

Inhalers for cats

Ever wondered what more you can do for the coughing or wheezing feline patient that may have asthma? What about cats that are hard to medicate – do they have to settle for depot injections and gasping in a steamy bathroom? Clients see people taking inhalers and wonder why their cats can't do the same. Now a new, safe and easy option is available in the UK in the form of inhaled therapy.

What is feline 'asthma'?

Inflammation and broncho-constriction of the lower airways (bronchi and bronchioles) – often referred to as 'feline asthma' – is recognised as a common problem in feline practice. The major clinical signs reported in affected cats are coughing, wheezing, dyspnoea and lethargy.

Clinical examination may reveal a predominantly expiratory dyspnoea with an abdominal component to exhalation and wheezes on auscultation. There is no single test that can positively diagnose 'asthma' and diagnosis relies upon exclusion of other causes of these clinical signs such as neoplasia, heart failure and pneumonia.

Many aspects of this disease and its pathogenesis are still poorly understood and management has centred on use of anti-inflammatories and bronchodilators. Traditionally this has involved oral medication with prednisolone and bronchodilators such as terbutaline or theophylline. Oral therapy can be practically difficult for some cats and owners and systemic side-effects of glucocorticoids including polyphagia and insulin resistance (leading to diabetes mellitus) are a potential long-term concern.

What are cat inhalers and how are they used?

In recent years, inhaled therapy has been advocated for cats with asthma. Both glucocorticoids and bronchodilators can be administered by this route and many cats and owners have found this an easy way to deliver medication to their cat. It is particularly helpful in those situations where the cat is cared for by one person, since tablet administration is not always possible without two people!

Inhaled therapy has a second advantage in that, depending on which agent is used, it can greatly reduce the systemic drug levels of glucocorticoids compared to oral prednisolone therapy thus greatly reducing the risk of side-effects.

Inhaled medications are administered using metered dose inhalers (MDIs). MDIs are typically designed for use in adult humans where actuation of the MDI (aerosolisation of a dose) can be timed to coincide with a deep intake of breath. This, however, is impractical in cats (and in babies and small children). The alternative is to use a spacer with a

breathing mask that incorporates a one-way valve.

The MDI is attached to a spacer unit that is held over the cat's face. The spacer device comprises a chamber that has dimensions similar to that of a loo roll inner tube. The MDI is attached to one end of the chamber; at the other end of the chamber there is a one-way valve to a face-mask which is placed over the cat's mouth and nose (**Figure 1**). The spacer unit recommended for use in cats is the AeroKat unit which was designed for use in cats and small dogs (**Figure 2**).

How is inhaled treatment used in cats?

To administer a dose of inhaled therapy to a patient:

1. attach the MDI to the AeroKat unit;
2. hold the unit over the cat's face;
3. actuate a dose (press down the MDI) to supply drug to the spacer chamber; and
4. allow the cat to take 10 to 15 breaths.

Some cats dislike having the face-mask on when the dose is actuated and in this case, the dose can be actuated and then the mask placed over the cat's face. This is thought to result in a lower dose reaching the airways so, in some cases, a second dose may be needed to provide sufficient drug.

In cats needing two puffs of treatment, this should be given as two separate administrations – in other words, follow steps one to four and then repeat).



Figure 1.
The MDI is inserted into one end of the AeroKat unit and the face-mask is placed over the cat's mouth and nose.

Figure 2.
The AeroKat spacer unit is designed for use in cats (and small dogs).

Photo: Trudell Medical International (Canada).



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What medications should I use?

■ Bronchodilator therapy

β₂-adrenergics, such as salbutamol and albuterol, are most commonly used. They have a rapid speed of onset (five to 10 minutes) and relatively short duration of action (two to four hours), meaning that they are suitable for use 'as needed', including in emergency situations. Some longer-acting preparations of bronchodilators (salmeterol, for example – onset of action 15 to 30 minutes, duration greater than 12 hours) are also available and can be helpful treatments in those cats benefiting from long-term bronchodilator therapy.

■ Glucocorticoid therapy

Fluticasone propionate, given twice daily, is a commonly recommended glucocorticoid, having high potency but virtually no systemic absorption, and therefore no systemic side-effects.

Cheaper glucocorticoids (such as beclomethasone dipropionate) can also be used, but at high doses may have systemic effects. High strength MDIs of these products (generally 200-250µg/actuation) have been used in cats (one to two doses, twice daily) but this can be reduced according to response.

And how about some suggested dosing regimens?

■ Mild cases

Fluticasone (110µg/puff strength MDI) one puff twice daily with salbutamol (100µg/puff strength) given as needed.

■ More severely affected cases

Fluticasone (250µg/puff strength MDI) one puff twice daily with salbutamol given as needed. When starting therapy, it can be helpful to also prescribe oral prednisolone (starting at 1-2mg/kg/day and weaning off therapy over a two-week period) as the inhaled glucocorticoid therapy can take some time to become fully effective.

■ Emergency cases

Oxygen therapy, intravenous glucocorticoid (for example prednisolone sodium succinate 30mg/kg) and terbutaline (0.01mg/kg).

Side-effects are very rare when using these agents. β₂-adrenergics can be associated with causing excitability, anorexia and muscular twitching. **VR**

Where can I obtain an AeroKat unit?

AeroKat units are made by Trudell Medical in the US. They are available in the UK through BreathEazy, 8 Woodford Road, South Woodford, London E18 2BH; telephone and fax 0208 530 8650, e-mail sales@Breatheazy.co.uk, website www.breatheazy.co.uk and www.felineasthma.co.uk.

BreathEazy supplies AeroKat units to the following veterinary wholesalers at a retail price of around £40 plus VAT: NVS • Centaur • Veterinary surgeons supply (Northern Ireland) Dunlop (Scotland) • GenusXpress.

AeroDawg (yes that is the correct spelling) units designed for dogs will be available from the same company from April/May 2004.