

# *Breeding Stock Custodian*



# *Veterinary Care Manual*



**Guide Dogs for the Blind**

[guidedogs.com](http://guidedogs.com)

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# Veterinary Services Introduction

## Staff and Hours of Operation

The San Rafael Vet Clinic is the primary care provider for all active breeder dogs at Guide Dogs for the Blind. The vet clinic is staffed by four veterinarians, eight registered veterinary technicians (RVTs) and veterinary assistants, two client service representatives and a practice manager. Our regular business hours are Monday through Friday from 8am to 5pm, although we do close for appointments on some holidays. Appointments are scheduled between 9:30am and 3:30pm.

The clinic is staffed on weekends and holidays by one of our RVTs. There is no veterinarian on campus on these days. If you have questions or concerns, the RVT can be reached from 8am to 5pm. Please leave a message if you reach voice mail, they will typically return your call within the hour. If you need information, or have previously arranged to pick up supplies or prescriptions, you may do so on weekends or holidays.



## Our Veterinarians

**Dr. Kate Kuzminski, DVM**, joined GDB as Medical Director in December 2018. She attended University of Guelph in Ontario, Canada where she graduated with B.S. in Animal & Poultry Science, followed by her MBA in Food & Agribusiness Management. Dr. Kuzminski obtained her Doctor of Veterinary Medicine degree from the Ontario Veterinary College at the University of Guelph in 1999. She has 20 years of experience in the veterinary field working with numerous animal shelters, community groups, and veterinarians, and mentoring thousands of veterinary students along the way. Prior to joining GDB, Dr. Kuzminski was the Field Medical Director at Rural Area Veterinary Services (RAVS), a program that combines student mentorship with direct veterinary care in geographically remote and economically underserved communities. Dr. Kuzminski also spent 5 years as the Director of Shelter Medicine at the San Francisco SPCA where she focused on team building, improving animal welfare and infectious disease management. She lives with her family and menagerie of shelter dogs in Sonoma County.

Reproductive Specialist, **Dr. Kris Gonzales, DVM, DACT**, graduated with a B.S. in Zoology from UC Davis in 1988 and a Doctor of Veterinary Medicine degree from UC Davis in 1993. She worked in private practice and as a staff Veterinarian for the San Francisco SPCA Hospital for nine years prior to joining Guide Dogs for the Blind in 2002. Dr. Gonzales has a special interest in canine breeding, obstetrics, and neonatology and she is a Diplomate of the American College of Theriogenologists. She lives near the GDB San Rafael campus with her husband, son, dog, cat and bird.

**Dr. Kristen Haviland, VMD**, is originally from the Adirondack Mountains of northern New York. She graduated from Middlebury College in Vermont with a BA in Biology in 1996 and from The University of Pennsylvania School of Veterinary Medicine in 2001. Dr. Haviland has been in private practice in the Bay Area for the last 14 years, working at Pets Unlimited in San Francisco for the last nine years. She joined GDB in January 2015. Kristen lives in San Rafael with her husband (who is also a veterinarian), two young sons, and two dogs.

**Dr. Kristin Conover, DVM**, graduated with a B.S in Animal Science from Cal Poly, San Luis Obispo in 2008 and a Doctor of Veterinary Medicine degree from Western University of Health Sciences in 2012. She completed an intensive one-year small animal rotating internship where she worked side by side with the specialists rotating through surgery, internal medicine, oncology, emergency, and general medicine. Dr. Conover then started working as an associate veterinarian at a busy 5 doctor practice in rural Ukiah. She joined the GDB team in January of 2016. Dr. Conover resides in San Rafael and enjoys living an active lifestyle while exploring beautiful Marin County.



## Vet Clinic Who's Who



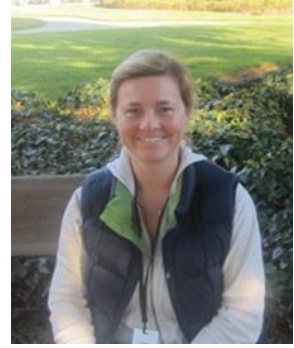
Dr. Kate Kuzminski  
Medial Director



Dr. Kristin Conover  
Staff Veterinarian



Dr. Kris Gonzales  
Reproductive Specialist



Dr. Kristen Haviland  
Staff Veterinarian



Melissa Blanc  
Registered Veterinary  
Technician



Carol Conway  
Client Service  
Representative



Shannon Delahunty  
Practice Manager



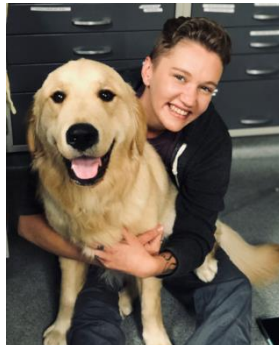
Cheryl Griffin  
Client Service  
Representative



Peggy Haissig  
Registered Veterinary  
Technician



Kristen Hagler  
Rehab Specialist &  
Registered Veterinary  
Technician



Cierra Harrington  
Non-registered  
Veterinary Technician



Jill Johnson  
Registered Veterinary  
Technician



Jessica Mau  
Registered Veterinary  
Technician



Mary Alice Pinkham  
Registered Veterinary  
Technician



Ayana Rossbach  
Non-registered  
Veterinary Technician

## Appointments and Services

As the primary veterinary clinic for all breeders, we provide preventative and routine care and testing by appointment. We also provide surgical care and diagnostics including spay/neuter, mass removals, abdominal ultrasound, radiographs, and dental care. Although we consider ourselves a “full-service” hospital, we do occasionally refer medical and surgical cases that may be beyond our expertise or require a specialist’s consultation. Please do not hesitate to contact us if you have a medical question or concern about a breeder dog in your care. Please be aware of the following policies which are in place to help us give everyone the time and attention that they deserve.

