Foreward

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This book is only intended as a guide to the first aid treatment of budgerigars and should not be used as a substitute for good veterinary care. Whilst every effort has been made to ensure complete accuracy of the diagnosis and treatments contained within, the society cannot be held responsible for any subsequent loss resulting from its contents.

THE DIAGNOSIS OF DISEASE

The diagnosis of disease in birds presents enormous difficulties to the trained veterinary surgeon, and the breeder is not recommended to try and make a diagnosis on his own.

One difficulty lies in the fact that in many instances a bird will display little or no visible evidence of ill health until just prior to death. While there are exceptions to this a bird with every advanced disease processes may behave quite normally and may even initiate a reproductive cycle. We have seen, for example, birds with advanced malignant tumours that exhibit active reproductive organs, and the owner reported sudden and unexpected death. The response of a bird to disease processes differs markedly from that shown by mammals. However, there are certain observations which will help the fancier to decide on a course of action although no firm diagnosis can be made in most cases.

The first thing to be decided is whether the disease is of an epidemic nature affecting all or most of the birds in an aviary or a single stock cage or flight or whether only a single bird or two is involved. In the case of apparent disease in a number of birds in an environment, representative samples should be sent to a well equipped and competent laboratory for full pathological studies and all relevant facts should be given that may assist in establishing a full diagnosis.

Epidemic diseases are not unusual in budgerigars, and possible diseases giving rise to such an epidemic include Psittacosis, Pacheco's Parrot Disease, poisoning and many bacterial infections including such conditions as Escherichia coli and Salmonella infections.. Every effort should be made to avoid the spread of disease, either within the aviary or to other aviaries by avoiding direct and indirect contact between diseased and healthy birds, by discouraging visits from other breeders and by ensuring that the owner of an affected aviary does not spread infection by moving birds to other aviaries or shows.

Sporadic disease incidents, affecting an occasional bird, are more common in aviaries of budgerigars. In such cases there is no evidence of wide spread disease, but deaths and illness occur in individual birds. If a series of sudden deaths occurs in a flight or in a stock cage, stress giving rise to heart failure may be suspected. Although this does happen it is rare in birds in which the heart was previously normal, usually following preexisting heart disease. In such cases overcrowding or lack of recreational facilities may be the root cause of the problem, while other causes which have come to light as a result of our studies included car headlights flashing into an aviary, a cat climbing onto and moving on the wire roof of a flight, and an excited terrier barking at the birds through the wire. In the wild state the birds are able to remove themselves from a hostile environment to a place of safety; in an aviary they are deprived of this natural defense and serious stress ensues.

Diarrhoea, in the form of loose dropping and solid vents, is often reported and while the cause may on occasions be due to infections, in most cases it would appear to be yet another manifestation of stress. Salmonellae, a bacteria responsible for food poisoning, have been isolated in a few incidents, and while an Escherichia coli (E coli) has also been isolated quite often this organism, which is not a normal part of the budgerigars intestinal flora, would seem to be more in the nature of an opportunist invader. In cases of diarrhoea the bird should be removed from the flight to an unheated hospital cage and specimens of droppings, freshly collected on a piece of plastic film or on aluminum kitchen foil spread on the floor of the cage below the perch, should be sent to a bacteriological laboratory for examination. This will reduce stress and obviate spread of infection if a bacterial enteritis is diagnosed and treated. Fanciers frequently notice that a bird has a greenish diarrhoea and consider that it is a significant observation; unfortunately all that this indicates is that the bird is not eating and this can be caused by a very large number of different diseases.

Intestinal worms (and so far only intestinal round worms of Ascaridia genus have been found) are not uncommon and will cause an obstruction if the parasite population is large, in such cases death will occur and the bird will be thin. If birds are kept in open flights breeders might well consider biannual dosing for parasites, using Piperazine at a dosage of 2.5 grams per litre of drinking water for 24 hours. The treatment is cheap, effective and safe. Should a breeder wish to decide whether dosing is necessary a faecal sample may be collected as described above and sent to a laboratory for examination, but the cheap and safe treatment available may well be satisfactory for anyone who may be worried about worms without going to the necessity of establishing a laboratory diagnosis. In general the budgerigar will drink about 0.5 to 1ml of water per day and this figure may be used, as a basis for estimating the quantity of the drug required, however water consumption depends on temperature, humidity and diet.

Skin diseases are uncommon, although cases of Cnemidocoptes infection causing scaly face or scaly leg have been seen. In this condition scurfy wartlike growth of skin may appear on the face and legs. Treatment with an anti parasitic is effective, but in such cases the dressing must be applied sparingly as this can be toxic to birds.

CARE OF THE SICK BIRD

As has already been explained under the heading diagnosis in many instances the disease process may be very far advanced before the bird actually shows any symptoms of ill health, and in such cases any attempts at cure and treatment are unlikely to be of value. However, the following advice may well be of benefit in some cases and should, in all events, be tried whenever such a situation arises.

A hospital cage, provided with heating elements and a thermostat, is available commercially, follow the manufacturers instructions regarding its use. Alternatively you can use a standard show cage.

The bird should be caught as gently as possible and in most instances if the bird is in fact ill this presents little difficulty. If it has a mate, and has an established pair bond, the mate should be removed to the holding cage with it to reduce the stress that separation of pair bonds can create. The show cage with its occupant or occupants should be moved into a warm room and covered with a cloth to allow the patient to rest as much as possible.

Budgerigars prefer to perch rather than sit on a flat surface but when ill may not have the energy to reach perches in the normal position. It will reduce stress somewhat and make the bird more comfortable if one or more perches are lowered to half an inch from the floor where the birds can get on them more easily.

As a general rule a sick bird is reluctant to take food, and will die of starvation in just 3 or 4 days in these cases it is essential to administer some form of food (such as Polyaid or similar products) if the bird is to survive. It is much better to use a crop needle than a dropper and it is advantageous for all fanciers know how to use one.

Although the bird may be reluctant to take food, every effort possible should be made to encourage it to feed. As wide a variety of food as possible should be displayed in the cage, and chickweed or soaked millet sprays are particularly useful and appear to be taken when other foods are refused.

The bird should be encouraged to rest in the covered cage until recovery is apparent, after which a period of acclimatisation is necessary. To take the bird straight from the sick cage in a warm environment and introduce it into a flight in cold weather is asking for trouble.

As has previously been said, handling a bird to medicate it causes stress, but fortunately in most cases the drugs used in treatment of budgerigar diseases are available in forms which can be dissolved in drinking water, and since a sick bird will usually take water this is the preferable route to take. The ordinary drinking water should be removed and replaced with drinking water in which the necessary drug has been dissolved at the correct strength. If in-water medication is used all soaked seed, green food and soft food should be withheld for the duration of the treatment. No other source of drinking water should be available. In some instances the bird may find the medicated water unpalatable and reduce the water intake, a far from desirable effect. In such cases the addition of sugar or soluble vitamins has been effective in ensuring normal water intake. This problem of unpalatability is of some interest and it has been observed that a bird will be reluctant to take the medicated water that another may accept without hesitation, indicating that it is an individual rather than a species problem, at least in some cases.

Many birds do not die of the disease they have but rather of dehydration. To give the antibiotic time to work this needs attending to. To counter dehydration any bird, which is not drinking, should be given water at the

rate of 4ml per day in divided doses. The water should be warm and one can add sugar at the rate of a heaped teaspoon to half a pint and also add a small pinch of salt. Alternatively a proprietary electrolyte/energy solution for birds can be given.

TREATING BIRDS WITH ANTIBIOTICS AND NURSING SICK BIRDS

The usual way of giving antibiotics to birds is either by mouth or to administer it in water, or occasionally in the food. In almost all cases it is best to give the drug directly to the bird, this can be done by opening the beak and giving the medicine into the back of the mouth. The disadvantages of this is that the bird may spit some or all of it out and there is also the danger that some of it may go down the wrong way and asphyxiate the bird, although this is rare. It is much better to give the medicine using a crop tube as by this route one can be certain that the bird has had the full dose and this route overcomes the danger of asphyxiation. In-water or in-food dosing is uncertain, you do not know if the bird has taken any or if it has how much. This is however, the route, which will have to use if large numbers of birds are to be treated. While a 5 day course is the usual recommendation for an antibiotic due to the uncertainty of the dose with in water or in food medication a 7-day course is advised. If in water mediation is used all soaked seed, green food and soft food should be withheld for the duration of the treatment.

As antibiotics can upset the normal good bacteria in the bird's digestive system whenever antibiotics are given it is a good idea to follow these with a 10 to 14 day course of probiotic. There are a number of these on the market for cage birds and you may be able to obtain one locally from a pet shop.

