

Performing a Physical Exam on a Chicken

VME-20

Veterinary Preventive Medicine

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Disease spreads quickly through flocks, therefore, it is important to be able to tell when an animal is abnormal, physically or behaviorally, which can possibly indicate an illness. By observing the bird's behavior in the flock, as well as performing a physical exam, one can potentially prevent or limit the spread of disease to other birds and achieve a better outcome. To prepare for the examination, the poultry keeper should plan on using appropriate biosecurity principles including the use of disposable gloves and post-exam sanitation including washing of hands and garments. It is important to realize some poultry diseases can affect humans while not showing symptoms in the bird.

Restraining the bird is important when performing a physical exam. It is important to keep the bird calm so that it does not hurt itself or the handler. If the bird appears stressed, place light linen over the head until the bird calms. To hold the bird for examination, reach over the back and hold the wings down to restrain it. Then, pick the bird up and insert your fingers between the legs holding the legs firmly while supporting the breastbone (keel) with your other hand. Restraining the bird upside down may increase the stress level of the bird and may cause regurgitation and possibly subsequent aspiration pneumonia. Do not compress the chest or keel as this will inhibit normal respiration and may lead to asphyxiation and death. After the bird is restrained, the exam can begin. If the physical exam is performed in the field, it is best to do it in the early morning (especially in the summertime) to reduce the stress on the bird. If the bird begins to pant or exhibit respiratory distress during the exam, place the bird down allowing it to rest, and resume the exam at a later time.

General Appearance

When investigating a bird's health, one should first observe the bird's appearance and behavior from a distance. In general, a healthy bird is bright, alert, responsive to the environment and interacting with the flock. They will have a healthy appetite and egg production will be uninterrupted. A chicken with abnormal behavior would include a bird that is outcast from the others, reluctant to move, or has decreased water or food intake. If any of these signs are observed, a physical examination may be warranted.

Head and Neck

When examining this region of the bird, one should observe a red, non-flaccid comb, free of scabs. The bird should hold the head high, indicative of good muscle tone, and be free from swelling.

The comb and wattles should be bright and red in color. A pale comb and wattle indicates possible anemia or blood loss. The comb should be nice and turgid (not flaccid). A shrunken, dry appearing comb is an indicator of dehydration. The comb is also an ideal place to look for fowl pox lesions (black crusting scabs). Combs and wattles are prone to frostbite in harsh climates, so make sure your flock is winterized.



Figure 1. A healthy comb and wattles.
Photo by Sabrina Schirtzinger, Ohio State University Extension, Knox County.

Eyes



Figure 2. Healthy eyes, nostrils, and beak.

The eyes of a healthy bird should be bright and round, opened wide and clear without reddening of the conjunctiva. The pupil margin should be round with well-defined margins. The eyes should not be cloudy and should be free of any discharge. Crusting of the skin and feathers surrounding the eye in conjunction with “bubbles” in the corners of the eye indicate an upper respiratory infection.

The iris (colored portion of the eye) should be copper to red in color and form a smooth circle around the pupil. A gray iris and a ragged edged pupil can be an indicator of Marek's disease.

Nostrils and Beak

The external nares (nostrils) should be clear and clean, free of any discharge, crusts, or scratches. Exudate or mucus coming from the nostrils is an indicator of an upper respiratory infection. The beak should be smooth, free of cracks, no jagged or sharp edges, and the tips should come to a point. Suspicion should be raised if there are any scratches in the beak, cracks, or one section is grossly longer or shorter than the other. The bird in the image above has a longer lower beak with sharp edges, and may require trimming to prevent pecking and cannibalism.

Birds have a naturally cleft hard palate called the choanal cleft that directly connects the nasal passages to the oral cavity. This is an ideal spot for sampling of respiratory bacteria and viruses. The small papillae lining the choanal cleft should come to sharp points. Blunted papillae are an indication of poor nutrition and a lack of adequate vitamin A. A thorough oral examination is important to rule out mouth ulcers and fungal infections.



