

# **Rat Respiratory Guide** — by Stella Hulott, CavyRescue.co.uk

**Respiratory disease is a horrible disease, and one of the most common causes of death in pet rats. While we certainly do not profess to be vets, we have had lots of experience of dealing with this 'curse'.**

Also, many fellow rat lovers we talk to have often lost a pet rat due to respiratory problems, despite having seen their vet and trying various medications. However, with new research and treatments for respiratory disease in rats coming along – a lot of it from the US –this article may help your vet and be a useful resource for your vet.

While we cannot profess that the medications and treatments that we will speak about do cure respiratory problems in rats 100%, we've had hundreds of rats with this disease who have lived a full and comfortable long life. Many of these have often been on full time medication or the disease has gone into remission.

**Here we highlight how we treat our rats - all treatments and methods are approved and under supervision by our own vet. Under NO circumstances are we suggesting you go out and try these treatments and methods without first consulting your vet .. it's just that these tried and tested treatments may give your vet other avenues to try when treating your pet rat.**

As a rat rescue, whenever we rehome rats, we make sure the new homers are fully aware of what it is; what to look out for; and what to do next.

There are different strains of the disease, but basically it is something all domestic rats are born with. It can lay dormant until something triggers it off - stress, poor husbandry, or simply nothing. We often see it in rats where their cage mate has died and the survivor is grieving.

It can be fatal if left untreated, or a rat can live with it, but may experience lung damage or abscesses may develop on the lung which will eventually lead to death.

Or, a rat can be 'cured' (we use 'cured' in quotation marks as a rat can never really be cured of the disease but the symptoms can be controlled) and go onto to a live and a full and healthy life. Some rats may experience a permanent head tilt from the infection, but adapt easily (such as our very first rat, Baz, who died a very old rat from old age. When he arrived at CavyRescue, he had a head tilt due to respiratory disease).

## What to look for

The symptoms can come out of nowhere..one minute your rat is fine, the next day, the symptoms are there:

- noisy breathing - you may first hear it when they sleep
- a rattly or watery sound when they breathe/move around
- excessive sneezing accompanied with red staining around the eyes and/or nose
- lethargy and loss of appetite
- weight loss
- a silent 'hiccupping'
- breathing not just from their sides (which is normal) but where their head moves too

If your rat shows any of these symptoms, get them to your vet as soon as possible. The earlier you start treatment, the better prognosis for your rat.

## Bedding

The type of bedding that your rat is on could be causing a problem. NEVER use woodshavings or sawdust, nor anything 'scented'. Dusty products like woodshavings can be breathed in and irritate the lungs and scented products – particularly pine – can do the same. If you use sawdust or wood shavings in their cage, stop using it and switch to a safe product such as paper based cat litter – Biocatoleet - or a cardboard bedding such as we use from Ecopetbed or Finacard.

## Treatment

Some vets recommend putting antibiotics in the rat's drinking water. However, you cannot guarantee that the rat will get enough of the antibiotic in their system this way, and as it is watered down, it does lose its potency.

Also, rats do 'pee' a lot, so the antibiotics will move through their system too fast to do a lot of good.

First of all, check out your rat's environment. Rats are susceptible to draughts, direct sunlight, and smells. Their cage should be somewhere airy, but not close to a radiator as the heat can dry out their lungs, causing - or exacerbating - respiratory problems.

While the room should be humid, the cage should not be in a room where washing is dried. The right temperature for a ratty is ideally around 21 degrees (around 70) and we recommend you place a fresh bowl of water next to their cage to increase humidity.

Medication-wise, we administer 0.3ml of 2.5% oral baytril twice a day to the affected adult rat, (for smaller rats, we use 0.2ml. For kittens and juveniles under 12 weeks of age, baytril is not recommended as it can affect bone

growth. We have never used it, but Septrin is used by a lot of rat owners with rats under 12 weeks of age). The dose should be dosed either via syringe, being careful not to choke the rat on their own tongue as they have no gag reflex or, if they refuse or get stressed, we syringe it into a small piece of bread, cheese, jam or similar. (Anything to mask the taste).

