

Pet Poultry Basics

LafeberVet Webinar Program

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Abstract

[Backyard poultry](#) continue to increase in popularity in the United States, and many owners are now seeking veterinary care for their backyard flock. These small populations of production birds require special considerations for treatment compared to traditional pet birds. Biosecurity measures, disease risk and food animal status must all be considered when treating these patients.

Get to know your patient

When a chicken presents for treatment, the first thing that needs to be determined is [what role that chicken fills in its household](#). Is it primarily a pet, or is its main function production? In other words, do the owners want *a* chicken, or *this* chicken. Knowing what the owner's goals are will help streamline diagnostic and treatment recommendations. Do we want to put this chicken with an obstructive breathing pattern through the CT scanner to evaluate its air passages, or do we want to prioritize whole flock health and euthanize it on intake for necropsy/histopathology to expedite a final diagnosis?

Food animal status and medication considerations

Chickens (and turkeys!) are classified as one of the four major food animal species in the United States by the Food and Drug Administration (FDA). Therefore, regardless of the owner's personal view or intended use of their chicken, medication administration must be in accordance with FDA guidelines.

Unfortunately, the list of approved medications for chickens is relatively short, and most target whole flock management. Most medications needed for acute, individual-level treatments are therefore used in

an [extra-label drug use](#) (ELDU) manner. Non-prohibited drugs may be used in an extra-label manner when there is no suitable approved medication available. Any of the following situations is considered ELDU in food animal species: administration of a medication at a different dose, volume per injection site, interval, or route; for a different indication or duration; or to a different species than what is listed on the label. However, if a veterinarian prescribes a medication to be used in an ELDU manner, they are responsible for obtaining and providing appropriate withdrawal recommendations to the owner. The Food Animal Residue Avoidance Databank (FARAD) is a USDA-administered program that will provide ELDU withdrawal medications to veterinarians upon request. Turnaround time is usually 1-2 business days. Further information is available at www.FARAD.org.

If a medication necessitates an egg discard period, the owners either need to discard eggs from the whole flock, or isolate the treated bird in order to distinguish which eggs were laid by it. (Mixed breed flocks are popular, so sometimes an individual hen's eggs can be distinguished by color. For example, if a flock consists of mostly Rhode Island Red hens laying brown eggs, but has a single Americana that lays blue eggs.)

Medications commonly used in avian practice that are prohibited for extra-label use in major food animal species in the US include: fluoroquinolone class antibiotics (enrofloxacin, marbofloxacin, and ofloxacin), nitroimidazoles (metronidazole), and any medication that is imported under the FDA Personal Importation of Drugs guidelines. (This is the regulatory framework that allows US veterinarians to import deslorelin implants for use in pet birds¹). Additionally, any medication indexed with Minor Use/Minor Species (MUMS) designation cannot be used extra label at all (for example, the 4.7mg deslorelin acetate implants marketed for treatment of adrenal disease in ferrets). Because of this, there is currently no legal framework to allow for placement of a deslorelin acetate implant in chickens in the United States. This is unfortunate, as deslorelin implants can be an effective treatment for many reproductive disorders.

Common disorders

In this author's experience, the top three reasons for backyard chickens to present are:

1. Reproductive disease.

2. Reproductive disease.

3. Reproductive disease.

Commercial chicken breeds have been selected for high egg production and therefore the reproductive tract is a common system for diseases. [Common reproductive disorders](#) include: primary egg binding (most common in young pullets coming in to lay for the first time), cloacal prolapse, salpingitis, neoplasia (of the ovary or oviduct), and egg yolk peritonitis. Prognosis depends on chronicity and underlying disease process. Salpingohysterectomy can be a successful treatment if the underlying disorder is not neoplastic in nature and if the patient is treated prior to the formation of extensive adhesions. It is important to note that many cases of reproductive disease will first present for "difficulty breathing" or "crop stasis". This is due to compression of the air sacs and/or the GI tract by fluid/mass effect/etc. in the coelomic cavity.

