

## Asthma in Cats

### What respiratory diseases commonly affect cats?

Obstructive and allergic respiratory diseases, sometimes called "asthma," "bronchitis," or "bronchial asthma", affect many cats. Unfortunately, these diseases are not easily classified, and probably represent a variety of airway disorders. These conditions do share a common finding of "hyper-responsive" or "over-reactive" airways.

If the airway of a 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: 1) muscle spasms in the bronchi, 2) increased production of mucus, and 3) the accumulation of cellular material in the airways. The inability to clear the bronchi of this material leaves the cat susceptible to secondary respiratory infections.



With obstructive lung disease, the cat experiences the greatest breathing difficulty during *expiration* or breathing out. Air may become effectively trapped in the lungs, causing the lungs to over inflate. In some cases, this chronic trapping of air leads to the development of *emphysema* in the cat.

### Are some cats more likely to get asthma?

Obstructive lung disease is most common in cats from two to eight years of age. Siamese cats seem to be at higher risk for developing asthma and bronchitis. Some reports indicate that it is more common in female cats. Overweight and obese cats are also reported to be at greater risk for developing respiratory disorders.

### What are the clinical signs of asthma and bronchitis?

Coughing and respiratory distress (difficulty breathing, shortness of breath, open-mouth breathing, etc.) 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. Many cats assume a squatting position with the neck extending during these coughing episodes (this is called an orthopneic posture). Wheezing is easily heard with the stethoscope and is sometimes so loud that it can be heard by the owners. Occasionally, sneezing and vomiting are noted.

Any episode of open-mouth breathing in cats should be considered a potential emergency and you should inform your veterinarian immediately if this occurs.

## What causes asthma?

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

- Inhaled debris or irritants - dust from cat litter, cigarette smoke, perfume or hairspray, carpet fresheners, and perfumes in laundry detergent
- Pollens or mold, house dust mites, and dander (from other pets or even people)
- Infectious agents - viruses, bacteria
- Parasites - heartworms, lungworms

## How is asthma diagnosed?

A series of tests may be required to diagnose allergic lung disease in the cat.

The **minimum diagnostic tests** include a **complete blood count (CBC), blood chemistries, fecal exam and urinalysis**. These tests will assess the general health of the 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 or parasitic disease; its presence supports a tentative diagnosis of asthma. In some cases, special tests will be performed on stool samples, looking for evidence of lungworms.

**Heartworm test** - This depends on the geographical area, a cat experiencing breathing difficulty should be tested for feline heartworm disease.

**Feline leukemia (FeLV) and feline immunodeficiency virus (FIV) tests** - These tests are helpful in determining the overall health of the cat. FeLV and FIV are often associated with respiratory disease.

**Thoracic radiography (chest X-ray)** - Characteristic radiographic changes in the lungs are common in many cases of feline asthma or obstructive lung disease. X-rays can be suggestive of parasitic diseases such as heartworms or lungworms, and may be helpful to eliminate other types of heart and lung disease.

**Bronchoscopy, cytology and tracheal lavage**- Bronchoscopy is a procedure that allows the veterinarian to look down the airways of the anesthetized cat with a small fiberoptic scope. After a visual examination of the airway is completed, samples of the mucus lining of the bronchi may be obtained with a small cytology brush. The mucus and cells can be examined under a microscope (cytology) or cultured. With tracheal lavage, a small amount of sterile saline can be flushed into the airways and retrieved, providing samples of material from deep in the lung. This material may be cultured for microorganisms and examined under the microscope.

In some cases, an underlying cause cannot be identified, despite a complete and thorough diagnostic work-up. 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 work-up for a variety of reasons. In such cases, it may be acceptable to treat the cat with a course of corticosteroids ("cortisone" or "steroids") since most asthmatic cats respond favorably to these medications with few side effects. However, this approach may create two problems:

1. Corticosteroids can worsen secondary bacterial infections; therefore, prophylactic antibiotics are reasonable in cases where a work-up cannot be performed.

2. Cats with heartworm infections often cough like cats with asthma and will respond temporarily to corticosteroids. Without an appropriate workup, cats that live in areas where heartworm disease is common may be misdiagnosed as having asthma when in fact they have heartworm disease.

## How is asthma treated?

Successful management of feline allergic lung disease employs one or more of the following therapies.

**Avoidance** - Any factor 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 previous list (see "Causes") details some factors that should be considered. It is important to pay close attention to environmental factors that may aggravate or worsen the condition.

**Bronchodilators** - These drugs are used to open up the airway and allow the cat to move air more freely. They should be used faithfully and as directed to obtain maximum effect.



**Corticosteroids** - Glucocorticoids, a class of steroids have a beneficial effect on decreasing inflammation, dilating the airway, and decreasing mucus production. In many cats, they are given daily. When the cat's temperament is a concern, long-acting injections can be given as an alternative to pills. These drugs have potential for some side effects and should not be withdrawn abruptly or given without careful monitoring through routine blood and urine tests.

Emergency treatment of an asthmatic attack may require the use of bronchodilators, oxygen cage therapy, rapid-acting glucocorticoids, and epinephrine. If your cat has heart disease, the attending veterinarian should be advised since epinephrine should be avoided.

## Will my cat be cured of asthma?

Cats with obstructive lung disease are usually manageable but are rarely cured. Sometimes a "cure" may be achieved if a specific underlying cause can be identified and treated. The goal of treatment is to lessen the severity and frequency of the "attacks" and improve the overall quality of life for your cat.

*This client information sheet is based on material written by: Ernest Ward, DVM*