Refrigerate the baytril - this tones down the bitter taste and will make your rat more likely to take it.

If the rats sound like they are mucus-y, we also add a generous pinch of bisolvon - a powder mucus-fighting drug - to their food twice a day.

**We now also use metacam. Used alongside baytril, one or two drops of metacam twice a day can help reduce inflammation and it is has been used successfully in the States on rodents for some while now. However, if your rat is on steroids, you cannot use metacam and steroids together as they can cause gastric bleeding which will lead to death.**

This combination of drugs we do twice day for 10 days. We normally see an improvement after 3-5 days. If after ten days there is no obvious improvement, after getting the rat checked over by the vet again, we take one of three avenues:

## Treatment 1

We use this combination of drugs for at least three weeks. We have had great success in controlling respiratory problems in rats with this and currently have 20 rats on this permanently:

- half a marbocyl 5mg once a day
- an eighth of ronaxan 20 twice a day

Plus, either prednisolone\* (1mg tablets), typically half a tablet twice a day OR one or two drops of metacam twice a day. (See further on for more information).

We have also started using Corvental D capsules, a drug that helps open up the bronchial airways allowing the rat to breathe more easy. The capsule consists of tiny 'balls' and an average size rat we give 5 'balls' twice a day.

\* Any rat on steroids needs to be carefully weaned off them, so make sure you never run out of tablets. By stopping them without weaning a rat off them, can be fatal.

## Treatment 2

In 2003 we also started using a drug called Zithromax Suspension. (Your vet will need to calculate the measurements for you. as to make it up, you mix the powder with water). We have used it two different ways...for a short-term

case, you administer 0.3ml of the mixture once a day, orally, for three days, then it stays in the system for up to 10 days, attacking the bacteria.

For long term treatment, we administer 0.2ml once a day for 20 days. One of our rats, George, showed a vast improvement on using this method, his weight increasing by 25% in just over a month and the other symptoms lessening drastically!

### **Treatment 3**

We get the rat's chest x-rayed. This will confirm what is actually going on inside the rat and in most cases, it will be respiratory disease. However, we have had instances where the symptoms – normally lethargy and a rattly or unusual sound when breathing – have actually been something else.

Doris came to with her sister and was a year old rat whose breathing was very noisy. When baytril didn't work, we had her x-rayed which showed a lung tumour. While we couldn't actually treat the tumour, we knew then what we were dealing with so made her as comfortable and happy as possible. She lived another 6 months.

Kolin was a tiny rat in a pet shop when we saw him. He was hunched over, breathing heavily and when you got him out, he just sat there (definitely not normal for a 6 week old rat). An x-ray showed a tumour in his thymus (which is situated in the neck area and plays an important role in the development of the immune system).

Our vet's prognosis wasn't good, but we started Kolin on a course of prednisolone as well as keeping a close eye on him for infections as his immune system wasn't obviously working well. Kolin is now 22 months old and while another tumour has now developed under his back leg that cannot be removed, he is still thriving.

Lisa and Sabe also had this condition which is not so uncommon in rats. Sadly, Lisa only lived to 4 months old, but Sabe went on to aged 3S, being put to sleep after suffering a severe stroke.

We are firm advocates of having rats x-rayed as it gives us a good basis on which treatments and medications to use.

### **Treatment 4**

If the vet agrees – as each rat is different and nebulising may have an adverse affect on them - we nebulise the rat. Depending on the severity of the problem, we start off 3 - 4 times a day for the first three days, dropping down to 2 - 3 times for another four if there are signs of improvement.

By putting them into a nebulising chamber, they are breathing in ONLY the treatment, meaning it can get right into the system and, hopefully, deal with the problem.

We use 4ml of 2.5% injectable baytril with 10ml of water. For a more aggressive treatment, we use .05ml of Tylan (a drug used to treat a similar bacteria in birds) with 10ml of water.