- All office visits are by appointment only, no walk-ins please.
- Plan to arrive on time to your appointment, allowing extra time for traffic and parking.
- Late arrivals for routine appointments may need to be rescheduled.
- The primary caregiver should be present at the exam to allow us to obtain a thorough medical history and ask questions. Please do not wait until the dog is boarding to address a concern.
- All dogs must wear a gentle leader, and be kept on a short leash and under control at all times in the vet clinic.
- Most appointments are 30 minutes, although annual breeder exams and sick dogs are scheduled for 1 hour. At times we may ask you to drop the dog off.
- If a urine sample is needed, please do not allow the dog to relieve for at least 2-3 hours prior to the scheduled appointment time.
- Some appointments may be scheduled with a technician. Veterinarians are not available for exams for these appointments, as they are attending to other patients. Please be prepared to schedule an additional appointment if you have further concerns that require the direct care of a veterinarian.
- We require at least 24 hour notice to refill supplies, including Heartgard, Frontline and medications.

We occasionally receive requests from breeder custodians to pursue routine and preventative care locally rather than on campus. Pre-approval is required by the GDB Breeding Department, and is done at your own expense. There may also be occasions where we refer you to an outside veterinarian if an appointment cannot be accommodated on campus. You may or may not be responsible for these charges, depending on the situation. Any questions regarding responsibility for payment should be directed to the breeding department.

## Emergencies and Urgent Care

### Life-Threatening Emergencies

If a dog has a suspected or known life threatening medical emergency, you should seek immediate care. If the emergency occurs between 8am and 5pm, any day of the week, call the vet clinic directly at 415-499-4081. If after hours, proceed to your nearest veterinary hospital or emergency clinic. Call us at 800-295-4050 as soon as possible once the dog is receiving the initial treatment needed to stabilize him or her. Follow the emergency prompts to be connected to a neonatal member who will contact the veterinarian on-call as needed. Please understand neonatal staff are often tending to the care of the whelping moms and neonates and could take up to 60 minutes to return your call.

### Urgent Cases

Often medical situations arise that are not life threatening but still need urgent attention. If you have an urgent medical situation with a breeder dog between 8am and 5pm, any day, please call the veterinary clinic for advice at 415-499-4081.

During non-business hours, please proceed to the nearest emergency clinic. The emergency veterinarian will assess the dog and come up with a treatment plan. To allow us to guide treatment of our breeder dogs, GDB should be notified at this time if any of the following are recommended:

- Diagnostics of any kind (ex: fecal, bloodwork, urinalysis, ultrasound, x-rays)
- Sedation or anesthesia
- Surgery
- Overnight hospitalization
- Any treatment requiring the dog to be left at the emergency clinic

To contact GDB if needed, call 800-295-4050 and follow the emergency prompts to be connected to neonatal staff. They are also able to contact the vet on call if needed. Please understand neonatal staff are often tending to the care of the whelping moms and neonates and could take up to 60 minutes to return your call.

## Payment for Emergency and After-Hours Care

Please be prepared to pay the emergency clinic for all charges at the time services are rendered. While most expenses can be reimbursed by GDB, you may be responsible for some or all of the charges. This is determined on a case by case basis and is dependent on the medical situation. Veterinary expenses due to foxtails, an injury occurring off-leash, or ingestions, are examples of situations where the breeder custodian is responsible for payment. Some clinics are able to bill GDB directly; we can help facilitate this when you call. If you are located in Marin County, PESCM (Pet Emergency & Specialty Center of Marin) is generally willing to direct bill GDB if it is a reimbursable expense.

Please ask that all medical records be sent to the veterinary clinic at [guidedogsvet@guidedogs.com](mailto:guidedogsvet@guidedogs.com), or faxed to 415-499-4644. Your request for reimbursement should be sent to the breeding department. Requests can be emailed to [breedingcommunications@guidedogs.com](mailto:breedingcommunications@guidedogs.com) or faxed to 415-507-9894.



# Health Care

## Annual Examinations, Vaccines and Preventative Care

Breeder dogs are seen annually for a wellness exam with a GDB veterinarian. It is *extremely* important that the primary caregiver(s) be present at this exam so we can obtain a thorough medical history, ask and answer questions, and discuss any new or existing medical concerns. After taking a comprehensive health history, the veterinarian will do a thorough nose-to-tail physical exam, administer any necessary vaccines and perform any diagnostics needed. They will also discuss any new concerns or abnormalities with you. All annual wellness exams are scheduled for 1 hour, please keep this in mind when scheduling your appointment. We recommend scheduling your appointment as soon as possible, as appointments do tend fill up 2-3 weeks in advance.

The standard schedule for preventative care is in the table below. The veterinarian may decide to make changes to this schedule based on their exam findings and a dog's individual health needs.

	Male	Female
Every 6 months	Brucellosis test Bordetella vaccine	Bordetella vaccine
Every year	Wellness exam Influenza vaccine Leptospirosis vaccine Dispense Heartguard and Frontline Gold	Wellness exam Influenza vaccine Leptospirosis vaccine Brucellosis test Urinalysis Dispense Heartworm and Frontline Gold
Every 2 years	Full blood panel	Full blood panel
Every 3 years	DA2PP vaccine Rabies vaccine Heartworm test	DA2PP vaccine Rabies vaccine Heartworm test

We consider a dog to be a senior once they turn 7 years old. Although many senior dogs continue to lead a very active lifestyle and show little signs of the aging process, we do increase our level of preventative medicine performed at this time. All dogs seven years of age or over, receive a complete blood panel, urinalysis and abdominal ultrasound in addition to other regular preventative care.

The five vaccines in the chart above are the only vaccines that should be administered to a breeder dog. There are other vaccines available, however

these are considered “non-core” vaccines and are not approved by GDB. Examples of non-core vaccines are Lyme, Giardia, Rattlesnake and Corona.

## Diagnostic tests

To monitor the health of our breeder dogs, we often perform diagnostics which may include ultrasound, urinalysis and bloodwork.

Ultrasound is frequently used in veterinary medicine as a non-invasive, dynamic method to evaluate soft tissues. The ultrasound’s transducer sends out sound waves which either pass through or bounce off tissue. The behavior of the sound waves depends on the composition of the soft tissues. Returning sound waves are picked up by the transducer and translated into electrical impulses which create an image on the monitor. The more sound waves that return to the transducer, the brighter the tissue appears on the screen. We use ultrasound to evaluate the abdomen, prostate and testicles of all breeders after age 7. Ultrasound is also used to confirm pregnancy and count developing embryos.