Most sick birds have ruffled feathers and a fluffed up appearance. This indicates that the bird is having difficulty keeping warm. To aid the bird's chances of recovery it should be placed in a heated hospital cage or warm place. Within reason the warmer the bird is the better and a temperature of 38 degrees C or 100 degrees F is ideal provided the bird can move to a cooler area if it wishes. Also placing the bird in a dim light reduces the chance of disturbance.

Many of the germs, which cause disease in birds, can survive for long periods of time in the bird room and there is little point in treating the birds if the germs remain to cause disease again. For this reason it is strongly advised that the bird room and all the equipment is thoroughly cleaned and

disinfected about halfway through he course of treatment to eliminate this risk of re-infection.

ANATOMY – The anatomy of birds varies very markedly from that of mammals, and not only in the arrangement of the musculature necessary to permit of flight, but also in the various systems of the body.

The Digestive System – The food is taken into the beak and is swallowed into the oesophagus or gullet where it comes to rest in a dilation of the organ, the crop. This is purely an organ connected with storage and little true digestion occurs here. The so-called crop-milk is not formed in the crop but is a predigested material from the proventriculus or glandular stomach, which is, mixed with mucin and other protein rich secretions. It is not formed in the crop, which contains no secretory glands.

From the crop the food is passed into the glandular stomach where it meets the gastric juices and where true digestion starts. The food then passes to the gizzard, a strong muscular organ which performs the work of a grinding mill, and contains a quantity of grit to enable the bird to break the grain down into fine particles and so allow the free action of the digestive juices.

The food next passes into the first portion of the bowl or intestine, which is a narrow loop of the gut. Here the liver secretions, in the form of bile, are added, and in the loop, between the two limbs, lies the pancreas, another large gland producing digestive juices.

By this time the food material is very moist, as the reactions of digestion are active in a moist state, but like all animals which inhabit hot and dry regions, water is a valuable commodity, hard to come by, and therefore must be conserved. In the hind portion of the gut a large of the water is reabsorbed, conserving the water, and the bird passes a rather dry faecal pellet under normal circumstances.

Respiratory System – Flight is a process requiring the use of enormous amounts of energy, which is obtained by the oxidation of fats, and sugars, which have been stored in the body. The rate at which these are used requires a very good supply of oxygen through the blood, and to provide this, the bird has a respiratory system very different from that of mammals.

In the mammal the air is drawn into the lungs, and passed down through a series of tubes to a so-to-speak dead end, the alveolus, where the oxygen exchange takes place. The animal then breathes the used air out and replaces it.

It would be very difficult for a bird to obtain sufficient oxygen to provide the energy for flight with such an inefficient system, and they have adapted the lungs so that the air passes through them continually, with the oxygen exchange going on the whole time. The inspired air passes through the lung to the posterior airsacs thin walled ballon like structures, from them via the lung to the anterior airsacs from which it is expelled.

The Urino-Genital System – The mammal has separate disposal systems for the solid and the liquid waste, In the bird one single orifice disposes of these wastes and also has reproductive functions. However the bird does not produce liquid urine as a mammal does, but conserves water and excretes a pasty white matter which is mainly derived from the breakdown of protein material.

The male bird has two testes, but in the female only one ovary and oviduct develop, the ones on the left, although a vestigial right oviduct may be seen on occasions, as a cystic organ containing a clear fluid, in the abdomen.

FIRST AID

ABSCESSES – Bacterial infection occurring anywhere on the surface of the skin identifiable as firm swellings. Contents of abscesses in birds differ from mammalian abscesses in that, instead of liquid pus, they are fairly hard and of a cheesy appearance. Quite often they are mistaken for tumours because of the firmness (these will be dealt with later on). Treatment can be either surgical removal or lancing to drain the pus; antibiotics are ineffective because the drug does not penetrate to the centre of the pus where the germs, which have caused the disease, are present. However antibiotics after lancing and removal of the pus are a good idea.

ASPERGILLOSIS – A disease caused by fungal infection to the lungs and air sacs. The spores of Aspergillosis fumigatus could be present in any decaying vegetable matter and inhalation of these causes the problem, which is dangerous and generally resulting in death. Currently there are drugs which can cure aspergillosis provided the disease is caught early but these will have to be obtained from a vet.

ASTHMA – This is more likely to crop up in pet birds than those kept in outdoor aviaries and birdrooms. A bird suffering from asthma wheezes more or less continuously but does not sneeze as it would if it had a cold. Apart from this the bird will appear perfectly normal and healthy. The actual cause is not that easy to pinpoint, but it can easily be relieved and perhaps even cured by use of one of the asthma cures available at pet stores.

Slide 10 "Overgrown Beak"

BEAK AND CLAW OVERGROWTH – Beak overgrowth is fairly common, though with good management it shouldn't be, as all birds will use cuttlefish bone, and this is the best way to keep the beak in trim. However should it become necessary to take action, a sharp pair of nail clippers or preferably a pair of animal nail clippers are required. The beak should be carefully trimmed a little at a time – better not to remove enough than to cut to far and cause damage. It should not be done more often than every six weeks unless absolutely necessary. The claws are much easier to trim, there being a visible vein and care needs to be taken not to cut too close to this, or bleeding will result. Other than the note on cuttlefish, the above notes on beak trimming also apply to claws, and natural perches are best to assist the bird in keeping its claws neat, and the varying shape and thickness will prevent foot problems of other kinds.

Slide 9 "Undershot Beak"

BEAK, UNDERSHOT – It is believed that this can be an hereditary flaw, but more commonly the second possibility is the cause, dirty feeding parents. It is, therefore not a bad idea to check daily the beaks of all chick in the nest, especially those of known dirty feeders. If either upper or lower mandible is clogged, just gently remove the obstruction using a clean matchstick and a little warm water if necessary. Gentleness is a must, as the young bird's beak is especially soft and tender and therefore quite easily damaged. If a bird has an undershot beak, this must be trimmed regularly in order for it to be able to de-husk its seed properly, and if in doubt you should consult a vet initially for instruction on how to do this properly.

BLINDNESS – Blindness is not uncommon in budgerigars. It has several causes and is untreatable. However, blind birds usually manage well provided that they are in cages on their own or with few companions. They rapidly get to know where the food and water are, provided these are not moved about, and suprisingly even manage to know where the perches are and will fly to them. In large flights with a lot of other birds they just get lost.

BROKEN LIMBS – Birds bones are very lightweight and also tend to be very brittle, and so break quite easily. Luckily they also tend to knit back together quickly, with a little assistance. It is, however, much wiser to see a vet if in doubt, as a mistake can result in a permanently crippled bird, and quite possible loss of the limb. On the whole, legs are easier to set than wings, for obvious reasons. Patience is the most valuable tool, as the bird will almost certainly try to remove the splint, necessitating re-application. A break at the joint is virtually impossible to repair, and will usually remain stiff ever after. Damage to the shank of the leg requires the application of a splint secured with adhesive tape, a small piece of sanded wood making the best splint, and depending on the degree of damage applied to either one or both sides of the break, thus sandwiching the damaged part into the correct position. Another method is to split a short length of rubber tubing down its length and fix it around the break, using either thread or adhesive tape to hold it together. As to wings, a broken one should not be confused with a dislocated one – the former always hangs unnaturally loose and useless, while the latter retains at least partial use, and generally cures itself in time. A broken wing can also be splinted and slung into its natural position, but being much more complicated its best left to the experts. Even then, it is unlikely to mend to complete satisfaction.

BUMBLEFOOT – This is due either to squalid living conditions or severely overgrown claws puncturing the sole of the foot. If cages or aviaries are not emptied of droppings regularly the bird's feet can become soiled, and nodular swellings appear as a result, especially on the soles of the feet. These can sometimes be removed surgically, though they heal slowly. If the condition does occur, the bird should be seen as soon as possible by a vet, in order for the treatment to be effective. A good preventative is to use perches of a variety of sizes and cross-section shape which means that the weight of the bird is not born by exactly the same area of the sole every time it perches.

CANCER – See also **TUMOURS and CERE DISCOLOURATION**.

CANDIDIASIS – Also known as Monoliasis, thrush or crop necrosis. The symptoms for this are general lack of condition, coupled with a clear slime from the beak only, not from the nostrils, also in very bad cases, accompanied by a highly pungent form of diarrhoea. There appear to be two forms of this ailment, mild and acute. The former is not accompanied by loose bowels, and very often goes by itself. The latter, however is fatal and rapid – taking just 12 to 24 hours to seize and kill the bird. A particularly nasty tendency of this problem is that it tends to take hold of a bird which has been perfectly well all day, in the evening – when all the

vets are shut! – And of course the bird dies overnight. The treatment for this disease is one of the antifungal drugs such as Nystatin. This disease does not seem to be contagious, it just crops up in a single bird – and usually does not recur in the same bird.

