

Hypoglycemia, or low blood sugar, can quickly become an urgent health problem in toy and small-breed dogs, say experts. Without intervention, there is risk of dogs slipping into a coma and possibly dying.

Like other small breeds, Pomeranian puppies are vulnerable to hypoglycemia, especially during weaning. Juvenile hypoglycemia, which is seen in puppies less than 3 months of age, generally occurs because puppies have not fully developed the ability to regulate blood glucose concentration and have a high requirement for glucose.

Breeders of toy dogs usually know to look for signs of hypoglycemia because low blood sugar can occur quickly and commonly.

Hypoglycemia is a condition that mostly affects toy and small-breed dogs. Many breeders are aware of hypoglycemia, but few understand what happens physically when a dog has low blood sugar, or glucose.

Understanding Hypoglycemia

“In a nutshell, the brain can only use glucose for energy,” explains Margret Casal, D.V.M., Ph.D., assistant professor of medical genetics at the University of Pennsylvania School of Veterinary Medicine. “If glucose levels drop in the blood, then there is less energy for the brain, which causes neurological signs such as disorientation, tremors and coma.

“Normally, glucose is stored in the form of glycogen in the body, and when necessary, hormones stimulate the breakdown of glycogen to supply the brain and other tissues with fuel,” she continues. “Sometimes in toy and small breeds, the process does not occur quickly enough and hypoglycemia begins to kick in.

“An animal that goes a prolonged period without glucose may eventually slip into a coma and possibly die. In toy and small-breed dogs that timeframe is greatly reduced when compared to larger dogs.”

Among the signs of hypoglycemia are loss of appetite, extreme lethargy, lack of coordination, trembling, muscle twitching, weakness, seizures, and discoloration of skin and gums.

“They usually act like they are drunk,” says Amirov. “They may be lethargic, shivering or refusing to get up and play. Most won’t eat or drink. If you know your puppies well and they are acting out of the ordinary, there’s a very good chance they are going into low sugar shock. A simple case of hypoglycemia is often due to overactivity combined with too much time between meals.

“After a dog has crashed due to hypoglycemia, I follow up with a protein-rich food, such as canned puppy food, to help stabilize the blood sugar and prevent another crash,” she continues. “If a dog doesn’t stabilize and continues to have difficulty after being given glucose, then I take him to the veterinarian. However, during a hypoglycemic attack, time is of the essence.”

Experts recommend rubbing syrup on a dog's gums, dabbing sugar water on or under the tongue, or giving a concentrated solution of glucose to offset the drop in blood glucose. Providing a simple sugar solution and hydrating liquid are key.

"It also is imperative to keep them warm," Smolarz says. "I put a kitchen towel in the microwave for 30 seconds. I shake it out and wrap the puppy in it to bring up his body temperature. Low blood sugar can cause hypothermia, so I get them warm first.

"Next, I give the puppy a teaspoon of honey and wait a few minutes. If the puppy seems to be getting better, I follow up by giving small amounts of warm sugar water over the next few minutes."

Measures to prevent hypoglycemia include feeding puppies and small dogs three or four times a day. A high-quality, nutritious dog food is important in helping to sustain a dog. Owners also should provide a warm environment.

Smolarz crates puppies and adult dogs when they are fed to ensure they eat. "This also helps to prevent the litter bully from stealing everybody else's food. When they are that small, you have to be sure they have enough to eat. I make sure they have kibble to eat freely, and I feed puppies three to four meals a day until they are 5 months old."

Signs of Hypoglycemia

- Loss of appetite
- Extreme lethargy
- Lack of coordination
- Trembling
- Muscular twitching
- Weakness
- Seizures
- Unusual behavior
- Dilated pupils
- Stupor or coma