Urine samples are obtained by a procedure known as a cystocentesis. This is a very common and safe procedure. The ultrasound machine is used to visualize the bladder so that urine can be sterilely extracted with a needle. If a urine sample will need to be obtained during your appointment, please do not allow the breeder to urinate for at least 2-3 hours before the exam. A urinalysis allows us to check for signs of infection and evaluate kidney function. This test is performed annually on all female breeders and on male breeders after they turn 7 years old.

We frequently run several different types of blood tests on our breeding dogs. A general blood panel monitors overall health and organ function through a complete blood count and chemistry panel. This screening bloodwork is run every other year until age 7, and then annually. Another common test screens for Brucellosis, the most common sexually transmitted disease in dogs. We check all of our male breeders for Brucellosis every 6 months and all female breeders annually. The final common blood test screens for heartworm disease. This test is performed every 3 years on all of our dogs.

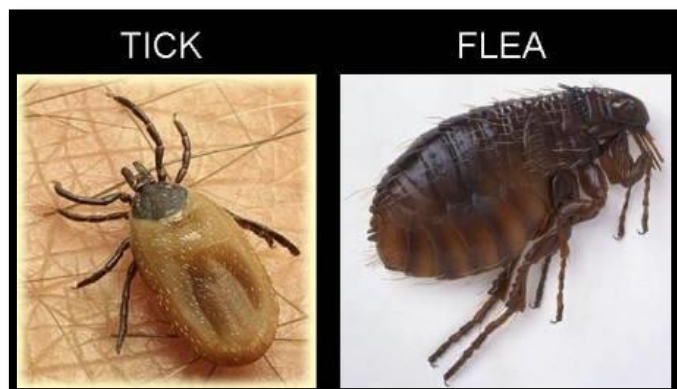
## Heartworm Prevention

Heartworm is a parasite carried and transmitted by mosquitoes. All of California is considered at risk, although the risk is higher in regions with more mosquitos. When a mosquito carrying the parasite bites a dog, the parasite is deposited into the dog's tissues and ultimately develops into a worm that lives and grows within the tissues of the heart. Untreated, the heartworms can grow and reproduce for several years in the dog's body. The damage to the heart, lungs and arteries can be fatal.

Heartworm disease is safely and effectively prevented through the use of a monthly heartworm preventative. All breeder dogs are to be given Heartgard Plus on a monthly basis and is provided by the veterinary clinic. Typically, these preventatives are administered on the first of the month, which helps maintain consistency if a breeder is staying in the kennels for boarding or breeding. This medication also provides protection against intestinal parasites. If you forget to give the breeder their monthly heartworm preventative, please give it as soon as you remember and notify the veterinary clinic of the missed dose. We may have the breeder checked for heartworm disease with a blood test within the next year, as it takes six to nine months for the disease to be detected. Clinical studies have shown heartworm preventative can be safely continued during breeding and pregnancy.

## Flea and Tick Prevention

Fleas and ticks are the most common parasite we see in our breeding colony. Frontline Gold is the primary product used for flea and tick control here at Guide Dogs for the Blind. It is considered safe and effective, and can be used on pregnant and nursing animals. We recommend you continue the monthly use of Frontline Gold year round with one exception: **It should not be applied within 10 days of a dam's due date to whelp.**



Ticks are most common in wet months but can be present year round in some environments. Ticks are much more difficult to kill than fleas. Although Frontline Gold is very effective, ticks may survive for up to 24-48 hours after exposure to the product.

It is important that ALL pets in a household (including indoor and outdoor cats), not just active breeders, are on monthly flea preventative. Fleas from unprotected pets can overwhelm a breeder's preventative and establish themselves in your home environment. They lay eggs which become larvae and young adults, and will then seek a host to feed. Regular vacuuming and washing of beds and blankets where animals spend time will reduce the flea burden in the environment. Infestation can lead to significant skin issues such as itchiness and infections, and can cause spread of fleas to our pups and other dogs in the kennel. Remember, just because you do not see live fleas on your pets does not mean they are not there! The only safe way is to treat everyone, every month. Please administer these preventatives on the first of every month to maintain consistency. If the breeder dog is staying in the kennels over the first of the month, please be sure to apply the preventative either before or after their stay as the neonatal staff does not apply it while they are here.

## **Exercise and Weight Management**

Breeder custodians are required to provide breeder dogs with a minimum of 30 minutes of daily exercise. This can be in the form of brisk walking, jogging, chasing a ball or swimming. Exercise, coupled with a proper diet, will help to keep the dog fit and at a healthy weight. It is extremely important for the breeding stock dogs' to be kept in peak physical condition to ensure breeding, health and reproductive success.

Abnormal weight can lead to acute and chronic problems such as cardiovascular disease, kidney disease, musculoskeletal problems and poor performance during breeding and whelping. Obesity is a serious and potentially life threatening condition. In accordance with the Breeding Stock Agreement, each dog must be kept within 10% of the weight stipulated at the time of placement. If a breeder under or overweight, they may be placed in a supervised weight management program at the discretion of the Breeding and Veterinary departments. A weight management program could include a diet change with periodic weight checks on campus, or placement in a foster home until the target weight is reached and maintained.

The inability to maintain the dog's weight could be cause for permanent removal from your custodianship.

