

2.0 CANINE HEALTH

A Healthy Dog

Health is more than simply the absence of illness. It is the active state of physical, emotional, mental and social well-being.

— UN World Health Organization

It is important for canine bodyworkers and health practitioners to recognize the signs of a normal and healthy dog, in order to make informed decisions regarding when to work with a client's dog, and when to advise the dog's guardian to seek veterinary advice. It is also important for practitioners to know when to protect themselves from possible exposure to a zoonotic disease (one transmissible from animals to humans).

Although domestic life has afforded a safer and easier life for most dogs, it has also increased stress, fostered a weakened immune system, and created behavioral issues. The domestic dog is subject to the confines of home, yard, and for some, the demands of work. The dog is dependent on his guardian for the timing and quality of food, exercise and companionship. He may or may not have access to quality health care when it is needed. A dog depends on her guardians and care providers to notice promptly when her health is challenged, and provide her with the appropriate resources to support healing.

A healthy dog displays the following characteristics:

- Active, alert, calm and responsive
- Aware of self, others, and surroundings
- Curious, sociable with people and other animals
- Balanced posture, stable and even stance
- Smooth, coordinated movement
- Clean, shiny or fluffy, fresh-smelling coat
- Dry, smooth skin
- Clean, odor-free ears



- Clear, shiny eyes with no discharge
- Smooth, shiny nose with no discharge.
- Clean white teeth, moist gums, fresh breath
- Light pink mucous membranes
- Regular breathing that varies when appropriate

Vital Signs

Normal body temperature for adult dogs is 100-102.5 F (37.7 to 39.2 C). The average is 101.3 F (38.5 C); it tends to be higher in smaller dogs. Newborn pups have a temperature of 94-97F at birth (34.4-36.1C) and 100 F (37.3C) at 4 weeks.

Normal heart rate, or pulse, in adult dogs is about 60-120 beats per minute (bpm) at rest; it is lower for large dogs, and higher for small dogs. Toy breeds may have a pulse of up to 180 bpm. A newborn puppy's heart rate is 160-200 bpm at birth; and about 120 bpm at two weeks.

Normal respiratory rate in adult dogs is 10-30 breaths per minute (bpm); panting is ten times faster than normal. The average for adult dogs is 18-24 bpm at rest. In newborns the rate is 15-35 bpm up to two weeks of age.

Dentition Between about three and six weeks of age, deciduous teeth erupt in the puppy's mouth including three incisors, one canine, and three premolars per side in both upper and lower jaw, for a total of 28. In most breeds deciduous teeth are lost by about six or seven months. The permanent teeth begin to erupt at two to five months, and usually finish erupting by one year of age. They include three incisors, one canine, four premolars, and two (upper jaw) or three (lower jaw) molars per side in each jaw, for a total of 42 teeth. Tooth walls continue to increase in thickness until the dog is about three years old.



Healthy teeth. Note the baby canine tooth on top and the new canine coming in on the bottom jaw.
 Courtesy mellowmiles.blogspot.com

Tooth eruption occurs earlier in larger breeds. Other factors in tooth eruption include general health, sex (females are earlier than males), and season of birth (pups born in summer erupt teeth earlier)

Preventive Health Measures

Most diseases can be prevented with proper care. Some basic parameters for keeping dogs healthy include:

- Feeding a balanced, high-quality natural diet while avoiding fillers such as excess soy protein, sugars, meat and grain “by-products”, and artificial ingredients
- Ensuring a pure, abundant water supply
- Providing a safe, comfortable living space with protection from the elements and from parasites
- Giving adequate, varied exercise and socializing
- Avoiding intense or continual stress
- Addressing health problems promptly
- Limiting exposure to environmental toxins
- Protecting the immune system by avoiding overuse or careless use of antibiotics, steroids, parasite control measures, and other medications
- Avoiding over-vaccination, such as by giving multiple vaccines at once, repeating too often, or administering too young (before the puppy’s immune system is able to produce antibodies)

Signs of Disease

Canine caregivers can notice when a dog may need veterinary attention by being aware of the normal appearance and function of body systems, and recognizing an abnormal condition when it arises. While there are wide variations in appearance and behavior among the hundreds of dog breeds and mixed breeds, the basic signs of poor health are universal.

