

The rabbit consultation – part two: clinical examination

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JENNA RICHARDSON guides readers through the subtle clinical signs that can present in rabbits, describing the observations vets should make to ensure a thorough examination

AS discussed in part one (VT 44.02), rabbits are well adapted to hide signs of illness. This dates back to life in the wild where it is not advantageous for a prey species to draw attention to itself when diseased. The clinical signs of disease are often very subtle, which can make identifying them challenging.

Clinical examination

To ensure a thorough clinical examination, it is advisable to adopt a systematic approach. This provides the veterinary surgeon with the best chance of identifying problem areas. Dividing a physical examination into the following sections is very helpful:

Initial observation

While taking the history, the rabbit should be visually assessed from a distance. This could be in the carry box if the rabbit is visible, or, if appropriate, the rabbit could be allowed out to move around the consulting room floor. This is always useful when assessing demeanour, gait and overall energy levels of the patient.

If the rabbit is sitting quietly, an accurate respiratory rate can be counted and respiratory character assessed (slow, deep chest excursions are abnormal). It is important to remember chest movement rather than nose twitches indicate respiration.

Auscultation

Most rabbits become increasingly stressed the longer the physical examination continues. For this reason, to attain the truest values for respiration and heart rate, they should be obtained at the beginning of the consultation. A paediatric stethoscope is particularly useful for auscultating the rabbit patient.

Heart

The heart is positioned more cranially than in dogs and cats, and auscultation will allow the rate, rhythm and presence of any murmurs to be noted.

By using the femoral artery (as in a cat) or central auricular artery, the pulse rate and quality can be appreciated.

Lungs

Rabbits have a small lungfield in proportion to body size. Observation allows the rate and depth of breath to be evaluated.

Worrying signs include open-mouth breathing and any abdominal effort associated with respiration.

It is important to distinguish between referred upper respiratory noises and true lung sounds. Listening over the trachea and larynx can help clarify this.

Auscultation of the lung field can be split into quadrants, with upper and lower areas on both sides being assessed (this may be difficult in very small rabbits).

Gut sounds

Both sides of the abdomen require auscultation and periodic “gurgles” should be heard. Auscultating ventrally can also be useful in assessing caecal sounds. As a rule of thumb, at least one episode of borborygmi should be heard approximately every 30 seconds in an unstressed rabbit.

Note: the stress of the veterinary visit can inhibit normal gut sounds due to the down-regulation of colonic contractions by the autonomic nervous system. Common sense should be applied if a healthy, stressed rabbit presented for a health check is deemed to have absent gut sounds.

Absent gut sounds along with a history of gastrointestinal stasis is grounds for further investigation ([Figure 1](#)).

Temperature

Where indicated, a rectal temperature should be taken. The more a rabbit is handled and stressed, the higher its temperature may become. Determining the temperature near the start of the clinical examination will allow the truest value to be recorded.

Systematic nose to tail examination

Head

• Nose

The nares should be free of any crusting or discharge, with any secretions being noted – serous versus mucoid versus purulent; unilateral versus bilateral. Airflow through both nostrils can be appreciated by using a tuft of hair held in front of one side, then the other, and observing movement. Gentle palpation of the nasal area will detect any swellings or asymmetry, (being obligate nasal breathers, obstructing the nostrils should be avoided as this will cause the rabbit to panic).

• Mucous membrane

The normal mucous membrane (MM) colour is pink, although it is generally a slightly paler colour than observed in dogs and cats. Gently parting the philtrum to reveal the gums allows assessment of MM colour as well as capillary refill time. The MM colour can also be assessed at the conjunctiva and genital areas.

• Jaw and teeth

The mandible should be palpated along the ventral and lateral border for detection of bony or soft tissue swellings. The cheeks can be palpated to appreciate the buccal surface of the cheek teeth and any sharpened edges. If the rabbit resents this, it may indicate the presence of lateral spurs. The normal movement of the mandible is side-to-side. By placing a thumb and forefinger of one hand on either side of the mandible, and steadying the maxilla with the other hand, the two jaws should move with ease laterally over one another. If there is uneven wear of the cheek teeth, the motion may be inhibited in one or both directions ([Figure 2](#)).

The masseter muscles should be palpated and compared for symmetry, with any atrophy or swellings being noted.

• Eyes

The normal surface of the cornea is regular and smooth and both eyes should be comfortably

open. The conjunctiva is normally pink, the sclera should be white and the third eyelid should move easily with gentle depression of the eyeball. Exophthalmos may be indicative of a retrobulbar abscess or, if bilateral, a thoracic mass. Both eyes and periocular skin should be clear of discharge. If discharge is present, the nature and origin should be noted. Tenting the lower lid laterally allows the nasal lacrimal duct punctae to be visualised. Any discharge from the duct should be noted and flushing may be required if excessive or if the duct is blocked ([Figure 3](#)).

An easy way to check the patency of the nasolacrimal ducts is to add fluorescein dye to the lower eyelid. After 10 to 30 seconds, the dye should be visible at the nostril, (always part the philtrum to check for dye). Test both ducts one minute apart to get conclusive results. The eyes should be rinsed with warm water to clear the dye afterwards. The menace response is not a reliable reflex to use in rabbits.

