Myths and Misconceptions in Toxicology
Tina Wismer, DVM, DABVT, DABT
ASPCA Animal Poison Control Center
Urbana, IL

Myths, or ‘old wives tales’ have always been prevalent in veterinary medicine. We hear these commonly in practice (I know he’s sick ‘cause his nose is warm. My dogs are brother and sister, they would never have puppies together.). However, with the rise of the internet, rumors and misinformation can spread like wildfire.

Internet rumors are probably the most modern form of folklore (handed-down beliefs, stories, and customs). These stories are written to be as believable as possible, and often contain precautionary advice on how to avoid harm to your pet. These tales also tend to evolve in time due to embellishment and repetition; internet rumors in particular have a way of being resurrected months or years after the initial distribution, often with adjustments made to make them more plausible.

**Milk is the universal antidote**

Many times owners will call after a pet has ingested something it shouldn’t have and they will tell you they have already given milk. Milk can help to dilute caustic substances (acids, alkalis) and irritants (detergents), along with dissolving the insoluble calcium oxalate crystals found in some plants. The calcium in milk may also decrease the absorption of certain pharmaceuticals (bisphosphonates, tetracyclines). Unfortunately, milk does not treat all toxins.

**Atropine is the universal antidote**

Atropine can be used to reverse the muscarinic signs (salivation, lacrimation, urination, dyspnea, drooling, emesis) from organophosphate and carbamate insecticides. Atropine however, does not treat all toxins. This misconception probably arises from many years ago when most insecticides were organophosphates or carbamates. Today, these compounds are rarely encountered.

**Burnt toast is the universal antidote**

This myth arises from the use of activated charcoal in poisonings. Unfortunately, the black bits off of bread are not absorbents like activated charcoal.

**Weak tea is the universal antidote**

Tea does contain tannins, which can be helpful in treatment of some toxicants (rhododendrons, azaleas), but it does nothing to treat other poisons.

**I just want the antidote!**

Many times owner’s will come in just wanting to get the antidote. Unfortunately, most toxins do not have antidotes. Also, if they do, the antidote may be very expensive or unavailable for pet use. Antidotes themselves can have serious adverse effects. Antidotes do not work in real life like they do in the movies (the patient is immediately better).
I want to test my pet for toxins
Unfortunately, first Quincy and now CSI, have given our clients the idea that there is a machine available that can find any poison in any kind of sample. To test for toxins we need to have an idea of what we are looking for first (heavy metals, rodenticides, etc.). Many toxins also don’t have tests. It also may take several days to weeks to get back the results.

Febreze kills pets
When Febreze first came out on the market in 1999 there was an extensive internet email rumor that implicated it in the deaths of many dogs. The email occasionally is sent around again. Febreze can cause respiratory issues in birds and allergic reactions in some dogs, but it has not been linked to any dog deaths.

Swiffer wet jet kills pets
Another internet rumor started in May of 2004, which stated “Swiffer wet jet contains a compound which is ‘one molecule away’ from antifreeze and caused liver failure and death in a German shepherd dog.” Nothing in the ingredients of the Swiffer liquid poses risk of hepatotoxicity. If antifreeze or a closely related glycol were involved, we would expect renal, not liver damage. Any molecule is ‘one molecule away’ from antifreeze.

Ultra Clorox bleach kills pets
Per the internet, Ultra Clorox bleach poses danger to pets and should not be used in households with pets because it contains sodium hydroxide, which is “LYE,” which is not present in ‘regular’ bleaches. The truth is that all bleaches contain lye (sodium hydroxide) and compared to other bleaches, Ultra Clorox does not pose additional hazard to pets when used as directed.

Almonds are poisonous to pets
Per the myth, almonds contain cyanide and will kill your pet. This myth does have some truth behind it. Bitter almonds do contain cyanide. However, we eat sweet almonds which contain no cyanide. Bitter almond essential oil may be purchased but because it has been processed, there is no poisoning risk.

Pistachios are poisonous to pets
This myth is all over the internet if you google “pistachios and dogs.” There is no basis to this myth. Nuts can certainly cause GI upset, but are not considered poisonous.

Chocolate gives dogs worms
Per this misconception, you shouldn’t give your dog chocolate, not because it is poisonous, but because it will give them worms. This myth may have resulted from the fact that dogs who eat chocolate may vomit or have diarrhea, and the roundworms (already present in the dog) may be seen in the vomit or stool.

If you give your dog water after it eats mouse poison it will explode
Per the pest control operator, ‘This poison causes the mice to leave the house looking for water and once they drink, they explode.’ This is not true. None of the
rodenticides cause mice to explode. This myth is perpetuated as the pest control operator doesn’t want you to know that the mice are dying inside the walls of your house.

**Rimadyl (or insert pharmaceutical name here) kills pets**

If you look on the internet, any drug used in veterinary medicine is blamed for multiple problems.

**Pot scrubbing sponges manufactured by Proctor & Gamble contain dangerous derivative of agent orange**

The myth is that an owner cleaned out aquarium with a new sponge and when he placed the tropical fish back into aquarium, they died. He concluded that the Pot scrubbing sponges manufactured by Procter & Gamble contain a dangerous “derivative of 2-4-D, more popularly known as Agent Orange” that can kill pets. This rumor is wrong on many levels. First of all, Procter & Gamble doesn’t make sponges. 2,4-D is not Agent Orange, it is a safe herbicide. Most likely the fish died after being replaced in the aquarium following cleaning and not completely rinsing out of aquarium, or destruction of the biological filter.

**Tennis balls can explode and kill a dog**

This myth is unfortunately true. In 2000 a dog in Portland, OR picked up a tennis ball during a walk and it exploded killing the dog. The ball had been made into a bomb. Per the Portland police, tennis ball bombs are not uncommon and information on how to make them can be found on the internet. They caution people to leave found tennis balls alone, especially if they are wrapped in electrical or duct tape.

**Tennis balls contain lead**

Tennis balls themselves do not contain lead, but there have been inks used to print logos on the balls that have tested high in lead.

**Paper towel tubes contain zinc**

This myth states that the glue used in the cardboard found in the middle of paper towel rolls and toilet paper contains enough zinc to poison an animal. This is untrue.

**Dogs die after eating children’s stuffed toys containing flame retardant materials.**

Per the circulating email: “The dog ate a child's teddy bear and was very sick. When the vet opened the dog up to remove what she thought was an intestinal obstruction she found a huge gelatin type mess inside and the dog’s intestines were black and the tissue dead. The dog will die no surgery can fix him up there was no living intestine left from stomach to colon. This was not an obstruction, so the vet called the manufacturer of the Teddy Bear on a quest to find out what the gel was and what killed the dog. Turns out the stuffing in children's toys contains ingredients for flame retardants and mite control! It is designed to become a gel. It is highly toxic.”

**Rawhide manufactured overseas is poisonous to dogs**

“Rawhides from overseas can kill dogs.” There is some truth to this, but it is somewhat of a misconception. There was one batch of rawhides from Thailand that were
contaminated with arsenic, but this was many years ago. However, rawhide, no matter the source, can be contaminated with salmonella or other bacterial toxins.

**To prevent heartworm in dogs, once a year you give two copper pennies by mouth**

Per this myth, the copper in the pennies is attracted to the heart and will kill the worms. Pennies cause zinc toxicity so this is a very dangerous practice.

**Cats and dogs are small fuzzy people**

Drugs that people take without any problems (Aleve, acetaminophen) can cause serious problems in pets. However, many human medications (levothyroxine, benzodiazepines) are tolerated at much higher doses in animals.