CATARRH – Initial symptoms are similar to those of a bird suffering from a cold, but the infection can develop quite quickly and the bird will have a mucous discharge from nostrils and beak. This ailment is very contagious, so it is important to both isolate the affected bird, and thoroughly disinfect its living quarters. This is also necessary for a single pet bird – otherwise it will only become re-infected when returned to its home. Perches, food, water pots and toys should all be thoroughly disinfected, as should all framework, netting, cage front's etc, with which the bird has been in contact. The sick bird should be taken into a warm, even temperature, and any soiling of its feathers should be washed away with a weak solution of safe disinfectant and warm water. The recommended treatment is a course of Sulphadimidine in drinking water which has first been boiled, it should be given for three days, then three days missed and then for one further day, at the rate of four drops per tablespoon of water, or one teaspoon per pint of water.

CERE DISCOLOURATION – When the cere of a bird loses its colour, particularly when the cere of a cock turns brown, this is said to denote cancer of the genitals, and of course is untreatable. However, this is not common, and more often the condition is of a temporary nature, and merely means the bird is out of condition.

CHILLS, COLDS AND BRONCHITIS – Sudden changes of temperature, shock and a shortage of food can all cause a chill. Generally, birds kept in dry, draughtproof shelters or houses do not catch colds or chills, even without heating in the coldest of weather. However, birds kept in poor conditions, or coming into contact with an already sick bird, can catch one. The symptoms are very obvious – the bird will ruffle its feathers, shiver, sneeze or wheeze, have discharge coming from its eyes and nostrils, and basically look a picture of unhappiness. In bad cases, it may even rock to and from in time with its breathing, and eventually will become too weak to stand on its perch. A bird found in the state described must be treated immediately, as otherwise pneumonia will rapidly set in and while colds and chills are easily remedied, this is almost always fatal. Treatment consists of bringing the bird into a warm, even temperature, and in many cases, this alone will affect a cure. See also **PNEUMONIA**

Slides 5 & 6 "Clagged Vent"

CLAG – This is the term used when droppings build up around the vent; there are many causes of this condition. Sometimes this mass can form over the vent and block it. If this happens the bird will die in 1 to 3 days as it is unable to get rid of waste products. Whatever the cause this mass must be removed at least twice a day. It should not be pulled off, as this is painful, but the back half of the bird should be immersed in warm water and the mass gently teased apart.

CONJUNCTIVITUS – All eye problems should be dealt with promptly. These very easily can be spread, as the bird will quite naturally rub its irritated eye on the perch, thus leaving germs behind. Most problems will respond to repeated treatment with antibiotic eye cream available from a vet, but a stubborn disorder can be a sign of more serious trouble. A word of warning when using eye ointments, some are poisonous to birds and will kill them if any gets on the beak and is swallowed. The bird's head needs to be held securely as the ointment is given so that the bird can not get the beak round to the dropper.

CONSTIPATION – This is very rare, as a bird being fed properly suffers from very little trouble in this department. If it does occur, the bird will not appear ill, merely a little sluggish, and will be in obvious difficulty when it tries to pass its droppings. The simple remedy is to feed extra greenfood and perhaps vitamins of the B complex (as found in PYM), and for a more serious bout a dose of olive oil. As an alternative, about a dozen drops of Syrup of Buckthorne may be added to 125ml of water, or Epsom or Glauber salts may be added, the dose being a good pinch to the same quantity of water. If the condition persists, it may be a symptom of something more serious, and a vet should see the bird.

Slides 1 & 2 "Wing Cyst" – "Feather Cyst"

CYSTS - Occasionally a bird may develop a soft yellowish cyst on its body, the most probable area for this is the chest, vent or wing butts. In the early stages it does not seem to cause any pain to the bird, though its position may be the cause of some discomfort. The only successful cure is to have them surgically removed.

DIARRHOEA - This is a symptom of other illnesses, rather than being one in itself. The answer is to find out what the disease is, if necessary by seeking the opinion of a vet, and treating the bird accordingly. Two other

causes than illness could be either two much green food or bad food e.g. mouldy food or very old seed etc. See also **ENTERITIS**.

DIGESTIVE PROBLEMS - Perfectly normal healthy birds, especially cocks, often regurgitate to themselves, or over anything in cage or aviary, this is quite natural and not to be confused with illness. However a single bird kept as a pet may possibly regurgitate its crop contents to such an extent that it eventually starves, and in this case something needs to be done, namely removal of the item it "feeds", and perhaps extra feeding: millet sprays, soft food etc, depending on how weak the bird has become. Normal regurgitation should not be confused with "trichomoniasis" syndrome, in the case of which the bird will regurgitate seed mingled with mucoid fluid, which adheres to the feathers and stains them yellowish brown. A bird in this condition will look ill, retch or vomit, and have abnormal droppings, those being predominantly whitish. Potassium permanganate can be added to the water, enough to tinge it pinkish, to help the bird to recover. In some cases, the illness can re-appear at intervals. It hardly ever appears in hens with chicks, but can affect birds, which are in good health, but not rearing young. Treatment should be effected immediately, and the sick bird should be kept warm. See also **TRICHOMONAS**

EGG BINDING – This is likeliest to strike birds that are breeding in the colder months of the year. When birds are breeding, nest boxes should be checked daily, as the condition can quickly become fatal if not treated. The hen will appear fluffed up initially, will often stand with legs splayed further apart than normal, and will have difficulty in perching. Eventually she will abandon the perch and sit on the cage floor, straining to lay, and in obvious distress. The hen being unable to lay her egg because the muscles of her oviduct have ceased to function properly. Other than the weather, age, a weight problem, or lack of breeding condition may bring it on, and it is likelier to occur with the first egg of the breeding season. On examination of the bird's vent, it will be notably inflamed and very dark and angry in colour, the egg often being slightly visible. Immediate treatment is of prime importance, as any delay can be fatal. Firstly it is vital to note that the hen should be handled with the utmost of care, as peritonitis will almost certainly set in if the egg breaks within the bird, and this is fatal, plus the fact that she will be in great pain. Anyway, she should be brought straight into a temperature of at least 25 degrees C, and a drop of warmed olive oil, castor oil, liquid paraffin or glycerine applied gently to the opening of her vent, which will noticeably dilate rapidly on contact. If though to be necessary, apply another couple of drops of oil, taking care not to get any on her feathers, as this will make her feel even worse. Provide the bird with milk to drink. If the egg does still not arrive within the next few hours, the

hen may need to be gently steamed over a bowl of boiling water, and this is generally successful when all else fails though is rarely necessary. Great care should be taken not to scald the hen by holding her to close to the water, and her vent area should be well lubricated with olive oil first. Inexperienced fanciers should seek the help of an old hand if such an operation is necessary. If nothing helps the bird she should be taken without further delay to a vet where an injection of calcium borogluconate could prove effective. For a valuable bird surgery may be worthwhile, though of course there is always risk involved in this. When the bird recovers she should not be allowed to breed again for a while, but should be given a long rest in a flight or stock cage to enable her to build up her stamina. The bird should not breed for at least a year, if indeed at all – the fancier should use his or her own judgement. Sometimes, a prolapse follows egg binding. This is when her straining pushes out part of the hen's oviduct. It is visible as a pinkish mass, and should be thoroughly cleaned with tepid water and smeared with Savlon liquid to prevent infection and then be pushed back gently without delay. Re-emergence may necessitate holding in place with a stitch by a vet. Lastly, it is generally believed that cod liver oil added to the seed in the breeding season could help prevent the problem, along with a good balanced diet, and plenty of cuttle bone. Also, hens which are far too young – below eight months – should never be used (preferably over one year at least: though breeding from birds much older than a year for the first time can be equally dangerous).

ENTERITIS – Lack of treatment for this complaint will prove fatal. It can be contracted from other birds with the symptoms – including wild birds – or by eating food which is contaminated in some way: stale or frosted green food, stale soft food, or the presence of mice which contaminate the seed, can all be causative factors. Acute diarrhoea that is loose, green and watery and often blood stained in severe cases, and having an objectionable smell accompany enteritis. The bird will appear to have a chill, the feathers around the vent being soiled, and with discharge coming from the nostrils in some cases. A bird found with these symptoms should be immediately brought into a temperature of at least 25 degrees C and any soiling of the feathers should be gently washed away with a mild solution of Savlon (or something similar) and warm water. The heat will often effect a cure by itself, but it is best to add a mild aperient to the bird's water. This can be syrup of Buckthorn, 12 drops to 125ml of water, or a pinch of Epsom or Glauber Salts, in the same quantity of water. Cold strong black tea is also good and sugar can be added to it, another treatment would be kaolin but mixtures containing codeine must be avoided. This combination of heat and medications should be continued until the bird shows signs of recovery and

its droppings return to normality, after which the aperient should be discontinued and the temperature gradually lowered until normal.

