



the science of loving pets





Dear Students,

When you love pets, it's only natural to want to learn as much as you can about them and even think about having a job with animals in the future. At Banfield Pet Hospital, we know all about this because we love pets too! In this edition of Banfield Pet Academy, you are going to practice working with dogs and cats using our favorite subject — science — and experience what it is like to examine, diagnose and treat pets in your very own hospital. Using advice from our veterinarians and veterinary technicians, we'll provide insight into how you can pursue a veterinary career.

Whether you are a pet owner, pet lover or future veterinary professional, we hope Banfield Pet Academy will show you the rewards that come with helping pets live happy and healthy lives!

Sincerely,

Your friends at Banfield Pet Hospital

Types of Veterinarians



Small animal: Most veterinarians are small animal veterinarians, providing preventive care, treating and diagnosing illnesses, performing surgeries and delivering other routine care for cats, dogs and pocket pets, such as hamsters and guinea pigs. Some small animal veterinarians specialize in emergency care and certain diseases, like cancer.



Shelter: These veterinarians rescue and treat animals living in shelters, ensuring they are healthy and ready to be adopted into new homes.



Large animal: Large animal veterinarians specialize in livestock and large animals such as horses, cows, goats and pigs. Like small animal veterinarians, they provide exams, give vaccinations and perform surgeries, but travel to farms and ranches to provide services.



Government: Veterinarians can also work for the government in wildlife and conservation, public health, environmental health and even with the Food and Drug Administration to ensure food and drugs are safe for animals.



Zoo: These veterinarians help exotic animals in zoos and other wildlife habitats. They provide veterinary care for animals ranging from parrots to elephants and help with breeding programs, behavior management and nutrition.

Additional Hospital Roles



Credentialed Veterinary Technician

Credentialed veterinary technicians complete their education and pass an exam certifying them to work alongside veterinarians caring for pets, assisting in surgeries, maintaining medical records and educating clients.



Veterinary Assistant

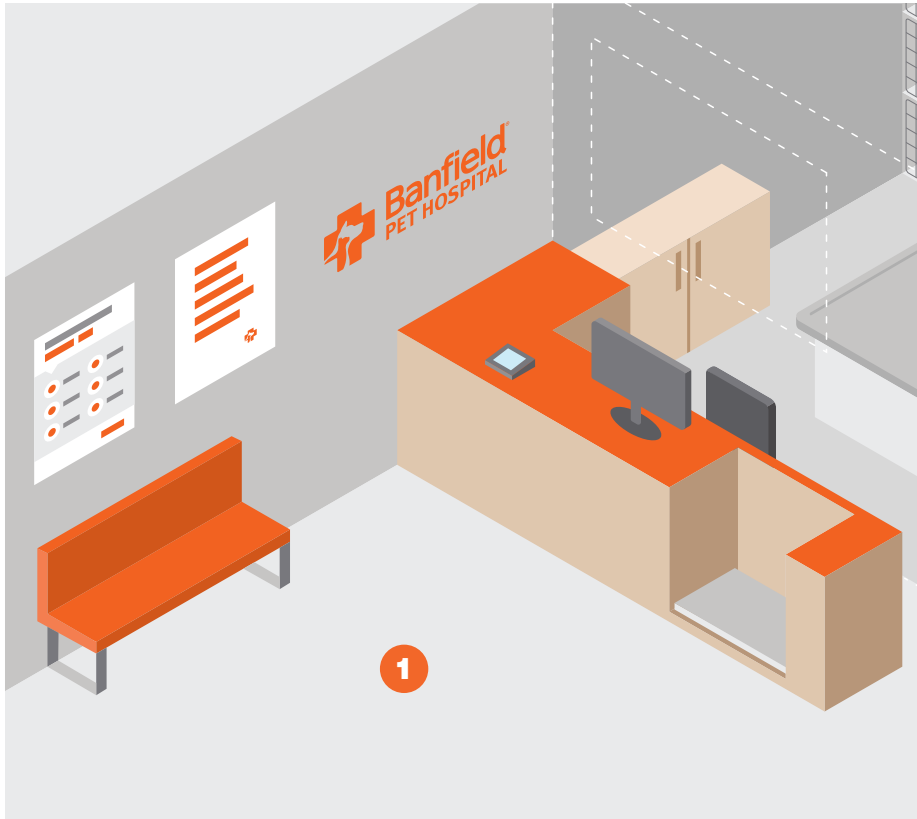
Veterinary assistants support veterinarians and credentialed veterinary technicians. They maintain the safety of pets and clients, help to provide quality veterinary care in the hospital, as well as feed and walk animals.



