

Pet chickens: what you should know

Author : ELISABETTA MANCINELLI, WENDY BAMENT

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ELISABETTA MANCINELLI DVM, CertZooMed, DipECZM(Small Mammal), MRCVS

WENDY BAMENT RVN, MSc, BSc(Hons), CertVN(Exotics)

exotic encounters

CHICKENS are increasingly popular animals seen by veterinary professionals, and the term backyard poultry may refer to anything from a few pet chickens to laying flocks and exhibition birds, as well as other species such as ducks and quails.

Veterinarians have the responsibility to offer advice to owners and appropriate treatment for their birds. Expectations can be as high as with other companion animals, and experienced chicken owners require a high level of knowledge in relation to husbandry, management, vaccinations and treatment of birds kept in small or large flocks for egg or meat production respectively. Ex-battery hens, in particular, have become very popular.

This article is mainly aimed at providing practical information to the veterinarian who may be presented with pet chickens. However, commercial flocks will need a more in-depth health plan, which is beyond the scope of this review. The British Veterinary Poultry Association (www.bvpa.org.uk) can provide useful information on poultry health and diseases as well as a list of technical poultry papers, which may be of interest to the practising veterinarian (Lister and Houghton-Wallace, 2012).

Diet

Chickens need constant access to clean, fresh water – especially during extreme weather. Drinkers should be cleaned regularly and it is necessary to check water does not freeze during winter.

Diluted cider vinegar 10ml:500ml, added to the plastic drinker one week a month can help reduce bacteria and parasites in the drinker and in the gut of hens and is thought to support the immune system (Roberts, 2013). A balanced diet, suitable to the age and breed, should be given to maintain healthy birds. Grower, layers mash or pellets, or a homemade mix of cereals, grains and other items, can be provided (birds must be more than 12 weeks old and the gizzard properly developed; Houghton-Wallace and Lister, 2012). Chickens need insoluble flint grit to help the digestive process, while oyster shell is a soluble grit that may be used to supplement calcium.

Housing

Under the Animal Welfare Act (2006), anyone keeping a pet, including chickens, has the legal responsibility to meet the five basic welfare needs. These are the need:

- of a proper diet;
- of a suitable place to live;
- to be housed together or apart from other animals, according to species requirement;
- to be able to express normal behaviour; and
- to be protected and receive treatment against suffering and diseases (Roberts, 2013).

Chickens can be housed in a chicken house, which should be warm, dry, draught-free although well-ventilated, and predator/vermin proof. The house should be big enough for all the chickens to be able to exercise, stretch their wings and display normal behaviours. Sizes vary according to the number of chickens kept and the type of facilities, but approximately 12m² should be provided for 30 birds (www.rspca.org.uk). Alternatively, 4m (linear) should be guaranteed for each bird to lay eggs and perch and, outside, 10m per bird should be provided to free range, dust bathe and forage.

All the furniture inside the house should be kept clean and disinfected regularly. Dust-free shavings, good quality straw or hay can be used as bedding material and replaced when wet or dirty. Perches should be available for the birds to roost on and they should be 3cm to 5cm wide with rounded edges and placed at a height suitable for the size of the birds. It is important to provide enough space between perches for birds roosting at the same time, and for them to move – avoiding trauma.

Nest boxes should be placed in a quiet area. The birds should be able to easily access the chicken

house and more than one entrance may help to reduce aggression and bullying. Trees and/ or shelters should be provided to ensure protection against sun, extremes of weather and predators. Food and water should be offered in the outdoor area, but kept clean and away from rodents and scavengers. More details can be found in Houghton-Wallace and Lister (2012).

It is generally advised to keep at least three hens together. Cockerels should not be kept together, unless they have grown up together and get on well. Mixing chickens that are unfamiliar with each other, or of very different body sizes, should be avoided or done carefully to avoid fighting and bullying. Furthermore, a quarantine period should be observed any time a new bird is mixed with an established flock.

Common problems

Healthy chickens are alert and interested in their surroundings, with bright eyes, dry nostrils and a red comb (some breeds have naturally dark ones). They have shiny feathers in good condition, a good weight and musculature for their age, clean vent feathers with no smell, smooth shanks and straight toes. Signs of poor health may include hunched posture, thin keel ([Figure 1](#)), poor feather quality, head tucked under the wing, reluctance to move, hiding in corners and/ or isolation from other birds. Neurological signs may also be seen ([Figure 2](#)). The normal baseline vital parameters are shown in [Table 1](#) and some conditions that may be seen in poultry are listed in [Table 1](#).