Another treatment is to use Sulphadimidine, coupled with heat, it should be given in water, two drops to a tablespoon (or ½ teaspoon per pint) for three days, then three days missed, and given for one further day. It may be necessary to give a second course after one-week rest. If an epidemic appears to be taking hold, it may be best to see a vet, who may well recommend a post mortem. Tests can be taken from a sample of droppings, and bacteria grown from them, which can then be used to discover the best course of treatment for the birds. As with all contagious diseases, anything with which the sick bird has been in contact with should be thoroughly cleaned with a safe disinfectant and water to prevent the disease from spreading. If a number of birds are kept and they all begin to show the same symptoms, it is best to see a vet. Fortunately enteritis can usually be spotted it is essential to the birds well being that its water intake* is maintained early and treatment should begin at once, and the bird or birds can be saved. *See chapter Water intake **Care of the Sick Bird**

Slide 11 & 12 "Feather Duster"

FEATHER DUSTER – These are birds, which can usually be produced by pairing buff to buff, and thereby doubling the long feathered character. They develop well in the nest, but their feathers just grow and grow, resulting in a bedraggled bird, which looks like a feather duster. They are incurable, and even if their facial feathering is trimmed to enable easier feeding, they do not usually live for more than a few months, though rare exceptions are sometimes encountered. It is believed that the moult taxes the birds systems to the limit being several time more demanding on its bodily reserves than a normal bird, and that this causes its premature death. Feather Dusters also have internal problems, - they frequently have degenerative changes in the brain and there is a suggestion that their immune systems are defective.

FEATHER PLUCKING – This is the result of many disorders, the main causes being vitamin deficiency, stress or dirty living conditions where parasites are rife. Parasites can be killed with insecticide, diets can easily be improved but regrettably stress is the most common cause. Overcrowding, cages that are too small for the bird or birds, or simply boredom can cause stress. A lone ignored, bored bird will pluck out its own feathers simply for "something to do". It is not impossible to cure; though it is difficult, far better never to let it occur in the first place. Treatment is by providing mental stimulus – a larger cage in which the bird can fly, or if this

is not possible, at least provide some stimulating toys to play with: ladders, mirror or bell – anything which moves or makes a noise. A point on toys – a bird should never have too many cluttering up its cage, but it could well help to have a huge variety of toys which can be regularly changed over to prevent loss of interest.

Sometimes two birds kept together will peck at each other and in this case either separation or a larger cage will be necessary. True feather plucking is said to be incurable, but if the plucked parts are liberally dabbed with strong perfume (provided there are no open wounds) or one of the nail biting preparations (e.g. Stop 'n' Grow) – then the habit may be cured in a week or two.

Another type of feather plucking is sometimes done by parent birds to their chicks, you may use Stop 'n' Grow on these avoiding the eyes or there are commercial sprays for this purpose. This may stop the birds from attacking their young, and if a known "pair of pluckers" have chicks, then this can be an effective deterrent if applied as soon as the chicks start to feather. The flights and tail feathers are NEVER plucked, but those on the back of the neck, mantle and top of the wings are, and in really bad cases the down feathers are also pulled out. This is thought to be an hereditary condition, so it is far better not to breed from the guilty party or from the chicks – they will have inherited the trait. It is always easier to add a bad characteristic into a strain than to remove it again, so it is worth very careful consideration before using such a bird.

FRENCH MOULT – Birds are affected as chicks when they begin feather, and in varying degrees. One or all of the chicks in a nest may be affected, and may lose one or two flight and tail feathers, all flight and tail feathers or all flight and tail feathers and a quantity of body feathers. Birds so affected are known as "runners" because of their inability to fly, and in the worst cases do not re-grow their feathers. Less badly affected birds more often re-grow their feathers normally and are not further troubled, but sometimes their feathers grow slightly deformed. A notable characteristic is that the dropped feathers quills when examined will contain dried blood.

There is strong evidence to suggest that French Moult is caused by virus infection, either polyoma virus or the virus of psittacine beak and feather disease.

The following criteria define the conditions of French Moult: -

1. The condition affects young birds, mainly the nest plumage although on occasions the changes may not appear until the nest feather is lost at the first moult.

2. No lesions of an inflammatory nature, scurf or scabs are to be found in the areas of feather loss.

3. The feather is shed, not bitten off, and the shaft where it emerges from the feather follicle contains black denatured blood.

4. The lesions are symmetrical, feather loss on both sides of the body being the same.

5. In very acute and early cases the body may be almost devoid of plumage, but the more usual picture merely involves the loss of flights and tail feathers, partly or completely.

GAS IN CROP – While gas will sometimes form in the crop when this organ is infected and inflamed the commonest cause of the condition is the bird swallowing air. Individual birds will develop the habit of doing this (probably to relieve boredom) and other birds may copy them. The amount of air swallowed can be enormous. The affected birds intermittently empty the crop by burping and then fill it again so the swelling comes and goes. Curing this habit is difficult but providing the birds with more things to do may stop it.

GOING LIGHT - Going Light or Loss of Condition is a major concern of the Budgerigar breeder, it may come about from a number of specific diseases and a number of other conditions. These are as follows.

Nutritional – If the food fed to the birds is to low in nutrient density, or is fed at too low a level, or is lacking in certain ingredients the bird will lose flesh. The normal grain ration fed has certain inherent deficiencies, notably in vitamin B12 (Cyanocobalamin). This vitamin is essential and the bird obtains it by coprophagia or dropping eating, the compound being formed in the faecal matter by bacterial action. If the hygiene is so strict as to prevent this normal activity and if no alternate source is provided, the bird will suffer anemia and loss of condition.

Parasitism – Helminthiasis or worm infestation interferes with the assimilation of nutrients from the bowel and provides an irritation which may cause a mucoid enteritis. Comparatively heavy to massive infections with the roundworm ascaridea lead to loss of condition and death from an

impaction of the bowel. The coprophagia described above would favour the establishment of an infection. Coccidiosis, causes diseases by its development in the cells lining the intestine, which are destroyed in the process. Worms can be safely treated with piperazine administered in the drinking water at a level of 2.5 grams per litre of drinking water for 24 hours, and could well be adopted as a standard measure of hygiene for breeders who are worried about the condition, but in the case of an outbreak 3 doses at 10 to 14 day intervals are required to eliminate the problem. Proprietary preparations or sulpha drugs can be used to treat coccidiosis but it is very rare in the U.K.

LASSITUDE – A bird which sits quiet and disinterested, subdued, fluffed up and not looking well, may be showing symptoms of serious trouble, for example pneumonia or enteritis. In this instance other signs such as diarrhoea or abnormal breathing will be evident. Otherwise the bird could be suffering from lassitude. A bird which is undernourished or obese or too cold will display general lassitude, the cure for which is either better feeding, excercise or warmth, also, bird's in the moult frequently spend days looking very tatty, and quite ill sometimes, but this is generally normal and does not require treatment. The moult does put strain upon the bird's system, however, so, additional feeding during this time is most helpful.

LICE – These live among the bird's feathers, feeding from its blood or feather debris depending on the species, but generally they cause no harm, especially if the bird or birds are healthy and well fed. If however, they are present in large numbers the host (i.e. the infested bird) can become ill and anaemic due to loss of blood. Treatment is simple, there are many suitable anti bug preparations available either as an aerosol spray for use direct onto the bird or a powder again for use direct onto the bird but also invaluable for sprinkling underneath concaves and pull out cage bases. It is always a good idea to keep an eye on such places, to enable early detection and eradication before vast numbers have bred. With a pet bird in an all wire cage, the best way is to cover the cage overnight with a cloth. When the lice have fed they will take refuge in the cloth, and next morning you will be able to remove it and destroy them, this can easily be done by dropping the cloth in boiling water. However you may need to do this a few times as some will probably return to their former hiding places at first. It is also a good idea to remove the bird and to plunge the cage into boiling water, to kill any stragglers, and then to treat the bird with one of the many sprays or powders. When there is a large number of birds involved you will have to take different measures, they will have to be removed and the cages or aviaries sprayed, painted or dipped where possible with an anti-mite solution, any concealed place where the lice might lurk must also be

treated. If necessary also treat the birds. A good safeguard against lice is to use a powdered anti-mite product beneath cage trays and concaves, and where one cage rests on top of another, Vapona strips are another good way of controlling lice, follow the manufacturers instructions and change them regularly. Finally lice are much likelier to be seen in the summer months, and may disappear in the winter.