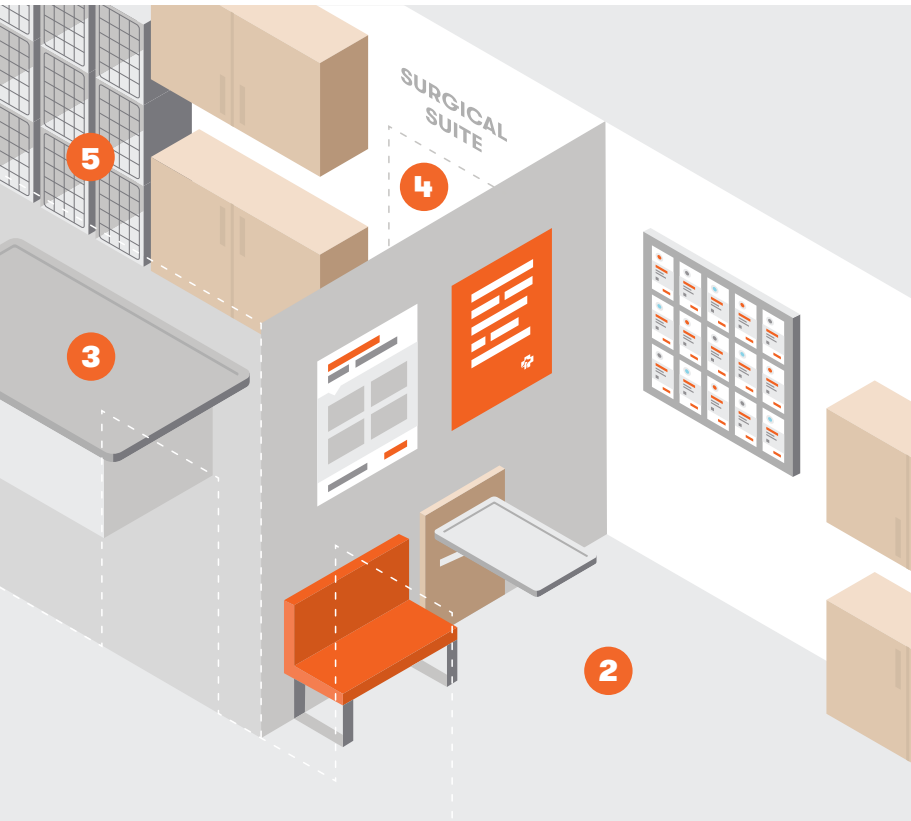
Hospital Receptionist

Receptionists greet and welcome pets and their owners, schedule appointments, provide home care instructions, let the medical team know of incoming emergencies and keep exam rooms clean and ready for the next patient.

Behind the Hospital Walls



- 1 Reception:** Pets and their owners check in with the hospital receptionist. The receptionist verifies the owner's information, weighs the pet and asks the owner if they have any concerns to discuss with the veterinarian.
- 2 Exam room:** In an exam room, the owner and pet meet with a veterinarian and a credentialed veterinary technician or veterinary assistant. The veterinary team answers questions and gives the pet a wellness exam, checking the pet out from nose to tail.



