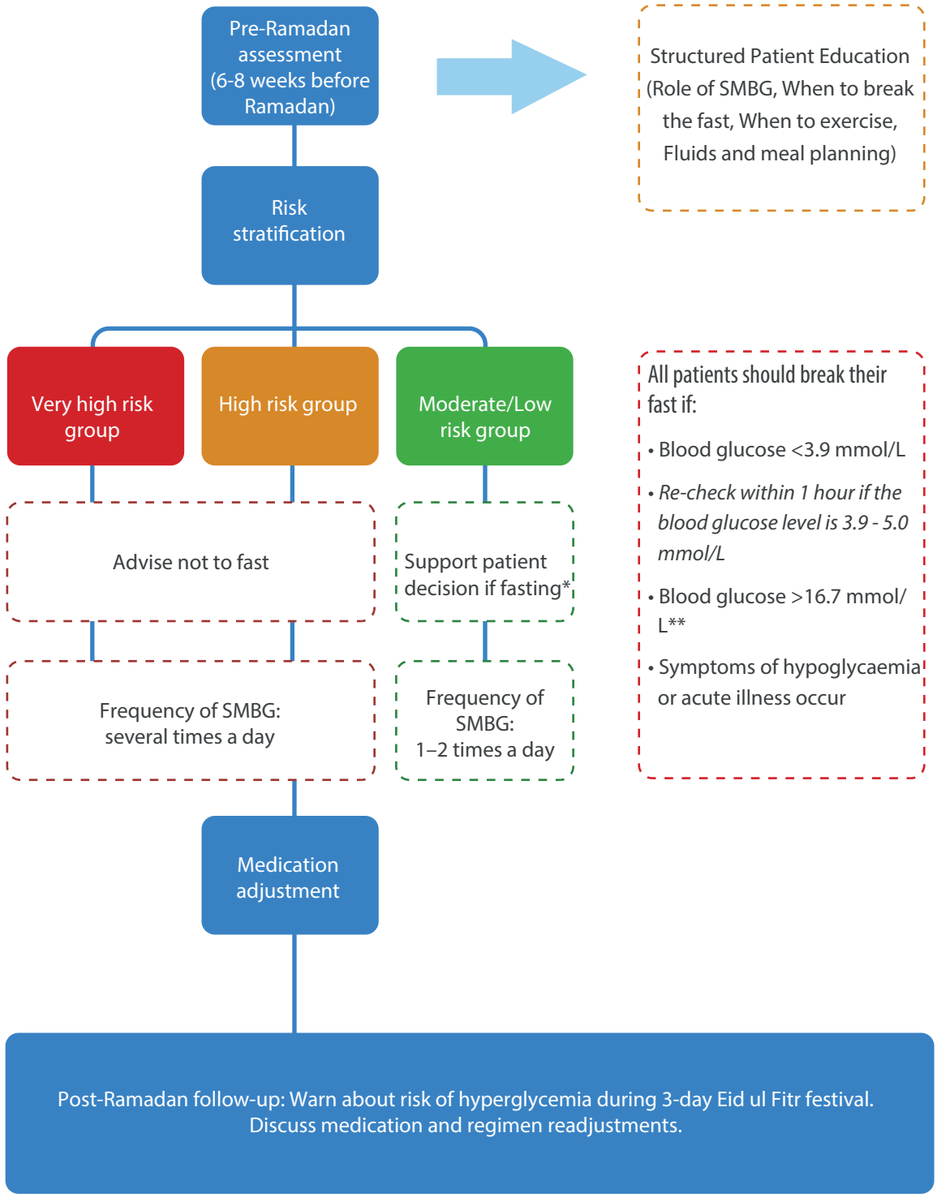
Summary: Management algorithm



*Decision to fast based on medical opinion and ability of the individual to tolerate fast
**Consider individualisation of care

International Diabetes Federation

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DAR Diabetes & Ramadan International Alliance

Reference:
Diabetes and Ramadan: Practical Guidelines International Diabetes Federation (IDF), in collaboration with the Diabetes and Ramadan (DAR) International Alliance. April 2016. http://www.idf.org/news/idf-dar-diabetes-in-ramadan-guidelines. Last accessed 2 May 2016.

