

Guidelines for owners on the correct use of inhalers

Inhalation therapy involves the delivery of high doses of medication to the target tissue of the respiratory tract, reducing the total drug dose, systemic absorption and hence the risk of adverse effects. It is frequently used in the management and treatment of respiratory disease such as Recurrent Airway Obstruction (RAO - previously known as COPD), Summer pasture associated Recurrent Airway Obstruction and Inflammatory Airway Disease (IAD).

In order to deliver effective levels of medication to your horse's lungs it is very important that a number of steps are followed, which numerous studies have shown can have a marked effect on the effectiveness of inhalers.

1. Warm the inhaler to body temperature before use (in your hand or pocket).
2. Shake the inhaler for 30 seconds then remove the cap (failure to shake the inhaler will reduce the respirable dose by 36%).
3. Waste the first spray after each period of prolonged "rest" of the inhaler.
4. Attach the inhaler to the mask and keep the inhaler in a vertical position while ensuring an airtight seal.
5. Watch the breathing pattern - ideally actuate the inhaler once either just before or immediately after the horse begins to breathe in.
6. If it is well tolerated, obstructing both nostrils for 5 -10 seconds at the end of inspiration to enforce breath-holding may be beneficial.
7. Wait 30 seconds before the next spray.

Wash the mask spacer weekly in mild detergent. Don't rinse with water afterwards. Then allow to drip dry overnight (do not towel dry)2.

Keep a record of the number of doses used so you know when the inhaler is empty of drug - inhalers will continue to have audible puffs long after the drug has run out, expelling mainly propellant3.

If using both salbutamol or ipratropium bromide and beclomethasone inhalers then you should give the salbutamol or ipratropium first followed by the beclomethasone 15 minutes later.

In adult humans it is possible to explain how they can effectively use inhalers however in horses in order to get effective quantities of drug into the lungs we need to use spacer masks which hold the drug aerosol until the horse breathes it into the lungs.

Examples of these spacers include Equine Aeromask (Genitrix), Equinehaler (Kruuse), Equine Airway Drug Delivery System (EADDS), Torpex (Boehringer) and Paediatric (Babyhaler and Aerochamber).

Different classes of drugs we use in inhalers

Glucocorticosteroids anti-inflammatory e.g. beclomethasone and fluticasone - commonly used in RAO and refractory IAD to improve lung function and to suppress both inflammation and excess mucus.

Bronchodilators - e.g. salbutamol and ipratropium bromide - these improve lung function and subsequent penetration of other inhaled medications by opening up the airways.

Inflammatory cell stabilising agents e.g. sodium cromoglycate - used to prevent RAO.

Antibacterials eg gentamycin and ceftiofur - can be nebulised for the treatment of pneumonia and pleropneumonia.

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1. Everard et al (1995) Thorax 50, 746
2. Piérart et al (1999) Eur Resp J 13, 673
3. Durham, A. (2008) Respiratory therapeutics, The latest thinking and advances in equine respiratory health.