LICE (FEATHER) - (which are not the same as the lice previously noted) are as their name implies, lice which feed not on the birds blood or skin, but on their feathers. They aren't as much of a nuisance as red mite, though they can make an exhibition bird (or any other bird for that matter) look a mess because they destroy the webbing of the feathers. Heavy infestation can irritate the birds especially at night. These lice live permanently on the host, so the bird or birds themselves must be treated. The best treatment is Ivomectin. See also **NORTHERN FEATHER (FOWL) MITE – RED MITE**

MEGABACTERIOSIS – This is caused by bacteria called megabacteria, which infects the proventriculus. Birds can carry it there for months or years without problems occuring but on occasion, particularly as a result of stress, the number of the germs increases dramatically and this interferes with digestion by stopping the production of digestive juices so that the birds lose weight and eventually, after some weeks or months, die of starvation. Occasionally this disease leads to ulcers forming in the lining of the proventriculus and the bird may suddenly bleed to death internally from these. Some birds with this disease will show vomiting and retching and also may have diarrhoea; typically the affected birds spend long periods at the seed bowl apparently eating but close inspection shows that they grind up the seed and then discard it so there is a lot of dust in the bowl.

This disease is extremely common but in a bird room will only affect a very few birds during the course of a year except when the disease is first introduced when quite a number may get it. There is a treatment for this condition (amphotericin B obtainable through vets) which will eliminate the magabacteria but unless caught early there may be so much internal damage that the bird does not recover.

MOULTING – This is not an illness, though sometimes problems can occur. During the birds' moult, they should receive good feeding, good seed, fresh greenfood and millet sprays, accompanied by the usual grit, cuttlefish and iodine block, while cuttlefish is not a very good source of calcium it is not wholly absorbed by the bird and passes out unused in the droppings. The liquid calcium supplements or calcium borogluconate are much better. The moult is a strenuous time for the birds system so any help

we can give them to come through it quickly and effortlessly will be greatly appreciated. As birds get older, it often takes them longer to get through the moult. Some birds can go into a condition know as a soft moult which involves the bird being in permanent moult. This is usually caused by the bird being kept in high or fluctuating temperatures, or draughts, or by a deficient diet. The remedy in this case is to move the bird to a cooler or steadier temperature or out of the draughts or to correct its diet. Since feathers are composed of large amounts of protein, a protein rich food is highly beneficial to all moulting birds. Use of one of the many brands of egg foods which is beneficial to the birds and is high in protein. Many fanciers recommend daily spraying of the birds to harden off the feathers, and this certainly seems to work wonders.

NORTHERN FEATHER (FOWL) MITE – This occurs naturally in wild birds and particularly affects nestlings; occurrence in budgerigars indicates that wild birds were nesting nearby. Once the birds leave the nest the mites look around for another bird and budgerigars are ideal as far as they are concerned. The mites (Ornithonyssus species) live for most of the time on the birds and inspection will show blood-filled purplish-black mites about 1mm long amongst the feathers and on the skin. Their presence can cause some irritation and restlessness in infected birds but the major problem with these mites is that they are bloodsuckers and will cause anaemia and death, particularly in chicks. For the method of treatment. See **RED MITE**

NUTRITION – The nutrition of the budgerigar is not based on any scientifically valid observations. In the wild the budgerigar feeds almost exclusively on small grass seeds, materials with a high protein content. The British bird is significantly different from its wild counterpart as the table below shows.

	British Budgerigar	**Wild Budgerigar**
Average Weight	53.74g	28.99g
Greatest Weight Recorded	85.45g	31.00g
Length	21.59cms	19.05cms

The water requirements of the bird are also open to question. Aide and Pybas (1962) have stated that at 20 degrees C and a relative humidity of 30% budgerigars cans survive indefinitely without water, it is also stated that below 25 degrees C evaporative water loss was low, but rises and at 45 degrees C is 16 times greater than at 25 degrees C. However in considering these figures it must be remembered that the budgerigar is

never found unless surface water is available, and that, from the figures above, the bird which we know today is very different from the native bird on which the observations are based.

OSTEOPETROSIS – Osteopetrosis is a rare disease of mammals and birds. The name means 'Stone bones' suggesting that the bones are even harder than normal although this is not always the case. One of the features of Osteopetrosis is the easily visible swelling of the bones in the lower leg. The affected birds have difficulty in moving about but this varies in severity from bird to bird, they will have normal appetites and good bodily conditions.

OVERWEIGHT – This problem is more likely to afflict a pampered pet bird than the inhabitants of an aviary. Food such as bread, cakes, biscuits and sugars are all strictly taboo in the case of a bird which is too fat, and excessive use of oats or groats should be avoided. The bird should be encouraged to exercise, the best way is to put the bird in a flight at least 6 feet high and with only two perches. These should be provided as close to the ceiling as possible, but so that the bird can still sit upright. Then offer the food on the floor. This is one of the quickest ways to lose the excess fat. It is preferable not to let a bird get overweight in the first place, as it will be less capable of resisting disease, and runs the risk of suffering from heart, respiratory, liver, kidney and reproductive system disorders.

PACHECO'S DISEASE – This is a virus (herpesvirus) infection mainly of the larger members of the parrot family, particularly conures, and budgerigars usually catch it from these birds kept in the same bird room. The usual manifestation of the disease is sudden death but a variety of signs may be seen for a few minutes to several days before the bird dies. The signs include lethargy, depression and anorexia. Sulphur colouration of the normally white parts of the droppings, bloody diarrhoea and a variety of nervous signs may also be seen. Diagnosis depends on laboratory investigations. There is treatment (via vets) for this condition and a vaccine is available in the U.S.A.

PARASITES – These of course are not a disease, though before closer inspection reveals them, a bird heavily infested can seem quite ill. Birds, which are nesting, are most at risk, because of the dark conditions inside the nestbox both the young and the parents are at risk, possibly developing anaemia or dying in severe cases. Also, birds so affected may be driven to feather plucking by the irritation caused by the feeding mites. They multiply very rapidly in warm weather, and can hibernate over the colder months in nestboxes or cages. Another method of eradication is to apply either

creosote or paraffin with a small paintbrush to any crack, and to dip perch ends in either liquid. This is supposed to act as a very good deterrent. See also **LICE, NORTHERN FEATHER (FOWL) MITE and RED MITE**

PASTEURELLOSIS – This appears suddenly and can be fatal. It is difficult to treat, and the best way of doing this, is by following the instructions laid out under SALMONELLOSIS later on.

PNEUMONIA – This disease is rapidly fatal, killing a bird within an hour or so of the onset of symptoms or the bird may just be found dead. If the bird survives for more than a few minutes keep it in a high temperature until it revives and then gradually lower the temperature over several days to normal. Be very cautious in putting a recently recovered bird back into an unheated place, better to make absolutely certain that it is 100% recovered first. If the condition either does not improve or worsens, drugs from the vet will be necessary. The usual cause of Pneumonia is poor ventilation in the bird room and correcting this will usually eliminate the problem. The two most common faults are either that there is no ventilation at all or the fresh air goes straight from the inlet to the outlet leaving some or all of the birds in a stagnant pocket of stale air. See also **CHILLS, COLDS and BRONCHITIS**

POISONING – While a very large number of poisons can affect birds, including budgerigars, some are not uncommon and other are rare, the latter are not included here.

LEAD – Lead poisoning is less common than it was and is usually associated with metallic lead objects which may be chewed or eaten whole, if small enough. Cases have also occurred due to second hand timber painted with lead paints being used to make a bird room. Affected birds show depression and there may be diarrhoea which may be bloody. Nervous signs are a feature of this disease and include paralysis, incoordination and fits. The diagnosis can be suspected if lead, in one of its many forms, is present but the diagnosis depends on laboratory tests and sometimes x-rays. A treatment for this condition is available from vets.

ZINC – Poisoning from zinc is sometimes called new cage disease. There are a variety of sources of zinc but usually the problem is caused by poor quality new galvanised mesh with drips and spurs of metallic zinc, which the bird may pick off and swallow. Zinc is also found on powder coated metal and has been found in a variety of toys. The signs of zinc poisoning are not diagnostic but include some or all of the following: feather picking, large voluminous droppings, excessive drinking, passing excess urine and

occasionally vomiting. The condition is treatable in consultation with a vet. New mesh should be thoroughly scrubbed with a wire brush prior to use.

POLYTETRAFLUOROETHYLENE POISONING - Non stick material is present on a wide variety of kitchen appliances, not just pans. If they are allowed to overheat this coating vaporises off. The vapour is poisonous especially to birds and usually causes sudden death. Keeping birds in the kitchen is not recommended.

