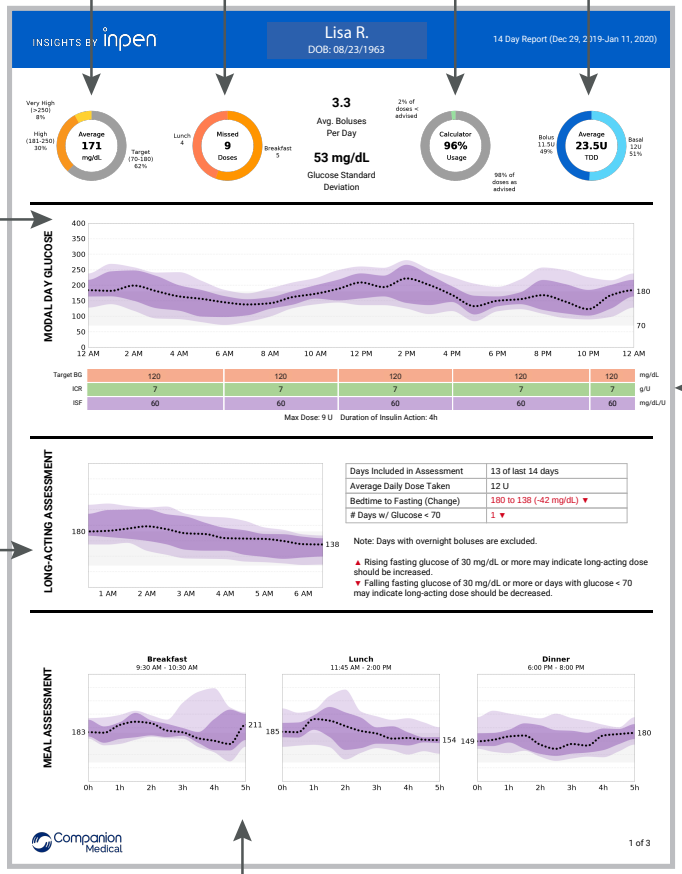
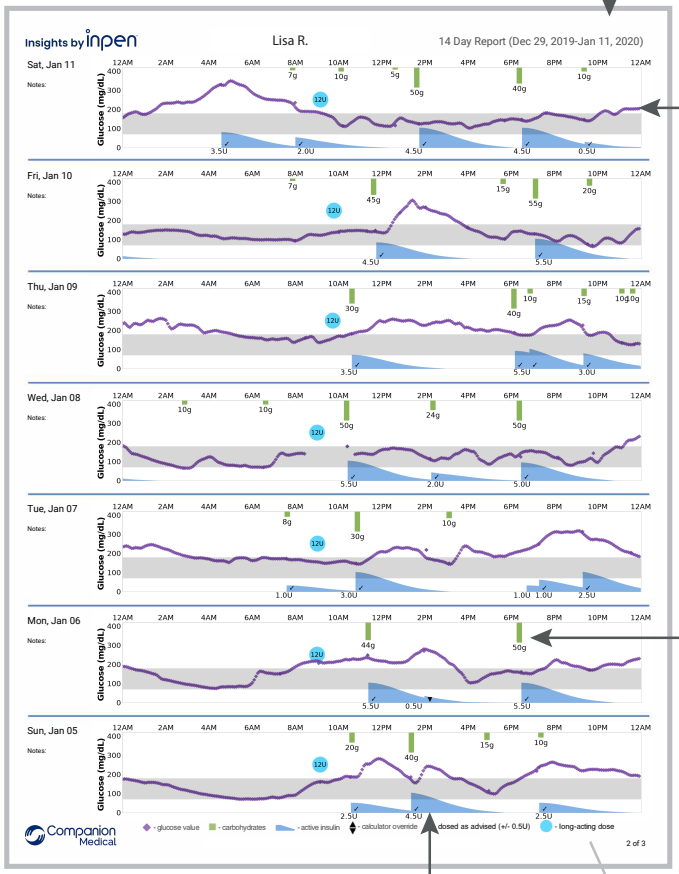
Guide to Using the Insights by InPen Integrated Data Report





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Glucose

Carbohydrate

Insulin Dose

- glucose value
- carbohydrates
- active insulin
- calculator override
✓ - dosed as advised (+/- 0.5U)
- long-acting dose

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1 **Glucose Data**
Observe average glucose, standard deviation; percent time in range, time below range, and time above range. The goal for most PWD is > 70% of time or readings within target range (70- 180 mg/dL); < 4% below 70 mg/dL; < 1% below 54 mg/dL; < 25% above 180 mg/dL; less than 5% above 250 mg/dL.