During a physical examination, attention should focus on the mouth, choana and oropharynx. The eyes, nostrils and ears should be checked. A stethoscope can be used to auscultate the heart and to check for abnormal respiratory sounds. A coelomic palpation should be attempted and the vent should be assessed. Finally, carefully examine the skin and feather for parasites or any other abnormality. Chickens are often presented with non-specific symptoms and a detailed history is important to identify husbandry and management issues, which may be underlying predisposing factors to disease.

Laying problems, production of soft-shelled eggs, respiratory signs, reduced appetite or anorexia, lameness, weakness and production of abnormal droppings are common presenting problems. Further investigations may be necessary to identify issues related to the reproductive, respiratory, digestive tract or skeletal system.

Egg peritonitis is one of the most common problems seen in laying hens, especially at the beginning of the natural laying season when the length of day increases. Birds may present with a swollen and tense abdomen or may simply go off their food and lose weight. Systemic antibiotics and pain relief/ anti-inflammatory treatment may be of help in early cases, but often this condition carries a poor prognosis.

Respiratory problems may be due to inadequate ventilation, high level of ammonia and/or poor hygienic conditions. Often, infectious agents (*Aspergillus fumigatus*, infectious bronchitis caused by

an avian coronavirus, *Mycoplasma* species, or other bacteria) may cause further damage to the respiratory tract and air sacs – resulting in severe symptoms (Ganapathy, 2009).

Intestinal issues may originate from management, environmental, nutritional and infectious problems. Sour crop may occur in birds gorging on feed or may reflect a blockage further down the alimentary tract (Lister and Houghton-Wallace, 2012). Gently massaging the crop to remove the contents, which are frequently foul smelling due to fermentation, may help in early minor cases. More severely affected birds may require surgery ([Figure 3](#)).

Coccidiosis may cause serious disease and high mortality depending on the species of *Eimeria* involved. Coccidiocide treatment with toltrazuril or amprolium may be instituted along with good hygiene practices. Chickens frequently have a heavy burden of intestinal or respiratory parasites (*Ascaridia* species, *Capillaria* species, *Heterakis gallinarum*, *Amidostomum anseris*, *Syngamus trachea*).

Faecal examination and egg count is necessary to identify the parasite and start a specific treatment; however, chickens should also be checked regularly for lice and red mites. Lice can be found all over the body and their eggs can be seen around the shafts of the feathers. Red mites are small and can be found under the wings, or in crevices inside the chicken house. *Dermanyssus gallinae* is the poultry red mite and is a common blood-sucking parasite. It can live in crevices and cracks during the day and feed on birds at night, causing, in severe cases, significant anaemia. Scaly leg mites (*Cnemidocoptes gallinae*) are burrowing mites that affect mainly the legs of poultry, which become thickened and deformed ([Figure 4](#)). Some products may not be suitable for use in birds and it is important to seek specialist advice before treatment. Bumblefoot is one of the most common skeletal problems, often associated with poor management and/or previous wounds.

Feather pecking is frequently seen ([Figure 5](#)). Hens can peck and pull at the feathers of other hens, sometimes leading to more serious injuries and even cannibalism.

The two notifiable diseases of birds in the UK are avian influenza and Newcastle disease.

Salmonellosis is not notifiable, but must be reported to AHVLA

(www.defra.gov.uk/animal-diseases/a-z/bird-flu/legislation/).

It is important to remember no injectable antibiotics are licensed for poultry in the UK, only a limited number of products are specifically licensed for poultry and very few are licensed for egg-laying birds. Therefore, it is often necessary to prescribe medications off-label according to the cascade requirements. Owners must be aware of these limitations and must observe the required withdrawal period. Some drugs will prevent human consumption of eggs after treatment (Lister and Houghton-Wallace, 2012; Roberts, 2013). Refer to www.vmd.defra.gov.uk/ProductInformationDatabase/ for further details on licensed drugs in different species.

Vaccinations

Many factors may be involved when deciding whether to vaccinate a chicken, including cost, risk of disease, type of bird, size and flock dynamics. Vaccines are usually available in a 500 or 1,000 dose vial, which may be a problem when considering pet chickens. Small groups, especially when kept isolated, with no contact with other poultry, are often not vaccinated. For further details see Roberts (2013).

Veterinary care

When presented with a sick bird, a diagnostic work up would include collecting a blood sample for routine haematology and biochemistry and/or for detection of specific antibodies. The right jugular vein, the medial metatarsal vein or the basilic/ulnar vein may be used ([Figures 6](#) and [7](#)). Swabs (oropharynx, trachea, cloaca or other sites as required) and/or tissue samples may be collected for specific techniques, such as virus isolation and PCR (for example, infectious bronchitis).

