



VETERINARY HOSPITAL & HOTEL

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## Obstructive Lung Disease of Cats: Asthma and Bronchitis

### Overview

Obstructive and allergic lung diseases affect many cats and are sometimes called asthma, bronchitis, or bronchial asthma. Unfortunately, these diseases are not easily classified and probably represent a variety of lung disorders. They do share a common finding of “hyper-responsive” (over-reactive) airways.

When the airway of the cat is sensitive to certain stimuli, exposure to these agents leads to *narrowing of the airways*. The inciting agents are usually direct irritants to the airways or things that provoke an allergic response in the respiratory tract. Regardless of the cause, the end-result is the same: muscle spasms in the bronchi (breathing tubes), buildup of mucus, and accumulation of cellular material. In particular, the inability to clear the bronchi of this material leaves the cat susceptible to secondary infections.

The cat is most stressed during the period of expiration (exhaling). The difficulty with expiration is typical with obstructive disease of the lung. Air may become effectively trapped in the lungs, causing them to over-inflate. In some cases, this trapping leads to development of emphysema in the cat.

### Contributing Factors

Obstructive lung disease is most common in cats from 2 to 8 years of age. Female cats and Siamese cats seem to be more susceptible.

### Clinical Signs

Coughing and respiratory distress are the most commonly reported signs with obstructive lung disease. Coughing is a significant finding since there are relatively few causes of coughing in the cat. Also, many cats assume a squatting position with the neck extending during these coughing episodes. Wheezing is easily heard with the stethoscope and is sometimes so loud that it can be heard without a stethoscope. Occasionally, sneezing and vomiting are noted.

### Causes

As mentioned above, this group of diseases is characterized by hyper-responsive airways. The small breathing tubes (bronchi and bronchioles) can react to a number of stimuli, such as:

1. Inhaled debris or irritants - dust from cat litter, cigarette smoke, perfume or hairspray, carpet fresheners, and perfumes in laundry detergent
2. Pollens or mold
3. Infectious agents - viruses, bacteria
4. Parasites - heartworms, lungworms

### Diagnosis

Several tests may be performed to achieve a diagnosis of allergic lung disease in the cat.

1. Minimum data base (complete blood count, blood chemistries, fecal exam and urinalysis). These tests help to assess the general health of your cat and may provide clues as to the underlying cause. One particular type of white blood cell, the eosinophil, is commonly associated with allergic events and may provide support for a tentative diagnosis of asthma. Also, in cats in certain geographic areas, special tests will be performed on stool samples for evidence of lungworms.
2. Heartworm test. This is not indicated for all cats, as heartworms are rare in some parts of the country. In areas where they are common, however, strictly indoor cats *are* still at risk.

3. Feline leukemia and feline immunodeficiency virus tests. These tests are helpful in determining the overall health of your cat.
4. Thoracic radiography (chest X-ray). Characteristic changes in the lungs are common on x-rays. Also, the x-rays can be suggestive of heartworms in some cases.
5. Bronchoscopy, cytology, and airway lavage (washing). Bronchoscopy is a procedure that allows us to look down the airways of the anesthetized cat with a fiberoptic scope. After a visual examination of the airway is completed, the lining mucus of the bronchi may be sampled with a small brush. The mucus can be examined under a microscope (cytology). Finally, a small amount of sterile saline can be flushed into the airways to retrieve samples of material from deep in the lung. This material can be cultured for micro-organisms and can also be carefully studied under the microscope. The sediment can be evaluated for evidence of lungworms.

In some cases, an underlying cause cannot be identified, despite a thorough diagnostic workup. Even when the underlying cause is not identified, many cats can achieve a reasonable quality of life with medical management.

Some owners decline the complete workup for a variety of reasons. In such cases, it may be acceptable to treat the cat with a course of corticosteroids (cortisone) since most asthmatic cats respond very favorably. However, these medications can complicate the management of cats harboring secondary bacterial infections; therefore, prophylactic antibiotics are reasonable in cases where a workup cannot be performed. In addition, cats that are coughing due to heartworms often improve with corticosteroids. Without heartworm testing, they may go undetected.

### **Treatment**

Successful management of allergic lung disease employs several therapies.

1. Any factors known to trigger or aggravate breathing problems should be avoided. In some cases, this may mean trying different brands of cat litter, eliminating cigarette smoke from the home, etc. The list above (see "Causes") details some factors that should be considered. It is important to pay close attention to environmental factors that may aggravate the condition.
2. Bronchodilators. These drugs are used to open the airways and allow the cat to move air more freely. They should be used faithfully and as directed to obtain maximum effect.
3. Corticosteroids. Corticosteroids have a beneficial effect on decreasing inflammation, dilating the airway, and decreasing mucus production. In many cats, they are given daily. When the cat does not take tablets well, long-acting injections can be given. These drugs have potential for some side effects, but this problem is much less in cats than in humans.
4. Emergency treatment may employ bronchodilators, oxygen, rapid-acting glucocorticoids, and epinephrine. *When the cat has heart disease, the attending veterinarian should be advised since epinephrine is best avoided.*

### **Prognosis**

Cats with obstructive lung disease are usually manageable. Sometimes "cure" may be achieved if a specific underlying cause can be identified and treated. Extreme respiratory distress constitutes an emergency, and the cat should receive immediate attention.

**Web Site:** [www.felineasthma.org](http://www.felineasthma.org)