

“The Point”

ZSFG Diabetes Newsletter - May 2017

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SPECIAL ISSUE: Preparing for Ramadan even though people with diabetes can be medically exempt from fasting

See below:

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Preparing for Ramadan: May 26 - June 25

Over 100 million Muslims worldwide observe the holy month of Ramadan to commemorate when the Holy Quran was revealed to Muhammad. Fasting is seen as a deeply meaningful, spiritual experience. This year, **Ramadan is May 26 - June 25**. In this issue of “The Point,” we highlight key points on planning for Ramadan to ensure the health and well-being of our patients with diabetes who choose to fast.

These pointers are excerpted from “Diabetes and Ramadan: Practical Guidelines,” published in April 2016 by the International Diabetes Federation in collaboration with the Diabetes and Ramadan International Alliance. These guidelines have aligned medical and religious advice. The full report can be downloaded here: [Diabetes and Ramadan: Practical Guidelines](#). (Thanks to Jennifer Cherry, RD from 5M, and astute reader of “The Point”, who brought this to our attention!)

What happens during the Ramadan fast?

Fasting is obligatory among healthy Muslims who have reached puberty, though **exemptions** include children, those who are ill (**including some people with diabetes**), travelers, women who are pregnant or breastfeeding, and those with decreased mental capacity. Observers of Ramadan fast during the day between sunrise and sunset. The fast is broken after sunset (iftar) and another meal is eaten before sunrise (suhoor). During the period of fasting, observers refrain from food, drink, medications, sex and smoking. The iftar meal after sundown can be very large, with high fat, high protein, and sugary foods. Sleep quality and duration may also be affected before the next day. The end of Ramadan is celebrated with a 3-day festival (Eid ul-Fitr) that may lead to over-indulgence in eating. There are risks with **fasting** and **feasting**, and both need to be addressed.




What are the potential risks to people with diabetes?

The key risks for people with diabetes who observe Ramadan include **hypoglycemia**, **hyperglycemia**, **dehydration and thrombosis**, and **DKA**. Despite being exempt, many people with diabetes still choose to fast. In the landmark 2001 study Epidemiology of Ramadan and Diabetes (EPIDIAR) of over 12,000 Muslims in 13 countries, 43% of people with T1DM and 79% with T2DM fasted at least 15 days during Ramadan. Compared to the pre-Ramadan period, severe hypoglycemia during Ramadan was 4x higher in T1DM, and 7x higher in T2DM. Similarly, severe hyperglycemia was 3x higher in T1DM, and 5x higher in T2DM. Religious authorities recognize that if fasting will harm the person, the fast is permitted to be broken. People with diabetes are recommended to consult with their healthcare providers about the safety of fasting.

Medical assessment and planning--so what's a health care provider to do?

First, **be proactive and ask your patient about his/her plans for Ramadan**. Pre-planning has been shown to reduce the risk of complications during the fast. Patient should know their risk for fasting and whether it is medically safe to fast or not. Even if he/she chooses to fast against medical advice, it is still important to discuss what precautions to take.

Table 1. IDF-DAR risk categories and recommendations for patients with diabetes who fast during Ramadan

