

## Dog Diabetes: Causes and Complications

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In the dog, diabetes mellitus is caused by insufficient production of the hormone insulin. During digestion, carbohydrates are broken down into sugar (glucose), which is absorbed into the bloodstream. From the bloodstream, glucose enters the cells of the body where it is used for energy. Insulin is critical for this transmission process; without it, glucose cannot move from the bloodstream into the cells. This leads to a lack of glucose inside the cells, and at the same time, an excess of glucose circulating in the bloodstream; both situations are very harmful to the body.

With its cells starving for energy, the body begins to break down its protein, stored starches and fat. As muscle is broken down and glycogen stores are used up, weakness and weight loss occur. As fat is broken down, substances called ketones are released into the bloodstream where they can eventually cause diabetic ketoacidosis, a severe complication of unregulated diabetes. While the lack of glucose inside the cells is causing problems, the excess glucose circulating in the bloodstream can have harmful effects also, including cataracts, pancreatitis and skin and urinary tract infections. The excess glucose is eventually excreted from the body through the kidneys; glucose draws water with it, causing increased urination, which in turn leads to increased thirst.

Diabetes in dogs is diagnosed with a physical examination and blood tests. Treatment includes daily insulin injections and careful monitoring of blood glucose and urine ketone levels. Regular exercise, with weight loss if needed, is also important. A high fiber diet is usually recommended, since fiber can help to sensitize the pet's body to insulin and keep blood glucose levels stable.

Diabetes mellitus is more common in older dogs, and early diagnosis is essential for

the best outcome. Early warning signs include increased drinking and urination, and indicate the need for a veterinary examination. Your veterinarian may prescribe [insulin](#). Blood work, including a blood glucose check, should be part of every older dog's regular veterinary examination.