

Case Study 1.3: Jumpy CGM

V 2.1

Incidences of erratic CGM - what that may do to your FCL

One jumpy value in late phase of digesting Pizza triggers (too) big SMB



[Case Study 4.1](#) discusses this entire pizza meal. Here we like to look only at the 14:33 (compression?) low CGM value followed by a significant fake acceleration noticed 14:38 = 02:38 PM which triggered a significant SMB of 1.7 U:



The screenshot shows the 'Carbs and bolus' screen with a list of bolus entries. Each entry includes a time, a bolus amount in units (U), and a status (SMB PH). The entry '02:38PM 1.70 U SMB PH' is highlighted with a white box and a blue arrow pointing from the 'HOME' screen graph.

Time	Bolus (U)	Status
06:13PM	0.20 U	SMB PH
05:13PM	0.20 U	SMB PH
05:03PM	0.40 U	SMB PH
04:58PM	0.40 U	SMB PH
04:53PM	0.10 U	SMB PH
04:28PM	0.10 U	SMB PH
04:13PM	0.40 U	SMB PH
04:03PM	0.70 U	SMB PH
02:38PM	1.70 U	SMB PH
02:23PM	0.10 U	SMB PH
02:18PM	0.80 U	SMB PH
01:18PM	2.30 U	SMB PH
12:38PM	3.00 U	SMB PH
12:33PM	1.80 U	SMB PH
11:13AM	1.20 U	SMB PH
11:08AM	0.40 U	SMB PH
10:17AM	0.10 U	SMB PH
10:13AM	0.10 U	SMB PH
02:48AM	0.80 U	SMB PH

To get nice size SMBs at detected strong acceleration, and to run fully automatically without setting EatingSoonTT, I have an Automation that sets TT=74 mg/dl for 26 minutes immediately when strong acceleration is detected. Shooting towards that low temp. target contributed to the SMB size.

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17 The additional insulin due to the „fake“ **strong rise made the situation risky** with respect
18 to going a bit too low between 17 and 18 h, and I had to watch out whether I need a snack,
19 or whether I just reach a nice low starting bg for my upcoming dinner.

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21 [Avenues to avoid the problem](#)

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23 Avenues to avoid over-reactions of autoISF to CGM artefacts could be:

24 • First and foremost, make sure the principal quality of your CGM values are of good
25 quality- See [section 1.2](#).

26 • Build in more „quality control“: What is your loop is allowed to see as a sudden
27 acceleration („logical pattern“) in your bg curves?

28 Comparing the sequence of deltas (in my screen about +3 +3 -18 +21, or
29 comparing short-average-delta (=the average of the last 3) with the new delta

30 • $(+3+3-18)/3 = -4$ compared to -18 or

31 • $(+3-18+21)/3 = +2$ compared to +21

32 both point to an artefact, and you could build an Automation rule that captures
33 the cases you tend to occasionally have.

34 • Formulate an Automation that gives an alarm at any sudden strong drop; better yet:
35 that sets for ~ 10 minutes an odd TT, so no SMB could be devised at the expected
36 jump back up.

37 • Specifically, if you have nighttime compression lows, consider (1) different sensor
38 placement on your body (2) nighttime SMB shut-off using odd profile target ((see also
39 [section 5.1.1](#))), or (3) use an over-case (3D-printed).

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44 [Invitation to add other case reports, here or as an extra case study.](#)

45 [Please contribute also one that emphasizes](#) utility of SMB-off at night