## Diet and Feeding

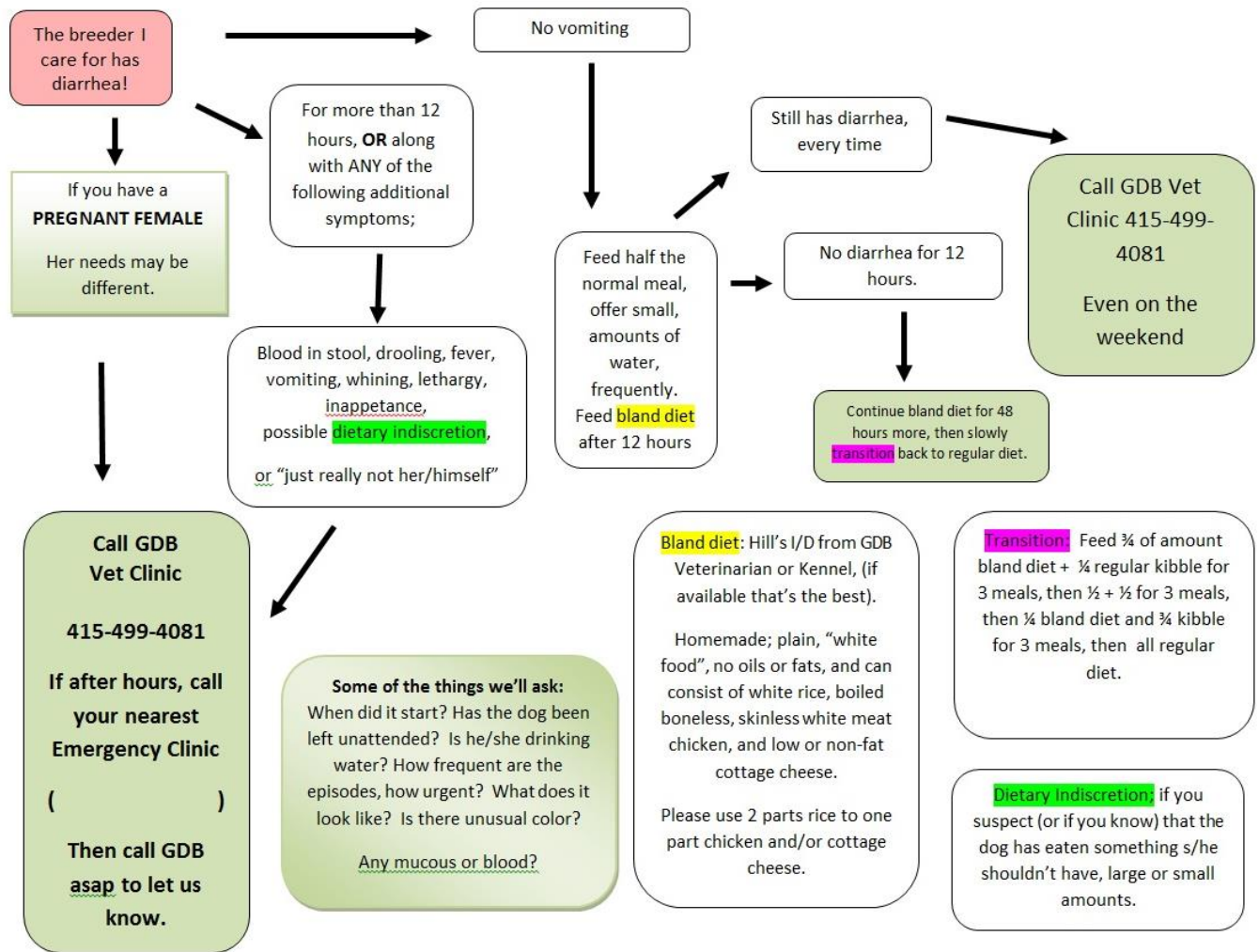
The dry maintenance kibble fed to the majority of our breeding stock is Eukanuba Medium Breed Adult Maintenance. Breeding dogs should continue eating this food unless otherwise specified by the Breeding or Veterinary departments. Pregnant or nursing dams are currently fed Eukanuba Small Breed Puppy Chicken Formula. The Eukanuba diets are complete and balanced. There is no need to supplement or add to the kibble in any way.

The Breeding Department recommends the amount of kibble (given in cups) to feed based on the dogs' individual needs. Please measure the food carefully by using an 8-ounce dry measure cup. These cups can be provided to you through the Breeding Department. You will receive specific instructions for the dog in your care from the Veterinary or Breeding departments as her pregnancy progresses.

Please do not feed the dog any type of animal bones (beef, pork, poultry), rawhides, or other animal chew products such as hooves or snouts. We also do not recommend raw food diets. These diets and chew products frequently cause oral injuries and serious intestinal disease. Please check with the Breeding Department about approved chew toys.



# Diarrhea Protocol



## Taking A Dog's Temperature

The best method to determine if a dog has a fever is to take a rectal temperature. Feeling the ears, nose or head is unreliable. Learning how to do this properly will enable you to provide us with valuable information about the dog's health. Please be prepared to relay the dog's temperature when calling with a medical concern to help us determine if immediate veterinary care is needed.

A dog's normal rectal temperature is between 100.5 and 102.5°F. The thermometers are generally fast and easy to use, but proper technique is required to obtain an accurate reading.

### Instructions for Rectal Temperatures

Some dogs tolerate temperature taking better than others. It may be easier to have a second person assist by holding the dog.

- Lubricate the thermometer with petroleum jelly, KY jelly or other water-based lubricant.
- The assistant should hug the dog towards their body, with one arm around the dog's neck and one hand under the chest and abdomen.
- Lift the tail and insert the thermometer slowly and carefully into the rectum, located just below the base of the tail.
- Insert the thermometer about one inch and hold in place - two minutes, or until the digital thermometer beeps.
- Remove the thermometer and read the temperature.

## Ear Cleaning

All custodians are required to clean the dog's ears once a week, unless advised otherwise by the Breeding Department or Veterinary Clinic. Guide Dogs provide custodians with an ear cleaning solution. The ear cleaning regimen helps to prevent painful ear infections that could result in veterinary treatment and/or possible surgery.

In between cleanings, check the dog's ears daily during grooming sessions. If you notice any redness, odor or an increase in wax, contact our Veterinary Clinic. If at any time a dog is unusually uncooperative or seems to be in pain, discontinue the cleaning effort and call the Veterinary Clinic for an appointment for otoscopic evaluation.

Contact the Veterinary Clinic to obtain a new supply of ear cleaning solution when needed.

## The “Drippy Cotton” ear cleaning method:

1. Saturate a synthetic cotton ball with ear cleaning solution until it is dripping. The size of the ball should be small enough to avoid obstructing the ear canal and causing pressure on the ear drum, but also big enough to be easily retrieved from the ear canal opening.
2. Gently hold the pinna (ear flap) open and extend to straighten the ear canal, and wipe the canal and pinna in an outward direction. A small amount of fluid will enter the canal. Gently remove debris from the crevices in the pinna by wiping.
3. Repeat these steps until the ball remains free of debris.
4. **DO NOT USE COTTON SWABS (Q-Tips)** as they will push the earwax and debris further into the ear canal.

