



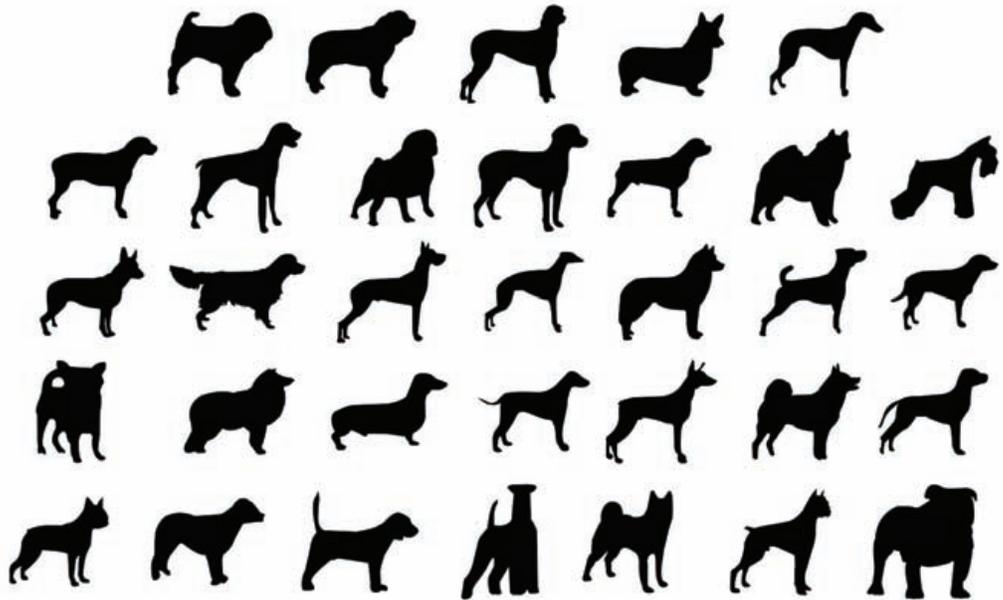
Canine Basic Education

Overview

- Basic Anatomy/ Physiology
- Visual Assessment of an Animal: normal versus abnormal
- Basic Behavior
- Safety and Handling Techniques
- Environment
- Nutrition
- Emergencies

Basic Anatomy/Physiology

Dogs range in size from very small to extremely large and vary in appearance from shaggy to smooth. They may be short and stocky or tall and lanky. Though there are some anatomical and physiological traits that vary from breed to breed and from dog to dog, there are many that all dogs share in common despite the differences in size and appearance.



The average life span for a dog varies depending on breed to some extent as well. In general, larger breeds age more quickly. The average life span for most dogs is 12-14

years. Giant breeds have a shorter lifespan of 8-9 years, while Toy breeds often live 16-18 years. Dogs are generally considered geriatric when they reach 8 years and older.

Basic Vital Signs: Temperature, Pulse, Respiration (TPR)

A healthy adult dog typically has a body temperature ranging from 100-102°F (38°-38.6°C). The body temperature may rise temporarily due to stress, excitement or heavy exercise. Temperatures of 102.5°F or even 103°F are not unusual for an excited or nervous dog. If there is doubt about whether the body temperature is a result of excitement or fever, it is advisable to wait until the dog has calmed and then recheck the temperature.

The average heart rate for a healthy adult dog is from 60-160 beats per minute (bpm), with toy breeds of dogs sometimes having a heart rate up to 180 bpm under normal circumstances. Puppies generally have a faster heart rate, up to 220 bpm.

The normal respiratory rate for a dog is 15-30 respirations (breaths) per minute.

Parts of the Body

Head

The head of the dog includes the eyes, ears, mouth and nose. The skull is the bone that makes up the majority of the head and it covers the brain, providing a protective covering that helps to prevent injury to the brain as well as creating the shape and length of the nose. The skull is actually composed of numerous bones which fit tightly together to form the bony covering of the head. The other bone that plays a major part in the function of the head is the mandible, or lower jaw bone.

Head Types

The shape of the head, or more accurately the skull, can be categorized as one of three basic types: brachycephalic, mesocephalic and dolichocephalic. The overall body size of the dog does not determine the shape of the head and the skull. As you can see by the examples below, dogs of any size can have one of these three basic head types.

