

The General Physical Examination of Dogs and Cats

A Supplement to "Does Jazmyne Need a New Chair?"

by

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Overview

A general physical examination is one of the first steps in evaluating all patients. Through a methodical analysis of all body systems, you can begin to refine your patient's clinical problem, integrate information with the owner-provided history, and make a plan for management.

A general physical examination must be performed on all patients, whether presenting for wellness visits, such as for vaccination, or for a medical concern, such as diarrhea or coughing.

Steps of the General Physical Exam

The very first step of any physical exam is to start with *observation*:

- Is the patient bright, alert, and mentally appropriate?
- Notice how the patient walks, sits, and breathes. Listen for abnormal respiratory sounds.
- Does the patient seem to be in pain?

After a general assessment, clinicians can take a variety of approaches to evaluating their patients. Some start with an assessment of vital parameters, some move from head to tail, some evaluate body systems. It is less important what you choose and more important that you take the same, methodical approach each time so that you avoid skipping steps and missing critical information.

Practice Low Stress Handling

Being in a clinic is very stressful for patients, and they may display a variety of behaviors in response to that stress. Pay close attention to the body language of your patient and respond to their needs when performing each step of the physical exam. Use your time wisely and consider prioritizing the most essential evaluations and staging the steps of your examination in patients for whom you may not be able to perform a complete physical examination all at once. In the general practice setting, an increasingly popular practice is premedicating patients with anxiolytic medications (chill protocol) prior to arrival at the clinic to make the experience less stressful.

Assessment of Vital Parameters

- *Weight*: obtain a weight when your patient arrives; compare weight trends over time.
- *Temperature*: normal rectal temperature of cats and dogs is 99.5–102.5 °F; evaluate the color and consistency of the stool when the thermometer is removed.
- *Pulse*: normal heart rate of dogs is 60–160; of cats (in the clinic) is 180–200; assess the femoral arterial pulse for strength and synchronicity with the heart rate.
- *Respiration*: normal respiratory rate of dogs and cats is 10–40 ; evaluate respiratory effort and listen for abnormal respiratory sounds.

Auscultation

Auscultation of the chest is performed with a stethoscope and involves listening to the entire lung fields bilaterally as well as listening over each valve in the heart.

- *Lung fields*: the auscultable lung fields in cats and dogs runs just ventral to the epaxial muscles, just caudal to the scapula, down to the sternbrae, and along the costal arch. Be sure to listen in a few locations on each side, in particular, cranioventrally, caudodorsally, and in the middle over the hilar region of the lungs.
- Panting causes loud lung sounds and prevents accurate auscultation. Gently placing your hand under a dog's muzzle and applying pressure upward often stops a dog from panting for long enough to assess.

Adventitious (abnormal) lung sounds may be associated with excitement, pain, or almost any cause of heavy breathing. The location of abnormal lung sounds should be recorded as occurring in the dorsal, ventral, left, right, cranial, and/or caudal thoracic areas, and the location of the pathology can help you understand what the underlying cause may be.

Cardiac auscultation is best performed in a quiet room with a standing patient. The heart is located approximately between the third to fifth intercostal spaces. Identify the two heart sounds “lub” (S1) and “dub” (S2), which correspond to closure of the left and right AV valves and closure of the aortic and pulmonic valves, respectively. Listen over each of the four valves.

Murmurs are abnormal heart sounds that result from turbulent blood flow and can be due to a variety of causes such as leaky valves and anemia. It is important to localize where the murmur is the loudest and relate this to anatomic region to speculate about underlying pathology.

Listen for the *rhythm* of the heart beats. Cats typically have a constant heart rate whereas many normal dogs, especially barrel-chested, brachycephalic breeds have a respiratory sinus arrhythmia, which is an increased rate on inspiration, and a decreased rate on expiration (associated with phrenic stimulation when there is increased intrathoracic pressure). Irregular heart rhythms, extra beats, and long pauses may be detected in patients with heart disease. The *pulse* is often palpated while listening to the heart to ensure that there is a pulse with every heartbeat.

Nose and Nasal Passages

Look for discharge from the external nares and evaluate the appearance of the nose for pigmentary or keratin abnormalities. Palpate the nasal bones for symmetry. Evaluate the nares for patency by holding the fluff of a cotton ball up to each opening.

Mouth and Mucous Membranes

Examine the mucous membrane color, moisture, and capillary refill time (CRT). The mucous membranes should be pink and moist. Examine all teeth, the tongue, and then open the mouth to examine the back of the mouth. Look under the tongue in cats to catch string foreign bodies.

Eyes

Evaluate for discharge, position of the eyes, position of the eyelids and lashes, pupil size and symmetry, appearance of the cornea and sclera, and appearance of the anterior chamber, iris, and lens. Evaluate the skin around the eyes for alopecia (hair loss) and erythema (redness). Retropulse the eyes to evaluate the retroorbital space and expose the third eyelid.

