

Confessions of a chicken surgeon: how not to get in a flap over poultry

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Richard Jones discusses why chickens have become popular companion animals, and recounts some of the varied presentations he's seen in practice

I HAVE no doubt this article will raise more than a few eyebrows, and indeed, despite performing countless orthopaedic and soft tissue procedures on raptors and parrots over the past 15 years, I never seriously contemplated the same on poultry.

Over the past few years however, backyard chickens and waterfowl have emerged as a relatively common “companion animal”, which now occupy a significant proportion of our time in avian practice. These particular birds are no longer viewed as production animals, and have indeed become valued pets.

A pet chicken, I hear you cry... well yes, and personally I feel they fit the bill perfectly for the dedicated owner. They are relatively low maintenance, highly interactive, extremely entertaining and have the added bonus of producing an egg as rent.

I have also, thanks to a colleague in the US, recently witnessed on YouTube... wait for it... chicken agility ([Figure 1](#)).

Obviously “only in America”, but they clearly share our sense of humour, as they had brilliantly constructed the course tunnel out of KFC buckets.

I have already laid down the gauntlet to some of our dedicated chook clients, and have a bottle of champagne waiting for the first to produce video evidence of their birds completing the course.

It is now not unheard of to have chicken flaps, as oppose to cat flaps in the back door, and often such birds have been incubated, hatched and lovingly hand-reared as part of a family project.

What follows are a selection of surgical cases I have dealt with over the past couple of years to illustrate, with recent developments in avian anaesthesia and surgery, what is possible and, indeed, practical for these birds, whose owners now expect the same degree of care as any other family pet. Also, contrary to popular opinion, they are indeed excellent patients and healers, if given the opportunity.

When such cases present, we take great care to go through all the reasonable options (euthanasia on humane grounds being one in many cases), long-term prognosis, and costs involved. Under our guidance and prioritising the long-term welfare of the bird, it is left to the owner to make an informed decision on how we are to proceed.

Case one: crop impaction

Doris (by law, all chickens in the UK must be named after elderly aunts) presented to us as dull, anorexic and sporting a rather large impacted crop. This is often a consequence of ingesting large amounts of long-stemmed grass (and bailer twine in this case), which cannot physically pass down the digestive tract.

This is particularly common in recently acquired ex-battery hens whose intestinal tract has previously been used to nothing more than finely ground meal. It can also, however, be a mere symptom of more severe intestinal or systemic disease (such as coccidiosis, Marek's disease, aspergillosis or yolk peritonitis). The owners had administered liquid paraffin (but thankfully not a concoction of yoghurt and live maggots, which appears to be the latest in a long line of internet-derived home remedies), massaged the area and attempted to evacuate the crop manually, but due to its sheer size and fibrous nature of the contents, this was to no avail.

We also initially attempted manual removal and tried to encourage the onward passage of ingesta via the instillation of fluid, but it became clear this stubborn ball was going to need surgical intervention. In this particular case, as we were convinced this was a primary crop issue without underlying systemic disease, the owners were keen for us to pursue it.

Following preoperative analgesia and antibiotics (butorphanol/ meloxicam and marbofloxacin) and fluids, Doris was anaesthetised, intubated and ventilated with isoflurane in oxygen, skin and crop incised and the contents removed as shown ([Figure 2](#)). The incision was closed in two layers with absorbable sutures, and with careful, little and often feeding, Doris made a rapid and complete recovery.

Case two: femur fracture

Amelia presented 10/10 lame on her left leg following a suspected altercation with a horse on the owner's yard. Examination revealed a very unstable, closed midshaft femur fracture.

Options were discussed and, given the nature of the fracture, in our opinion comprised surgical repair or euthanasia. I have to say after discussing the techniques and costs involved, I was pleasantly surprised the owner did not hesitate to opt for the latter.

The repair involved anaesthesia, as in case study one, with an intramedullary pin placed retrograde via a lateral incision and "tied in" to a twopin external fixator as shown ([Figures 3 to 5](#)). A slight complication was that although birds are generally excellent, orthopaedic candidates have issues. This is due to their minimal soft tissue coverage and huge medullary cavities. In a laying bird, these meet the demands of egg production. Orthopaedic candidates fill these cavities with masses of medullary bone. It's the first time I've ever broken into a sweat while repairing a bird bone, and will definitely be getting the drill out for the next one. Recovery was uneventful with regards to her weight-bearing ([Figure 6](#)), and almost immediately started tucking into her favourite treat of mealworms.

The metalwork was gradually dismantled and removed over five weeks ([Figure 7](#)). She is now back from injury and believed to be in training for the Cheshire agility team.

Case three: chicken pyo

Belina, a three-year-old exbattery hen, first presented for a routine health check while her companion Dora was under treatment for an oviduct infection. A bird's oviduct is an amazing sausage-like structure. The infundibulum wanders around the ovary and grabs the most mature follicle and yolk. Miraculously, in about 24 hours, it adds white, membranes and a shell to build a fully formed calcified egg.

In laying hens, this structure works incredibly hard – in effect, it's like giving birth every 24 hours and, as such, is prone to damage and subsequent infection. In Belina's case, despite being an apparent picture of health, a firm, swollen oviduct was picked up at her check up. She hadn't laid for a while and, in such cases, the concern is that the oviduct may have become obstructed with subsequent yolks, meaning partially formed eggs would be building up behind.

