

Respiratory Disease in Rats

What are the causes of respiratory disease?

Respiratory disease caused by infectious agents is the most common health problem in rats. There are three major pathogens that cause clinical disease:

- *Mycoplasma pulmonis*
- *Streptococcus pneumoniae*
- *Corynebacterium kutscheri*

There are other bacteria, fungi, and viruses that can affect rats as well, but they do not typically cause clinical disease alone.

These respiratory pathogens produce two major clinical syndromes: chronic respiratory disease (CHD) and bacterial pneumonia

Symptoms of CHD (also known as murine respiratory mycoplasmosis)

Symptoms are highly variable. In many cases rats can remain asymptomatic. Initial infection commonly occurs without any clinical signs. Rats may live 2-3 years with CHD. The prevalence and severity of symptoms often increase with age and stress. The most frequent lesion of CHD is bronchitis.

- Snuffling and/or nasal discharge
- Panting, increased respiratory effort
- Weight loss
- Hunched posture, ruffled coat
- Head tilt
- Red tears

Symptoms of bacterial pneumonia

- Difficulty breathing and abdominal breathing
- Snuffling and nasal discharge
- Sudden death

How is respiratory disease diagnosed?

The diagnostic recommendations from your veterinarian will be made based on physical exam findings, often on a case-by-case basis.

- Physical examination
- Radiographs (x-rays) to look for evidence of pneumonia
- CT scan to look for evidence of airway inflammation or chronic lung damage from CHD
- Bacterial culture or cytology of respiratory secretions to look for evidence of pneumonia
- Serology to diagnose *Mycoplasma*

How is it treated?

- Broad spectrum antibiotics
 - Frequent and repeated treatment may be necessary
- Anti-inflammatory medication and bronchodilators
- Improving environmental conditions and reducing patient stress
- Treating any other underlying medication condition

How can I prevent ?

Mycoplasma (the causative agent for CHD) infection is very common among pet rats and highly contagious. Rats that survive initial infection will frequently develop latent (dormant) infection. Recurrence of disease is common, and infected rats can be a potential life-long source of disease spread.

Exposure to inappropriate environment and stress can increase the risk of clinical respiratory disease. Rats require adequate ventilation and low dust, non-aromatic bedding. Maintain room temperature from 65 to 80° F and humidity between 40 to 70%, and clean the cage frequently to minimize ammonia fumes. Obesity can also exacerbate clinical symptoms.