However, it should be noted that while we have used this treatment for the last three years, recent studies in the States show that while nebulising does get the drugs deep into the system, it only goes so far internally. These studies suggest that even using saline on its own is just as good as it moistens the lungs.

### **Could it be a heart problem?**

Many rats show signs of respiratory disease which are in fact heart disease/fluid around the lungs. With such similar symptoms, it is very difficult to diagnose which it is. However, if a rat sounds 'watery' or has fluid coming out of his nose - it could be fluid around the lungs causing the heart not to work properly. Your vet can prescribe some Furosemide (40mg/5ml solution) - a liquid drug that we give to some of our rats. We give 15 units twice a day using a 0.5ml syringe.

If your rat picks up after a week or so, you know that the Furosemide is working. It is a diuretic and so your rat will need lots of fresh water. It is okay to use long term, though it is better to get your rat down to a 10 unit dose twice a day if you can.

### **Complementary medication**

There are other drugs that we have used along side the various treatments such as:

- Metacam – one to two drops twice a day can help ease inflammation in the lungs. **WARNING:** It must never be used in conjunction with prednisolone as it can cause gastric bleeding
- Prednisolone (which is part of the steroid family that can be used to treat inflammatory conditions) in 1mg tablet form. This can help ease the symptoms, using approximately half of one tablet twice a day for 10 days with the aim of reducing the dose gradually over several weeks to half a tablet every other day. **WARNING:** Any rat on steroids needs to be carefully weaned off them, so make sure you never run out of tablets. By stopping them without weaning a rat off them, can be fatal.
- Bricaynl - syrup form - (a bronchodilator). On an average 400g rat, you start with 0.1ml twice a day gradually increasing over to a week to 0.3ml twice a day). We have used this long term with success
- Bisolvon - powder form - this helps thin the mucus in air passages. We use a pinch once or twice a day for a week

- Aminophylline – 225mg tablet form - another bronchodilator where we crush up a tablet and use just a pinch once a day to ease symptoms

## **Case Studies**

### **Nebulising**

Otis, a big, brown 9 month old rat who suddenly developed a severe respiratory infection that antibiotics could not shift. You could hear him 'rattling' from the room next door and we genuinely believed we would lose him.

At the same time our wonderful vet put Otis on his nebuliser 3 times a day for a week. Otis went on to live to the ripe old age of 25 years, having sporadic reoccurrences of slight respiratory problems. This we treated with oral medication.

### **Oral Baytril administered by mouth or in the food**

Kojak, Luther, Stripe...our list of rats who we have successfully treated this way goes on and on. (Remember, we run a rescue so have rats coming out of our ears!)

As soon as a rat shows symptoms of respiratory disease, we start them on a course of oral baytril. In 80% of these cases, after a week on antibiotics, no further treatment is needed. The other 20% go on to have alternative treatments and medicines.

### **Marbocyl and ronaxan combination**

Hutch came to us aged 9 weeks old and severely ill with respiratory problems. X-rays showed cloudy, unhealthy lungs. After 3 months of the above combination, his symptoms disappeared! Like Otis, he had reoccurrences of the disease throughout his life and he went straight back onto the medication when this happened. We recently lost Hutch aged 28 months due to fluid around his lungs but he really could not have had a fuller, happier life if it wasn't for the drugs.

Roland came to us in January 2005 aged 4 months, underweight and hardly moving as he was so breathless. An x-ray showed just one lung was working – the other was so severely scarred due to respiratory problems that it was useless. He reached the grand old age of 28 months and was a confident, chunky little rat who could keep up with his brother Baldrick racing around the place. He was on the marbocyl/ronaxan combination with a low dose of prednisolone.

## **Summary**

We hope this has helped. While we have given doses for medications and names of drugs, these are for you to discuss with your vet and never to be

tried out without consulting your vet first. It may also give him or her other ideas on treating this nasty disease.

As with humans drugs, even if your rat shows signs great signs of improvement, make sure that you finish the course!

This guide is no way intended to undermine your vet's recommendations for treatment or expertise..these are just different ideas that they may find helpful.

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