Figure 3. Normal appearance of the cleft hard palate and oral cavity.

Feathers/Skin and Vent

Evaluation of the feathers and underlying skin is important, as it may reveal parasites or indicate feather picking or cannibalism. On examination, the feathers should lay flat against the body and be well preened. Lift up the feathers and check the base of the feather shaft. This area should be clear and free from parasites. Part the feathers to check for lice and mites and evaluate the underlying skin. Lice may lay their eggs at the base of the feather shaft, appearing as white clumps (nits).



Figure 4. Normal, healthy vent of a laying hen.

The vent is the opening to the cloaca, the combined exit of the intestinal, urinary, and reproductive track. The cloacal mucosa should be shiny and pink. This is one of the recommended locations to evaluate capillary refill time. The feathers surrounding the vent should be free of fecal material or pasting, an indicator of diarrhea. The feathered skin around the vent is also an important location to examine for external parasites such as mites and lice.

Breast Muscle

Palpation of the breast muscles on either side of the keel is an important

part of the regular physical exam and can help determine muscle tone. To palpate the breast muscles, the bird is either briefly suspended upside down or palpated in a normal sitting posture, and the muscles are palpated with the dominant hand in the shape of a “V” in order to feel both the left and right muscles simultaneously. The muscles should be full and firm. The degree of muscling of the breasts is a good indicator of the body condition of the bird (too fat or skinny). If the breastbone is easily palpated and prominent, it may be indicative of chronic weight loss and disease. Blisters, redness, or loss of feathers over the breast may indicate the bird has been down for a period of time.

Note that there is a stark contrast in breast muscling between different breeds (meat type chicken versus egg type versus dual purpose), so some knowledge of the breed you are examining is required.



Figure 5. Appropriate palpation of the breast muscles to either side of the keel (breast bone) to assess body condition.

Wings

The wings can be extended and examined for swelling or lacerations and palpated for broken bones and other possible injuries. The bird should not exhibit pain during wing extension.

Legs and Feet

The shanks and feet should be a healthy vibrant yellow color. Pale legs may indicate anemia or long-term egg production (skin bleaching) whereas reddened legs can indicate certain diseases or dehydration (particularly in chicks). The scales should be smooth and tightly adhered to the legs. Elevated, enlarged, and flaky scales indicate possible scaly leg mite infestation. The toes, and the spaces between them, should be free of swelling and discoloration.



Figure 6. Healthy feet, scales, and nails.



Figure 7. Healthy metatarsal foot pad (bottom of foot).

The metatarsal foot pad should be relatively flat and free from scabs, swelling, and discoloration. The scales on the feet should be smooth and closely adhered to each other and straight. Upturned or irregular scales may be the result of a scaly leg mite infestation. The bottoms of the feet should be free from scratches, swelling, scabs, or ulcerations. A black scab atop an area of swelling is a sign of pododermatitis (also known as bumblefoot). It is important to regularly inspect the feet of birds within a flock to catch early signs of bumblefoot before it progresses.

Conclusion

It is important for the poultry keeper to practice good sanitation and biosecurity when handling their birds. There are several diseases that a healthy-looking chicken can carry that are transmissible to humans during handling. Make sure to wear gloves and wash hands after handling a potentially sick bird. Wash all garments in hot water after the examination. If you feel your chicken is ill, it should be isolated from the rest of the flock to minimize disease transmission, until a diagnosis is made.

Contact Information

Contact your veterinarian if disease is suspected or confirmed during an examination. A list of veterinarians who see chickens can be found on The Poultry Team Website: u.osu.edu/poultry/ohio-poultry-veterinarians-list/

There are several diseases that affect chickens that are considered reportable. For a listing of reportable diseases, or questions about reportability, contact the Ohio Department of Agriculture: agri.ohio.gov/wps/portal/gov/oda/divisions/animal-health/home

Photos by Tim McDermott, DVM, Ohio State University Extension, Franklin County, unless otherwise indicated.

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