

# Kit's Diabetes

Lets get his blood sugar under control

# Background Information

- Kit Kat
  - 10 year old male DSH, 14 lbs, otherwise healthy
- Data
  - No past data due to fostering from ACC in NYC
  - Vet visit: 2/2024 = 426 mg/dl
    - Serum fructosamine shows not due to stress hyperglycemia
- Symptoms
  - Excessive urination
  - Constant thirst
  - Constant hunger

# Desired State

- Remission
  - No symptoms
  - BG is between 80 & 250
- Control
  - BG > 80
  - BG < 250 typ
  - BG < 300 peak

# Methods

- Low Carb / Sugar Food
  - Wet preferably
  - Dry occasionally (traveling)
  - Special treats only
- Insulin Shots
  - 12 hour insulin = 2x daily
  - 1-3 units per shot typical for cat
  - Glargine pen (Lantus Solostar) makes life easy
- Monitoring with CGM Freestyle Libre 3 (14 day life)



# Food

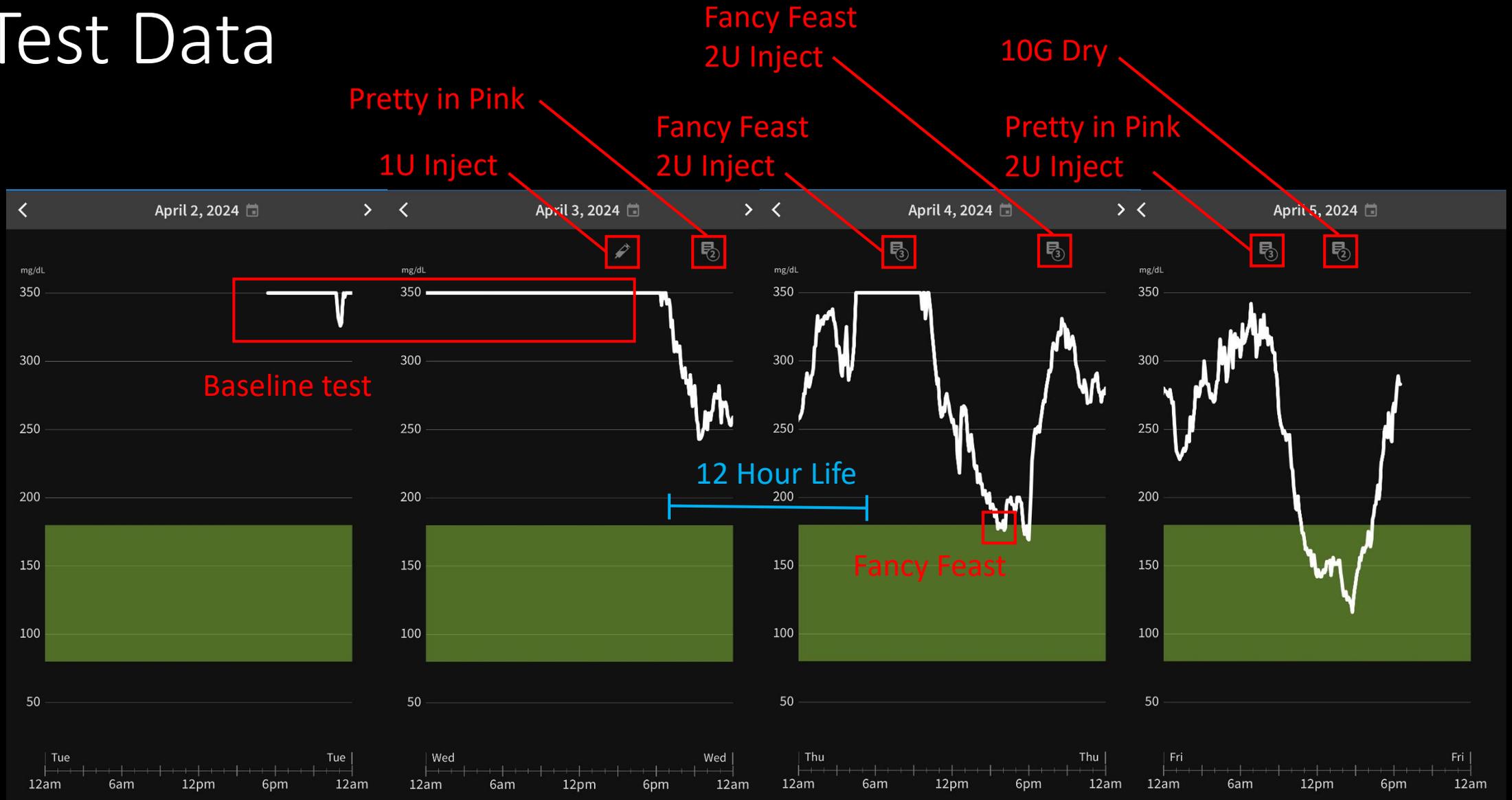
- Wet is better than Dry
  - Low carb, low sugar, high fiber (add psyllium?)
  - Protein minimum of 40, Fat maximum of 50, Carb max of 10
- Fancy Feast Classic Pate is community gold standard
  - RX/DM/RC food is junk, waste of money and time (prescriptions from vet)

