

The Maintenance Part 4

Respiratory Infection

Of all the health problems that can compromise a team's performance, an infection of the respiratory tract is perhaps the most subtle and yet potentially the most serious.

Any pigeon fancier who has raced pigeons for more than a couple of years will be able to recognize the obvious signs of respiratory infection displayed by a youngster - signs such as red watery eyes, nasal discharge, discoloured ceres, swollen sinuses and persistent sneezing. In older pigeons simply because they have lived longer they have a more mature and competent immune system and in the majority of cases already have established a significant immunity to the organisms that affect the respiratory tract. Because of these factors their response to respiratory infection is considerably modified and the signs they display are considerably more subtle. Often the only signs shown might be an increase level of sneezing in the loft or simply just reduced race performance or increased losses. A respiratory infection in an adult may not make the bird look outwardly unwell but it can have a big effect on race performance.

The term respiratory infection is a terribly broad one and simply implies that some agent has infected part of the respiratory system. Lots of agents have the potential to be involved here including bacteria, fungi, and viruses but to most pigeon vets what we are talking about is an infection of the respiratory tract associated with Chlamydia and Mycoplasma and sometimes complicated by bacteria such as E.coli.

Chlamydia is a strange organism. It is not a bacteria and yet is killed by some antibiotics. The organism has an infective stage called an elementary body that can survive in the environment and is the thing that pigeons "catch". Once inhaled or ingested this stage invades through an epithelial cell (the cells lining the mouth and eyelids), where it changes into another stage called a reticulate body. The reticulate bodies then multiply up before rupturing through membranes of adjacent cells spreading the infection further and further until many, many cells are infected. At some stage they rupture through an external surface, become elementary bodies and are shed back into the environment in the bird's saliva, tears, and droppings ready to infect new birds.

There are lots of strains (or serovars) of Chlamydia that vary in their ability to cause disease and most lofts have some resident strains that the pigeons in that loft become immune to. In most lofts there is a low grade ongoing exposure to the resident Chlamydial strains and in most cases disease does not occur. This ongoing exposure simply strengthens the developing immunity particularly in the growing young bird. Disease occurs usually in the form of "eye colds" in young pigeons if the birds come under stress or alternatively if the birds are exposed to a new strain of Chlamydia that they have not been exposed to before and therefore cannot have formed an immunity against. Examples of stress include overcrowding (particularly in young birds), poor hygiene, poor parasite control, poor diet, and high humidity. New Chlamydial strains enter the loft through deliberately introduced or stray birds. The difficulty in managing respiratory infections during racing is that racing itself exposes the birds to the very things that predispose to respiratory infection i.e. stress (time away from the loft, risk of predation, exertion, altered feeding pattern) and exposure to lots of different Chlamydial strains through the intimate mixing of birds from lots of different lofts.

The potential for disease exposure is enormous. For a fancier to think that in some way his birds are unique and will not be bothered is very ill informed.

The other agent involved with respiratory infection is Mycoplasma. The interesting thing with Mycoplasma is that if you give them to pigeons they don't usually make the pigeons sick. What the Mycoplasmas do, however, is inflame and damage the lining of the

respiratory tract sufficiently that other agents like Chlamydia find it that much easier to invade. In this way they do not actually make the birds sick but have a big effect on race form. If a pigeon has inflamed airsacs it cannot move air to the lungs efficiently making normal oxygenation of the blood difficult and premature fatigue a certainty. It's a bit like running a marathon with asthma. If a pigeon has inflamed sinuses (the area behind the cere and around the eye) like any inflamed area it becomes more sensitive. This is why pigeons with sinus infections sent to a head wind race particularly a cold head wind are easily lost. It must be a bit like a "brain freeze" for us when we eat ice cream.

Years ago it was not only hard for the fancier to recognize but also hard for the pigeon veterinarian to accurately diagnose and also correctly treat respiratory infection. These days not so much so.

What should the fancier do?