Risk category and <u>religious opinion on fasting*</u>	Patient characteristics	Comments
<p>Category 1: very high risk <u>Listen to medical advice</u> MUST NOT fast</p> 	<p>One or more of the following:</p> <ul style="list-style-type: none"> • Severe hypoglycaemia within the 3 months prior to Ramadan • DKA within the 3 months prior to Ramadan • Hyperosmolar hyperglycaemic coma within the 3 months prior to Ramadan • History of recurrent hypoglycaemia • History of hypoglycaemia unawareness • Poorly controlled T1DM • Acute illness • Pregnancy in pre-existing diabetes, or GDM treated with insulin or SUs • Chronic dialysis or CKD stage 4 & 5 • Advanced macrovascular complications • Old age with ill health 	<p>If patients insist on fasting then they should:</p> <ul style="list-style-type: none"> • Receive structured education • Be followed by a qualified diabetes team • Check their blood glucose regularly (SMBG) • Adjust medication dose as per recommendations • Be prepared to break the fast in case of hypo- or hyperglycaemia • Be prepared to stop the fast in case of frequent hypo- or hyperglycaemia or worsening of other related medical conditions
<p>Category 2: high risk <u>Listen to medical advice</u> Should NOT fast</p> 	<p>One or more of the following:</p> <ul style="list-style-type: none"> • T2DM with sustained poor glycaemic control** • Well-controlled T1DM • Well-controlled T2DM on MDI or mixed insulin • Pregnant T2DM or GDM controlled by diet only or metformin • CKD stage 3 • Stable macrovascular complications • Patients with comorbid conditions that present additional risk factors • People with diabetes performing intense physical labour • Treatment with drugs that may affect cognitive function 	<p>Patients who fast should:</p> <ul style="list-style-type: none"> • Receive structured education • Check their blood glucose regularly (SMBG) • Adjust medication dose as per recommendations
<p>Category 3: moderate/low risk <u>Listen to medical advice</u> Decision to use licence not to fast based on discretion of medical opinion and ability of the individual to tolerate fast</p> 	<p>Well-controlled T2DM treated with one or more of the following:</p> <ul style="list-style-type: none"> – Lifestyle therapy – Metformin – Acarbose – Thiazolidinediones – Second-generation SUs – Incretin-based therapy – SGLT2 inhibitors – Basal insulin 	<p>Patients who fast should:</p> <ul style="list-style-type: none"> • Receive structured education • Check their blood glucose regularly (SMBG) • Adjust medication dose as per recommendations

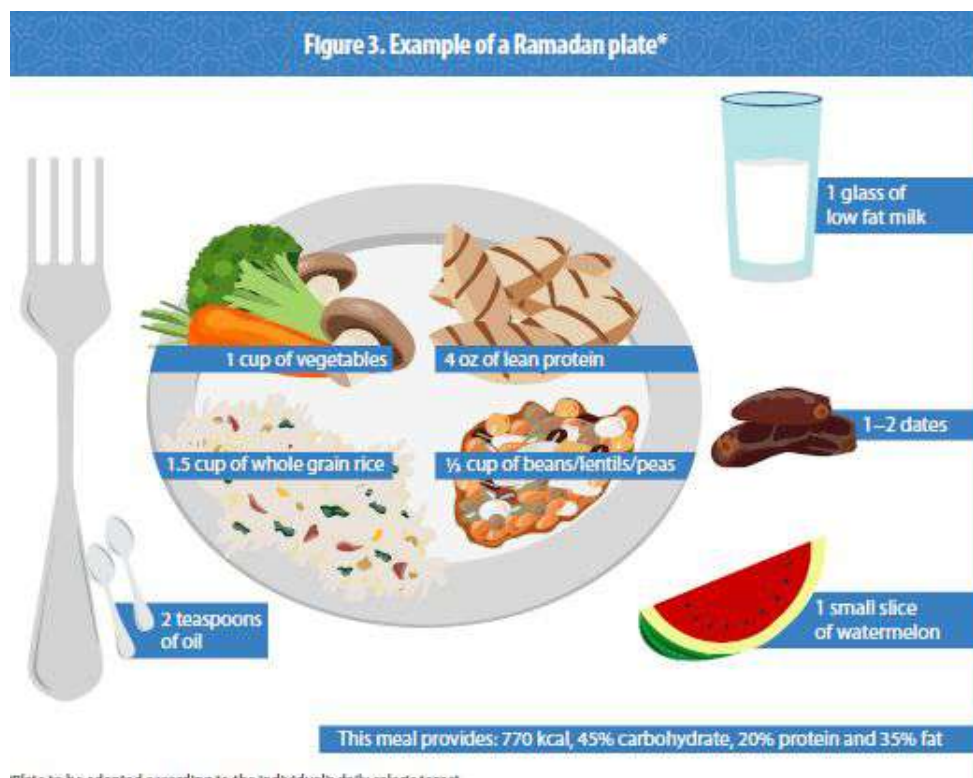
*In all categories people with diabetes should follow medical opinion if the advice is not to fast due to high probability of harm