Brand - Product	Type	Per Label								Water Content Removed					
		Moisture	Protein	Fat	Fiber	Ash	Sugar	Starch	Total	Adj-Protein	Adj-Fat	Adj-Fiber	Adj-Sugar	Adj-Starch	Adj-Total
Purina DM	Wet	78.0	12.0	4.5	2.0	3.1			99.6	54.5	20.5	9.1	0.0	0.0	84.1
RC Glycobalance	Wet	84.5	7.5	1.5	1.7				95.2	48.4	9.7	11.0	0.0	0.0	69.0
FF - Classic Pate - Sea1	Wet	78.0	12.0	2.0	1.5	3.3			96.8	54.5	9.1	6.8	0.0	0.0	70.5
FF - Classic Pate - Sea2	Wet	78.0	11.0	4.0	1.5	3.3			97.8	50.0	18.2	6.8	0.0	0.0	75.0
FF - Classic Pate - Sea3	Wet	78.0	12.0	2.0	1.5	3.3			96.8	54.5	9.1	6.8	0.0	0.0	70.5
TruLuxe -PiP	Wet	85.6	11.6	1.9	0.0	1.0	0.1		100.2	80.6	13.4	0.1	0.6	0.0	94.6
TruLuxe -MMaR	Wet	84.5	12.8	1.7	0.0	0.84	0.2		100.0	82.6	10.7	0.1	1.3	0.0	94.6
RC Glycobalance	Dry	8.0	44.0	14.0	6.7		5.4	24.0	102.1	47.8	15.2	7.3	5.9	26.1	102.3
Dr Elsey - CP Salmon	Dry	8.0	61.1	20.5		8.0	1.8		99.4	66.4	22.3	0.0	2.0	0.0	90.6
Dr Elsey - CP Chicken	Dry	8.0	62.4	19.0		7.5	2.5		99.4	67.8	20.7	0.0	2.7	0.0	91.2