- Brachycephalic breeds are the shorter nosed, flat faced breeds whose skulls are broad. Examples of brachycephalic breeds include Pugs, Boston Terriers, Boxers, Bulldogs, and Pekingese.
- Dolichocephalic breeds are those with extremely long skulls. Their noses are long and slender. Dolichocephalic dog breeds include Greyhounds, Collies, Setters, Dachshunds, Italian Greyhounds and Great Danes.
- Mesocephalic dog breeds possess skulls of intermediate length and width. Examples of mesocephalic breeds are Beagles, Golden Retrievers, Labrador Retrievers, German Shepherds and Pomeranians.

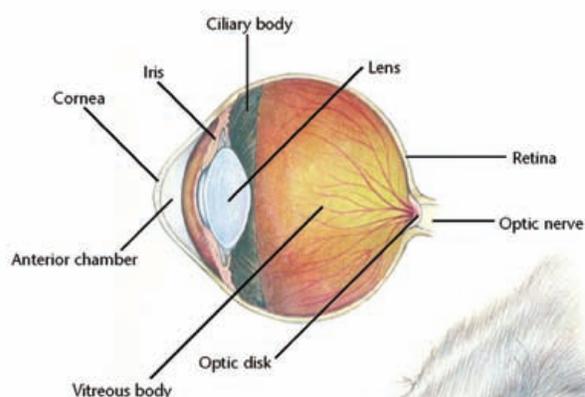
Eyes

The eyes of a normal healthy dog may have some discharge depending on the breed and individual conformation of the dog. Some dogs may have some tear staining below the eyes along the side of the nose. However, the discharge should not be thick, yellow in color or foul smelling.

The visible part of the eye is called the globe and is made up of several structures surrounded by the eyelids. The center, black circle of the eye is the pupil, which is surrounded by a colored iris. Irises can vary widely in color and some dogs have irises of two different colors. The front of the eye is covered by the cornea. This is a clear structure that protects the center of the globe. The white part of the globe is called the sclera and should always be white in color with small blood vessels visible. A yellow or red sclera is abnormal.

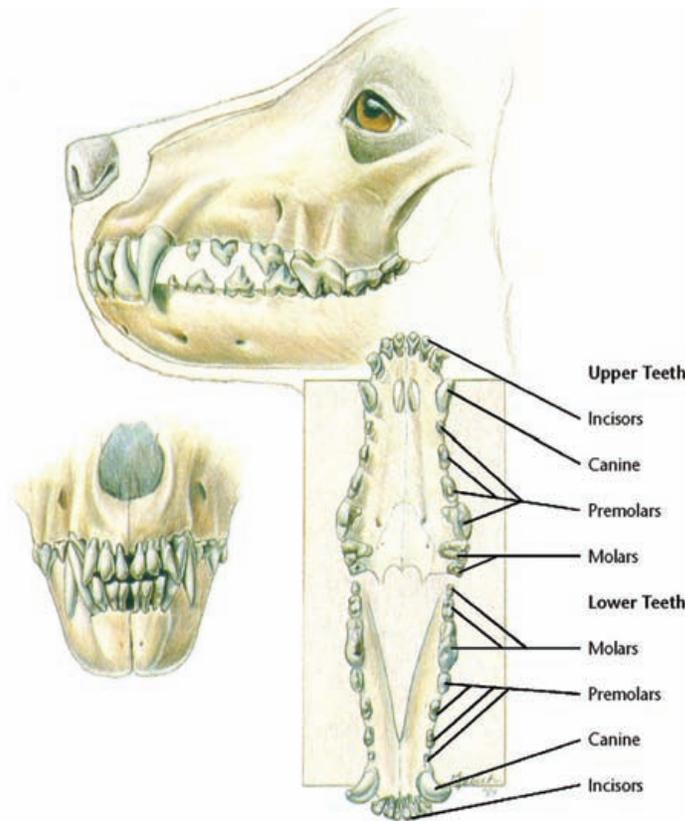
The pink tissue surrounding the globe is called the conjunctiva. It is considered abnormal if swollen or bright red. The third eyelid, known as the nictitating membrane, may be visible as a small area of pink or pigmented tissue in the inside corner of the eye. It becomes more prominent as the dog falls asleep or when ill.

Tears are produced by special glands located in the third eyelid, conjunctiva and eyelids. Tears function to keep the cornea moist, lubricated and to help prevent bacterial adhesion. They are drained via ducts that run from the lower lids to the nostrils. A dog's vision is adapted to finding and hunting things that move. Though humans can see stationary objects more clearly than a dog, dogs can perceive movement much more keenly. Dogs also have better night vision. Contrary to popular belief, dogs can see in color. Due to the differences between human and dog eyes, they probably do not see the full spectrum of colors that humans do. The eyes of a brachycephalic breed of dog are more prominent and often bulge outward because of the shape of the skull. These dogs are more susceptible to eye injuries and diseases.