**The level of glycaemic control is to be agreed upon between doctor and patient according to a multitude of factors

CKD, chronic kidney disease; DAR, Diabetes and Ramadan International Alliance; DKA, diabetic ketoacidosis; GDM, gestational diabetes mellitus; IDF, International Diabetes Federation; MDI, multiple dose insulin; SGLT2, sodium-glucose co-transporter-2; SMBG, self-monitoring of blood glucose; SU, sulphonylurea; T1DM, type 1 diabetes mellitus; T2DM, type 2 diabetes mellitus

Second, provide **Ramadan-focused education**. This includes the importance of blood glucose monitoring, advice on fluids/diet/exercise, medication adjustment and precautions on when to break the fast. Note: it is a common misconception that blood glucose monitoring during the fast is prohibited, but this is not true in the majority of Muslim countries. For those on multiple daily insulin injections, it is recommended to check before the two main meals at sunrise and sunset. In addition, during the period of fasting during the day, it is recommended to check mid-morning, mid-day, mid-afternoon and any other time if having symptoms of hypoglycemia or hyperglycemia.

Check out this **on-line tool** to develop an individualized [Ramadan Nutrition Plan](#) (available in Arabic as well), that focuses on balancing carbohydrates between the sunrise suhoor and sunset iftar meals, avoiding large fatty and sugary carbohydrate loads, and choosing carbohydrates with low glycemic index. **A healthy plate for Ramadan might look like this:**



Third, review the patient's medication regimen with an eye for preventing hypoglycemia and hyperglycemia. In small studies, metformin, TZDs, acarbose, DPP-4 inhibitors, GLP-1 receptor agonists were associated with very low risk of hypoglycemia, and doses need **not** be

reduced during Ramadan fasting. SGLT-2 inhibitors are similarly low-risk for hypoglycemia, however **use with caution** because of the risk of dehydration in the elderly, those who are hypotensive, on diuretics, during the long fasting period.

Sulfonylureas should be used with caution during Ramadan, especially avoiding the long-acting glyburide which has been associated with the highest risk of hypoglycemia. There is lower risk of hypoglycemia with glimepiride and glipizide so these are preferred. Though not studied during Ramadan, nateglinide and tolbutamide, which have the shortest duration of action, are probably even safer.

Large RCTs of individuals on insulin during Ramadan are lacking. Limited data to guide titration comes from small, mostly observational trials. Remember that during Ramadan, the period of fasting changes from overnight to daytime, and the sizing of meals is also flipped, with greater calories consumed after sunset. Thus adjustments in dosing and timing will be needed for those using insulin:

	Normal meal/wake schedule during the day, sleeping at night	Timing and dosing adjustments for Ramadan fast
Once daily NPH or Glargine	Bedtime	Reduce dose by 15-30% and give in the morning prior to period of fasting
Twice daily NPH	Morning (usually larger dose) + bedtime (usually smaller dose)	Smaller dose give at sunrise + larger dose given at sunset
Prandial insulin*	Before meals	Before meals (sunrise suhoor and sunset iftar meals only)
Premix insulin	Before breakfast (usually larger dose) + before dinner (usually smaller dose)	Before sunrise suhoor meal (smaller dose) + before sunset iftar meal (larger dose)

** Some studies show less hypoglycemia with rapid-acting analogs compared with Regular insulin*

In summary, the decision of any individual with diabetes to fast during Ramadan must be respected, but collaboration with health care providers in advance, to plan for and reduce potential harms, is key.

Diabetes Resource Website:

<http://in-sfghweb01/DMresource/DiabetesMain.htm>

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