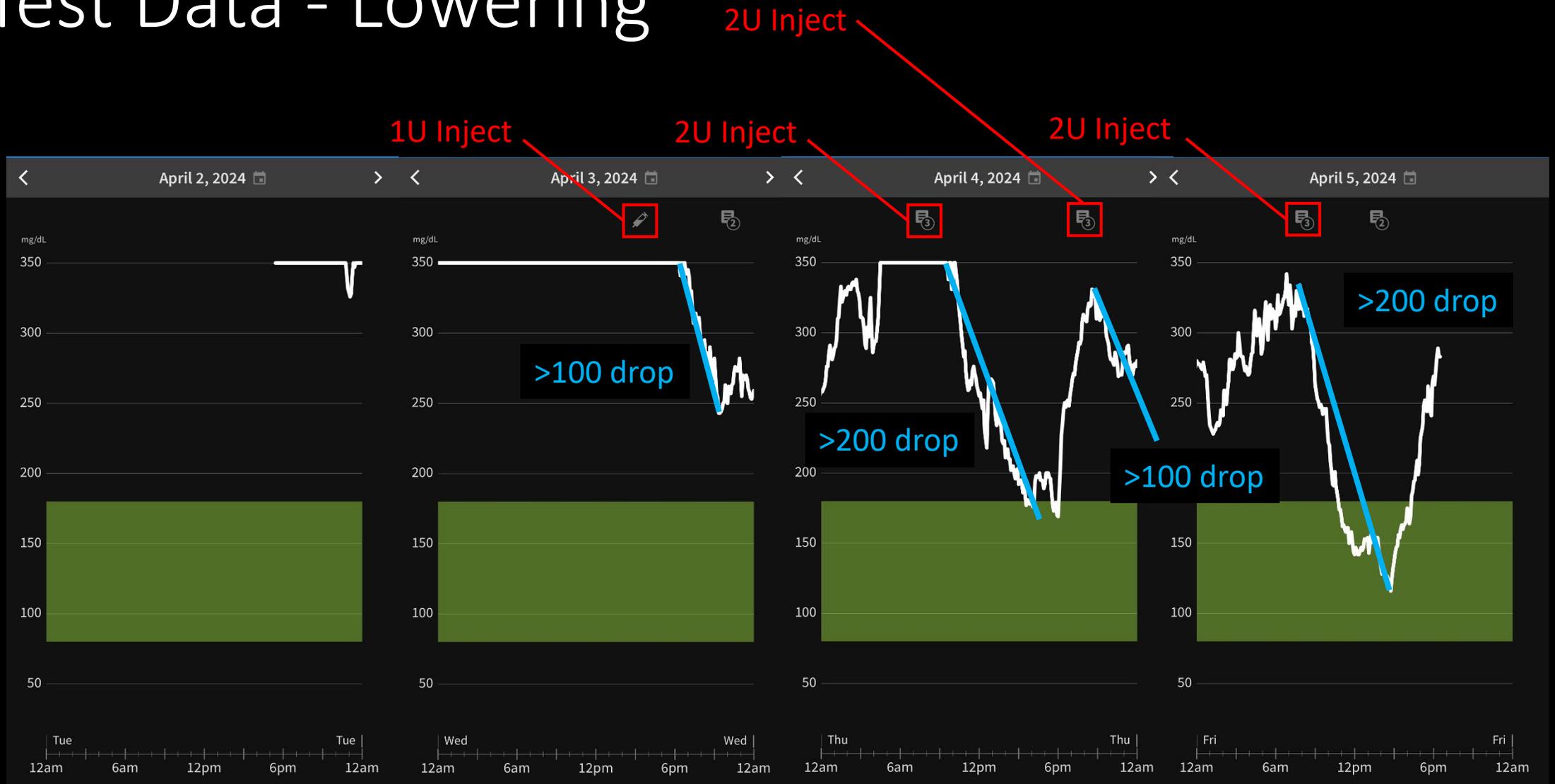
# Insulin Shots

- Consistent schedule (2x daily, 12 hour apart)
  - Easy to remember, hard to mess up
- Food and Insulin behaviorally interact in BG level
  - Align with feeding with shots (-1 hour)
  - Insulin has to scale with food intake
    - Also with food type
- Better to miss than overdo
  - Traveling
  - Bent needle, etc
  - With absence of data (CGM)

# Test Data



# Test Data - Lowering



# Test Data - Rising

Pretty in Pink

Fancy Feast

10G Dry

Fancy Feast

Pretty in Pink



# Home Assistant Integration

### Device info

1.2.3  
by LibreLink

LibreLink integration >

### Automations

Save Kits Life >

### Scenes

No scenes have been added using this device yet. You can add one by clicking the + button above.

### Sensors

- Active Sensor 3 days
- Glucose Measurement 252 mg/dL
- Is High Off
- Is Low Off
- Minutes since update 0
- Trend Stable

[ADD TO DASHBOARD](#)

### Logbook

**April 5, 2024**

- Kit Miller Trend changed to Stable**  
6:24:02 PM - 1 hour ago
- Kit Miller Trend changed to Increasing**  
6:22:02 PM - 1 hour ago
- Kit Miller Trend changed to Stable**  
6:20:02 PM - 1 hour ago
- Kit Miller Trend changed to Increasing**  
6:11:02 PM - 2 hours ago
- Kit Miller Trend changed to Stable**  
6:01:02 PM - 2 hours ago
- Kit Miller Trend changed to Increasing**  
5:59:02 PM - 2 hours ago

### PetKit-CatFeeder

- Amount eaten 18 g
- Battery Not charging
- Battery status Unavailable
- Dispensed 17 g
- Error No Error
- Food in bowl 4 g
- Planned 0 g
- Planned dispensed 0 g
- RSSI -52 dBm
- Status Normal
- Times dispensed 1
- Times eaten 3
- PetKit-CatFeeder Desiccant days remain... 0 d
- PetKit-CatFeeder Food level OK