Behavior

Behavior is a telling sign of a dog's health or illness. Every dog has a unique personality and variable behaviors, but is consistent in behavioral patterns over time. Any change alerts the guardian or caretaker to a possible problem.

Behavioral considerations include general attitude and expression, socialization with both humans and other animals, and problematic behavior such as excessive anxiety or aggression. Behaviors commonly associated with illness are signs of pain, anxiety, seeking comfort, avoiding touch or interaction, depression, or lethargy. Many dogs will attempt to communicate their distress when in need of help.

Pain

A sign of disease or injury, pain originates in the skin, muscles and joints, or the organs. Dogs vary in their expression of pain; stoic dogs may be less likely to overtly express discomfort. Signs of pain include:

- crying out; more likely if the pain is sharp or intermittent; less likely with dull, aching, or continuous pain. The absence of crying, whining, or groaning is not necessarily a sign that there is no pain
- attempting to decrease use of a painful part of the body, for example by limping; by reluctance to move the neck or back; or by reluctance to change the body position, such as to lie down, sit up or stand
- avoiding touch or approach, exhibited by moving away, splinting (tightening of muscles in an area), or defensive behavior such as growling or nipping

Activity and Awareness Level

It is important to be aware of a dog's normal activity level and note any changes. A lack of response to stimuli should also cause concern. Examples of abnormal activity levels include:

- decreased or non-use of the entire body (overall decreased movement)
- withdrawal from unnecessary activity, or refusal to participate in normal activity
- lethargy: abnormal drowsiness or dullness, more time resting or sleeping
- excessive or repetitive movement such as pacing

Body Temperature

A higher-than-normal body temperature may result from exercise, excitement, or increased environmental temperatures. Especially in conditions of high humidity, dogs readily overheat, and heat stroke may occur.

Fever is a rise in body temperature influenced by thermoregulation in the brain. It is considered a normal and beneficial reaction to disease, and is not a cause for concern unless it rises above 106 degrees F. Conditions that may result in a fever include infection, inflammation, immune-mediated disease, or cancer.

Body temperature can sink too low if the dog is in shock, or is over-exposed to environmental cold.

Mucous Membranes

Mucous membranes are lubricating tissues lining the body cavities. They can be observed in the dog's mouth (though some dogs have darkly pigmented mouths), the internal lower eyelid, and the vulva in the female or the penis in the male. They are normally pink. A change in mucous membrane color indicates a change in the amount or composition of the blood.

Examples of abnormal mucous membrane colors:

- pale, white or grey: anemia, or constriction of blood vessels, for example due to shock or heart disease
- yellow: jaundice, or liver failure
- bright red: carbon monoxide poisoning
- blue: hypoxia or low oxygen level



Healthy, pink and moist canine gums.
Courtesy www.peteducation.com

Respiration or Breathing Pattern

An increased rate of breathing may result from exercise, high environmental temperature, or anxiety. It may also be a clinical sign of

disease, such as in respiratory conditions; heart failure and pulmonary edema; or anemia.

Difficulty in breathing may occur during either inspiration or expiration; it may be noisy, or deep and forceful. Noisy breathing may indicate an obstruction in the nasal passages, mouth, or larynx; or disease in the lungs, such as an allergic reaction or chronic bronchitis. Brachycephalic breeds with short, broad heads normally tend to exhibit intermittent noisy breathing.

