The use of continuous blood glucose monitoring in dogs and cats has been researched and developed over the past 10 years, and is now widely used in veterinary teaching hospitals and referral settings across the country and around the world. Applications for continuous glucose monitoring include difficult to regulate diabetics, confirming proper insulin dosing when other variables are conflicting, and documenting Samoygi effect.

The most widely used technology for continuous glucose monitoring at home is the iPro2 by Medtronics®, and for in hospital continuous monitoring, the Guardian (also by Medtronics®). Lakeshore is fortunate to have both of the monitors available. Both use a small sensor which is implanted in the interstitial space, similar to a subcutaneous injection. The device is secured with a small amount of tissue glue adhesive, and a sterile adhesive.

The device is worn by the patient for 3-5 days at home, with 2 blood glucose samples obtained every 24 hours, to use for calibration. The owners will keep a journal of mealtimes, insulin injection times, and activities, as well as the blood glucose levels. The device begins recording immediately, and obtains a glucose measurement every 5 minutes or less. After 3-5 days, the patient returns to the hospital for device removal. The transmitter downloads data through a USB cord and communicates with the Medtronics® website, where patient information and data is stored. Once the data is downloaded, several glucose curves for the daily and overlay for all days are generated for analysis.

In hospital monitoring with the Guardian allows for monitoring of sick diabetics patients, diabetic ketosis, and allows us to obtain minute-to-minute information about how a patient is responding to therapy, and make insulin adjustments accordingly.

The use of this type of technology allows for us as veterinarians to be able to fine tune diabetic management, and more accurately assess our difficult to manage diabetic patient by providing infinitely more data than any 12 or 24 hour curve. Additionally, with the extra information provided by this technology, we are able to minimize the chances of diabetic crises and maximize the chances of successful diabetic management.