- 3 Treatment area:** Behind exam rooms, pets receive treatments, disease screenings, bloodwork and may be prepped for surgery. This is also where dental cleanings are performed.
- 4 Surgical suite:** In this room, the veterinary team performs surgeries like spays and neuters.
- 5 Kennels:** While waiting for services or recovering from surgery, pets rest in kennels. The veterinary assistant takes pets on walks, fills water bowls and gives lots of belly rubs!

Ask-A-Veterinarian



Q: How long did it take you to become a veterinarian?

A: Programs can vary, but typically veterinarians need a four-year undergraduate degree, followed by a four-year graduate degree at a veterinary school.

Q: What's the difference between a veterinarian and a credentialed veterinary technician?

A: A veterinarian is a doctor who diagnoses illnesses, performs surgeries and prescribes medications for pets. Credentialed veterinary technicians, like a registered nurse for humans, assist in surgical procedures and administer medication and vaccines for pets.

Q: What's the best part of working in a pet hospital?

A: Every veterinary professional has a different opinion, but many would probably tell you they love making pets happy and healthy. From performing surgery, to helping pets with itchy skin, to preventing harmful diseases by giving vaccinations, the connection and bond between people and pets is undeniable!

Q: What subjects did you study in college to help prepare you for veterinary school?

A: Veterinary schools like candidates that are strong in science and mathematics. Some schools even look at your GPA in advanced science classes in undergraduate study, such as physics and organic chemistry, as a consideration in your application. It is also important to take a variety of classes and participate in diverse activities to differentiate yourself from other students who are applying.

Q: What surprised you most about this career?

A: It's different for everyone, but it can often be surprising the level of connection and bond you make with your patients. You love them like your own pets!

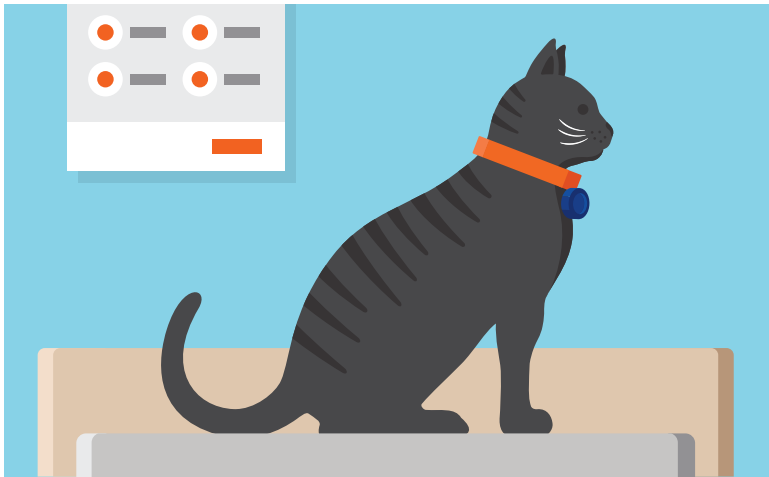


Case Study #1

PREVENTIVE CARE IS THE BEST CARE

SCENARIO:

Bella comes to your hospital twice a year for comprehensive exams. These regular visits are called preventive care because they are opportunities for the veterinarian to catch any potential problems early and give Bella vaccines to protect her from diseases. It's also a time when Bella's owner can ask questions and get advice from the veterinary team.



STEPS OF A WELLNESS EXAM:

- First check the TPR – otherwise known as temperature, pulse and respiratory rate
- Examine the teeth and mouth
- Look at the eyes and ears
- Check the coat and skin
- Feel the belly
- Manipulate the legs

Preventive care is important because it can help the veterinary team detect a problem early and ensure a better prognosis, simpler treatment and an earlier recovery.

Question 1: What issues can a veterinarian detect early by examining a pet's teeth?

Question 2: What is a veterinarian looking for when they check the coat and skin?

Question 3: Why is it important for the veterinarian to check a pet's weight?

Question 4: What concerns might the veterinarian be looking for when moving a dog's legs during an exam?