CARBON MONOXIDE – This type of poisoning is associated with incorrectly installed heating systems or faults in the ventilation where fires are present. Birds are much more susceptible to this than people so that they will die, sometimes showing respiratory symptoms, before people in the same room know anything is wrong. Deaths can continue to occur for a few days after things have been put right.

AFLOTOXICOSIS – This is a poison produced by a fungus called Aspergillus. The poison accumulates as the fungus grows in poorly stored moist seed and grain (and also in nuts). Subsequent drying and cleaning gets rid of the obvious fungal growths but the poison persists and if eaten causes severe, frequently fatal, liver disease. Removing the faulty food is the only treatment.

POLYOMA VIRUS, BUDGERIGAR FLEDGLING DISEASE AND FEATHER PROBLEMS – Polyoma virus infection in budgerigars causes two conditions. The first is usually referred to as budgerigar fledgling disease and in this disease chicks die in large numbers mostly between the ages of 6 and 20 days. Affected chicks are discolored either red all over or yellow over the abdomen with a large dark area which is the liver. Death rates can approach 100% and affected chicks can be found dead with full crops or show some signs of illness for a short period so that the crops are empty. One of the features of this disease is that the older chicks show poor or delayed feathering. Adult birds carry the infection without showing symptoms and pass it to the chicks when feeding them. There is no treatment for the chicks and the only thing to do is break up the breeding pairs, mix all the birds together in a flight an leave them for 6 months. Then try breeding again and if the disease is still present leave for another 6 months. The disease does eventually run its course and disappear.

The other manifestation of the disease is feather loss in the older chicks and adults and it is probable that a number of cases of French moult are due to this infection. The feather loss primarily affects the large feathers of the wings and tail and in severe cases some or most of the body feathers

are also shed. Laboratory tests are required to confirm this disease for which there is no treatment.

Slide 4 "Beak & Feather Disease"

PSITTACINE BEAK AND FEATHER DISEASE – This is another virus infection affecting the feathers. Birds can be affected at any age but it is seen mainly in chicks, as they feather up, and young adults. In affected birds there is a loss, or failure to grow, the large wing feathers and this feather loss progresses rapidly in chicks so that the smaller feathers are also lost including many of the body feathers. Adult birds will also eventually lose some of the body feathers as this disease gets progressively worse at each moult. The disease also causes a number of cases of French moult. Affected budgerigars do not usually show other symptoms and are bright and alert unlike some of their larger relatives. The disease is highly infectious and untreatable. In some of the larger members of the parrot family this disease causes beak and claw changes but these have not been reported in budgerigars.

Slide 7 "Damaged Preen Gland"

PREEN GLAND PROBLEMS – The preen gland is a small structure at the base of the tail on the upper side of the body. It produces an oily material, which the birds spread on their feathers as they preen and this keeps the feathers in good order. The gland can become diseased in several ways, it can become blocked and so swell, abscesses can form in the gland and it can become cancerous. These changes irritate the bird so that it chews at the abnormal gland, which makes things worse. Treatments applied to the gland do not work and the only successful treatment is surgical removal; a bird without a preen gland does not show significant changes in feather quality.

PSITTACOSIS – Also called Parrot Disease, and when applied to a non-Parrot family birds, ornithosis. Contrary to popular belief, this is not confined to Parrots and Parrot like birds, but can occur in any birds including wild birds and farmyard fowls, though it is more dangerous when carried by Parrot-like birds. Also, this disease caused by chlamydia, which is somewhere between a virus and bacteria, is one, which is transmissible to humans. In the past, it was recommended that if one bird in the stud was found to carry the disease, they should all be slaughtered, though this is now regarded as being a little drastic, as the problem is easily treated with the use of either doxycycline, enrofloxacin (baytril) or possible terramycin.

The symptoms in the early stages are extremely variable and can range from conjunctivitus to those of a severe cold or pneumonia or sudden death. If you suspect Psittacosis, then you must contact a vet immediately.

PULPITIS – This is an inflammation of the pulp of the growing feathers, especially the large ones of the wing and tail. Such diseased feathers may break off or be shed prematurely. Once shed the feather may not re grow. A significant proportion of the birds submitted with this disease had been sent in as “tail-less wonders”. Pulpitis is believed to be a major cause of this condition. The cause of Pulpitis is usually a bacterial infection, predominately Staphylococci or Streptococci although about 15% of cases are probably of viral origin. These germs are thought to live on the birds skin but only cause problems when they invade the growing feathers. There is a strong correlation between this condition and markedly buff feathering suggesting there may be something inherent in buff feathers which makes them susceptible to this condition. Repeated bathing of the birds in Virkon-S seems to cure about 40% of cases. A few appear to recover spontaneously. At the present time there appears to be no way of predicting which birds will respond to treatment and which will not.

QUARANTINE – Quarantine is obviously not a disease but is an effective way of stopping disease getting into the bird room. Many bought birds carry diseases and once in the new home the resultant stress often causes the disease to appear. If the new birds are not quarantined these can be spread to the other birds. Newly purchased birds should be kept away from the other birds in the garage, garden shed or spare bedroom – not in the bird room. Ideally they should be looked after by somebody who does not go into the bird room, if this can not be arranged they should be attended to after those in the bird room. The isolation should continue for at least three weeks and ideally 6 weeks. This will give time for the diseases to show themselves, routine treatment given, for example, for trichomoniasis and worms, and a wide variety of disease tested for if the fancier wishes this to be done. Testing for disease should be discussed with a vet.

RED MITE – This is a common problem. These mites live away from the birds but crawl onto them at night to feed on the blood which they suck form the birds. This causes anaemia, which in young birds can be fatal. To diagnose that red mite is present the easiest way is to place a white saucer partly filled with water under one or more of the perches overnight. In the morning look for small red or grey objects floating on the water. If examined with a lens these will be seen to be small animals about 1mm long. The problem with this disease is that the mites spend the daylight hours in nooks and crannies where they can be difficult to get at; a favourite site is

where the perches join the cage wall. There are various proprietary sprays, which can be used, and one of these should be used on the birds. With regard to the cages and equipment the treatment that is most effective is, after cleaning, is to paint them liberally with liquid derris (obtainable from garden centres and shops) and allow this to dry on. The birds should be removed until the cages have dried. It also helps to hang ‘Vapona’ type fly killing strips in the bird room but not where the birds can get them; these will not work in outside flights. Ivomectin treatment of the birds will keep the mites under control but will not eliminate as it will Northern Fowl Mite.

RESPIRATORY DISORDERS – The lungs and other respiratory organs are susceptible to infections, which can rapidly spread throughout a stud, if allowed to. Such infections range from colds to bronchitis, and even pneumonia. Fungal spores cause Aspergillosis: other causes of disease being bacteria and viruses. The diseases are especially likely to occur in poorly ventilated, damp and dirty birdrooms, hence the necessity for adequate ventilation and hygiene. Symptoms are blocked nostrils, discharging eyes, sneezing, laboured breathing and of course the bird will be off its food, sometimes it will result in sudden death. In some cases, antibiotics may be effective, and anything with which the bird has been in contact with must be thoroughly disinfected. If the problem is discovered early enough, heat treatment may be sufficient. If the bird shows advanced staged of illness, antibiotics such as Baytril should be administered, and will usually cure the problem. Such symptoms as gaping beak, asthmatic wheezing and obvious discomfort should be viewed with alarm, and the bird should be taken to a vet. Take care to handle the bird as little as possible, and being very gentle when it is necessary to handle.
One of the many causes of respiratory disorders is iodine deficiency, which results in the swelling of the thyroid glands, which then press against the windpipe. In some cases, they have been known to swell to 20 times their normal size. Often, these birds will regurgitate food. It can be seen, then, that the provision of iodine blocks is necessary at all times – this type of trouble is particularly likely to be found in pet birds, which is hardly surprising, considering the number of owners who either do not realise, or do not see, the importance of iodine blocks. Other causes are as follows: Tumour growth on kidneys or reproductive organs, which can cause an otherwise healthy bird to have difficulty in breathing – there is no cure in this instance and the bird will probably have to be put down, on the advice of a vet. Obesity may cause this troubled breathing, and this is also common amongst pet birds. Not only will the bird's weight cause difficulty in breathing but also cause heart and circulatory problems.

RICKETS – This is sometimes seen in young birds, particularly Softbills and Budgerigars. The cause is an imbalance of the calcium/phosphorus ratio in their diet. Young birds should be watched for the appearance of deformed legs. The bird's calcium intake should be increased immediately. Many chemists sell calcium lactate tablets, or in an emergency your vet might give doses of vitamin D3, but beware of over use of calcium additives to the diet – they can result in the hens laying eggs which are literally like concrete and the baby cannot break through the calcium reinforced shell.