## Tooth Brushing

Dogs, like people, are prone to tooth and gum disease, and good dental hygiene is an integral part of good grooming. Custodians are supplied with a toothbrush and canine toothpaste for daily brushing. Regular tooth brushing can reduce the need for a dog to undergo dental procedures that require general anesthesia.

The tooth brushing procedure is as follows:

- Before brushing, examine the dog’s teeth for cracks, chips or missing teeth. Also examine the dog’s gums for swelling or redness. If you notice any of the above, contact the veterinary clinic.
- Begin by putting a small amount of the toothpaste on the brush and gently lifting the lips to expose teeth and gums. Brush in an up-and-down motion on both the top and bottom teeth. Pay special attention to the back molars as they are prone to greater tartar build-up. If you find using the toothbrush awkward, you can use a piece of gauze wrapped around your index finger instead.

## Reproductive Exams

Attentive health care of a dog's reproductive organs is key to safeguarding his or her wellbeing and preserving fertility. Please include examining the breeder dog's "family jewels" as part of your weekly grooming routine. Following is an outline for fundamental areas to tend to:

### Males

- **Scrotum and Testes** - Gently palpate the testicles to check for lumps and/or abnormal shape and appearance. Healthy testicles should be bilaterally symmetrical, egg shaped and moderately firm. At times intact dogs develop abnormal growths in the testicular area. Early intervention is key to successful treatment. Check that the skin on the scrotum is clean and dry, as this area is susceptible to moist dermatitis (hot spots). The inflammation and heat is irritating to the dog and can negatively affect fertility. You should not have any trouble with these examinations, as the dog's scrotum is not normally sensitive to touch. When a dog is excited, a swelling at the base of the prepuce may be visible, which is part of normal male anatomy.
- **Penis and Prepuce** - The prepuce, or sheath, is the haired skin covering the penis. Please check that there is no irritation on the prepuce. Gently run your hands along the prepuce to feel for any irregularities. The dog's penis contains a small linear bone that will be apparent to the touch.
- **Discharge** - The intact male will commonly have a small amount of yellowish discharge from his sheath. Please contact the Veterinary Clinic if the discharge is malodorous or blood tinged.

### Females

- **Mammary tissue** - Gently and thoroughly massage the brood's mammary tissue. Please feel for lumps and/or hot or swollen tissue, and lightly palpate each nipple. Normally, a brood that is not in estrus or lactating will have no nipple discharge. This examination is similar to a woman's monthly breast exam. Breeding females are at increased risk for developing mammary tumors. Early detection and intervention is key to successful treatment.
- **Vulva** - The vulva refers to the external genital organs in the female. Please monitor the vulva for irritation. Dermatitis or pustules in this region can be very irritating for the brood. The presence of any discharge should also be noted. Breeding females often have vulvar discharge during normal physiological conditions such as the cycle of estrus, pregnancy and raising puppies. Discharge that occurs outside of the active reproductive period should be considered abnormal.

## Backyard Poultry and risks of Salmonella

Owning and caring for backyard chickens and other poultry can be a great experience for a family. However, humans as well as dogs can potentially become sick from handling live poultry and caring for them.

Healthy chickens have been known to shed a bacteria called Salmonella in their droppings. This bacteria can cause serious disease in both humans and several species of animals, including dogs. Salmonellosis is a zoonotic disease which indicates that it can infect both human and animals. The Salmonella bacteria can be found on chicken's bodies (feathers, feet and beaks) and in their cages, coops, feed, water dishes, hay and in plants and soil in the area where the birds live and roam. When humans handle and care for the chickens, their hands, shoes and clothing can become contaminated with the bacteria.

The symptoms and signs of Salmonellosis include, diarrhea, vomiting, fever, gastroenteritis, septicemia and even spontaneous abortions which is why it is so important for breeder dogs to avoid contact.

Please follow these guidelines to prevent backyard chickens from potentially transmitting diseases to humans and dogs:

- Avoid giving a dog access to the chicken's coop, roaming area, droppings, feed or anything in their environment.
- Always wash your hands with soap and water immediately after touching live poultry, their eggs or anything in their environment.
- Set aside a separate pair of shoes and clothing to wear while taking care of poultry and do not allow the dog to have access to them. Leave shoes outside and do not bring them into the home.

For more detailed information on chicken care, please reference the following link: <https://www.cdc.gov/healthypets/diseases/salmonella.html>

Reptiles (such as snakes, lizards and turtles) and amphibians (such as frogs and toads) can also carry the Salmonella bacterium. Please reference the following link to learn how to stay healthy around these pets: <https://www.cdc.gov/healthypets/publications/healthy-around-reptiles-and-amphibians.html>

Please do not hesitate to contact the GDB Breeding Department or Vet Clinic with any questions.



## Foxtail Prevention

Foxtails are the tops of the annual grasses that dry out in the spring. The bristles allow it to affix itself to fur and skin. Movement of an animal causes the foxtail to burrow into the fur in only one direction, driving the foxtail deeper into the body. Foxtails will enter any orifice or burrow through any part of a dog's body. Foxtails lodged in any location can eventually make their way to the internal organs causing severe bacterial infections.

The grass awn can also easily be inhaled into the nose as an animal sniffs the ground. Suspicion of foxtail inhalation in either the nasal/oral cavity or ears is grounds for immediate veterinary medical attention, as they can travel to vital organs such as the lungs or brain. Suspicion of a foxtail embedded within the skin or fur is not an immediate emergency, but should be seen by a veterinarian within 24 hours.

Do not walk the dog in areas where foxtails and similar plants grow. They are abundant along trails, in fields, on untrimmed parkways and lawns, but can be found ANYWHERE. Removing the weed from your own yard requires uprooting the entire plant and is easiest to do while the plant is still green. These are very hardy plants and tend to grow back quickly, so yards should be routinely inspected even after removal. During foxtail season, (spring through fall) it is also recommended to check dog's paws, including the webs between the toes, after every walk.

