

Wildfires: Dealing With Smoke Inhalation

by: **Kimberly S. Brown**

October 31 2007, Article # 10732

The Horse has had many questions asked about the potential of respiratory problems because of the smoke and ash associated with the wildfires in California. We turned to Phoebe Smith, DVM, Dipl. ACVIM, who lived and worked in California for years before recently moving to become assistant professor in Clinical Equine Internal Medicine at The Ohio State University. (For more information on Dr. Smith see www.TheHorse.com/ViewArticle.aspx?ID=10731, announcing her appointment to Ohio State and her availability to help horse owners.)

Following are Smith's answers to our questions:

1) What can be done to protect horses in smoky areas where you can't get them out?

Misting systems, common in barns in hot, arid regions, should be turned on, along with fans directing the smokiest air away from the horses. Alternatively, large standing fans that have a port for attachment of a garden hose can be used in barn aisles.

2) What can you do if your horse was in smoke and is coughing, has watery eyes, or nasal discharge?

Call your veterinarian. Signs of smoke exposure and inhalation may appear mild initially, and then worsen over a period of hours to days. Watery eyes may indicate irritation of the conjunctival tissues or corneal damage from toxic substances in the smoke. Coughing and nasal discharge can indicate irritation of the upper respiratory tract, or a more serious problem, like edema in the lungs. Stridor, or noise with breathing, is another signs that warrants veterinary attention. Smoke inhalation can result in such significant irritation that the airway is occluded by swelling of the pharynx.

3) What happens when a horse breathes in smoke for multiple days?

Results of smoke inhalation vary depending on the qualities of the smoke and toxic chemicals in the smoke. Mild smoke inhalation for multiple days may cause no long-term ill effects. With more severe smoke inhalation, bronchopneumonia may be seen due to impairment of the horse's immune system, both locally and systemically. Inflammatory airway disease is another possible consequence of long-term smoke exposure, and this may not manifest for weeks to months following exposure.

4) How long does it take the lungs and upper airway to heal?

Time required for healing of the respiratory tract varies with the severity and duration of the insult. In general, the upper respiratory tract will recover more quickly than the lower respiratory tract. Mild cases of smoke inhalation may require 2-4 weeks for recovery to occur. More severe cases will require months, and the most severe cases will heal with scar tissue, resulting in chronic respiratory problems.

5) Other comments?

Because of the rapid speed at which wildfires can move, it is imperative that horse owners have evacuation plans in place, and that family members and employees are familiar with these plans. Trailers, routes for evacuation, and facilities for housing horses in an emergency should be identified before a wildfire occurs.