SALMONELLOSIS – The salmonella group of bacteria is made up of hundreds of types, one being human typhoid. It can cause serious

epidemics amongst both wild and captive birds. The salmonella bacteria from birds will have little or no significance to humans unless it is eaten – half cooked chicken is a common cause of salmonella food poisoning, as one in every seven chickens are infected with this at some stage. Salmonella is a common and often-fatal disease that can be caught by contact with rodents or other birds. As in all diseases, strict hygiene and clean fresh food and water help to keep the bacteria at bay. Prevent wild birds from contaminating outdoor aviaries by covering them, and ensure good drainage of rainwater when building such aviaries. Do not place mammals such as guinea pigs into planted (or other) aviaries. In the main young birds are the likeliest to be affected. They appear dejected, are listless and weak, and are excessively thirsty which causes loose bowels. Such birds will huddle together, heads down, and may have white excreta plastered around their vents. Some lose weight before recovery others die quickly. A laboratory must carry out immediate examination of droppings. Recovered birds may act as carriers, as the bacteria can last up to a year in their internal organs, and their droppings, if eaten by other birds, are a source of danger, as the bacteria can also survive for many weeks outside the body. Infected birds used for breeding can infect their unborn young by the yolk being infected or the bacteria's penetration of the shell. A whole stud can rapidly become diseased. A laboratory test quickly establishes the presence of salmonella bacteria.

SCALY FACE, LEG AND BEAK – All three are caused by a mite called Cnemidocoptes pilae. They are instantly recognisable – the part affected will have a hard encrustation which looks rather like a sponge or coral. They are most likely to appear around the beak and cere on the flesh, but also can actually affect the beak (which will have small holes burrowed into it), the skin around the eyes, the legs and in severe cases even the wing butts and part of the body. At first it appears a white crumb like patches, but if not treated at this stage will rapidly spread over the affected bird. It is not difficult to rid a bird of scaly face, but if allowed to go on and on, the task will be made larger and larger. The problem is highly contagious, so any bird must be immediately isolated, and any housed with it examined, and their perches, food and water pots, and cage or aviary thoroughly washed in a suitable anti-mite solution. There are many tried and trusted remedies such as Benzyl Benzoate, two or three applications with a brush. Liquid Paraffin, can be painted on the affected area which suffocates the mites, although the bird can suffer intestinal troubles when it preens and ingests some of the liquid, but the best and easiest treatment is Ivomectin. Whatever treatment you choose except Ivomectin which only needs to be given once several applications will be required before the condition is cured, and you should not stop treatment until all visible signs, however

minute, are gone. As a precaution bird's can be treated on parts likely to be affected even if there are no visible signs, the trouble is less likely to re-appear a week or two later. If affected birds are breeding and looking after young, they should be treated as soon as the young are weaned, and the young should also be given one precautionary treatment.

SEIZURES – Seizures can occur very suddenly and without warning, much like heart attacks in humans. The bird will fall to the floor, flutter and die, or may even be dead before it hits the floor. When a bird has died in this way, you can usually tell – the upper part of the beak is often inserted into the lower part, as thought he bird has been undershot. If you try to part the beak you will find that it is very firmly locked. Occasionally a bird having a seizure will not die but make a complete recovery, but this is the exception rather than the rule. Be very slow and deliberate in your movements when handling a bird found like this, and watch your fingers – it doesn't know what it is doing. Place it in a darkened cage in a quiet part of the birdroom (or take it indoors to a quiet part of the house) and allow it to recover in its own time. For about one week be very careful not to give it any cause to be even slightly alarmed, or the trouble could recur with the likelier result death next time. When you are certain the bird is 100% recovered return it to its home.

SOFT SHELLED EGGS – Soft shelled eggs, egg binding and sometimes spoiling a hen for life, can be the result of using hens which are not sufficiently mature. You are far better to wait until a hen is ten months to a year before breeding with her. Other causes are lack of calcium and vitamin D. All breeding hens should be given cuttle fish bone, oystershell and mineralised grit, which supplies the calcium, or a liquid supplement can be used. The birds usually manufacture there own vitamin D when sunshine plays on their feathers. If they have no access to the outdoors, then a product, which contains vitamin D, can be added to their softfood. Soft shelled eggs can also follow Terramycin treatment as this interferes with the absorption of calcium from the intestine.

Slide 3 "Splay Legs"

SPLAY LEGS – Probably all budgerigar fanciers are familiar with this condition in which one or both legs of nestlings, shortly after birth, instead of being underneath the bird supporting its weight, stick out sideways so that the fledgling has great difficulty in moving about. Very often the affected leg is stiff and the bird seems unable to move it. There have been various theories put forward, the most frequently repeated being that the

chick was in the wrong position in the egg. This condition can sometimes be cured by tying the legs together with soft wool for seven days.

STOMACH COMPLAINTS – besides enteritis, there are several other less harsh stomach conditions, such as ordinary diarrhoea, and mild bowel infection, thought these can develop into serious problems if not treated. At the other end of the scale is constipation, but this is very rare – a bird so affected can be cured by a few crystals of Epsom or Glauber salts in the drinking water for a few days, or possibly by simply giving more greenfood. The drinking water should first be boiled, and this is a good precaution for any sick bird. Birds with loose bowels should not be given greens or cod-liver oil. They should be kept warm, and may be treated with Sulphadimidine. Also, fine charcoal added to the food will help matters greatly.

STROKES AND FITS – These really come under the heading of seizures. They are usually fatal, though sometimes a bird can have a mild stroke and it is best left alone to recover. There is no treatment that can be given to prevent or cure these, nor can they be avoided. Sudden frights can cause young, old or overweight birds to have a fit, which is usually fatal. As a rule healthy birds aren't affected. A surviving bird should be fed on plain canary seed, a little greenfood and fresh water and kept as quiet as possible.

STRESS – The term stress is widely misused and a relatively modern concept. The word has come to include any noxious stimulus, internal or external, such as toxaemic infections, heat, chilling, relative anoxia and trauma, but in the context used here it concerns the psychological disturbances arising from two basic behavioral traits, the alarm reaction and the adaption syndrome. It seems safe to assume that stress of any nature is likely to promote increased stimulation of the adrenal gland and if the stress factor is prolonged imbalance of the secretions of the gland may follow and reaction to further stress seriously diminished.

In this section we will deal purely with stress arising from the alarm reaction and the adaption syndrome.

Considering the 'alarm reaction' first, this is the principle defensive manoeuvre of small birds. The bird is actively mobile, and if alarmed its first reaction is to put as much distance between itself and the cause of alarm as possible. This is usually accompanied by a loud alarm call to warn the rest of the flock of danger in social species. Solitary species are usually mute at this time. The behavior may be adapted, and if chased by an arial predator many small birds will seek shelter in a bush or a tree.

In the aviary this alarm reaction is thwarted because the bird cannot escape, and if it tries it will probably injure itself on the wire. Thus the very fact of caging a bird or placing it in a flight has removed from it the possibility of a normal alarm reaction. The vocal display, warning the other birds, still occurs and as a result widespread panic is likely to occur.

It is impossible, under the conditions imposed by the concept of aviculture, to provide sufficient space or freedom to allow the bird to exercise its alarm reaction, end even if a large enough space and finances were available, the owner would be deprived of the pleasure of seeing his birds at close quarters.

Since the alarm reaction cannot be catered for, the sole way of avoiding stress from this cause is to as far as possible obviate the reaction. Animals have an escape distance, a distance to which they will permit an approach, closer and they will move away. The aviculturist should do everything in his power to reduce the escape distance to zero, to have the birds so confident that they will come to his hand and perch on him. This is probably achieved by imprinting, that is, by persuading the birds to recognise him and accept him, not as a human, but as a bird.

The start should be made in the nest, accustoming the birds to being handled and later feeding them form the hand, Movements should be slow and deliberate, and wherever possible clothing of the same type and colour should be worn, not as difficult as it seems if one buys a couple of tan smocks, which will also protect the clothes.

Generally visitors are a necessary evil, but if the birds are finger tame with the escape distance reduced to a minimum, and if the visitor is wearing a similar smock to the one the birds are used to, and if the movements are slow and voices are kept down the birds will accept the stranger.

These simple, if time consuming, procedures will ensure a happier and more stress free environment, which will pay for the trouble taken.

Adaption syndrome stress is rather less easy to define. Birds and animals in confinement are more settled when a routine is adopted which ensures regular performance of the duties necessary for their well being. It is generally difficult to adhere to a rigidly set routine in the management of aviaries. This practice is, we believe, followed by many people in the fancy, and it is very beneficial in that it creates a calm aviary and reduces stress.