Nose

The nose of a normal dog may be black, white or the same color as the dog's hair coat—including spots. The nose may be dry, wet, warm or cool without being abnormal, despite common misconceptions to the contrary. Any discharge from the nostrils should be clear. Discharge that is thick, yellow/green in color or foul smelling is abnormal. The structure of the nose helps to warm and humidify inhaled air. It is also a specialized organ that is capable of dissolving scent molecules and detect smells hundreds of times greater than humans. They use this sense to find food, and communicate with each other. The ability to detect and interpret pheromones helps to establish and define relationships between individual dogs.



Ears

Ears come in a wide variety of shapes and sizes. Ear carriage is described as erect (such as German Shepherds), drop (such as Bassett Hounds) or folded (such as Retrievers). The ear canal may be covered partially or fully by the external ear or pinna. The inside surface of the ear should be pink and clean. While a small amount of yellow or brown colored waxy debris is normal, excessive amounts of wax or other types of discharges are abnormal. There should be no redness, inflammation or swelling within the ear or the ear canal.

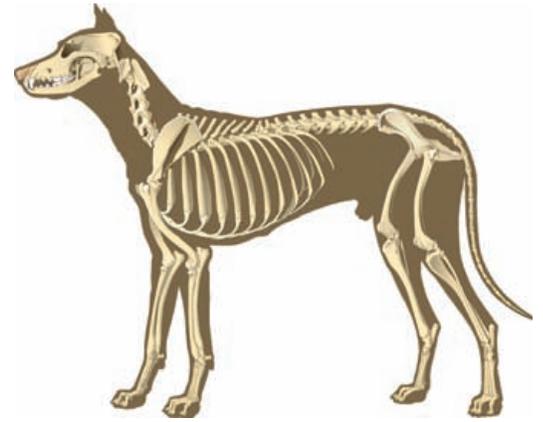
The ear canal is L-shaped and the part that is easily visible is called the vertical canal. The horizontal canal extends inward to the skull and ends at the tympanic membrane (ear drum). Within the skull are the structures that are responsible for hearing and maintaining balance. A dog's hearing is far more acute than any human's, both at lower volumes and higher frequencies. Because of this, mild to moderate hearing loss in a dog often goes undetected.

Mouth

The mouth of the dog includes the lips, gums, teeth and tongue. The teeth may be used to estimate the age of a puppy if the exact age is unknown. Puppies possess deciduous teeth (baby teeth) that fall out and are replaced with permanent or adult teeth. Typically, deciduous incisors are lost at about four months of age and deciduous canine teeth at about six months of age. Permanent teeth do not regrow and are not replaced if lost due to disease or injury. Adult dogs normally have 42 teeth total, while puppies have only 28.

Dogs possess four different types of teeth:

- Incisors are the small teeth located in the front of the mouth. These teeth are used to nip and cut food items and other objects. Adult dogs and puppies have six incisors on both the upper and lower jaws.
- Canines are the longest teeth found on either side of the incisors. Canine teeth are used to grasp and hold objects. Both adult dogs and puppies possess two canine teeth on both the upper and lower jaws.
- Premolars are located just behind the canine teeth in the mouth and are used for grinding food. Adult dogs have four premolars on each side of their mouth on both the top and bottom. Puppies differ in possessing only three premolars on each side.
- Molars are the teeth in the back of the mouth and are also used for grinding food. Adult dogs possess two molars on each side of the upper jaw and three on each side of the lower jaw. Puppies do not possess molars.



Body

The body of the dog houses the majority of the internal organs. Inside of the chest cavity and protected by the ribs, lies the heart and lungs. The abdominal cavity contains the stomach, small intestines, large intestines, liver, gallbladder, spleen, kidneys, adrenal glands, pancreas and urinary bladder.

Limbs

The limbs (legs, neck and tail) consist of bones held together by the soft tissue of muscles, tendons and ligaments. Joints are where two or more bones come together and allow for movement of the limbs. It's important to know the anatomical names of these structures so there is no confusion between people when discussing the location of a sore or injury.

Foreleg (front leg)

The major bones of the foreleg, from top to bottom, are the scapula (shoulder blade), humerus (upper arm), radius and ulna (lower arm), pastern or carpus (wrist), foot and toes. Each toe is made up of three bones, all called phalanges.

The shoulder joint is between the scapula and humerus. The elbow joint is made up of the humerus, radius and ulna. The carpal joint (wrist) is made up of several small bones with the radius and ulna on top and the foot below.