There are two options really. Either the fancier can have his birds regularly checked by an avian vet or if he is confident in his ability to recognize the early signs of respiratory infection, he can monitor his birds closely and if concerned then see his vet. There is a third option - that is to do nothing and just hope all will be ok. I don't really see this as an option. Respiratory infection is just too common. Sooner or later it is likely that exposure will occur and good birds will be lost. Regular testing does no harm and is certainly the way to go for fanciers who don't like to treat their birds. Treatment is only given when the problem is protected.

What will the vet do?

Simple tests for the vet involve aspirating some mucus from around the choana (the slot in the roof of the mouth) and throat area. With respiratory infection inflammatory material will drain through the slot into the mouth or be coughed up into the throat from an inflamed windpipe lining. Microscopic examination of this mucus by the vet, under the microscope will often (but not always) reveal inflammatory cells and bacterial infection. Several birds should be tested so that the results can be extrapolated for the whole team. A drop of blood can also be drawn to accurately check for Chlamydia (as outlined in an earlier article). If the throat test and Chlamydia blood test are negative the birds probably don't have a respiratory infection. If there is some doubt a variety of further tests are available such as culturing the bacteria from the throat (to see if disease causing ones are there), doing a white cell count on a blood sample (it will be high if there is an infection), taking an x-ray (airsac infection can be seen) or drastically .sometimes autopsying a bird. Although these further tests are available, they are expensive, take time, are not routinely done and reserved for the more difficult or unusual cases. Usually a throat swab (which takes about 5 minutes) and a Chlamydia test (which takes about 4 hours) is all that is required. I strongly urge fanciers to have these regularly done through racing. The hope is that regular checks will detect the problem before it has done much harm, bad races are experienced and good birds are lost.

I note that many fanciers often associate panting with a respiratory infection. Certainly birds with a respiratory infection are more inclined to pant, particularly after moderate exercise. It should be remembered however that virtually all diseases sap energy and predispose to fatigue and panting. I find sneezing a much more reliable indicator of respiratory infection. Sneezing is a direct indicator of sinus irritation. The best time to assess this is just before dark. Stand quietly in front of the loft as the birds are settling and listen for sneezing. More than 3 sneezes in 5 minutes from 100 birds is suggestive of the problem. Also note that not all birds with nasal discharge will have a respiratory infection. When birds are exercised in cold weather the warm exhaled breath will condense on the cold outer surface of the beak often to the point where fluid will drip from the end of the beak.

Medication

Respiratory infections are treated with antibiotics. No one wants to give their birds antibiotics unless it is really necessary and we certainly don't want to give antibiotics (or any drug for that matter) that would put the team off form. Most antibiotic preparations

available to treat respiratory infection are blends of doxycycline, tylosin and spiramycin (also called suanovil). Doxycycline is the antibiotic of choice for Chlamydia, tylosin is the antibiotic of choice for mycoplasma and spiramycin is commonly used to treat secondary bacterial infection. At my clinic we supply all of these antibiotics in various combinations. "D" is straight doxycycline, "D-T" is a blend of doxycycline and tylosin, "R" is doxycycline and spiramycin and "TV" is a triple blend of doxycycline, tylosin and spiramycin. Which one is actually prescribed depends on the nature of the problem in the loft. Treatment courses are usually 3-7 days and we always recommend that a follow up treatment of a concentrated multistrain avian origin probiotic such as "Probac" is given. This is because all antibiotics cause some disruption of the normal bowel bacteria. These will reestablish in a few days once treatment is withdrawn but of course during racing we want the birds back in form as quickly as possible. Giving "Probac" floods the bowel with good bacteria and reestablishes the normal population promptly.

Prompt diagnosis and treatment can often result in a rapid response and quick recover. A delay in effective treatment means that race form and fitness is lost. This means that not only does the respiratory infection have to be brought under control but then fitness be reestablished. The more advanced the respiratory infection is at the start of treatment then the longer it will take to respond. Once the infection is resolves, fitness can then be reestablished, usually within 2-3 weeks.