Sudden and drastic alterations to routine should be avoided, and this can also include changes in feeds and where such a change is considered desirable the changeover should be accomplished gradually a mixture of the last of the old food with the first of the new. It should also be remembered that the young bird is far more adaptable than the old specimen and that early handling and imprinting can reduce later stress. The reverse also applies, and if an older or adult bird is obtained to improve ones stock it is necessary that all due care and consideration should be exercised in introducing it into the aviary.

On arrival the bird should be segregated from the other birds for at least 3 weeks. If caged in the house it will have an opportunity to become accustomed to its new owners and the risk of introducing an infectious condition reduced. To put it immediately into a flight or stock cage is asking for trouble. If after a period of observation, the bird has shown no signs of ill health and is eating and drinking normally, introduction into the aviary may go ahead. Initially the bird is better caged by itself where it can become accustomed to its new environment, and later paired up. See also **QUARANTINE**

In the aviary and particularly in flights a social order of some nature exists and after a period a balanced group evolves. Pair bonds of considerable duration will form, and the colony will be settled. The introduction of one or more bird into this group will temporarily destabilise the group, the instability-giving rise to stress. The more often the individuals in a group are varied, the more frequent are the periods of stress. In a stock cage, where the birds are initially crowded, the stress will be increased.

It would appear that many aviculturists do not appreciate the importance and significance of the social group, and seem to shuffle and re-arrange their stock without considering the importance of the stability of the group to the well being of the individual specimens comprising the groups.

The removal of an individual from a social group is less likely to have any major effect on the group as a whole, the stress incurred in this case affecting the moved specimen and, in the case of a pair bonded individual, it's mate.

One major error seen in many flights is overcrowding, which will cause stress.

SWELLINGS – Older birds are especially likely to get swellings on the body frequently occurring in the area of the abdomen, and going unnoticed

until the size of a 1p piece. The growth is usually quite rounded, and in the early stages causes the bird no discomfort, though as it slowly grows, it becomes a nuisance to it, and frequent pecking at the unwanted appendage will result, often causing severe wounding. Surgical removal of the tumour may be possible, but this is the only way, but many birds that have been operated on do not survive the first 24 hours. If surgery is possible, it will be more so in the early stages, so as soon as you notice the tumour, consult your vet. See also **BUMBLEFOOT, TUMOURS and CYSTS**

TRICHOMONAS – This disease which is quite common in budgerigars was only recognised a few years ago. It is caused by a very minute parasite and can be introduced into the stud through the acquisition of a new bird, which may appear completely healthy or from the droppings of wild birds in an open flight. The symptoms are nibbling as if they had seed in their mouths, retching as if they are trying to be sick and actual vomiting with feathers below the chin or on the head become matted with the vomit. By this time the birds are usually fluffed up and sitting in a corner with eyes closed. The disease can kill and it can spread quickly.

When it comes to the treatment there is one factor about the parasite that works in the fanciers favour – when the parasites are passed out of the sick or carrier bird, they live only for a few hours, so there is no need to clean and disinfect the aviary as is the case with so many other diseases. It is absolutely necessary to treat all the birds in the aviary, even if only a few are ill, many will be in the incubation stage of the disease, and others will be carrying the infection without showing symptoms. If one is left untreated the whole cycle will start all over again.

The most commonly used treatment is Harkanker soluble. Although be careful of overdosing, especially in bird's feeding chicks when the dose needs reducing by a factor of 4.

TUBERCULOSIS (AVIAN) – This is a serious, slow developing disease, which fortunately is not often encountered, in cage birds. Symptoms are permanent loss of condition, fluffed out feathers and persistent diarrhoea. Some birds are sluggish, others waste and may eventually die, after a prolonged illness. It is not possible to treat a bird suffering from this, and any birds so affected should be destroyed, and the entire aviary should be very thoroughly disinfected. One of the best ways to do this is to get as much sunlight as possible into the aviary, to be effective the light must not go through ordinary window glass as this removes the U.V. rays which are

the effective part of the spectrum, as the bacillus causing the disease is unable to survive the direct rays of the sun for more than a few days. Since the bacillus lives in aviary dust, it is likely that an ioniser could prove invaluable as these collect all the dust at a convenient point of the birdroom, and you can dispose of it easily. Avian TB can be contracted from wild bird droppings, or from a newly acquired bird suffering from the early stages of the disease. A laboratory test will confirm the presence of the bacillus, and then you must destroy infected stock and burn the carcasses. The aviary should be scrubbed out using a suitable cleaning agent.

Slide 8 "Preen Gland Tumour"

TUMOURS – These are often seen, especially in older birds, and can be either malignant (cancerous) or benign (harmless). Most often they are in the area of the vent, though they can be seen elsewhere. Internal tumours, especially of the kidneys and reproductive organs, are very common, especially in old pet birds. Your vet can remove benign tumours as long as you don't allow them to grow to large, but malignant ones are generally inoperable. Bone tumours occasionally happen, and usually appear as swellings around one or more joints of wings or legs. The swellings do not seem to cause any distress initially, though many are malignant, but due to their situation these can be operated upon, usually meaning the amputation of the affected wing or leg, or perhaps just a portion of it. The majority of birds, especially youngsters, will adapt so fully to the loss of a leg that it will seem as if it has never been any different.

VERTIGO – It seems weird to consider a bird suffering from vertigo, though it may occasionally be the result of egg binding. A hen so affected cannot control her flight, and will crash into everything, and may even be unable to maintain her equilibrium when sat on the floor. Cod-liver oil and lime added to the food should prevent this disease. A hen suffering from vertigo (which is a form of neurosis) should be put into a warm cage with a low roof to discourage flight. Add cod-liver oil to her seed, and often a cure will be effected in a few days. If, however, a week of this sees no improvement, then she is incurable.

VITAMIN & IODINE DEFICIENCY – Vitamin A Deficiency – This can predispose to candidiasis, trichomonas and upper respiratory tract infections as well as drowsiness and lack of vigour, especially in chicks. General condition is poor, with virtually white ceres and a watery discharge from the eyes, which tends to clot. There will be a decrease in eggs hatched, and the rate of deaths among the stock can be high. Provision of

fish liver oils will provide vitamin A, but must be used in moderation, or the result will be: **Excess** – To much vitamin A accumulates in the body, mainly in the liver – grossly excessive amounts are poisonous. Birds will lack appetite, have poor feather growth, and may show swollen wing and leg joints. Continuous feeding of seed covered with fish oils can easily cause this problem – the cure being to drastically cut down on the quantity used.

Vitamin B Deficiency – The vitamin B group is a large complex and it is not easy to differentiate between each one's deficiencies. Generally their deficiency causes stunted growth, poor feathering, loss of appetite and the upsetting of the nervous system. The latter will manifest itself as an inability to balance, partial paralysis and jerky movements. Dried milk and yeast are excellent natural sources and Abidec with Cytacon will completely cover this group.

Vitamin D Deficiency – lack of this vitamin causes rickets, which will make the bird unable to fly and cause its legs to be deformed. Vitamin D can be provided by using fish oil, but another cause of rickets is either insufficient or poorly balanced supplies of calcium and phosphorous. Another name for vitamin D is the "Sunshine Vitamin", and sunlight reacts on the birds skin to produce this vitamin, so lack of natural light can also be a cause. **Excess –** Too much fish oil results in chicks, which lose their appetites, vomit and waste away. In very bad cases, where large quantities of wheatgerm oil may have been added to cod-liver oil, death is the likely result. Obviously, care should be taken not to use too much, and a good rule in giving any type of additive to your birds is "in moderation always".

Vitamin E Deficiency – This vitamin is also known as the fertility vitamin. Most fanciers are familiar with this one, lack of it causes infertility, eggs which do not hatch or the few that are fertile and hatch contain weak chicks with brain damage and accumulated fluid in their tissues, which die in no time at all. The finest source is wheatgerm oil, which can be used in small quantities, but only if you have problems with fertility – if all is going well, don't interfere. Wheatgerm Oil also has the ability to act as an anti-oxidant for such substances as vitamin A. An important point to remember is that excessive use of fish oil can destroy vitamin E, as can the use of rancid wheatgerm.

Iodine Deficiency – Birds deprived of iodine will have enlarged or diseased thyroid glands,. In the early 1960's, research showed that 85% of pet birds were affected, and 20% actually died because of it. The name of this disease is thyroid dysplasia. It was also found that 21% of breeder's birds were affected. The healthy gland is normally about 1 to 2mm at the

widest point, whereas a diseased gland can be as much as four or more times this diameter. Digestive or respiratory problems or blood pressure can result from the increased growth. Occasionally the gland ruptures and the bird bleeds to death internally. Fish oils added to the seed will help, as they contain a good amount of iodine – normal seed does not have an adequate supply. Perhaps an easier way to give iodine is via mineral blocks.