In addition to avoiding exposure all together, the dog should be thoroughly checked for foxtails while grooming. Examine the ears, eyes, all body openings (mouth, vulva, penis, rectal area) and between the toes. Regularly combing through the coat, especially a thickly coated dog, will help remove foxtails or other burrs before they burrow deep into the skin.

Foxtail removal requires heavy sedation or general anesthesia, and surgery is sometimes necessary for removal depending on the location and length of time it has been in the animal's body. Removal can be very complex and time intensive. The best way to prevent a foxtail removal procedure is to avoid this dangerous weed altogether.

If the dog shows any clinical signs of having a foxtail such as violent sneezing, shaking of the head or sudden squinting of the eyes, call the Veterinary Clinic immediately. Prompt attention may save prolonged treatment and therapy.



## Hazardous Items - Toxic Substances

There are many common household and garden products which can pose a hazard to dogs; it is impossible and impractical to list them all in this manual.

Rat poison, antifreeze and snail bait are well known poisons. These products should NEVER be used or stored on your property while a breeder is in your custody. Safe alternatives to these products exist and should be used exclusively.

Other potential household poisons to dogs may be less obvious, such as grapes or cocoa mulch for the garden. The only safe way to prevent a dog from an accidental poisoning is to not allow exposure or ingestion of ANY household or garden plants or products. The following references may be helpful:

A comprehensive list of toxins can be found on the ASPCA website at [www.asPCA.org/petcare/poison-control](http://www.asPCA.org/petcare/poison-control) along with other useful information on making your house and yard safe for a dog.

The ASPCA operates an Animal Poison Control Center. Their phone number is (888) 426-4435. Charges may apply.

### *What to do if you think a dog has been poisoned?*

If a dog is poisoned it's important to act as quickly as possible. Take 30 to 60 seconds to safely collect any samples or product containers and labels involved. This may be of great benefit to the treating veterinarian and/or Poison control toxicologists. Any material the dog may have vomited or chewed should be collected in a sealable plastic bag.

If you witness the dog consuming material that you suspect might be toxic, **do not hesitate** to contact us, even if you do not notice any adverse effects. It may take hours or days after ingestion for abnormalities to become apparent. Timely intervention is essential to increase the likelihood of a positive outcome.

If during normal business hours, call the Guide Dogs Veterinary clinic at (415) 499-4081 for further advice. If it is after normal business hours call your nearest emergency veterinary clinic.

## Hazardous Items – Foreign Bodies

The best way to prevent a dog from ingesting foreign bodies is to prevent access to them. Dogs, like children, are curious animals and love to play. However, they also like to chew, and as a result, sometimes swallow harmful objects that can affect their health. It is important that you protect the dog from ingesting dangerous foreign bodies.

A gastrointestinal foreign body refers to any material other than food that is eaten and that results in serious digestive problems. Foreign bodies can become lodged in the stomach and intestines creating an obstruction. Commonly ingested non-food items include toys, string, clothing, and plastic. Any household object the dog chews on can become an obstruction. Possible symptoms of a foreign body ingestion include refusal to eat, vomiting (may or may not be present), abnormal bowel movement (no stool to diarrhea), drooling, lethargy, and hunched up or painful abdomen.

If you think the breeder has ingested a foreign object, please call the Veterinary department as soon as possible for guidance. Foreign body ingestion can be a life threatening condition and should not be taken lightly.



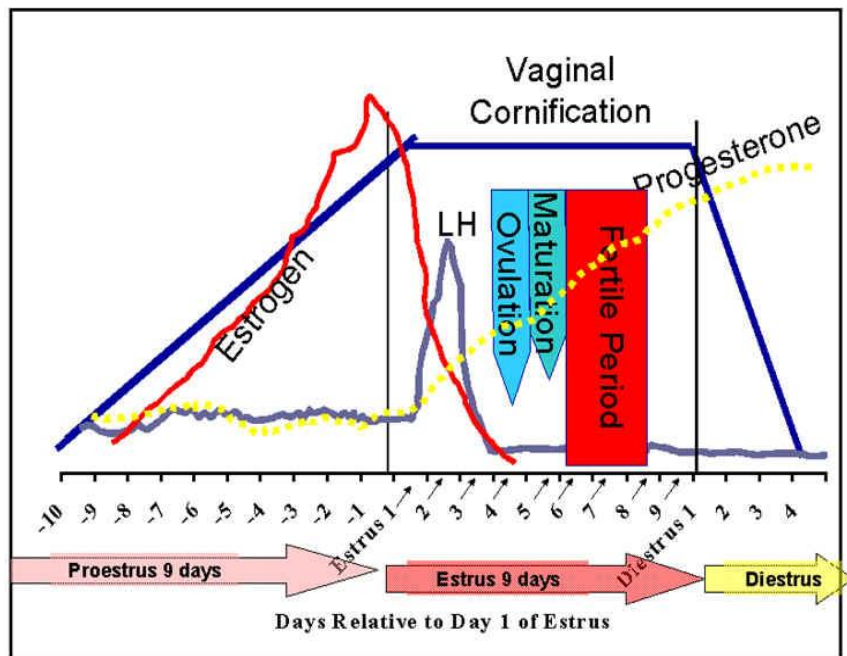
# Brood Management

by Kristine Gonzales DVM, DACT

## Normal Estrus Cycle

4 Stages of Estrous Cycle:

proestrus  
estrus  
diestrus  
anestrus



**Proestrus** (lasts average of 9 days) Ovarian follicles mature and secrete estrogen. Physical changes include vulvar swelling and blood-tinged vaginal discharge which attract male dogs. This is the “Start of Season.”

**Estrus** (lasts average of 9 days) Ovarian follicles fully mature, ovulate, and secrete progesterone. Physical changes include softening of the vulva and discharge may lessen. This is the *Fertile* period and is also known as “Standing Heat”.

**Diestrus** (lasts approximately 60 days) The *Fertile* period ends, however the progesterone level remains elevated regardless of whether brood is pregnant or not. At the beginning of this stage a breeder is released to go home and if she was bred and is pregnant she will whelp prior to the next stage. If she was not bred she will still remain in this stage for a similar period of time as pregnancy duration and possibly display signs of false pregnancy. Progesterone levels drop at the end of this stage.