If left unchecked, yolks can actually start to spill out into the body cavity, leading to a potentially life-threatening peritonitis.

The priority was to try to stop further ovulation, which, in many cases, we achieve for about six to nine months with the aid of a gonadotropin-releasing hormone GNRH analogue implant (deslorelin acetate 4.7mg) injected under the skin over the pectoral muscle. In most cases this, together with

antibiotics, anti-inflammatories and careful feeding, will stop the condition's progression. As such, the initial plan was to implant Belina as a preventive measure.

Unfortunately, despite this treatment, the mass continued to grow at an alarming rate and she began to show signs of illness, sitting quietly away from the rest of the birds and passing watery droppings containing undigested food. She was hospitalised for close observation and despite supportive care continued to lose weight, and appeared polydipsic.

We were concerned the mass was now causing systemic disease and so bloods were obtained as a prognostic indicator to assess organ function at this point. Although demonstrating a mild non-regenerative anaemia and heterophilia, all other parameters appeared within normal limits at this stage. Despite putting on a brave face, her quality of life was clearly starting to deteriorate, with continued weight loss and breathing becoming laboured – presumably due to the sheer size of the mass compromising her air sac system.

She was obviously not responding to medical treatment, so again, with all options discussed, the decision was made to further investigate the mass via endoscopy/exploratory surgery, with the owners now prepared for the worst.

Once anaesthetised, she was hooked up to a ventilator and an intravenous line was placed to provide intraoperative fluid, antibiotics and pain relief.

It soon became apparent there was virtually no air sac space to insert the endoscope and, as such, the only option was to surgically explore the abdomen to identify and, if possible, remove the mass.

A two-and-a-half-hour surgery ensued, confirming the mass as a grapefruit-sized, pus-filled oviduct.

We removed it by carefully dissecting it away from the surrounding organs. [Figures 8 to 11](#) demonstrate her abdomen before, during and after surgery. Titanium haemostatic clips were used to clamp off the many major blood vessels.

With the mass finally removed, it was evident why she had been unable to properly digest her food. The gizzard (the muscular part of the avian stomach, responsible for grinding up the food and that essentially operates as the bird's teeth) had been compressed to such an extent that food was not even entering; it was running straight over, into the intestines and passing out undigested.

One interesting advantage of avian abdominal surgery is that without a diaphragm, you can actually visualise and, therefore, monitor the beating heart.

Despite losing more than 500g, which was a quarter of her bodyweight, during the operation she made a remarkable recovery, and by the time we saw her to remove sutures two weeks postoperatively, she had already put the weight back on. The owners were delighted and informed us she was feeling better than ever and already regained her position at the very top of the pecking

order ([Figure 12](#)).

As the vast majority of terminal problems we see in exbattery hens are related to their “burnt out” reproductive tract, it will be interesting to see how Belina gets on long term without the Achilles heel that was her oviduct. Also, without that extra weight, I’m thinking she might be pretty quick round those weave poles.

Case four: castration

Last year, I was approached by a client who had purchased a couple of young chicks to hand rear as future layers and companion birds. Unfortunately, one of the two turned out to be a rather handsome cockerel that started doing what cockerels do at 5am, which is to announce the start of the day with a rather impressive crowing session. Living in a town, the owners became concerned his behaviour was not going unnoticed by the neighbours. He was also getting quite aggressive with the hen and occasionally the owners. They had tried keeping him in until a reasonable hour, and then attempted to rehome him to a more rural location, but all to no avail. At this point they decided to seek medical advice. We initially suggested hormone treatment, which, as previously mentioned, we use in parrots and laying hens with reproductive disorders, such as excessive laying and yolk peritonitis. Unfortunately, in this case, it made no appreciable difference to his behaviour, which, if anything, was starting to get worse.

With all other avenues explored and having discussed the real possibility of having to put him down, we could only offer one other potential solution, that of surgical castration.

Chemical castration or “caponisation” of young cockerels, which has been historically performed to produce “capons” and improve meat quality, is now illegal due to the risk of such substances entering the food chain.

With bird’s testicles found high up in the abdominal cavity and closely associated with major vessels, kidneys and adrenals, this is, unfortunately, not a quick snip job.

Conveniently, however, as part of my residency programme at the University of Minnesota Raptor Center, my somewhat obscure masters project was on the surgical sterilisation of falconry birds. In the US, hybrid species of raptor (which are very versatile and, therefore, popular as falconry birds) can only be flown if surgically sterilised or imprinted on man, the idea being that on the rare occasion they become lost, they would be unable to breed with any of the native wildlife. As such, although a challenge and not without risk, as explained to the owners, such an endoscopy-guided procedure was at least in familiar territory. Fortunately, although taking almost an hour (as a surgical approach is required either side), the operation went without a hitch and the bird went home the following day ([Figures 13 to 16](#)).

Over the next couple of weeks the wounds healed uneventfully and the crowing reduced

substantially, as interestingly did his comb and wattle size ([Figures 17](#) and [18](#)). Three months postoperatively the owners described him as content, friendly and virtually silent.

The aim of this article was to hopefully illustrate that in select cases, the treatment options for backyard chickens, which now come under the umbrella of companion birds, are no longer limited to Baytril, Panacur and Pentobarb. Next time a chicken presents during a busy evening surgery, and the phrase “that’s one for the pot” springs to mind, maybe ask the question are we really in a position to judge which species are indeed worthy of advanced diagnostics or surgery... surely that’s a decision for the informed owner?

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