



רעים מתוקים

FRIENDS WITH DIABETES INTERNATIONAL

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BS"D

Potential danger when fasting while using the new semi-automatic insulin pumps, (like the Medtronic 670g, or the Tandem Basal IQ).

In order to explain the scenario I will need to make a short introduction. We've already elaborated on this subject in previous articles, we will just reiterate in short.

Fasting for person with type-one diabetes is like walking on a tight rope. We limit insulin intake in order to avoid a low blood sugar, however, by doing so we face a much bigger and more dangerous issue, which is DKA (ketones that turn the person acidic), which could be life threatening. I've witnessed quite a few of such over the years.

Note: contrary to a common misconception, DKA does not stem from high blood sugars; they are triggered by too little insulin. They can happen even with perfect or even low BG's!

Some ketone formation will happen to any person that fasts for longer than 10-12 hours, and that's is still OK, but for someone with type 1 diabetes, where insulin intake is reduced, in addition to being dehydrated, it can easily turn into DKA ChV.

Because of that we have advised people over the years, to follow a specific protocol, whereby one is only gradually reducing basal insulin, and never to totally discontinue the basal. We've warned not to lower basal lower than 50% at any given time during the fast. Even in the event that one's BG's will go low because of that, and one will need to consume some glucose.

All this has changed with the newest sophisticated pumps, like the Medtronic 670g, or the Tandem Basal IQ. These systems only care to stabilize BG's, i.e. preventing the low BG. These pumps don't factor in other concerns; it doesn't factor in that we've been fasting for many hours, and are at the verge of DKA.

While these systems are a true god-send for year round, and can also be helpful for the first night of the fast, they can turn into a dangerous weapon CH"V as the fast day progresses!

The issue can even be exaggerated when people raise their target BG for the fast (150-180), which will in turn decrease basal insulin even further.

Dr. Don Zwickler has advised us that one who will use these systems should be on top of their ketone levels from noontime and on. Since urine output is diminished while fasting, one might need to rely on blood ketone testing. He suggests a repeat check every 2 hours.

I would even dare to suggest, that one should opt out from the auto-mode in the 670g by noon time, and revert to manual mode and follow the guidelines below.



דיעים מתוקים

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### Fasting guidelines in short:

- Carefully measure the carbs in the meals erev yom kipur. Don't overeat. Maybe under-bolus a bit, to avoid going low at night.
- Preferred range for fasting is 150-180 (8.3 – 10.0 mmol)
- If above 200, correct with very small amounts. Wait at least 2 hours before correcting again.
- If lower than 70 (3.8 mmol), eat candy and drink juice. '3' winkie rolls is less than the shiur.
- **At any time if you feel nauseas, check ketones.**
  - If ketones are moderate (0.6 to 1.5 on a blood ketone monitor), it could be a sign of developing DKA. Start eating and drinking shiurim. The more insulin you get, the sooner the ketones will drop\*.
  - If Ketones are large (1.6 and above), start EATING and DRINKING REGULAR! Discontinue the fast!
- Protocol to use temp basal on the fly;
  - Minus 10% when going to bed at night after kol nidrei.
  - By day reduce basal by 10% every 3 hours.
  - 20% 7:00 AM
  - 30 10:00 AM
  - 40% 1:00 PM
  - 50% 4:00 PM

**Use common sense when making these changes. If at any of those times your BG is to the low side, jump ahead to the next adjustment. If number is to the high side, wait for the next time slot to make change).**

**NEVER DO LOWER THAN -50%. If you do so, you can risk a very dangerous situation of DKA!\*\*\***

- Revert to normal basal one hour before breaking fast. Except if you BG is to the low side.
- At zman start drinking lots of fluids (water). Even before mariv and havdala. Hydrating the body is important so insulin is distributed well throughout the body.
- Wait half hour after bolus before eating. Or watch your CGM to notice insulin action. Space out the carbs, and don't eat too many carbs at all, or you will get extremely high BG's.



\* Delaying eating can cause extreme nausea, where food won't be held down, and will require the need of medical attention.

\*\* We found that skinny people, are more prone to DKA. Therefore we suggest that young teens should rather eat shiurim.

**גמר חתימה טובה, שנה טובה ומתוקה**

**Rabbi Hirsch Meisels**

Collection of Yom Kippur links:

[www.friendswithdiabetes.org/files/pdf/tishrei57641.pdf](http://www.friendswithdiabetes.org/files/pdf/tishrei57641.pdf)

Comprehensive Yom Kippur guide – To Fast Or Not To Fast (page 11-22)

The Risks: (page 11)

Are you a fasting Candidate? A Checklist (page 13)

Erev Yom Kippur (page 14)

The Fast Day (page 15)

Serving Hashem With Joy – A Tefilla (page 17)

Some Suggestion of foods that are Pachos M'kshur (page 19)

After The Fast (page 20)

Letters from Doctors (page 21-22)

[www.friendswithdiabetes.org/files/pdf/tishrei5766.pdf](http://www.friendswithdiabetes.org/files/pdf/tishrei5766.pdf)

A Guide For Users of 24 Hour Insulins – Lantus/Levimir (page 1, 4)

[www.friendswithdiabetes.org/files/pdf/tishrei5768.pdf](http://www.friendswithdiabetes.org/files/pdf/tishrei5768.pdf)

Some Fascinating FASTING Facts (page 6-9)

Simplified Solution Illustrated – Timing for Pachos M'kshur (page 9)

[www.friendswithdiabetes.org/files/pdf/tishrei5769.pdf](http://www.friendswithdiabetes.org/files/pdf/tishrei5769.pdf)

Guidelines: Fasting with Type 2 Diabetes (page 6-15)

The Yom Kippur Basal Calculator (page 21-23). Spreadsheet will be emailed upon request



Your Own Yom Kippur Voices (page 24-25)

מאמר מדר' יוסף קלינמן (page 28-29)

[www.friendswithdiabetes.org/files/pdf/Back2School5770.pdf](http://www.friendswithdiabetes.org/files/pdf/Back2School5770.pdf)

Revisiting Yom Kippur (page 16-19)

[www.friendswithdiabetes.org/files/pdf/Issue17.pdf](http://www.friendswithdiabetes.org/files/pdf/Issue17.pdf)

Medical Position Statement (page 5-10)

On Responsibility - Fasting with Type 1 Diabetes.. a fresh perspective (page 11-15)

Short & Sweet, Fasting Responsibly (Page 16-17)

[www.friendswithdiabetes.org/files/pdf/Fall5772.pdf](http://www.friendswithdiabetes.org/files/pdf/Fall5772.pdf)

Endorsement (page 3)

[www.friendswithdiabetes.org/files/pdf/tishrei5762yiddish.pdf](http://www.friendswithdiabetes.org/files/pdf/tishrei5762yiddish.pdf)

Comprehensive Yom Kippur guide, yiddish

[www.friendswithdiabetes.org/files/pdf/tishrei5762english.pdf](http://www.friendswithdiabetes.org/files/pdf/tishrei5762english.pdf)

(Our first Yom Kippur article (quite outdated) Page 12-18)

[www.friendswithdiabetes.org/files/pdf/tishrei5763.pdf](http://www.friendswithdiabetes.org/files/pdf/tishrei5763.pdf)

Some Yom Kippur Q&A (page 2-4)

<http://friendswithdiabetes.org/files/pdf/Efrati5771.pdf>

Response from Rabbi Yosef Efrati

<http://friendswithdiabetes.org/files/pdf/MyComments5771.pdf>

My letter to Rabonim

*Have an easy fast, and a Gmar Chasima Tovah*