ANSWER: 1: Plaque and tartar build up. Dental disease in dogs and cats is very common and if untreated, can be dangerous. Annual cleaning and brushing your pet's teeth at home can help prevent dental issues. 2: Veterinarians are looking for lumps, bumps, fleas and ticks and signs of allergies. 3: When pets are overweight it can add pressure on their joints, which can be painful to walk and play. The added weight can also increase the risk of diabetes. 4: Veterinarians look at an animal's flexibility and feel for signs of arthritis while moving their limbs during an exam.

Case Study #2

BAILEY'S LIMP



SCENARIO:

Bailey was playing fetch with his owner when she noticed he started to limp. Bailey came into your hospital and now you are part of the provider team. It's time to help Bailey!

What should the veterinarian do first?

During the exam we found Bailey is limping on his back right leg. When we felt the leg, he yelped and there is some visible swelling. What should we do next?

We ran a radiograph, also known as an x-ray, and determined Bailey has a broken leg, but don't worry because our veterinary team knows just what to do next.

In addition to the radiograph, we need to run bloodwork to make sure Bailey is healthy enough for surgery. Check to see if the results below fall within a healthy range.

BAILEY'S BLOODWORK RESULTS:

COMPLETE BLOOD COUNT (CBC)

Test Name	Result	Healthy Range
WBC	7.20	(6.00 - 17.00)
Lymphocyte	2.77	(1.00 - 4.80)
Monocyte	0.29	(0.20 - 1.50)
Neutrophil	5.09	(3.00 - 12.00)
RBC Count	7.22	(5.50 - 8.50)
Hemoglobin	15.20	(12.00 - 18.00)
Platelet Count	283.00	(165.00 - 500.00)

INTERNAL ORGAN FUNCTION SCREEN (IOF)

Test Name	Result	Healthy Range
Calcium	10.20	(7.90 - 12.00)
Cholesterol	175.00	(110.00 - 320.00)
Creatinine	1.30	(0.50 - 1.80)
Globulin	3.80	(2.50 - 4.50)
Glucose	107.00	(70.00 - 143.00)
Bilirubin	0.30	(0.00 - 0.90)
Protein	7.00	(5.20 - 8.20)

Bailey's bloodwork looks great, so we put a splint on his leg to prepare for surgery. Let's take a look at the treatment plan for Bailey:

Rx PET: Bailey DATE: 1/13/20
OWNER: Lauren

INSTRUCTIONS: Keep Bailey's bandage clean.
Give one pain medication pill with food twice a day.
Schedule an appointment with a surgical specialist.
Keep Bailey resting comfortably.
Give lots of hugs and kisses!



Case Study #3

MAX'S MOUTH



SCENARIO:

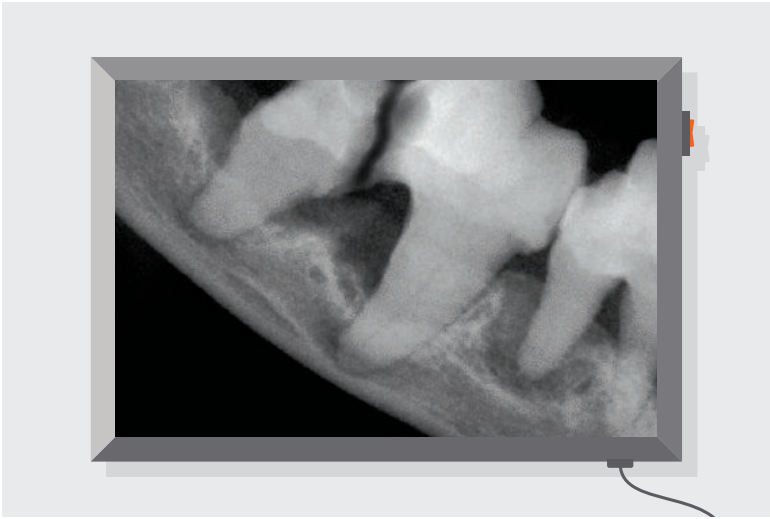
Max isn't feeling well. His owner says he hasn't been eating much, his face looks a little different and his breath smells bad. He just hasn't been acting himself. You're the provider team and you need to help Max feel better.

