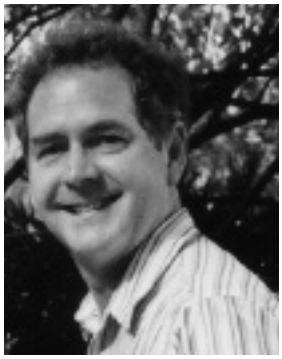
RESPIRATORY INFECTION

AN IF INTERVIEW WITH DR. COLIN WALKER



Dr Colin Walker, of the Knox Bird Veterinary Clinic
Australian Pigeon Company & Aussie Bird Vet Pty Ltd.
Website: www.auspigeonco.com.au
Email: inquiries@auspigeonco.com.au
Address: 11 Henry Road, Wantirna South, Victoria 3152, Australia

If you ask any experienced flier what health problem he fears the most, then if it is the breeding season he will probably say canker, but if it is the race season he will probably say respiratory infection. Respiratory diseases are very common in pigeons. They are the major cause of poor performance and pigeon loss during the race season. Young birds under stress are most at risk of contracting respiratory diseases, although healthy old birds can fall ill when exposed to respiratory diseases in the race basket. Race birds with respiratory infection can be difficult to detect and yet, like a human athlete with flu, cannot compete. When some fanciers talk about respiratory infection, they give the impression that they are discussing a single problem and, yet, several organisms can be involved and often simultaneously. Clinical respiratory infection in pigeons is the end result of the interplay of a number of factors but, in particular, the type of infective organism and the vulnerability of the birds to infection are important . The respiratory system can be infected by Chlamydia, Mycoplasma, bacteria (in particular E. coli), fungi, viruses and mites. The control of some of these starts, in certain lofts, not only before racing and not even during breeding, but right before the stock birds are paired.

Stress is always a big factor. The vulnerability of the pigeon is affected by what stress it is under. Stress weakens the bird, enabling infective organisms to cause clinical disease. The control of respiratory disease is therefore two-pronged.

1. Control of any predisposing stress factors. These can take the form of:

(a) Environmental triggers, e.g. dampness, overcrowding, low hygiene

(b) Management triggers, e.g. poor feeding, excessive tossing, or

(c) Concurrent disease, in particular parasitism. This includes wet canker. The combination of either worms or elevated trichomonad levels and respiratory disease is very common.

The fancier must establish a healthy loft environment, otherwise respiratory disease will continually recur, despite medication.

2. Correct use of appropriate drugs to either eradicate or keep the organism level low so that disease does not occur.

The organisms that infect the respiratory system and how they are controlled are set out below.

CHLAMYDIA

Chlamydia is a microorganism that is found within the system of many pigeons all the time. There are many strains, which vary tremendously in their capacity to cause disease. Lofts tend to have resident strains to which those birds, often through their on-going exposure, have developed an immunity. In such lofts, it is only when the birds are stressed that the Chlamydia is able to flare up and cause disease. It is through contact with other birds (strays, in race units, new introductions) that new and potentially nastier strains gain entry to the loft. Control of Chlamydia is, therefore, double-barrelled and involves the control of stress to avoid resident Chlamydia strains flaring up together with the correct use of medication and the prevention of new chlamydial strains entering the loft.

Control of stress to avoid chlamydial strains, already in the loft, flaring up

A subsequent chapter deals with what constitutes stress and how to avoid it, but essentially this involves on-going good care with good management practices, a good loft environment and control of other diseases, notably the parasitic diseases. Any problem that weakens the birds makes them vulnerable to a chlamydial flare-

up. Sometimes, however, despite the best possible care, because the strain of Chlamydia in the loft is virulent or the family of pigeons is particularly vulnerable (as with some European strains), it becomes necessary to medicate the birds through stressful times to prevent chlamydial flare-ups and the resultant clinical disease. The particular times when these flare-ups are more likely to occur are during breeding, after weaning and during the racing season.

Breeding

Stress for a stock bird is breeding. Stressed stock birds will shed the organisms in their droppings, saliva and eggs. If the Chlamydia is in the egg, the developing embryo is weakened and can either die during incubation, during the hatching process or as a nestling or, if it survives, be a retarded youngster. In a nestbox heavily contaminated with Chlamydia, the developing youngsters become weakened and die. If these things have happened in earlier years, and breeding has commenced, it is too late to treat the stock birds. However, medication (usually doxycycline) can be given before mating to decrease the level of Chlamydia in the stock birds' system. This means that they will then require more stress before they start to shed the organism.

