NEBRASKA REGIONAL POISON CENTER
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To: ALL HEALTH CARE PROFESSIONALS
From: Ron Kirschner, MD, Medical Director, Nebraska Regional Poison Center
Subject: Gastrointestinal decontamination with activated charcoal
Date: 9/15/14

- Patients with toxic ingestions are often given activated charcoal (AC) to limit systemic absorption.

- AC works by adhering to organic substances and is thought to be helpful for most drug ingestions.
    - AC is not recommended for salts (such as KCl), alcohols, detergents, caustics, metals, or hydrocarbons.
    - Evidence supporting the use of AC is mainly derived from volunteer and animal studies because controlled trials are difficult to carry out in overdose patients.

- AC is most effective when given within 1-2 hours of ingestion. There are some exceptions to this rule – most notably aspirin, where AC can be helpful much later due to delayed absorption.
    - The optimal dose is unknown; in practice patients are often given doses in the range of 0.5-1g/kg.

- Up to 20% of patients will vomit after AC, so it should only be given to patients alert enough to protect the airway in the event of vomiting.
    - We recommend that AC only be given if the patient is alert enough to drink it.
    - For patients ill enough to require intubation, the benefits of AC are likely to be minimal and there is still some risk of aspiration, so AC is generally not recommended.

- AC requires a working GI tract so it should only be given if bowel sounds are present and there is a soft abdomen.

- In theory, multiple dose AC (MDAC) can hasten clearance for a handful of specific drugs (phenytoin, phenobarbital, theophylline, caffeine) through “intestinal dialysis”, even after systemic absorption has occurred.
    - In practice, MDAC is often not feasible due to vomiting or altered mental status.

- As with any treatment, the decision to give AC should be based on an assessment of the potential benefits and risks. Please call the Poison Center for case-specific recommendations.

<u>Reference</u>
Olson KR. Activated charcoal for acute poisoning: One toxicologist’s journey. *J Med Toxicol* 2010; 6: 190.

Our trained staff of nurse specialists in poison information and physician toxicologists is available 24 hours a day to answer your questions and can be reached at 1-800-222-1222.