2 **Modal Day Glucose Graph**
Check to detect any patterns of hypo/hyperglycemia or variability at certain times of day. The first priority is to resolve any patterns of hypoglycemia.

3 **Missed Doses**
Detect if any particular meal time insulin dose or basal insulin dose is regularly missed. Ask the PWD if these doses are forgotten, intentionally omitted, or not taken because meals are skipped.

- As a first priority resolve any barriers the PWD has to taking insulin doses.
- Adjust meal time settings and reminders in the InPen app as needed.

4 **Insulin Data**
Observe Total Daily Dose (TDD) and distribution between basal and bolus doses. The optimal basal/bolus ratio is a 50/50 split though this may differ based on carbohydrate intake, other medications, fitness level, and degree of insulin resistance.

- Check to see that the PWD has their basal insulin reminder set in the InPen app and that they consistently record their basal doses.
- Observe average number of boluses per day. Consider how this corresponds with the PWD's reported usual routine.

5 **Long-Acting Assessment**
Assess the need to optimize the basal insulin dose. The goal is to maintain glycemic stability in the fasting state with no more than 30mg/dL change.

6 **Dosing Behavior**
Determine if PWD is using the dose calculator at meals and for corrections. If so, are they following the dosing recommendations? If not, explore the root cause(s) of why not e.g. lack of confidence in their therapy settings or fear of hypo/hyperglycemia.

7 **Meal Assessment**
Based on glycemic response to meal doses, assess adequacy of meal doses or insulin settings (Insulin to Carbohydrate Ratio [ICR] or meal-size doses recommended).

8 **Daily Charts**
Review the daily charts and consider the following:

- Is glucose checked before each dose?
- Is the meal size or grams of carbohydrate consumed recorded with meal doses? Does the PWD need more carbohydrate counting education? Would they benefit from access to a food database or help estimating meal sizes?
- How many meals does the PWD eat per day? Any missed meals? Explore why.
- Does timing of insulin dose relative to the meal need adjusting?
- Evaluate glycemic response when the dose calculator was used versus dosing more or less than recommended. If dosing recommendations are not followed explore why.
- How often are correction doses taken? Detect missed correction opportunities.
- Is the PWD stacking bolus doses?

9 **Therapy Settings**
Based on observations and discussions with the PWD, determine if therapy settings or meal times need adjusting for any time of day or particular meal.

On an ongoing basis, remember to consider the following basics of insulin therapy:

- If the PWD is missing doses, identify and address barriers to taking insulin first prior to making adjustments in the insulin regimen.
- Assure quality of insulin (storage, shipping), proper site rotation (examine for lipohypertrophy), injection technique, timing of dose(s).
- Always address hypoglycemia first.
- Titrate (optimize) the basal dose first to create a strong foundation for fine-tuning other insulin therapy settings to optimize the meal time insulin regimen.
- Fine-tune the ICR. Having the ICR correct as well as accurate carbohydrate counting (or meal estimation) helps decrease the need for correction doses.
- Fine-tune the Insulin Sensitivity Factor (ISF) along with Duration of Insulin Action (DIA).

1. Battelino T, Danna T, Bergental RM. et al. Clinical Targets for Continuous Glucose Monitoring Data Interpretation: Recommendations From the International Consensus on Time in Range. Diabetes Care. 2019 Aug;42(8):1593-1603. doi: 10.2337/dci19-0028. / **2.** Reid T, Gao L, Gill J. et al. How much is too much? Outcomes in patients using high-dose insulin glargine. Int J Clin Pract 2016;70:56-65. / **3.** Walsh J, Roberts R. Pumping Insulin, 6th ed. 2017, Torrey Pines Press