[Marek's disease](#) is an oncogenic herpesvirus that is widespread amongst poultry in the US. It is a double-enveloped DNA virus that is very persistent in the environment. It is shed in feather dust and once present in a flock, it is almost impossible to eliminate from a standard coop. The classic presentation of Marek's disease is a unilateral leg lameness in a young bird (<1yr old) that does not respond to pain management and rest. However, it can cause lymphoma in older birds or present as motility dysfunction in the GI tract. Definitive diagnosis is through necropsy/histopathology and sample submission of a section of the sciatic nerve is recommend if Marek's disease is suspected. There is also a PCR test available from UGA Diagnostic Lab that can be run on a blood sample or feather pulp. This author recommends submitting both samples as it is possible to get a negative buffy coat but positive feather pulp sample. Remember,

Marek's is a reportable disease in some states. The best prevention of Marek's disease is to acquire only vaccinated chicks. Marek's is transmitted horizontally, but not vertically. So if an owner of an infected flock wants to keep chicks, they can be kept safe from disease through artificial incubation away from the flock and vaccination upon hatch. Marek's is highly contagious and can be found in feather dander so isolation needs to be well away from any area that has housed infected birds. Remember, like all vaccines, protection is not instantaneous so vaccinated chicks must be quarantined for at least 7 days prior to exposure.

Zinc toxicity is common in free-ranging poultry. Poultry will consume washers, bolts, nails, scrap wire, and even pennies in their search for grit. Chelation therapy +/- caudal sac ventriculotomy are the recommended treatment. While zinc toxicity is more common, be sure to rule out other heavy metal toxicity as well. In one memorable case, this author removed a penny from the ventriculus of a duck with symptoms consistent with zinc toxicity, only to discover that the blood lead levels were elevated as well. The duck recovered well with chelation therapy, but may not have needed the surgery to remove the penny.

Trauma is a common presentation. Treatment is similar to other avian species. Traumatic fractures of the limbs are a common sequela to domestic predator attacks (dogs). These fractures are often open and infected. In addition to fracture treatment, a thorough assessment for puncture wounds and internal trauma should be made as well. Fracture repair techniques are similar to other avian species, however hens in full reproductive mode are likely to have very dense bones (physiologic hyperostosis) that can make pin placement more difficult. Degloving injuries are commonly caused by wild predator attacks (raccoons, raptors). While these injuries can look dire, they have an incredible capacity to heal as long as proper antimicrobial therapy and wound treatment are provided.

Nuisance noise: Requests are frequently received from owners to either devocalize or caponize roosters in urban areas because their vocalizations have become problematic. The [Association of Avian](#)

[Veterinarians](#) has a position statement against decrowing roosters. Caponization (castration of a rooster) in its traditional form was performed at a young age with no anesthesia nor analgesia and is no longer considered humane. This procedure can be done from a lateral approach with full sterile technique and appropriate analgesia, however it will not stop a rooster from crowing. Specialized collars have been created to halt crowing and are available for purchase by the general public. The efficacy and ethical implications of these collars is still debatable.

Nutritional disorders can best be prevented by providing a life stage-specific crumble or pellet as the primary diet. Supplementation with reasonable amounts of vegetables/fruits, grazing, and insects is fine. Boutique and local diets are increasing in popularity. These diets are often sold as a mixture of whole grains and legumes. While they may be balanced when eaten in their entirety, chickens are notorious for picking out their favorite components which can lead to an unbalanced diet. If waterfowl are present in the flock, ensure that the feed contains niacin. While chickens are able to synthesize niacin, waterfowl are not.

Reportable diseases-While most chickens will present for individual level health concerns, there are many reportable diseases of significant national economic consequence that can be seen in backyard flocks. The recent outbreak of [highly pathogenic avian influenza](#) has brought the biosecurity risk of backyard poultry flocks into the spotlight. The index for suspicion of a contagious disease increases in birds with exposure to wild birds or other flocks, and when more than one bird in a flock is sick. These are two pieces of information that should be obtained before a client brings their bird physically into the hospital. It can be obtained over the phone when the appointment is made or clients can be instructed to wait in the parking lot until a basic risk assessment of the patient has been obtained. If multiple birds are affected, or there is respiratory disease or neurologic disease with no obvious non-infectious cause, then this author recommends consulting with the state veterinary office. In our experience, they have always been incredibly helpful in guiding diagnostic and risk management decisions.

References and recommended reading

Damerow G. *Storey's Guide to Raising Chickens*, 4th edition. Storey Publishing; 2017.

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