The length of treatment depends on the need, usually 7 - 30 days. If your loft has a history of chlamydial problems during breeding, a prebreeding doxycycline course is a good idea. Chlamydia can be completely cleared with a 30-45 day course of doxycycline. However, this is rarely done because the weaned youngsters will be exposed to the organism later in life and may in fact be more vulnerable to illness through this lack of exposure and the resultant low level of natural immunity. Doxycycline, like other antibiotics, causes disruption of the normal bowel bacteria, interfering with vitamin metabolism and calcium absorption. It is therefore important that preventative courses are completed several weeks before pairing and there is benefit in giving the birds probiotics, vitamins and calcium supplements following them.

After Weaning

The next vulnerable time is the postweaning period, when both weaning and moulting are the underlying stresses. In Victoria, Australia, January to May are the respiratory months. Most lofts contain large numbers of young birds having just had the stress of weaning and now having the stress of moulting, coupled with young bird tossing and racing. It is a time of high humidity and fluctuating temperature, conditions that favour respiratory disease. Between 1 December and 1 March (the usual time that the last youngsters are weaned in many lofts in Australia), fanciers must monitor the youngsters, in particular, for signs of 'one-eye cold', dirty wattles or sneezing. However, green watery droppings, failure to thrive, shortness of breath and a reluctance to fly may also be indicative of the problem.

Because of the disruption to normal bowel bacteria caused by the antibiotics, which can compromise feather quality and check development, and also because of the interference with development of a natural immunity, it is important that only the birds that need medication should receive it. If only a small number are affected, they may be treated individually with doxycycline (Vibravet 50 mg, 1/2 tablet once daily) or Baytril (3 drops twice daily). Once on medication, they stop shedding the organism and so there is no need to isolate them. If one bird has become unwell while the others are okay, it is often a reflection on its vigour. If such a bird fails to respond quickly or relapses, it is unlikely to go on and make a competitive race bird and is often best eliminated. If more than 5-10% of young birds are affected, with fresh cases daily, then all should be treated. Usually doxycycline 12% (1/2 teaspoon per litre for 3-5 days) is used. However, such a situation represents a major flaw in the birds' environment or management and the longer-term solution is not going to be drugs but identification and correction of the underlying cause. In young birds, this is often overcrowding. A faecal examination and a crop flush are a good idea to check for any concurrent disease in addition to reviewing other loft factors.

After 1 March in Australia, as the youngsters get older, fanciers look for signs of poor loft flying, excessive panting after training, and sneezing within the loft. Even in the most healthy lofts, there can be occasional outbreaks of respiratory diseases. It is important to recognize that more than three sneezes within 5 minutes is a significant indicator of early respiratory disease. One would expect two to three sneezing outbreaks between January and May, even in the best managed loft. If there is doubt as to whether a sneezing outbreak is due to chlamydial respiratory infection, a test called a chlamydial antigen test can be done on the droppings by an avian veterinarian. Medication is used during this time as it is from 1 December to 1 March. However, provided the birds are well, medication is best avoided. With on-going good care, the birds are likely to fix themselves and the level of natural immunity they form as a result will be much higher.

DURING THE RACING SEASON

Exposure to new strains of respiratory infection

All lofts are continually being exposed to respiratory infection through the race unit. In the race unit, many different birds from many different lofts mix intimately in a warm humid environment, which is ideal for the transfer of disease. In addition, the confinement, different feeding patterns and time away from the loft stress the birds. As a result, the Chlamydia levels can rise to the point where form is affected.

If respiratory symptoms are noted, all birds are treated with antibiotics (eg Doxy-T, Resfite) for 3-5 days. It is important to treat these outbreaks early before they change into the serious form of respiratory, which can involve, and permanently damage, the air sacs, thus seriously compromising race performance.

Stress-induced flare-ups of resident strains

As mature race birds, it is racing itself that provides the stress, testing the level of immunity formed by the birds. In a well managed loft where drugs have been used correctly, this immunity should be relatively solid by the start of the season. Racing puts this immunity to the test. In race birds, signs of Chlamydia flare-ups are considerably more subtle. The birds are older, their natural immunity is higher and their response to disease is different. The signs observed have been modified by these factors. Birds with respiratory infection have lost their zest for life and this is reflected in their race results. However, many things can lead to disappointing results and, as antibiotics have the potential to make a race team worse, I, like most fanciers, have to be convinced that respiratory infection is present and that their use is warranted. Birds that are reluctant to fly, quiet in the loft and with dry feathers (no bloom) are suggestive of respiratory infection. Sneezing (more than three times in 5 minutes from 100 birds), scratching at the nose, yawning, and wiping the nose on the wing butt all indicate irritation of the upper airways. On opening the beak, the tonsils may be inflamed, a thick white mucus may be extending into the throat from the windpipe or from the slit in the roof of the mouth, which may be closed due to swollen edges, the top of the windpipe may be red and inflamed, the beak at the nostril opening may be wet, the cere may be slightly discoloured or there may be a slightly mucous component to the birds' grunt while the gums or the muscles may be bluish. Chronically infected birds show delayed recovery after a race and will develop green droppings after stress because of damage to the liver. Testing of the droppings usually confirms the diagnosis.

