

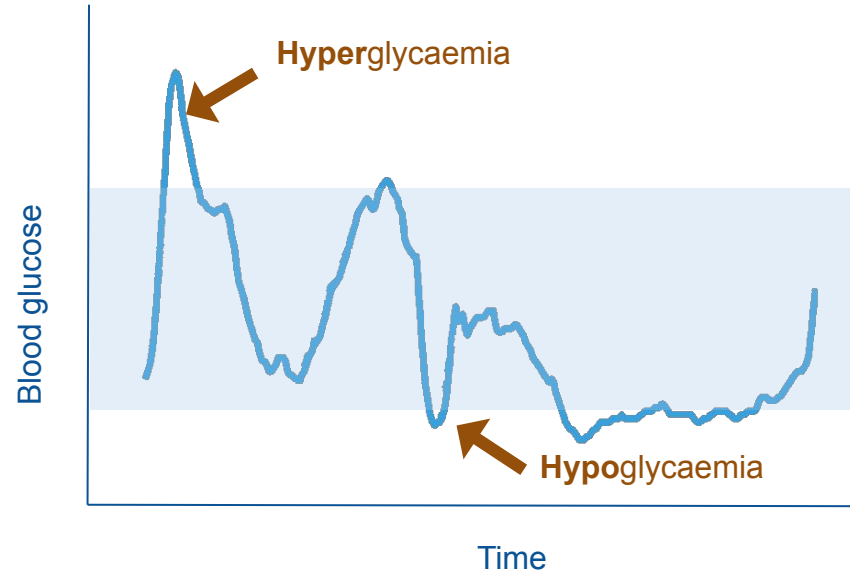
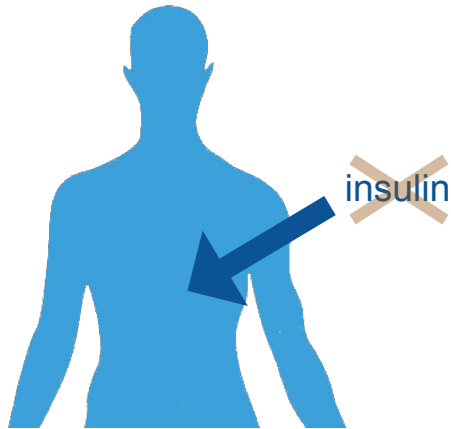
Cycling analytics for individuals with Type 1 Diabetes

A project in collaboration with Team Novo Nordisk and the Bern University Hospital

Eva van Weenen | May 12, 2021



Background - Type 1 Diabetes



Background - Exercise and diabetes

Regular exercise is recommended for individuals with diabetes

Essential for health, fitness and longevity

Exercise with Type 1 Diabetes is **challenging**

- There are many variables that can cause blood glucose to fluctuate significantly
- For individuals engaging in *professional* endurance exercise, there is less information about the needs and about the real-time glycaemic response

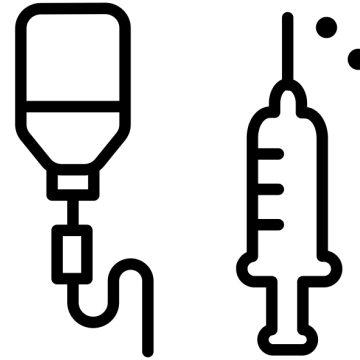
Objective: Support professional cyclists with Type 1 Diabetes in glucose management during exercise

Data - Team Novo Nordisk

11 professional cyclists over the course of one training season (year)



Cycling



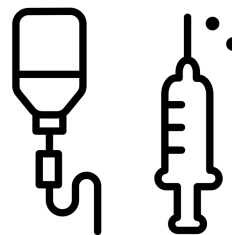
Glucose

Data - Team Novo Nordisk

11 professional cyclists over the course of one training season (year)



Cycling



Glucose



heart rate



power



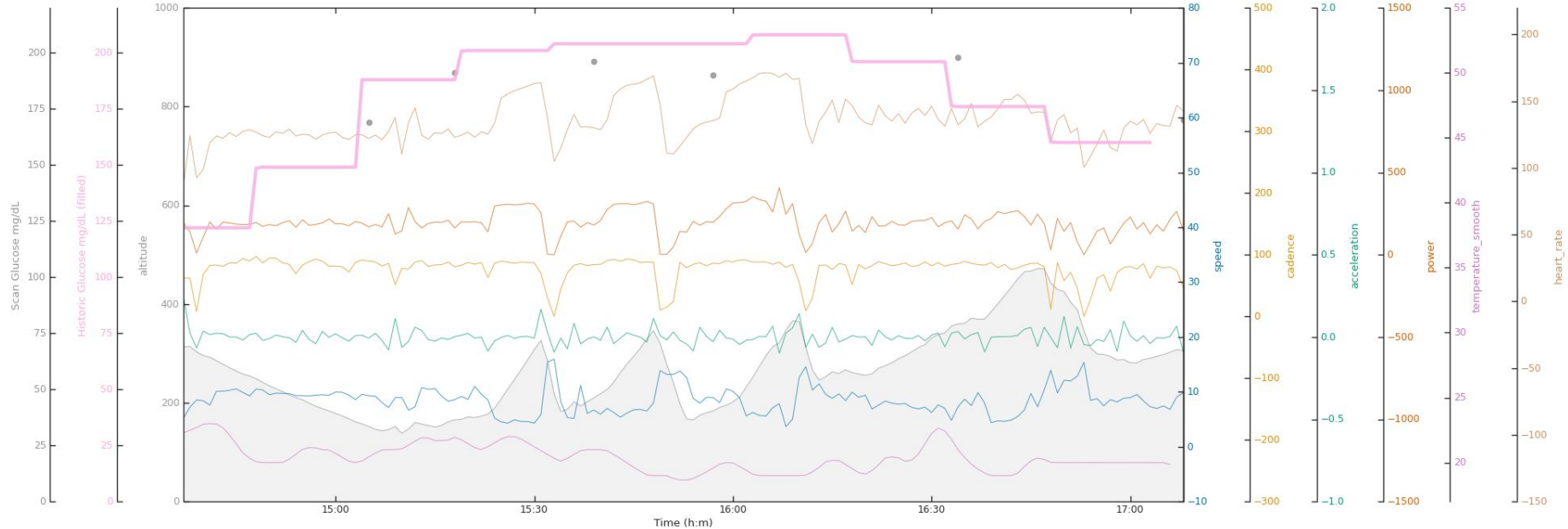
bike computer



CGM (dexcom)

Data - Example of one training session

TODO: THIS IS A PLACEHOLDER, USE SIMILAR FIGURE WITH NEW DEXCOM DATA



Objective

Support professional cyclists with Type 1 Diabetes in glucose management during exercise

- 1 Insights in glucose levels *before-*, *during-* and *after* training sessions
Time spent in glucose levels hypo (L1 and L2), within range, and hyper (L1 and L2)
- 2 Association of **training sessions** with time spent in glucose levels
Correlation between variables such as power, altitude, training stress score, etc. from a training session with glucose
- 3 **Predict future glucose levels** based on current and past glucose and current and past exercise
More accurate prediction of future glucose + insights in glycaemic response during exercise

Questions?