Deep, forceful breathing (without signs of airway obstruction) can be due to disease in the lungs (such as pneumonia, bleeding, cancer, heartworms, or fibrosis) or in the pleural cavity (space between lungs and chest wall) due to an accumulation of air or fluid. Pneumothorax (accumulation of air in the chest) is caused by a rupture in the lung, usually due to trauma but possibly due to infection, cancer, or rupture of a weakened area. Fluid in the pleural cavity may be due to pus from infection; blood from trauma or a blood clotting disorder; lymph from a severed lymphatic vessel; congestive heart failure; or cancer.

A decreased rate or effort of breathing is usually associated with shock, and indicates impending respiratory arrest. It may also be due to paralysis of the breathing muscles secondary to poisoning or neuromuscular disease.

Coughing

Coughing may be dry or moist. A dry cough is associated with diseases of the trachea, bronchi, pharynx, or tonsils; viral infections; allergic reactions; a collapsed trachea (including damage from tight collars); and occasionally, foreign objects.

A moist cough indicates an accumulation of fluid in the mouth, airways, or lungs. Fluid accumulation may be secondary to heart failure (edema), infection (pus), trauma, or a blood-clotting disorder.

Weight and Body Condition

The healthy weight for a dog varies depending on the breed, height, structure, and exercise level (working dogs may be more muscular). The size range is 5-10 lbs. for toy dogs; 15-60 lbs. for medium dogs; 65-100 lbs. for large dogs; and up to 200 lbs. for giant dogs.

A dog should maintain a fairly consistent weight year-round. Extreme and/or rapid weight gain or loss is a cause for concern.

Weight gain may be in muscle, fluid, or fat. Increased weight due to muscle growth is usually healthy weight gain.

Fluid gain (edema) may be caused by accumulation in the abdomen or the chest, or in tissues under the skin. The cause may be heart failure; protein loss due to intestinal, liver, or kidney disease; or restriction of blood and lymph circulation in a particular area.

The presence of more body fat than normal is known as obesity. Being overweight exacerbates some diseases, for example joint inflammation, heart disease, and respiratory disease. Overproduction of corticosteroid hormones, or use of therapeutic corticosteroids, can produce a change in the distribution of body fat, as well as an enlarged liver and a loss of muscle mass, leading to a “potbelly” appearance and apparent weight gain.

Weight loss can be due to underfeeding, or be a sign of disease such as hormone imbalance, parasite infestation, digestive or urinary tract problems, or infection.

Muscle atrophy may cause the appearance of weight loss, but is due to disease such as disuse, kidney or liver malfunction, or energetic (chi) imbalance.

Dehydration or anxiety can also cause apparent weight loss.

Skin and Hair Coat

Skin (including the inner surface of the ear) should be smooth, dry to the touch, and free from any breaks in its surface. Healthy skin and hair have no unpleasant odor. Redness, swellings, tumors, breaks, crusts, scaliness, discharges, or changes in pigmentation are abnormal. Problems may be the result of hormonal changes, fat accumulations, trauma, infections, drug reactions, cancer, or immune-mediated disease. Bleeding disorders may result in small red dots or larger bruised areas. Bleeding from any surface or orifice is cause for concern.

Itchiness (pruritis), and prolonged licking, scratching, or chewing may be caused by bacteria, fungi, allergies (from inhaled or ingested substances, or external contact with irritants), fleas, skin parasites, skin infections, and possibly boredom.

Abnormal hair loss results in bare patches either locally or all over the body, either from contact with toxins, or from skin parasites, fungal infections, or immune-mediated (auto-immune) diseases. Hair loss on the trunk alone may be hormonally caused such as by hypothyroidism, Cushing's syndrome, or alterations in sex hormone levels.

Appetite

Appetite regulators in the brain are influenced by the overall state of nutrition; blood levels of glucose, protein, and fat; a feeling of fullness; and diseases that suppress or stimulate the centers for hunger and satiety.