If the loft has not had respiratory problems in previous years, I feel it is best to try and avoid antibiotic medication but monitor the birds closely and treat for 3-4 days if respiratory infection occurs. If respiratory infection during racing has been a problem in earlier years, preventative courses of antibiotics can be given before racing in the same way that they are given to stock birds to decrease the level of Chlamydia in the birds' system so that they are less likely to break down with the stress of racing ahead. Depending on the severity of the problem in earlier years, these courses are usually 7-20 days in length. In such lofts, follow-up periods of medication may be necessary during the season, and a common recommendation is 3 days treatment every third week, with Monday, Tuesday and Wednesday usually being the days to treat such a resident problem. After antibiotic use during racing, the birds should always be given a day on either probiotics or multivitamins.

Prevention of new chlamydial strains entering the loft

New strains enter the loft through exposure to other birds. Stray youngsters and youngsters bought at squeaker sales are always high risk because, due to their age and the stress they are under, they are likely to be shedding chlamydial organisms they are carrying. Strays should be removed immediately and birds introduced deliberately only from reliable sources. By far the main means of exposure is through the race unit. One stray is one exposure. Ten birds going to a race and each sharing a drinker with ten other birds is 100 exposures (i.e. like getting 100 strays in one day). In some situations and, in particular within certain clubs and areas of Australia, it becomes necessary to medicate returning race birds to guard against infection picked up in the race unit.

Management

It can be seen that the appropriate management regime for Chlamydia , including use of medications, varies from loft to loft depending on each loft's earlier problems and particular loft-based factors. An example is what I do with my own birds. My own loft is based on an established Australian long-distance strain. Chlamydia is not a big problem. I do not medicate my stock birds before pairing because I do not have chlamydial problems during breeding. If I did, however, I would treat for 7-21 days before mating as the need dictated. I get three to four youngsters per year with eye colds and these are individually treated with Baytril (3 drops twice daily). To date, these have responded promptly. My race loft is very enclosed, which gives me good control over the loft environment and enables me keep it as close to ideal as possible. Draughts, temperature extremes and high humidity can be avoided. I would like to think that I care for my birds well. Under my system of management during racing and with my loft environment, the resident chlamydial strains do not flare up during the race season and so I do not treat preventively before racing. I do, however, have intermittent flare-ups of wet canker and the birds are regularly checked and treated through racing for this. I feel that with inadequate control of this, because of the trichomonads parasitic, i.e. weakening, effect, it is likely that the Chlamydia would also become a problem. I check my birds droppings once or twice weekly and the birds are monitored closely for signs of respiratory infection. If a respiratory infection became established, the birds would be given a 3-5-day antibiotic course. My returning race birds are not treated for respiratory infection because, to date, this has not been a problem. However, if it was a problem, I would treat them.

MYCOPLASMA

Mycoplasma is a problem of the race season. It is what is called a primary erosive disease. Many vets agree that Mycoplasma by themselves do not cause disease and, in fact, in experiments in which healthy pigeons have been deliberately infected, the birds have not become sick. However, the organisms do superficial injury to the lining of the respiratory system, enabling secondary organisms, notably Chlamydia, bacteria (such as E. coli) and fungi (such as Aspergillus), to become established. In this way, Mycoplasma, although not directly affecting health, has a big effect on race performance. Failure to control the problem in an affected team renders all attempts at success hopeless. Some Dutch vets state that as many as 90% of teams are affected and teams are presumed to be affected unless they have been recently treated. Pigeons harbouring Mycoplasma organisms cannot achieve superhealth and are prevented from achieving top racing results.

Mycoplasma are primary pathogens of the respiratory system and the signs displayed by the birds depend on the part of the respiratory system affected. In the throat, nose and windpipe, signs are similar to those described for Chlamydia earlier. However, Mycoplasma notably causes inflammatory changes in the top 20-30% of the windpipe, causing mucus to accumulate there and birds that have a broken grunt or sound mucousy in the upper airway always make me think of Mycoplasma. Where the airsacs are affected, the birds cannot properly breathe and so even moderate exercise is tiring and sometimes forces the birds to land on the nearest available surface, which may be a tree or building near the loft. Because of the difficulty in breathing, the gums and muscles can turn blue and because of the inability to exercise, muscle tone and race fitness cannot come. The airsacs regulate fluid within the body by controlling evaporation of moisture from their surfaces. When diseased, excessive moisture is lost and the birds, therefore, need to drink more even after moderate exercise, or run the risk of dehydration. Often, however, signs are very subtle and may simply be deteriorating performances.

