



CATS

Dosing protocol for cats on glargine or detemir and glucose monitoring every 1-2 weeks

Marshall and Rand, unpublished data

Table 2. Parameters for changing insulin dosage when using **insulin glargine or detemir** in diabetic cats being assessed with serial blood glucose measurement every 3-4 hours over 12 hours once a week (preferred) or once every two weeks in the first 4 months of therapy. Blood glucose concentrations were based on using a portable glucose meter (Bayer™ Esprit®) calibrated for human use which measures glucose concentration in whole blood.

NB. Blood glucose concentrations measured using a whole blood glucose meter calibrated for human blood may measure 30-40% lower at the low end of the range than glucose concentrations measured using a serum chemistry analyser or a plasma-equivalent meters calibrated for feline use (AlphaTRAK Abbott). When using these latter methods for measuring blood glucose concentrations, target glucose concentrations at the lower limit of the range should be adjusted accordingly by adding approximately 30 mg/dL (1.7 mmol/L) to the value listed in the protocol below. For example, a target value of > 54 mg/dL (3mmol/L) becomes > 84 mg/dL (4.7 mmo/L) when using a serum chemistry analyser or a meter calibrated for feline use.

NB Mean median maximum dose in cats on detemir is about 30% less than for glargine (1.7 U/cat BID; range = 0.5 to 4.0 IU versus 2.5 U/cat BID; range = 1.0 to 9.0 IU BID).

Parameter used for dosage adjustment	Change in dose
Begin with 0.5 U/kg if blood glucose (≥ 360 mg/dL (≥ 20 mmol/L) or 0.25/kg of <u>ideal weight</u> if blood glucose is lower. Do not increase in first week unless minimum response to insulin occurs, but decrease if necessary. Monitor response to therapy for first 3 days If no monitoring is occurring in first week, begin with 1 U/cat BID	
If pre-insulin blood glucose concentration > 216 mg/dL (> 12 mmol/L) provided nadir is not in hypoglycemic range <i>or</i> If nadir blood glucose concentration > 180 mg/dL (> 10 mmol/L)	Increase by 0.25-1U
If pre-insulin blood glucose concentration $180 < 216$ mg/dL ($\geq 10 - \leq 12$ mmol/L) <i>or</i> Nadir blood glucose concentration is 90-160mg/dL (5-9mmol/L)	Same dose
If pre-insulin blood glucose concentration is 198-252mg/dL (11-14mmol/L). <i>or</i> If nadir glucose concentration is 54-72 mg/dL (3-4 mmol/L).	Use nadir glucose, water drunk, urine glucose and next pre-insulin glucose concentration to determine if insulin dose is decreased or maintained.
If pre-insulin blood glucose concentration < 180 mg/dL (10 mmol/l) <i>or</i> If nadir blood glucose concentration < 54 mg/dL (< 3 mmol/l)	Reduce by 0.5- 1UU <i>or</i> if total dose is 0.5-1U SID, stop insulin and check for diabetic remission



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

CENTRE FOR COMPANION ANIMAL HEALTH
The School of Veterinary Science, The University of Queensland
www.uq.edu.au/ccah; +617 3365 2122

If clinical signs of hypoglycemia are observed	Reduce by 50%
If blood glucose measurements are not available:	
If water intake is ≤ 20 mls/kg on wet food or ≤ 60 mls/kg on dry food	Same dose
If water intake is > 20 mls/kg on wet food or > 60 mls/kg on dry food	Increase dose by 0.5-1U
If urine glucose is $> 3+$ (scale 0 - 4+)	Increase dose by 0.5-1U
If urine glucose is negative	Decrease dose until 0.5-1 U SID and then check for diabetic remission