### PetKit-CatFeeder Amount eaten

18 g

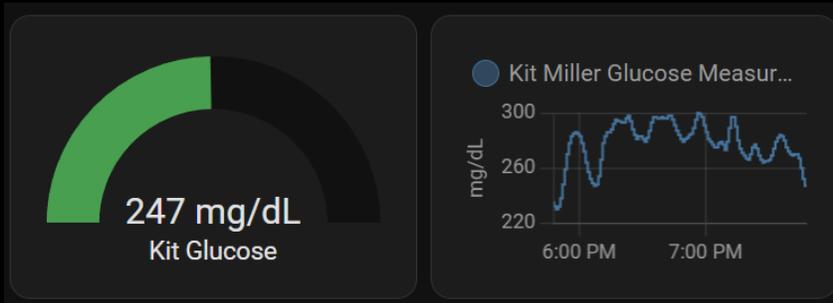
### Food Planned / Dispensed / Eaten

### Kit Miller Glucose Measurement

247 mg/dL

### Kit Miller Glucose Measurement

247 mg/dL



# Home Assistant Automation

← Kit Insulin

When

- When the time is equal to 8:00 AM
- When the time is equal to 8:00 PM

+ ADD TRIGGER

And if (optional)

This list of conditions needs to be satisfied for the automation to run. A condition can be satisfied or not at any given time, for example: 'If Dan Miller is home'. You can use building blocks to create more complex conditions.

+ ADD CONDITION + ADD BUILDING BLOCK

Then do

- Conditionally execute an action
- Send a notification
  - Device: HA App
  - Action: Send a notification
  - Message\*: Kit needs an insulin shot
  - Title

+ ADD ACTION + ADD BUILDING BLOCK

← Save Kits Life

When

- Kit Miller Glucose Measurement value changes
- Kit Miller Glucose Measurement value changes

+ ADD TRIGGER

And if (optional)

This list of conditions needs to be satisfied for the automation to run. A condition can be satisfied or not at any given time, for example: 'If Dan Miller is home'. You can use building blocks to create more complex conditions.

+ ADD CONDITION + ADD BUILDING BLOCK

Then do

- Send a notification
- Text-to-speech (TTS) 'Say a TTS message with cloud' on
- Set value for PetKit-CatFeeder Manual feed
- Delay for 5 seconds
- Press PetKit-CatFeeder Cancel manual feed button

+ ADD ACTION + ADD BUILDING BLOCK

# Critical Symptoms During Treatment

- Hypoglycemia (diabetic ketoacidosis)
  - Lethargy
  - Excessively sleepy
  - Drunken/Abnormal Walk
  - Seizures
- What to do
  - Immediate meal
  - Rub light karo syrup, honey, or sugar-water on gums
    - Dose of one tablespoon per 5 pounds
    - So like 2-3 tablespoons of sugar for Kit

# References

- <https://felinediabetes.com/FDMB/>
- <https://catvets.com/diabetes-toolkit/treatment>
- <https://github.com/gillesvs/librelink>
- <https://www.home-assistant.io/dashboards/>
- <https://petkit.com/products/petkit-fresh-element-infinity-5l>



Type	Formulation	Duration of Action	Starting Dose	Median Maintenance Dose
Lente (Vetsulin/Caninsulin)	U40	Medium-acting (8-10 hours)	0.25-0.5 U/kg q12h 0.11-0.23 U/lb q12h	0.5 U/kg q12h
Glargine (Lantus)	U100	Long-acting (12-24 hours)	0.25-0.5 U/kg q12h 0.11-0.23 U/lb q12h	2.5 U/cat q12h
PZI (Prozinc)	U40	Long-acting (13-24 hours)	0.2-0.7 U/kg q12h 0.1-0.3 U/lb q12h	0.6 U/kg q12h
Detemir (Levemir)	U100	Long-acting (12-24 hours)	0.25-0.5 U/kg q12h 0.11-0.23 U/lb q12h	1.75 U/cat q12h

\*This table was created based on the ISFM [Guidelines](#) on Diabetes Mellitus. [Print](#) this chart.