Various conditions may cause an increased need for nutrients, and thus an increased appetite, including intense exercise, cold temperatures, or pregnancy. Some diseases interfere with how food is ingested, absorbed, or converted to usable energy. These include diabetes mellitus, increased adrenal or pancreatic hormone activity, hyperthyroiditis, intestinal wall problems that interfere with food absorption; and brain diseases affecting the hunger and satiety centers. Certain medications, such as corticosteroids and anticonvulsants, may produce an increased appetite as a side effect.

A suddenly decreased appetite may be due to poor food palatability; to difficulty in the act of eating and swallowing; or to disease.



Photo by Ninjapoodles

Water Intake

Thirst is stimulated by sensors in the body that monitor blood volume and tissue hydration. Dry mouth membranes can also signal thirst. Water intake normally varies with environmental temperature, exercise level, and diet. Panting does not in itself cause thirst.

Decreased water intake may be involuntary (a caretaking issue) due to frozen water bowls in winter, or an insufficient water supply in summer. Voluntary decreases in intake usually are accompanied by other signs of

disease such as lethargy, vomiting and diarrhea, or fever. Severe dehydration can be a life-threatening condition.

Increased water intake relating to disease usually is caused by kidney malfunction, or by altered levels of certain hormones and electrolytes. These may include diabetes mellitus, adrenal gland diseases, uterine infections (pyometra), a change in calcium or potassium level in the blood, or liver disease.

Vomiting

Vomiting is the forceful ejection of the contents of the stomach and upper small intestine through the mouth. It should not be confused with coughing or expulsion of phlegm, a product of the respiratory tract. In dogs vomiting is common, and may be mild and self-limiting. It may also be a sign of disease, especially if it is accompanied by other signs such as lethargy, inappetence, pain, or fever. Vomiting can worsen disease by increasing water and electrolyte loss.

Causes of vomiting include gastric or intestinal foreign bodies; ingestion of toxic substances or spoiled food; gas or fluid in the stomach or intestines; loss of blood supply to the abdominal organs; infectious agents (such as canine parvovirus) causing inflammation; or dysfunction of other abdominal organs such as the pancreas, liver, or kidneys.

Causes originating outside the abdomen include drugs that affect the vomiting center in the brain; electrolyte imbalances; and anxiety or fear.

Diarrhea

Diarrhea is an increase in the fluid content, volume, or frequency of bowel movements. It may be acute or chronic. Diarrhea interferes with nutrient or water absorption by the intestinal tract. Causes of diarrhea include sudden dietary changes; ingestion of toxins; intestinal parasites; infections; food intolerance; and diseases of the liver and pancreas.

Urination

Urine production eliminates waste products and also is used in marking territory (usually by males). Urination is under both voluntary and involuntary

control, and may change in frequency and pattern, amount, color (normally yellow), ease in passing, and awareness.

Abdominal Size and Shape

Abdominal appearance is governed by organ size, abdominal fluid, abdominal or subcutaneous fat deposits, and muscular strength.

Changes in size or shape may be due to pregnancy, a gain in body fat, or abnormal conditions including the accumulation of gas or fluid in the stomach or intestines; fluid accumulation in the abdominal cavity; enlargement of the liver or spleen; or abdominal tumors.

Movement and Gait Changes

A healthy dog stands more or less evenly on all four feet; can arch the back, turn the head and bend the torso to either side with ease; and moves without hesitation. Movements of the limbs (gaits) are smooth and coordinated.

Lameness can result if the joints and muscles of the spine and limbs are not functioning due to pain, loss of stability, infection, inflammation, or poor nutrition.

Movement may also be abnormal if the nervous system is compromised by injury or disease, resulting in weakness or paralysis, seizures, or a loss of coordination and balance including head tilt, a tendency to circle or fall while walking, and uneven or unsteady locomotion. The presence of blood clots, immune-mediated disease, parasites, infection, ear diseases, vision loss, or tumors may also affect normal movement.



Non-weight bearing is a clear sign of pain and musculoskeletal issue.