlers can brush the dogs with (especially the hounds).
   4. An Environmental Enrichment Checklist is included as a part of your protocol. If there are any forms of enrichment that could potentially interfere with research goals, they should be clearly outlined on this form.
**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..................................................38-39°C (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


**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 femoral artery

6. Examine dogs 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)
   12. Inappropriate social/aggressive behavior
   13. Elevated body temperature (rectal)
       a. Normal 102.5°F
       b. Significant if 39.6°C or 103.3 – 103.6°F
       c. Definitely abnormal if above 40.0°C or 104°F
   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. 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) by your left side 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.
   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 on your left side. 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. Simply hold the leash taught at your side and wait for dog to stop pulling.

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)

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)

(Follow procedure/hints as described under venipuncture)

Photos from Washington State University [http://www.vetmed.wsu.edu/ClientED/dog_fluids.aspx](http://www.vetmed.wsu.edu/ClientED/dog_fluids.aspx)
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
E. Venipuncture

Sites: cephalic, saphenous, or jugular veins

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

Dry gauze sponge, cotton ball with alcohol or other skin antiseptic, tubes for blood collection

1. Procedures/hints:
   a. Tranquilize a struggling, upset animal.
   b. Shave/clip the site so you can see what you are doing.
   c. Shave/clip an extra site for "back-up".
   d. Slick down the hair with antiseptic or isopropyl alcohol (this does not sterilize the site – a surgical prep with iodine scrub should be used for catheter placement or blood culture).
   e. Move the syringe plunger back and forth to break the vacuum before you insert needle into site.
   f. For cephalic venipuncture, assistant holds off the vein by grasping the leg gently and rolling the vein laterally (see illustration); this helps to visualize the vein and distend it with blood.
   g. Insert the needle, bevel up, to the hub, or at least half-way to the hub to be certain the needle bevel is well seated in the vessel's lumen.
   h. When administering a substance IV, always pull back on the syringe plunger and verify that blood has entered the syringe before giving the injection.
   i. While withdrawing the blood sample, apply gentle traction to the syringe plunger, as too much force can collapse the vein.
   j. Remember to have your assistant release pressure from the vein before administering an IV injection OR before you remove the needle from the vein (after you have finished collecting the volume of blood needed).
   k. Apply gentle, firm pressure to the venipuncture site with a dry gauze sponge for at least 30-60 seconds (this helps prevent hematoma formation).
XV. **Anesthetics**
A. Please discuss anesthetic options directly with Veterinary Services (206) 685-6257 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 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.


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

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

Brotman Facilities Manager ....................................................................................... 897-1500

Animal Purchasing ..................................................................................................... 543-0640

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


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

BODY CONDITION SYSTEM

1. Ribs, lumbar vertebrae, pelvic bones and all bony prominences evident from a distance. No discernible body fat. Obvious loss of muscle mass.


3. Ribs easily palpated and may be visible with no palpable fat. Tops of lumbar vertebrae visible. Pelvic bones becoming prominent. Obvious waist and abdominal tuck.

4. Ribs easily palpable, with minimal fat covering. Waist easily noted, viewed from above. Abdominal tuck evident.

5. Ribs palpable without excess fat covering. Waist observed behind ribs when viewed from above. Abdomen tucked up when viewed from side.

6. Ribs palpable with slight excess fat covering. Waist is discernible viewed from above but is not prominent. Abdominal tuck apparent.

7. Ribs palpable with difficulty; heavy fat cover. Noticeable fat deposits over lumbar area and base of tail. Waist absent or barely visible. Abdominal tuck may be present.

8. Ribs not palpable under very heavy fat cover, or palpable only with significant pressure. Heavy fat deposits over lumbar area and base of tail. Waist absent. No abdominal tuck. Obvious abdominal distention may be present.


The BODY CONDITION SYSTEM was developed at the Nestlé Purina Pet Care Center and has been validated as documented in the following publications:

- Kelly, et al. Effects of Diet Restriction on Life Span and Age-Related Changes in Dogs. ANIMA 2002; 220:116-120

Call 1-800-223-VETS (8387), weekdays 8:00 a.m. to 4:30 p.m. CT
APPENDIX B: DOG RESTRAINT METHODS