

# Humulin NPH 101

*from Kimber and Bunny  
with help from the FDMB collective*



*NOTE: This information is not intended to replace the counsel of your veterinarian; it is merely to share some well-proven methods from other sugarcat caregivers.*

N is not the easiest insulin to regulate sugarcats on, that's a fact. But, there are 100s of cats worldwide that have made it work (including my Bunny pictured at right). Bunny was regulated on Humulin N for just short of 5 years.

There are some very important points to consider when using N, these can be the keys to your success with this sometimes tricky insulin. Many of these pointers are also applicable when using other insulins as well. Remember to discuss any changes in treatment protocol or clinical signs with your vet.

## 1. FEEDING

Always make sure kitty eats about 45 minutes to an hour before shot time. This will insure that kitty has food in the stomach (which will cause a blood glucose spike) to counteract the fast drop of the blood glucose caused by N. <sup>1</sup>Note: N is classified as an “intermediate” acting insulin but in cats has a very rapid onset and drop. Onset with cats and N is typically 30 minutes to 3 hours following the shot; peak is usually between +2 and +8; and duration is typically 4 to 12 hours. Feeding an hour before shot time also leaves you relatively sure the cat is going to keep the food down. Remember: we're dealing with cats here, which means nothing is guaranteed! Once Bunny vomited at peak, while we were asleep, and that is how we had our first hypo in over 5 years of treating diabetes.

## 2. MONITORING via HOME TESTING/CURVES

This is recommended with all treatment protocols (oral meds or insulin), but is considered by N users a necessity in trying to steer clear of a hypoglycemic episode. It is important to know when your cat will peak on N and how long the blood glucose values will drop (if you ever have a vomiting episode or inappetance this is crucial info to ward off a hypo). For Bunny, N could peak anywhere from +2 to +6 hours post shot. Before Bunny got sick, his peak was at around 5 (depending on exercise and food consumption) and after his cancer dx and subsequent hypo, we dropped down to two hours after shot. Since the cancer diagnosis and the changes in Bunny's body as a result, we have switched insulins to a slower-acting choice.

The importance of knowing your peak/nadir/low number is two-fold:

- A) You do not want to hypo your cat. High blood glucose kills slowly, low blood glucose kills quickly (see hypoglycemia info [here](#)).
- B) You cannot adjust a dose based on preshot alone. Preshot numbers can be deceiving in that if you are going too low at peak, you may have high numbers at preshot (this is somogyi rebound, see more info [here](#)). Somogyi rebound is the body's self-defense mechanism to try and prevent a hypoglycemic episode, it is common when folks move too far – too fast on insulin dosing.

**SCARY CASE STUDY:** When we were newbies (and our vet was learning this right along with us), we were increasing Bunny's dose based on high preshots and vet visit readings. We worked our way up to 15 units of N 2x a day based on preshot values and vet readings, thinking we were doing the right thing. Makes my stomach flip-flop thinking about it now! I found the FDMB and posted about our ever-worsening preshots. I was at my wit's end. FDMBer Melissa was the first to post back, telling me basically, "That is WAY too much N! Start over and check your peak numbers!" Well once we figured out what peak numbers were we started testing and found him going down as low as 26. YIKES! If not for the fact that Bunny free feeds and was bringing his numbers back up by eating every day after his shot, he would have died. **Always find out when your peak is and check those numbers before any increase!**

When curving on N for the \*first time\*, in my opinion, it is good to check blood glucose values at +2, +3, +4, +5 and again at +6. This will give you an idea of how quickly this dose of N works and when your peak is on that dose. After the numbers start to climb back up, you can go back to every two-hour checks, but it's the drops that are most important when evaluating the safety of the dose. This is not the only way to do a curve of course, just my suggestion on how to do your first with a new insulin, especially one as fast-acting as N.

### **3. KNOW HOW TO WORK N and MAKE N WORK FOR YOU**

As you've probably already discovered, lots of folks have had bad experiences with N and their sugarcats...but that doesn't mean you will! Any treatment protocol should be given a fair chance and the "standards" like: start low – go slow; change only one thing at a time; know thy cat; every cat is different...all apply here. This document is intended to help you give N and your sugarcat a fair trial based on our experience and that of others that used it successfully. Close monitoring of your cat's clinical signs, home testing, and following a conservative treatment protocol are the tools that can help you achieve regulation on **any** insulin. Following the suggestions in this document will help you determine if N is the right juice by giving it a fair trial based on its activity profile. If you do all you can to make N work and its still not cutting it, there's plenty more fish in the sea so don't get discouraged ☺

<sup>1</sup> from *The Pocket Companion to the Fourth Edition of Textbook of Veterinary Internal Medicine* edited by Stephen J. Ettinger