**Anestrus** (lasts average of 90-150 days) Following the decline in progesterone, this is a period of hormone quiescence. However at the end of anestrus there is increased hormone activity in preparation for proestrus.

## Types of Season Cycles

### Normal “Season”

Most bitches (also called “Broods”) come into “Season” approximately once every 7-8 months and stay in “Season” for approximately 21 days. During this time a bitch matures follicles, ovulates and if she is bred delivers a litter of puppies approximately nine weeks later.

### Abnormal “Season”

Abnormal estrous cycles may occur during a bitch’s breeding career. Most unusual and/or abnormal estrous cycles can be detected and managed through ovulation timing, however if you have any questions or concerns with regard to the dog’s estrous cycles, please don’t hesitate to contact the Breeding Department

### Split Seasons

A “Split Season” or “Split Heat” occurs when a bitch displays normal vulvar swelling and blood tinged vaginal discharge, indicating the onset of proestrus (“start of “Season”) however she fails to progress into estrus and ovulate. Concurrently, the physical changes of “Season” seize. Two weeks to two months later the cycle restarts. This shortened, non-ovulatory cycle may reoccur several times until finally a normal cycle occurs, permitting the bitch to breed and whelp a litter. This is the most common irregularity seen in the female breeders at Guide Dogs for the Blind. Please keep in mind that the breeder may display this pattern by coming into season again a short time after coming home from being in season at the GDB kennel.

### Persistent Anestrus

There are two types of persistent anestrus in the bitch: primary and secondary. Primary anestrus is the lack of estrous cycling (coming into “Season”) by 24 months of age. Some causes of primary anestrus vary and may include abnormalities of sexual differentiation, hypothyroidism, severe systemic disease, and ovarian cysts. Secondary anestrus is a failure to cycle (come back into season) within 12 to 18 months from the previous heat cycle, causing prolonged interestrus intervals. Causes of secondary anestrus also vary and may include hypothyroidism, ovarian cysts, and exogenous steroids.

### Silent Heat

This is defined as ovarian activity without outward physical changes such as blood tinged vaginal discharge or vulvar swelling. A male dog can detect silent heat by smelling pheromones. The best way to diagnose a bitch with a



silent heat is by performing a variety of tests such as vaginal cytology (the collection and microscopic evaluation of vaginal cells to determine where in her season cycle a bitch is) and by running a progesterone level test (a hormone assay used to predict ovulation). If we think a female has displayed a silent heat, we may request you to bring her to the Breeding Department for weekly checks.

## **Nutrition and Pregnancy (average 65 days)**

Ideally the brood will be well conditioned prior to breeding. Overweight and underweight broods should undergo weight management prior to breeding to improve conception rate and decrease risks of dystocia and poor lactation. During the first 3-4 weeks of gestation the well-conditioned brood may undergo little or no weight gain and the consumption of a high quality maintenance diet is sufficient unless the brood is underweight. At about 3-4 weeks of gestation many broods suffer a loss of appetite that persists for about a week. Nausea, mild vomiting, and a decrease in appetite may be observed during this time. After pregnancy diagnosis at 28 - 30 days gestation GDB veterinarians will provide instructions to transition brood from a maintenance diet to a pregnancy diet. More than 75% of fetal weight gain occurs between days 40-55 of pregnancy. At this stage of pregnancy energy, protein and carbohydrate requirements increase and the recommended pregnancy diet fulfills all requirements for gestation. Supplements are not recommended during pregnancy.

## Determining Pregnancy via Abdominal Ultrasound



Ultrasound is frequently used in veterinary medicine as a non-invasive, dynamic method to evaluate soft tissues. Ultrasound is composed of a transducer that is made of crystals that vibrate at specific frequencies. The sound waves pass through, to varying degrees, or bounce off tissue depending on its composition. The amount of sound waves that return to the transducer is translated into electrical impulses that are seen on the monitor. The more sound waves that return to the transducer, the brighter the tissue appears on the screen.

When a brood is 28 - 30 days pregnant, she is brought to the veterinary clinic for an ultrasound of her uterus. She is examined on her back in a padded cradle. Alcohol and ultrasound gel are applied to her lower abdominal area where the ultrasound probe is placed. The urinary bladder (which is hopefully full) is located and the uterus is located underneath or to the side of it. The ultrasound probe is directed over the uterine body and both uterine horns are scanned. An estimate of the number of embryos can be made. When an embryo is located its viability is assessed by observing for its heart rate and its health is assessed by observing the anatomical detail within the gestational sac.

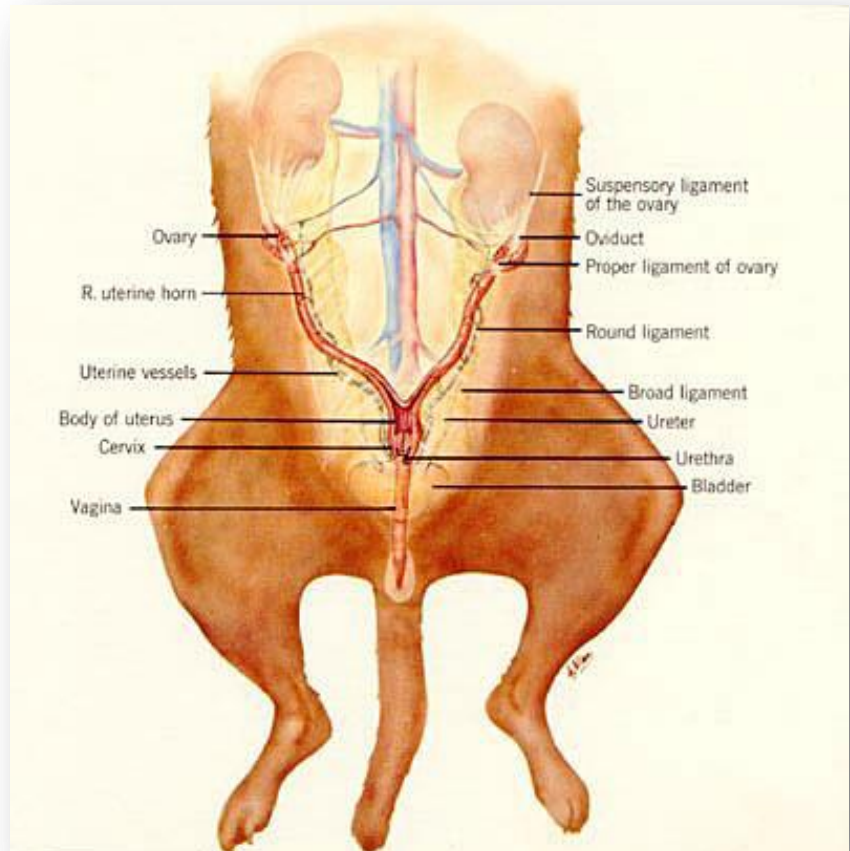
Unfortunately, not every conceptus develops normally. There is a variable risk (1 - 11%) of resorption, which is the death of the embryo or fetus and loss of its fluid component. This can occur from infectious causes (Brucellosis, Distemper, Herpesvirus and Toxoplasmosis), abnormal development of the conceptus, chromosomal abnormality of the conceptus, over-crowding in the uterus, or an unfavorable location in the uterus (near cervix). Resorption usually occurs prior to day 35 of gestation. This may explain why a bitch can whelp fewer puppies than estimated from her ultrasound.

