



## COMPANION BIRD CARE: Egg Binding and Chronic Egg Laying

“Chronic egg layer” is a term applied to a hen whose laying is prolonged, excessive or without season for her species. Chronic egg laying is usually associated with lovebirds, cockatiels, finches, canaries, budgerigars and doves. Most avian species kept as pets however, can exhibit unwanted reproductive activity. Eggs can be laid with or without the presence of a male. It cannot be predicted with certainty whether a given bird will or will not develop problems associated with egg laying.

Egg binding is a delay in the normal passage of the egg through the oviduct (analogous to the mammal’s uterus). Dystocia, meaning difficult or abnormal birth refers to a mechanical or physical obstruction, which prevents laying. Nutrition, physical condition, genetics, health and environmental factors as well as the presence of underlying disease all play a role in egg binding, dystocia and their associated life threatening complications. Good environmental and nutritional management can lessen the likelihood of laying and make it safer if it does occur. In the case of the hen intended for breeding, sound agriculture practices and recognition of the natural needs and limits of the bird will increase the production of healthier chicks from healthier parents. In spite of all preventive measures, problems will sometimes occur, which require medical treatment or surgery.

### EGG LAYING IN THE WILD VERSUS CAPTIVITY

In the wild, natural conditions influence the biological drive to lay; the hen must bond to a mate. There must be sufficient nesting material or sites. The food supply must be increasing and the day length must be adequate for chick rearing. The relative importance of these and other factors in influencing hormonal changes varies with the species and geographical origin. When these criteria have been met and the hen has laid a genetically influenced number of eggs, incubation begins. Hatching, fledging and weaning of chicks, follows this. Depending on the species in question, this cycle may repeat within the year, or may take more than two years to complete.

In captivity there is little cyclic variation in the presence of stimuli to lay. The “mating bond” is often between bird and owner, food is always plentiful and artificial lighting leads to unnaturally long days. Birds will often find “nesting sites” outside the cage, in boxes, drawers and bookshelves. Finches and canaries are often provided with a nest in which to sleep. Lovebirds, canaries, budgies, cockatiels among other species have been bred in captivity for many generations, and in many cases are far removed from the wild type. In selecting for birds that breed easily, we may have selected for birds that produce unnaturally large clutches.



## WHAT TO DO IF YOUR BIRD STARTS LAYING EGGS

The point at which egg laying becomes excessive or detrimental is unpredictable and depends on the individual. The hen's genetics, her environment, her health and nutritional state will all play a role. The hen's overall physical condition will affect her ability to lay successfully and safely, so a physical examination performed by an avian veterinarian is recommended. Blood tests or radiographs (X-rays) may be suggested in these cases to assess, among other things, blood calcium levels and bone density.

Be sure that the hen is on a good plane of nutrition. If the bird is on a seed based diet, a vitamin/mineral supplement is advised. Birds on pelleted diets may or may not require an additional source of calcium. Over supplementation can be dangerous, and we recommend that the diet of a hen that lays be discussed with your avian veterinarian. Examine the egg. If the shell is thin, soft, excessively rough, dented or misshapen, the hen's nutrition may be inadequate and should be addressed immediately. These birds are at an increased risk for a difficult lay, egg binding and broken bones. Abnormal shells are also often the result of an infection somewhere in the reproductive tract. Seek veterinary advice as soon as possible.

Consider the stimuli, which encourage the bird to lay. In the case of birds from temperate zones, it may help to increase the number of dark hours to mimic a change in season. Birds should have 11-12 hours of uninterrupted darkness at night, and gradually increasing this to 14, even 16 hours may help. Disrupt the bird's routine by rearranging the cage or changing its location. Remove nests and nesting sites. Do not physically stimulate the bird by stroking her back or tail head. Remove objects, such as mirrors or toys to which the bird may have formed a sexual attachment. Do not simply ignore the bird if she is bonded to you, but distract her and redirect her attention. In the case of larger parrots maintain your place as head of the flock and reinforce this in your bird's mind with gentle, but firm enforcement of rules.

Although some hens will cease to lay if the eggs which they are incubating are removed, most respond better to having the clutch number completed by the addition of scotch mints, white marbles or similar mock eggs. These can be left with the bird for the natural incubation period.

For the companion bird, breeding is not usually the best solution. If you do elect to place your hen with a male, research the possible outcomes carefully. Your relationship with your bird may alter drastically, the pairing may not be successful (birds have minds of their own) and the risk of disease transmission is real. Never pair your bird with one whose health status is unknown.

In cases where another bird (not always a male) is already present and laying is excessive, separation or other changes in the birds' routine and environment may be necessary.



## CAUSES

Factors that cause a bird to lay excessively include genetics (cockatiels, budgies, lovebirds), photoperiod (light-dark cycle), constant availability of food and water, inappropriate stimulation by a perceived mate (usually the owner) and the absence of a natural flock structure.