What should the veterinarian do first? What questions should the veterinary team ask the owner?

During the exam we found that Max has a chipped tooth and the gums are red and swollen. What should we do next?

- A. Put the pet under anesthesia and take a digital radiograph of the teeth
- B. Have the owner keep an eye on Max and call if it gets worse
- C. Prep Max for emergency dental surgery
- D. Prescribe a softer food for Max to eat and see if the tooth heals on its own

ANSWER: A



Based on the radiograph above, what do you see?

We determine that the tooth is broken and needs to be taken out. Number the following steps in order for what we should do next:

- 1. Prep surgical suite
- 2. Prescribe and administer immediate pain medication
- 3. Calculate the anesthetic and pain medications based on Max's weight
- 4. Discuss at home care and schedule follow up visit with owner
- 5. Ask the owner for permission to perform dental surgery
- 6. Put Max under anesthesia and perform surgery

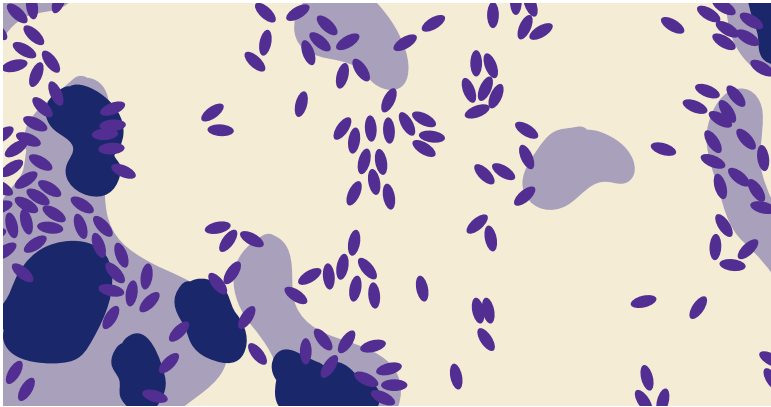
Max did great in surgery. He needs to eat soft foods, take antibiotics, anti-inflammatory and pain medications, as well as get lots of rest. Max should be much better in about a week!

