

Chocolate Toxicity

The Pet Health Care Library

Chocolate may be America's favorite flavor. We like chocolate candy, ice cream, chocolate drinks, chocolate cakes, just about anything with chocolate. We may want to share our favorite treat with an eager pet but it is best to think twice and reach for the dog biscuits instead.



Different Types of Chocolate

Everyone who has ever eaten candy knows there are many types of chocolate. Let's go back to how chocolate is made. Cacao trees are farmed as any other crop, though they grow in tropical regions. The fruit of the cacao tree (called a cacao pod) is sweet and attracts monkeys or other wildlife who eat the fruit but not the bitter seeds. The seeds are discarded in the natural setting, thus allowing new trees to grow.

The seeds cannot be released from the fruit unless some type of animal actually breaks the fruit open. Ironically, it is the bitter seeds, packed with theobromine and caffeine, which are used to make chocolate. The pods grow directly off the trunk of the cacao tree and must be harvested by hand so as not to damage the tree. The pods are split, and the seeds are scooped out and left to ferment under banana leaves for about a week. This turns the cacao seeds a rich brown and creates the chocolate flavor we crave. The seeds are then dried out for another week, packed in sacks, and shipped to chocolate manufacturers. The seeds must be roasted, ground, pressed (which removes the oil of the seed, the "cocoa butter" that is used in sunscreens, white chocolate, and cosmetics, among other things), and tempered to create the exact consistency.



- Chocolate liquor is the liquid that results from grinding the hulled cacao beans.
- Cocoa butter is the fat that is extracted from the chocolate liquor.
- Cocoa powder is the solid that remains after the cocoa butter is removed from the chocolate liquor. The powder can be treated with alkali in a process called "Dutching" or it can be left alone. Note the low-fat nature of cocoa powder, hence its use in low-fat baking.
- Unsweetened chocolate is chocolate liquor that is 50% to 60% cocoa butter
- Semisweet chocolate is chocolate that is 35% chocolate liquor (the rest being sugar, vanilla, or lecithin).
- Milk chocolate is chocolate that is at least 10% chocolate liquor, the rest being milk solids, vanilla or lecithin.

Why Is Chocolate Bad?

Sometimes we eat chocolate plain. Sometimes we eat it baked into cakes, mixed into ice cream, etc. The first problem with these sweets is the fat. A sudden high fat meal (such as demolishing a bag of chocolate bars left accessible at Halloween time) can create a lethal metabolic disease in pets called pancreatitis. Vomiting, diarrhea, and abdominal pain are just the beginning of this disaster. Remember, in the case of pancreatitis, it is the fat that causes the problem more than the chocolate itself.

The fat and sugar in the chocolate can create an unpleasant but temporary upset stomach. This is what

happens in most chocolate ingestion cases.

Chocolate is, however, directly toxic because of the theobromine. The more chocolate liquor there is in a product, the more theobromine is present. This makes baking chocolate the worst for pets, followed by semisweet and dark chocolate, followed by milk chocolate, followed by chocolate flavored cakes or cookies. Theobromine causes:

- Vomiting
- Diarrhea
- Hyperactivity
- Tremors
- Seizures
- Racing heart rhythm progressing to abnormal rhythms
- Death in severe cases

Toxic doses of theobromine are 9 mg per pound of dog for mild signs, up to 18 mg per pound of dog for severe signs. Milk chocolate contains 44 mg / ounce of theobromine while semisweet chocolate contains 150 mg per ounce, and baking chocolate contains 390 mg per ounce.

It takes nearly 4 days for the effects of chocolate to work its way out of a dog's system. If the chocolate was only just eaten, it is possible to induce vomiting; otherwise, hospitalization and support are needed until the chocolate has worked its way out of the system.

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