The causes of egg binding include, but are not limited to: low blood calcium; nutritional deficiencies; dysfunction of the muscles of the reproductive tract; excessive egg production; large, misshapen or soft shelled eggs, age, obesity and lack of exercise; oviduct tumor or infection; hypothermia or hyperthermia; and dystocia. Dystocia results from the prevention of laying, due to a physical obstruction. This can be seen when there has been earlier damage to the cloaca, and in cases where an abdominal or cloacal mass is present. It is also seen in first time layers or birds bred out of season.

## CONSEQUENCES OF CHRONIC EGG LAYING AND EGG BINDING

Relatively minor concerns, such as regurgitation can be associated with egg laying. In the long term, there is loss of weight, feather loss, dehydration, osteoporosis, malnutrition, general debilitation and an increased risk of egg binding or dystocia. Hormonal changes in some species are more dramatic, with potentially serious behavioral manifestations, such as aggression.

If a bird is physically able to lay her egg, she will. Failure of the egg to move normally through the reproductive tract can lead to infection or obstruction of the oviduct (analogous to a mammal's uterus). The oviduct can rupture. If unable to expel the egg, the hen can progress very quickly from a state of weakness, anorexia and depression to one of profound shock, septicemia (blood poisoning) and death. A bird that experiences difficulty in laying on one occasion is more likely to experience subsequent problems. The possible consequences of egg binding are related to the factors, which made the bird unable to lay successfully, as well as to the injuries suffered as a direct result of the condition. Paralysis, seizures, broken bones, peritonitis, persistent infections, gradual weight loss, internal adhesions between organs, reduced fertility, chronic illness and death are among the consequences of reproductive tract disease, such as egg binding.

## WHEN TO CALL YOUR VETERINARY SURGEON

If your bird has not previously laid, if you have not already addressed the subject with your veterinarian, if the bird has any difficulty laying or if the eggs are abnormal, contact your avian veterinarian.

Examine eggs as they are laid. Abnormal eggs can be a sign of a calcium imbalance or an infection. Calcium is required for normal bone strength, for formation of the eggshell and for normal development of the chick. It is also required for the function of all muscles, including the heart and the oviduct, and if she has a calcium deficiency, the bird may be unable to expel the egg.



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If your bird appears weak, if she is on the cage floor, is straining, panting, has a wide based stance, has a swollen abdomen or has trouble breathing, contact your veterinarian immediately. **This is an EMERGENCY.** The mass of the egg puts pressure on the large vessels of the body, cutting of the return of blood to the heart, and this can rapidly lead to shock and death. Pressure from the egg can also lead to paralysis, kidney damage and toxicity secondary to retention of droppings. Excessive straining can result in oviduct damage or rupture, as well as prolapse of the oviduct or cloaca.



### TREATMENT OF EGG BOUND BIRDS

Birds who are laying abnormal eggs should have a physical examination, as these hens are more likely to experience difficulty when they lay. Diet should be reviewed and tests to detect possible underlying causes. Or effects of reproductive problems will likely be recommended. Calcium and vitamin therapy may be recommended.

Treatment of the egg bound bird must be decided on a case-by-case basis, but is usually based on supportive care unless specific treatments are indicated. The bird should be kept warm, and almost always requires fluid therapy to combat shock. Calcium, antibiotics, corticosteroids and drugs that provide pain relief are often used. If the egg is not laid naturally, it must be removed. Eggs can be removed through manual manipulation, by means of medical therapy or surgically. The choice of technique is made on an individual basis. Once the egg has been removed, many birds need a minimum of 24 hours of intensive care. They need to be monitored closely after this, as many previously egg bound or dystocic hens will lay again soon. Follow up tests or visits are usually recommended.

### PREVENTING THE PROBLEM

Ideally, birds are on an optimal plane of nutrition and in good health, so that should they lay, they are able to do so with a minimum of risk. This applies equally to companion birds and to those intended for breeding.

Behavioral modification can be successful in discouraging birds from laying. In the past, several forms of hormone therapy have been used in an attempt to curtail excessive laying or to stop it altogether when it threatens the life of the bird. Some of these drugs have serious side effects, such as gain weight gain and liver damage. It is inappropriate to use hormone therapy in animals that have not undergone a thorough medical work up. Treatment is not always successful and when it does work, the efficacy often decreases with time and injections are required more frequently until they no longer work. A drug has become available more recently, which shows promise in at least the temporary prevention of laying and does not carry serious side effects, but there really is no easy answer.

Surgical prevention of egg laying involves a salpingectomy or spay (the oviduct, but not the ovary is removed). Candidates for this major surgery must be carefully selected.

It is recommended that every bird have an annual examination, perhaps more often in the case of a laying hen. The chronic layer or a hen with a history of egg binding will only benefit from sound dietary, environmental, medical and behavioral management.