ANSWER: 2, 4, 3, 6, 1, 5

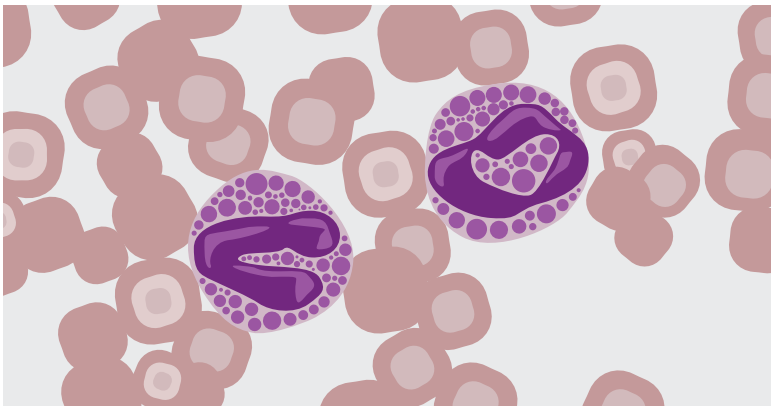


Microscope Slides

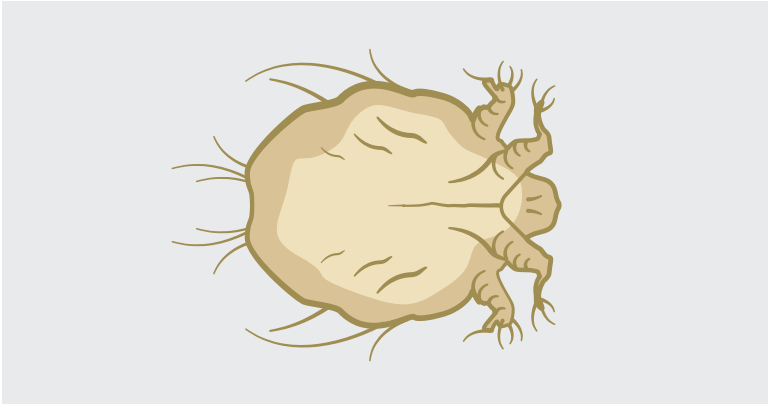
Veterinarians often examine a pet's blood under a microscope to help with a diagnosis. Here are a few examples of things they see frequently.



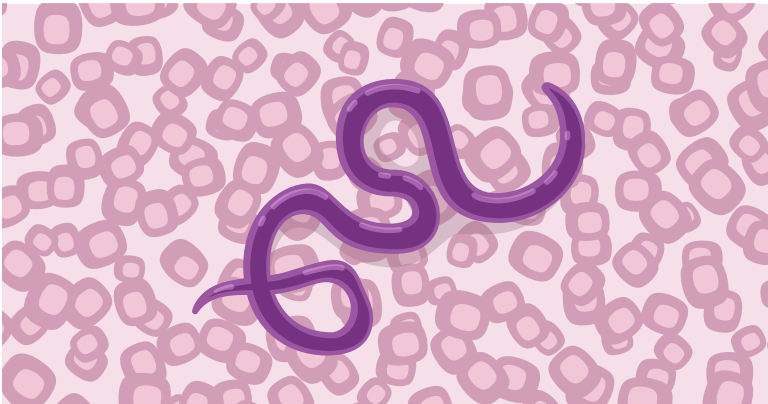
***Malassezia pachydermatis* (Yeast):** a microorganism that plays a major role in ear infections for dogs and cats.



Canine eosinophil: an increased number of cells found in dogs with allergies, causing rashes or itchy skin, shown in purple above. The surrounding, smaller cells are normal red blood cells.



***Sarcoptes scabiei* (Scabies Mites):** a mite that creates severe itching and inflammation in pets. This mite is also contagious to humans.



***Dirofilaria immitis*:** young worms, also known as microfilariae, that result in heartworm disease in pets. The worms are transmitted by mosquitos and are deadly if left untreated.

Veterinary Medicine Glossary

American Veterinary Medical Association (AVMA) – an organization representing veterinarians and providing resources and educational opportunities.

Canine Parvovirus – a highly contagious disease that attacks the stomach and intestines but can be prevented by vaccinating your dog.

Caudal – a direction indicating toward the tail of the pet.

Cranial – a direction indicating toward the head of the pet.

Cranial cavity – the space formed inside the skull, including the brain.

Dermatophytosis – also known as ringworm, these are organisms found in the soil and show up as skin lesions on pets.

Diabetes Mellitus – a serious medical condition where your pet cannot control blood sugar levels due to problems with insulin production or function.

Dorsal – a direction indicating toward the back or top of the body, opposite of ventral.

Osteoarthritis – a form of arthritis and chronic disease caused by inflammation and damage to bone and joint tissue.

Rabies – a potentially fatal viral infection that can affect all mammals, but can be easily prevented in cats and dogs by a vaccine.

Thoracic cavity – the chamber of the body that includes the lungs and heart within the ribs.

Ventral – a direction indicating toward the belly or underside of the body, opposite of dorsal.

How Can You Learn More?

- Volunteer at a local animal shelter
- Take math and science classes in high school and college, including:
 - Biology
 - Chemistry
 - Physics
 - Anatomy
 - Physiology
 - Calculus
 - Statistics
- Find your closest veterinary schools and veterinary technician schools
- Conduct interviews of veterinary professionals



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PET ACADEMY