

Mycoplasma Infections in Mice and Rats

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Infections with *Mycoplasma pulmonis* are highly contagious and among the most common causes of respiratory disease in mice and rats. *Mycoplasma pulmonis* may be the sole organism causing disease, or more often, there may be a mixed infection with certain viruses (especially Sendai virus) or other bacteria. *Mycoplasma* are different from many other bacteria in that they have no cell wall and are therefore very sensitive to drying, heat, and disinfectants, and cannot survive for long outside the body. An infection with *Mycoplasma* is termed "mycoplasmosis."

How is *Mycoplasma pulmonis* transmitted?

Mycoplasma pulmonis bacteria are present in the upper respiratory tract and reproductive tract in many apparently healthy rats and mice. These animals act as carriers of the organism, spreading the bacteria during close contact (during mating or nursing young) or as aerosols through the air. Baby mice and rats may also become infected during the birth process in which they come in contact with the bacteria in the mother's vagina.

What are the signs of mycoplasmosis in mice and rats?

There are three different ways in which a *M. pulmonis* infection may appear in mice and rats. In the first, only the upper airways are involved. Animals will sneeze, sniffle, squint, and have a thick discharge from the nose. They may have [red tears](#). The infection can spread to the middle or inner ear, which may cause a head tilt.

In the second form, there is also lung involvement. Pneumonia with thick discharge in the lungs and airways and difficulty breathing can be seen in these animals. There are different strains of *M. pulmonis*, some causing more severe disease than others. Death can result in some cases. In those animals that survive, chronic lung problems often occur. Some infected mice may develop abscesses in the lungs. With chronic disease, in addition to respiratory signs, animals often have a poor or ruffled hair coat, weight loss, red tear production, loss of appetite, and weakness.

M. pulmonis infections of the reproductive organs may cause infertility, reduced fertility (small litters), or abortions. A uterine infection in which the uterus fills with pus (pyometra) may develop in some females.

How is mycoplasmosis diagnosed?

Diagnosis is generally made on the basis of the history, signs, and a physical examination. Because animals with this disease often have severe difficulty breathing, extended examinations or attempting to obtain samples of the discharge for laboratory testing are often too stressful for the animal. If specimens are obtained for culture, special media (nutrients on which the bacteria grow) and laboratory environmental conditions are necessary.

How is mycoplasmosis treated?

Antibiotics are used in treatment and they may reduce the signs of disease, but generally do not eliminate the *M. pulmonis* bacteria. Therefore, respiratory signs often recur at various times throughout the animal's life. The antibiotics may help eliminate other types of bacteria that are contributing to the disease.

Historically, antibiotics were added to the drinking water. However, it has been found that affected animals often do not drink well because the antibiotics change the taste of the water, or the animal is too ill or weak to drink. For that reason, most veterinarians recommend administering the antibiotics orally, usually with a dropper or syringe.

How are *Mycoplasma pulmonis* infections prevented?

Proper husbandry including good [nutrition](#) can help reduce the risk of *M. pulmonis* infections. Unsanitary conditions in which there is a buildup of ammonia, which is irritating to the respiratory tract, can increase the risk of *M. pulmonis* pneumonia.

Does *Mycoplasma pulmonis* infect humans?

Although *Mycoplasma pulmonis* may be found in the nasal passages of some individuals, it does not cause disease in humans; other species of *Mycoplasma* do.