- **Ears**

The bases of the ears require thorough palpation for abscesses, which can easily go unnoticed. The pinnae should be free from crusting and wax build-up. An otoscope can be used to examine the external ear canal, both sides of the tragus and down to the tympanic membrane.

- **Lymph nodes**

The sub-mandibular and prescapular lymph node (LN) regions can be palpated, but the LNs are usually only detected if there is a local or generalised lymphadenopathy. The popliteal LNs are usually palpable, even when at their regular size.

Body

- **Body condition score**

From visual assessment and palpation over the ribs, spinal processes and pelvic bones, a body condition score can be obtained.

- **General coat quality**

The fur coat and skin should be checked for scaling or dander, which could indicate a dermatological problem or the presence of an ectoparasite infection ([Figure 4](#)).

- **Chest compliance**

Although the thorax is not as compliant as is in the cat, an intrathoracic mass can reduce compliance of the chest even further.

• Abdominal palpation

Understanding of the anatomy of the abdominal cavity is crucial to interpreting the results of manual palpation. Adopting a systematic approach, working cranially to caudally, avoids overlooking important structures. The stomach, small intestines, caecum, colon and kidneys are all readily palpable. The bladder can be palpated easily if full, but can be difficult to identify if empty or associated with abdominal fat. The uterus of an entire female can normally only be detected after the first trimester of pregnancy or if diseased. The liver, spleen and pancreas are normally difficult to palpate, unless enlarged through disease.

• Palpable structures

Located cranially on the left side, the stomach is readily palpable, protruding caudally from the last rib. Normal palpation reveals a full stomach, with soft and doughy content. A stomach that is tympanic, hard or enlarged is cause for concern and further investigation.

Mostly located in the cranial and mid-abdomen, bowel loops should be uniform and soft. A bowel with gas distension, firm or thickened areas and solid ingesta are all abnormal findings.

The caecum is located ventrally along the abdominal floor, often found positioned in the midline or to the right side. Palpation should reveal a full caecum with soft (semifluid), fermenting ingesta. Gas distension, fluid accumulation and impaction are all abnormal clinical findings.

Formed fibrous pellets can be palpated in the colon, located dorsally in the mid to caudal abdomen. Both kidneys are readily mobile and palpable (although this can be difficult in obese rabbits). Compared to the dog or cat, the kidneys are positioned further cranially in the rabbit, the right kidney being positioned most cranially.

The bladder is located in the caudal abdomen and is palpable when filled. It is thinwalled and should be handled gently. Bladder “sludge” can often be appreciated on examination. Abdominal fat surrounding the bladder may hinder palpation. If palpable, the uterus would be located caudally and ventrally against the abdominal wall.

Limbs All four limbs should be palpated for swellings, muscle atrophy or other abnormalities. If you are unsure of what is “normal”, always remember to compare to the opposite limb for symmetry. The medial aspect of the forelimbs, (the rabbit’s “hankies”), should be inspected for any signs of discharge, as a rabbit will commonly wipe any nasal secretions on this part of the foreleg.

Ventral examination

Restraining a rabbit on its back causes stress and should be avoided where possible. Instead, restraint should be in a partially reclined manner, enough to allow visualisation of the ventrum ([Figure 5a](#) and [5b](#)). The perineum should be examined for any faecal build-up, urine staining, hair loss, skin

irritation and general abnormalities. The mammary chain should be palpated for abnormalities. Determination of sex can be carried out at this point, if not already known. Pododermatitis (bumblefoot) is seen very commonly in pet rabbits and often the hair on the hocks must be parted to reveal the true extent of the problem.

Oral examination

Incisors

To view the incisors, the lips should be gently parted, with care to prevent obstructing the nostrils.

The upper and lower incisors can be inspected for any deviations in growth angle, signs of ribbing or inappropriate wear.

Otoscopic visualisation

Appropriate restraint is required to assess the oral cavity and the rabbit should be firmly held (or towel- wrapped if very flighty). The otoscope can be inserted in the diastema of the mouth and orientated accordingly to appreciate both rows of cheek teeth. No clinical examination should ever be complete without an otoscopic examination of the mouth.

Weight

It is very important the rabbit is weighed on every veterinary visit. This will allow trends in weight to be appreciated, whether to help prevent obesity from developing or to identify subtle chronic disease processes that may result in gradual weight loss. The weight can be noted too, along with the body condition score.

All veterinary surgeons should be able to confidently perform a complete and thorough clinical examination on a rabbit. These skills greatly increase the ability to identify problem areas and direct appropriate further diagnostic tests or treatments.

Overall, this will have a significant positive effect on the welfare of our pet rabbits.

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Figure 1. Auscultation of gut sounds can be a useful exercise.



Figure 2 (above). The correct hand positioning for evaluating lateral jaw movement.



Figure 3 (right). The nasolacrimal duct punctae should be visualised as part of the clinical examination.



Figure 4. Checking the coat and skin.



Figure 5a (above). The correct way to examine the ventral area.



Figure 5b (above right). This type of restraint is particularly stressful for the rabbit.



Figure 6 (right). Incisor teeth can be visualised.

Heart rate (beats per minute)	Respiratory rate (breaths per minute)	Body temperature (degrees celsius)
180-350	30-60	38.5-40

Table 1. Vital parameters