Equine Haler – Inhalation device

The Equine Haler is an inhalation device, which has been developed specifically for accurate administration of pharmaceuticals to horses with inflammatory respiratory diseases including chronic obstructive pulmonary disease (recurrent airway obstruction—RAO). The Equine Haler is a convenient method of administering all available types of metered dose inhalers (MDI) to horses. The MDI delivers the medicine at a suitable particle size (< 5 microns) for direct distribution to the small airways. Equine Haler has been developed in Denmark and tested at the Centre for Equine Studies, Animal Health Trust, Newmarket, UK.

One treatment takes 1–2 minutes.

Recommended dosages for aerosol use in horses

**Inhaled steroid**
Flutide/Flixotide® (Fluticasone propionate) inhalation aerosol 250 µg/actuation. CFC Free: 120 actuations
Recurrent airway obstruction (RAO): 7–8 actuations once or twice daily for a period of 2–3 weeks
When corticosteroids are administered it may be worth considering ending treatment over a few days with an incrementally decreasing dose.

**Long-acting beta₂-agonist**
Serevent® (Salmeterol) inhalation aerosol 25 µg/actuation. 120 actuations
Recurrent airway obstruction (RAO): 8 actuations once or twice daily for a period of 2–3 weeks

**Short-acting beta₂-agonist**
Ventolin® (Salbutamol) inhalation aerosol 100 µg/actuation. Free: 200 actuations
Recurrent airway obstruction (RAO): 5–10 actuations 2–3 times daily for a period of 2–3 weeks

**Mast cell stabiliser**
Lomudal/Intal® (Sodium Cromoglicate) inhalation aerosol 1 µg/actuation, 10 actuations once or twice daily
If necessary the treatment can be extended to one month or longer.

*For further information see alternative product recommendations and dosage-recommendations in EQUINE VETERINARY EDUCATION (1999) 11 (3) 124–130, but please note that: the clenbuterol dose, which is said to be milligrams, should be micrograms, and the beclomethasone dose 1320 mg/kg is in some cases better at lower doses.*

**Doping rules**
Please check doping restrictions and minimum withdrawal period.

Distributor:
Jorgensen Labs, Inc.
1410 North Van Buren Ave.
Loveland, Colorado 80538
1-800-325-5614 • Fax: 970-663-5042
e-mail: info@jorvet.com
EVALUATION OF A NEW SPACER DEVICE FOR DELIVERY OF DRUGS INTO THE EQUINE RESPIRATORY TRACT

Funch-Nielsen, H., Roberts, C.A.¹, Weekes, J.S.¹, Deaton, C.M.¹ and Marlin, D.J.¹
Equine Healthcare APS, Denmark and ¹Centre for Equine Studies, Animal Health Trust, Newmarket, UK.

INTRODUCTION
Pulmonary inflammatory disorders occur commonly in the horse. Systematic administration of corticosteroids may be associated with adverse sequelae.

Delivery of drugs directly into the affected airways may improve local drug concentrations as well as reducing systemic uptake.

Inhaled corticosteroids are widely used in the treatment of human inflammatory lung conditions, including asthma and chronic obstructive pulmonary disease.

Equine recurrent airway obstruction (RAO) is characterised by a marked inflammatory response in the presence of aeroallergens, such as moulds.

Nebulisation of liquid corticosteroid preparations has been used, but a number of spacer devices have been developed to allow administration to horses of metered dose inhaled (MDI) designed for human use.

AIMS
To determine the efficiency of the Equine Haler™ for delivering fluticasone propionate from a metered dose inhaler into the equine lung.

To determine the pulmonary distribution of inhaled fluticasone propionate administered with the Equine Haler™

MATERIALS & METHODS

GENERAL

6 healthy adult horses and 2 healthy adult ponies were studied. All horses were pre-treated with a short-acting beta₂ agonist. The study was approved by the Animal Care and Use Committee, Animal Health Trust, Newmarket, UK.

Horses were administered 3.5 µg/kg bodyweight using the Equine Haler within the lung of one horse and approximate lung border as determined by subsequent decay correction to allow quantitative analysis of images.

LABELLING

PSD was determined with the MDI, actuator and spacer combined.

Particle size distribution (PSD) was determined on a seven stage Anderson Cascade Impactor Mk and a flow rate of 20 l/min.

RESULTS

In Vivo Studies

The mean PSD of FP and radiolabel for 99mTc-labelled FP were found to be similar (Figure 2) indicating that the deposition of the radiolabelling within the lungs was likely to reflect that of FP.

AIMS

To determine the pulmonary distribution of inhaled fluticasone propionate administered with the Equine Haler™

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