

Glargine (Lantus) and Detemir (Levemir) Insulin

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Regulating a diabetic cat can be tricky. In most cats, finding an insulin that lasts long enough is a substantial problem. Glargine insulin (brand names Lantus® and Basaglar®) is approved only as a human product but its use has become common in diabetic cats, and many consider it to be the first choice of insulin for a newly diagnosed feline diabetic. Detemir (Levemir®) insulin is another long-acting insulin for humans that is gaining popularity in veterinary use.

In human diabetes mellitus, the trend has been towards the use of ultra-short acting synthetic insulin (like Humalog®) at meal time and a once a day, long-acting peakless insulin (such as glargine) to provide general blood sugar control throughout the day. Glargine is available at any drug store and is designed to be long-acting and provide a diabetic person with a "tone" of sugar control that lasts all day. In cats, glargine and

detemir are not peakless; they definitely have a high point and low point but they in most cats they do last long enough to control blood sugar levels throughout the day. In newly diagnosed diabetic cats, studies with glargine show such good control when used in combination with a low-carbohydrate diet that many cats revert to a non-diabetic status in a matter of weeks. In one study, six out of seven cats were in remission after only 4 weeks of glargine therapy.

Before getting too excited, it is important to realize that diabetic remission is about good regulation early in the course of the disease rather than having a magic product. Cats that have been diabetic for some time tend not to experience remission and if your cat is well-regulated on another insulin, it is not worth changing and having to re-regulate your cat.

What you Need to Know

- Even though glargine and detemir are long-acting insulins, either one will probably need to be given twice a day just like other insulins. Furthermore, every cat is different and some cats metabolize these insulins so quickly that they are not long-

Additional Resources

- [Diabetes Mellitus: Introduction](#)
- [Cataracts in Diabetic Dogs](#)
- [Diabetic Ketoacidosis in Dogs and Cats](#)
- [Diabetic Cat Diet](#)
- [Diabetic Dog Diet](#)
- [Insulin Administration in Cats](#)
- [Insulin Administration in Dogs](#)
- [Insulin Alternatives](#)
- [Monitoring Glucose Regulation in Dogs and Cats](#)
- [Hard to Regulate Diabetic Cats](#)
- [Hard to Regulate Diabetic Dogs](#)
- [Home Testing of Blood Glucose for Diabetic Cats](#)



lasting at all and another insulin is a better choice.

- Glargine insulin cannot be diluted, nor can detemir. The feline dose of insulin is generally only a few units and the gradations on an insulin syringe are tiny. With insulins other than glargine or detemir, dilution is possible so that measuring is easier. The long activity of glargine depends on the formation of small crystals where it is injected. Diluting glargine or detemir interferes with the crystals.
- Glargine and detemir are available in a 3 ml (300 unit) pen ejectors and in 10ml (1,000 unit) bottles. In order to be cost effective, vials and pens must be refrigerated after they are opened. Glargine insulin has been formally studied and found to retain activity for six months if refrigerated. The 10 ml bottle of glargine will expire in one month if it is not kept refrigerated. Detemir has been studied by its manufacturer and the vial or pen will last 40 days whether it has been refrigerated or not. That said, refrigerated open pens or vials are commonly refrigerated for three to four months and appear to maintain strength.
- As mentioned, glargine and detemir come in dosing pens. These are becoming more popular for two reasons: they are much less costly to buy compared to vials, which are larger, and they are easier to use as they have a dial-a-dose mechanism. The biggest problem is that the disposable needles, which screw onto the pen for single use, are made for humans; they are 5/16", which is only about 1/4" in length, and may not penetrate thick cat skin fully. If the needle does not penetrate the skin, the insulin will not properly enter the body. If you choose a pen instead of a vial for insulin use, you will likely need to get compatible needles in a longer length. Lantus®, for example, is made by Becton Dickinson. All Becton Dickinson pens are compatible with all Becton-Dickinson needle tips. Be sure to order the half-inch needles for your pen rather than the 5/16" that human diabetics use.
- Because of the strong chance of a cat going into remission (i.e. becoming non-diabetic), it is important for the owner to be well informed on the signs of hypoglycemia and adhering to the doctor's recommendation on when to have glucoses checked.

The high remission rates reported for diabetic cats apply to cats newly diagnosed with diabetes. Other cats who were switched to glargine or detemir for better glucose control after having been diabetic for years do not tend to revert to non-diabetic status.

Learn more on how to [administer insulin](#) to your cat.

Related resources

- [Insulin Administration in Cats - February 18, 2021](#) 
- [Insulin Administration in Dogs - January 19, 2021](#) 
- [Hard to Regulate Diabetic Dogs - September 2, 2020](#) 

- [Diabetic Ketoacidosis in Dogs and Cats - August 31, 2020](#) 
- [Monitoring Glucose Regulation in Dogs and Cats - March 31, 2020](#) 
- [Insulin Alternatives - October 15, 2019](#) 
- [Cataracts in Diabetic Dogs - August 25, 2019](#) 
- [Diabetes Mellitus: Introduction - May 19, 2019](#) 
- [Hard to Regulate Diabetic Cats - August 20, 2018](#) 
- [Diabetic Cat Diet - July 17, 2018](#) 
- [Diabetic Dog Diet - May 3, 2018](#) 
- [Home Testing of Blood Glucose for Diabetic Cats - November 24, 2014](#) 

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