## Labor, Whelping and Surgical Intervention (C-Section)

Many healthy puppies are born in the whelping kennel each year. Ideally a brood whelps naturally, however occasionally problems arise during the delivery that necessitate delivering the puppies surgically by cesarean section. As breeder custodians you may wonder how and when the staff decides to perform cesarean sections.

### Anatomy

To understand the management of a whelp it is helpful to know reproductive anatomy and physiology of the female. The canine uterus is shaped like the letter “Y” with a small uterine body just beyond the cervix and the “V” shaped horns extending in front of the body. The puppies are attached, each with its own placenta, to an individual site in a horn.



## Normal Labor and Whelping

All broods are monitored 24/7 during labor and delivery. For a normal delivery, cortisol levels in the fetuses increase, triggering labor in the brood by reducing the level of some of her hormones and increasing the level of others.

**Stage I** labor signs consist of restlessness and nesting behavior and lasts 6-36 hours with an average of 6-12 hours. During this stage vaginal and cervical relaxation occurs and the brood often pants, shivers, and appears restless. She frequently tears up newspaper bedding and may exhibit anorexia and vomiting. Although uterine contractions are occurring during Stage I labor there are not any outward signs. Alternatively, at the onset of **Stage II** labor the fetus engages the pelvic inlet and expulsive uterine contractions and abdominal pushes are seen.

**Stage II** labor lasts 2-24 hours and is the time of active abdominal pushing in coordination with uterine contractions. The puppies nearest the cervix exit first. Puppies can be born head or rump first; both are considered normal presentations. Each puppy emerges in its own sac, accompanied by its own umbilical cord and placenta. Some broods deliver puppies every 30-45 minutes without a break, others will have a puppy then rest an hour or more, then have another.

**Stage III** labor is marked by the delivery of placentas. Placentas may be delivered with each puppy or be expelled later after whelping is complete. Delivery times between puppies are variable.

Monitoring equipment may be used during Stage I and II labor to provide additional information about progression of labor and puppy viability. Equipment consists of tocodynamometry and ultrasonography. Tocodynamometry is a uterine monitoring system that assesses the strength and pattern of uterine contractions. The device is attached to the outside of the dog's abdomen for approximately 30 -60 minutes and is well tolerated. Ultrasonography allows puppies' heart rates to be counted. For example, deceleration of puppies' heart rates indicates stress and support the need for medical or surgical intervention.

Medical intervention involves administration of drugs that will increase the strength and frequency of uterine contractions, such as calcium and oxytocin.

Surgical intervention consists of a cesarean section which may be chosen for one or more of the following reasons: a large or malpositioned/malpostured puppy stuck in the birth canal, stressed puppies with slow heart rates, and weak uterine contractions at the beginning or any time during the labor process (called uterine inertia) that cannot be improved with drug therapy.

The rate of cesarean sections at Guide Dogs for the Blind is much lower than the rate of natural births.

The surgery involves making a midline abdominal incision and the uterus is carefully lifted out. An incision is then made through the wall of the uterus. One or two incisions in the uterus are made to deliver all the puppies. Each puppy is lifted out of the uterus separately and handed to a whelping staff member for resuscitation. The puppy is rubbed vigorously, cleaned, and if needed, oxygen is given via a face mask. Once all the puppies are out, the uterus is sutured closed, replaced in the abdomen, and the abdomen is closed with several layers of sutures and staples. Pain relieving medications are administered. While the brood awakens after surgery, the staff sits with her and the puppies are placed on her to nurse. Soon she is able to take over puppy care on her own.

Spaying is rarely done at the time of a cesarean-section, even if it is determined that the brood is to be retired and spayed later. The blood supply to the uterus is increased during pregnancy and removal of it causes a greater blood volume loss. In addition, there is a greater risk of post-operative bleeding when the uterus is removed during a cesarean-section. If the veterinarian determines during surgery that the uterus or blood vessels are damaged, then a spay will be performed. Otherwise, the brood will be spayed at a later date when her breeding career has been completed.



Uterine monitoring equipment  
(tocodynamometry)



Ultrasound to check pups' heart beats



## Motherhood/Brood Care Post-Weaning

The Brood provides nutrition to her pups by nursing during their first 3 weeks of life. Pups must consume colostrum during the first 24 hours after birth in order to receive antibodies that protect their immune systems as neonates. Occasionally pups may not receive adequate nutrition from nursing due to a brood's reduced milk production or competition amongst pups within a large litter.



In these circumstances, pups may be cross-fostered to another brood or may receive milk replacement formula via a bottle or tube feeding. A healthy neonate should increase in body weight by 5-10% per day. During the first 2-3 weeks the brood will lick the perineal area of her offspring to stimulate urination and defecation. At 3 weeks of age they begin to walk and mush food is introduced to supplement nursing. Between 3-6 weeks a brood gradually is weaned away from her puppies. After 6 weeks pups are eating puppy food diet and increasingly become more interested in exploring their environment. Soon the pups will enter into their puppy raising homes where they will learn socialization and obedience training in their path to become a guide dog.