Like Chlamydia, Mycoplasma are more likely to cause disease when the birds are stressed. Most lofts do have resident Mycoplasma strains and new Mycoplasma strains can enter the loft through contact with other birds. Mycoplasma is a difficult disease to diagnose in the live bird. Only certain labs culture Mycoplasma, which is an expensive procedure. Blood tests are used to diagnose the condition in chickens. There are changes at autopsy, both grossly and microscopically, that are suggestive. Changes are also found on faecal smears and crop flushes of affected birds, which are discussed in other sections of this book. A good response to a short treatment trial with Doxy-T (see Medication Guide) also supports the diagnosis

Management

What should the fancier do if the problem is diagnosed?

- A health profile, i.e. examination of the saliva and droppings, to assess any concurrent disease that may need treatment and general on-going good care to ensure a good response to medication.
- A gradual return to exercise. Always with respiratory infection there is an extended convalescence of usually 1 - 3 weeks. The birds must be given time to recover their fitness once medication has cleared the infection. They should not be forced to fly around the loft and once it is apparent that their vigour for flying has returned, initially short tosses only should be given (less than 1/2 hour). Observe the birds closely for signs of breathlessness on landing from these tosses and only when they are handling these well should longer tosses be given. When managing tosses of 1-1 1/2 hours well, it is usually safe to resume racing. In well-managed lofts with no other health problems, response to treatment can, however, be dramatic and I have had an interesting experience where two flyers both diagnosed with Mycoplasma in their teams succeeded in gaining 1st and 2nd Federation (3000 birds) in an all-day 500-mile race 3 weeks after treatment.
- Good food, good care and an appropriate multivitamin supplement speed recovery.
- Medication. The choice of drug is sometimes dependent on the involvement of secondary organisms such as Chlamydia and E. coli. Baytril can be used with care during racing. Other antibiotics such as doxycyline, Tiamulin or Tylan are effective. However, the current recommendation is that doxycycline and Tylan combined be given. An initial course of usually 5-10 days is given depending on the severity of the infection with several follow-up courses, usually 2-3 days every 2-3 weeks until one is sure that the birds are well. The usual preparation used in Australia is Doxy-T which contains doxycycline and Tylan.

In some Federations in Australia, there is significant risk of picking up nasty Mycoplasma strains in the race basket. In these areas and Federations, antibiotic combination medication is given throughout the season to control the problem, usually for 2-3 days every 2-3 weeks depending on the severity of the problem and the control achieved.

Dr Colin Walker established the Australian Pigeon Company in 1994, to develop, manufacture and distribute a range of veterinary medicines and health supplements for pigeons. Dr Walker's veterinary expertise, together with his knowledge of the requirements of pigeon racers, gathered through experience of his own race team, place him in the unique situation to develop such

products. The result is a range of quality products made for the pigeon racer and based on sound veterinary knowledge.

A summary list of the most popular and widely used products follows, together with information on the common diseases and the best way to use these medications in their control. The most common health problems encountered in pigeons are canker, respiratory infection, Coccidia, worms and external parasites.

The medications that are used to control these are:

1. **Baycox Coccidiocide Solution**: Toltrazuril-based, this effective Coccidia medication requires only a 2-day treatment course; safe to use during all stages of the pigeon year.
2. **Turbosole:** The safe, effective, quick-acting treatment for canker. The medication of choice during breeding, racing and moulting.
3. **Doxy-T:** A blend of Doxycycline and Tylan. Recommended by veterinarians worldwide as the medication of choice to treat and manage the respiratory infection complex during racing.
4. **Resfite:** The antibiotic blend of choice for respiratory infection in young birds.
5. **Moxidectin:** A clear water-soluble wormer that not only eliminates roundworms and hairworms but also eradicates all external parasites (including airsac mites) that feed off body fluid. Readily taken by the birds, there is no need to withhold food. The wormer of choice during racing, breeding and moulting.
6. **Permethrin:** A pyrethroid insecticidal spray that can not only be used to spray or dip the birds but also to spray the loft.
7. **Moxidectin Plus:** A moxidectrin/praziquantel water-soluble worming solution that also treats tape worms.

All of the medications listed in the article are available in the USA through Siegel's, their phone number is 1-800-437-4436.