# "Why Activated Charcoal may not be a Benign Treatment"

*DID YOU KNOW?*

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Activated charcoal is a valuable substance used in both human and veterinary medicine for decontamination of the gastrointestinal tract after ingestion of many toxic substances. In recent years, it has become more apparent that this is not a completely benign treatment and that there are some potential side-effects. Administration may even be contraindicated or non-effective in some patients. Some conditions which should be considered include:

1) **Hypernatremia** – Aggressive administration of large volumes or repeated doses of activated charcoal, with or without sorbital, may lead to dehydration and clinical symptoms of hypernatremia in cats and small dogs. The ASPCA Poison Control has reported these findings even when charcoal is administered at recommended doses. Symptoms may include neurologic derangements including seizures. Care should be taken when administering charcoal to dogs which are already dehydrated or hypernatremic from ingestion of toxins such as paintballs or play dough.

2) **Aspiration pneumonia** – If vomiting occurs after administration of activated charcoal, severe aspiration pneumonia may occur. This risk should be considered when deciding when and whether to administer charcoal to a vomiting patient (those recently given apomorphine and methocarbamol). Consider waiting at least 30-60 minutes after induced emesis and administering an anti-emetic. Charcoal should not be given for ingestion of petroleum distillates since they do not adsorb to the charcoal and these animals are at high risk of aspiration pneumonia.

3) **Interference with testing** – due to propylene glycol in charcoal solution
   a) increased lactate levels due to increased metabolism of propylene glycol
   b) false positive on ethylene glycol test
   c) acid base – increased serum osmolality and osmolar gap

Recommended protocols for frequency, timing and amounts of activated charcoal should be adhered to due to potential side effects.

**References:**

1) Burkitt JM. Effects of oral administration of a commercial activated charcoal suspension on serum osmolality and lactate concentration in the dog. J Vet Intern Med 19:683-6, 2005

2) Allen SE et al. Lactate: physiology and clinical utility. J Vet Emerg Crit Care 18: 123-32, 2008

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