Ears

Examine the ear canal for redness, discharge, and odor. A small amount of ceruminous (brown, oily, wax) debris is normal. Evaluate the skin around the ear for alopecia and erythema. Palpate the vertical ear canal and as much of the horizontal canal as you can; appreciate the pliability of the cartilage.

Lymph Nodes

The mandibular, superficial cervical (prescapular), axillary, inguinal and popliteal lymph nodes are routinely checked for enlargement. The mandibular, prescapular, and popliteal lymph nodes may be palpable in normal cats and dogs, whereas the axillary and inguinal nodes are not detectable on routine examination unless they are enlarged. It is also normal not to palpate any lymph nodes. Estimate the size of the lymph nodes.

Thyroid Gland

The thyroid gland should be routinely checked on all feline patients. The head is elevated and the thumb and index finger slid up and down the groove between the trachea and brachiocephalicus muscles, from the caudal edge of the cricoid cartilage to the thoracic inlet. Enlargement of the thyroid is detected as a moveable blip as the fingers are moved. Any palpable enlargement of the thyroid is considered abnormal. The ventral neck also should be palpated for thyroid tumors in the dog. Unlike in the cat, these tend to be large and invasive tumors.

Sex-Specific Areas

For intact males, the testicles and prostate are palpated (the prostate should be examined per abdomen and per rectum). For intact females, palpate mammary glands on each side. The external genitalia should be examined for discharge or redness.

Hydration Status

Evaluation of hydration status is performed at three regions: mucous membrane moistness, skin turgor, and globe position. Dry mucous membranes can indicate at least 5% loss of total body water; a prolonged skin tent can indicate 5–10% loss of total body water; and sunken eyes can indicate >10% loss. These tests can be affected by weight, age, and other factors.

Abdominal Palpation

Palpate through the skin and abdominal wall to assess the internal organs. Perform abdominal palpation slowly and deliberately so the pet is as calm as possible. The abdomen is best appreciated in sections, divided into cranial, mid, and caudal, as well as left and right.

- *Cranial abdomen:* assess the edges of the liver, greater curvature of the stomach, descending duodenum, caudal pole of the right kidney (more palpable in cats than dogs), and assess for pancreatic pain (the pancreas is not palpable).
- *Mid abdomen:* assess the jejunum and ileum, left kidney, spleen, and descending colon; the adrenal glands are not palpable.
- *Caudal abdomen:* assess the bladder, descending colon, palpate for the prostate in males and the uterus in intact females.

Assess generally for the presence of pain and masses, and evaluate the size and shape of organs. Use gentle *ballottement* (press quickly on the abdomen and release quickly) along the ventral or lateral abdomen to help detect the tail of the spleen, masses, and a fluid wave (abnormal).

Perineal Area

Examine for masses, infection/irritation, alopecia, cleanliness, tapeworm proglottids.

Integument

Evaluate the condition of the coat, noting areas of alopecia, erythema, or lesions in the skin such as pustules (pimples) or ecchymoses (bleeding under the skin). Patterns in hair loss can indicate pruritic disease, endocrine disease, or other abnormalities. Push the hair backwards to examine the skin for irritation and external parasites.

Musculoskeletal Evaluation

Watch the animal walk. Palpate each limb and compare the left and right sides, taking note of muscle mass and tone. Palpate the long bones and digits for pain, evaluate the paw pads, nails, and interdigital area. In cats, extend the claws. Palpate the spine for pain. Appreciate the tail carriage and tone. Flex and extend the joints.

Neurologic Evaluation

A basic neurologic assessment in an otherwise mentally appropriate animal that walks normally involves assessment of some basic cranial nerves and spinal nerves. Evaluate the eye movements and ensure the patient is visual and appropriately follows stimuli. Assess for facial symmetry. Evaluate the pupillary light reflex (pupils constrict in response to light), menace response (eyes close in response to a gesture of the hand towards the face), and palpebral reflex (eyes blink in response to palpation of the corners of the eyes). Evaluate the tone in the jaw and tongue when assessing inside the mouth. Assess the integrity of general proprioception with the knuckling reflex (flip the paw over and evaluate the righting response). Perform the withdrawal reflex (pinch lateral digit and look for flexion of joints) on all limbs and patellar reflex (tap patellar tendon with pleximeter and look for stifle extension) on the hind limbs.

Rectal Examination

On rectal palpation, one can appreciate the anal tone, integrity of the pelvic diaphragm, anal glands, stool consistency, rectal mucosa, urethra, prostate (male), vagina/cervix (female), pelvis, and sacral spine. If enlarged, the sublumbar lymph nodes can be palpated. Sciatic pain may also be detected by curling the finger dorsally. After exiting the rectum, appreciate the stool color.

Advanced Evaluations

Depending on the patient, advanced investigation of certain body systems is often indicated, in whole or in part. Advanced assessments include a more detailed cardiology exam, ophthalmology exam, orthopedic exam, neurologic exam, and dermatologic exam.