Radiographs and CT ([Figure 8](#)), where available, represent helpful diagnostic tools. Echocardiography may be performed when a cardiac problem is suspected. Postmortem examination and histopathology may be required in some cases to obtain a definitive diagnosis. Eggs may be examined to detect abnormalities of the shell or albumen. Fluids may be given via the subcutaneous or intravenous route if required. The intraosseous route may be chosen in collapsed animals when an intravenous access is not available ([Figure 9](#)); however, it is of utmost importance to be aware of the pneumatized bones (humerus). Keep sick animals in a warm, quiet environment and provide electrolytes and nutritional support via a crop tube if the bird is anorexic. Blood pressure may be monitored if required ([Figure 10](#)).

Conclusion

Hopefully, this article has provided practical information and useful links to veterinarians who may be presented with pet chickens. For more in-depth information refer to Roberts (2008a and 2008b).

References

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Figure 1. A thin chicken is shown with a very prominent keel and poor muscle coverage.



Figure 2. A pet chicken presented with neurological symptoms and opisthotonus.



Figure 3. Surgery being performed in a chicken with a sour crop.



Figure 4. A case of scaly leg in a pet chicken. The legs are thickened and the scales are deformed.



Figure 5. Feather pecking is often seen; hens can peck and pull at the feathers of other hens, sometimes leading to serious injuries.

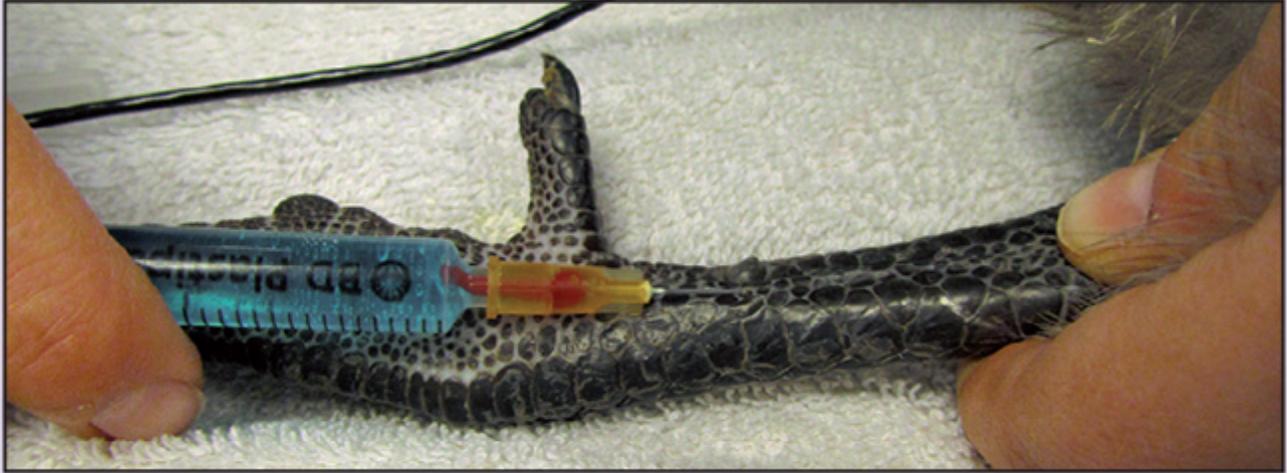


Figure 6. The medial metatarsal vein is used to euthanise this bird; the same vein can be used to obtain a blood sample.



Figure 7. The basilic vein can be used for blood collection or IV catheter placement.



Figure 8. A CT being performed on a pet chicken.



Figure 9. An intraosseous catheter placed in the ulna of a collapsed pet chicken.



Figure 10. A Doppler probe is placed over an artery and the blood pressure is monitored in this pet chicken.



Baseline vital parameters	Normal value
Heart rate	120-160 bpm
Respiratory rate	20-30 bpm
Temperature (rectal)	40°C-42°C

Table 1. Normal biological data of pet chickens

Organ system involved	Common conditions
Gastrointestinal tract	Coccidiosis, other internal parasites, diet, stress
Respiratory tract	Infectious bronchitis, Mycoplasma, avian influenza
Skin	External parasites (red mite, lice, scaly leg mites)
Skeletal system	Bumblefoot, Marek disease

Table 2. Diseases encountered in pet chickens