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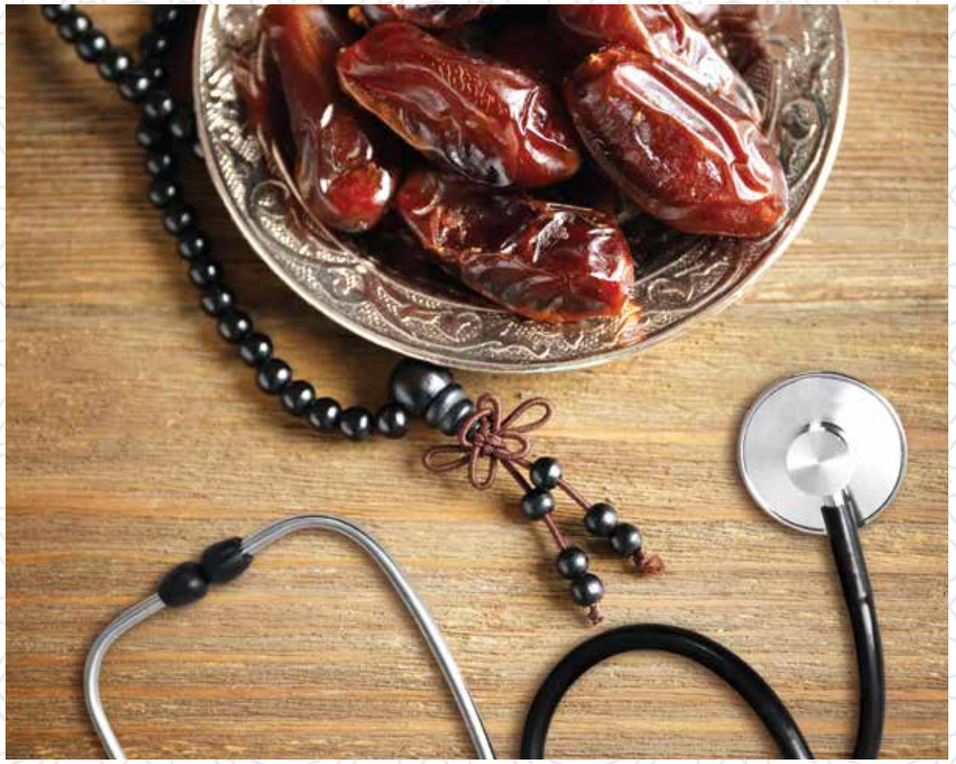
MANAGEMENT OF DIABETES DURING RAMADAN

QUICK REFERENCE GUIDE



This Quick Reference Guide provides key messages and a summary of the Practical Guide to Diabetes Management in Ramadan. Details of the evidence supporting these recommendations can be found in the Practical Guidelines, available on the following website: http://www.idf.org/news/idf-dar-diabetes-in-ramadan-guidelines

The IDF/DAR Diabetes and Ramadan: Practical Guidelines and patient leaflets have been made possible with the support of Sanofi Diabetes.

Stratification of risks associated with fasting

During Ramadan, the risk of events such as hypoglycaemia and hyperglycaemia is increased due to fasting in patients with diabetes. It is important to quantify and stratify the risk of each patient to provide best possible care.

IDF-DAR risk categories for patients with diabetes who fast during Ramadan

Patient characteristics	Category 1: very high risk	Category 2: high risk	Category 3: moderate/low risk
	One or more of the following: • 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 5 & 4 • Advanced macrovascular complications • Old age with ill health	**One or more of the following:** • 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	**Well-controlled T2DM treated with one or more of the following:** • Lifestyle therapy • Metformin • Acarbose • Thiazolidinediones • Second-generation SUs • Incretin-based therapy • SGLT2 inhibitors • Basal insulin
Risk category	Advise not to fast	Advise not to fast	Allow to fast
Comments	**Patients who insist on fasting should:** • 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		**Patients who fast should:** • Listen to medical advice. Decision to use license not to fast should be based on discretion of medical opinion and patient's ability to tolerate fast • Receive structured education • Check their blood glucose regularly (SMBG) • Adjust medication dose as per recommendations

*The level of glycaemic control is to be agreed upon between doctor and patient according to a multitude of factors
DKA: Diabetic ketoacidosis; T1DM: Type 1 diabetes mellitus; GDM:Gestational diabetes mellitus; SUs: Sulfonylureas; CKD: Chronick kidney disease; T2DM: Type 2 diabetes mellitus; MDI: multiple daily insulin; SGLT-2: Sodium-glucose co-transporter 2; SMBG: Self monitoring of blood glucose

Medication adjustment for people with diabetes

Adjustments to the dose, timing or the type of medication are needed to minimize the risk during fasting.

Oral anti-diabetic drugs (OADs)

Metformin
- 1 Time daily dosing: No dose modification. To be taken at iftar (evening meal at sunset)
- 2 Times daily dosing: No dose modification
- 3 Times daily dosing: Afternoon dose should be combined with dose taken at iftar. Morning dose to be taken before suhoor (pre-dawn meal before fasting begins at sunrise)
- Prolonged-release metformin: No dose modification

Acarbose
- No dose modifications required
- To be taken at iftar

Thiazolidinediones (TZDs)
- No dose modification is required
- Doses can be taken with iftar or suhoor

Short-acting insulin secretagogue
- Three-meal dosing may be reduced or redistributed to two doses during Ramadan according to meal size

Sulphonylureas (SUs)
- 1 Time daily dosing: In patients with well-controlled BG levels the dose may be reduced
- 2 Times daily dosing: No dose modification. In patients with well-controlled BG levels, the suhoor dose should be reduced
- Older drugs in the drug class: Older drugs (e.g. glibenclamide) carry a higher risk of hypoglycaemia and should be avoided. Second-generation SUs (glicazide,glimepiride) should be used in preference

Sodium-glucose co-transporter-2 (SGLT2) inhibitor
- To be used with caution in some patients
- During Ramadan no dose adjustment is required and it is advised that the dose be taken with iftar

Incretin –based therapies

- Incretin-based therapies are associated with a lower risk of hypoglycaemia and may be preferable for use during Ramadan.

Glucagon-like peptide-1 receptor agonists (GLP-1 RAs)
- As long as GLP-1 RAs have been appropriately dose-titrated prior to Ramadan (6 weeks before), no further treatment modifications are required.

Dipeptidyl peptidase-4 (DPP-4) inhibitors
- No dose modification

Insulin

Long/intermediate -acting (basal) insulin
- Reduce dose by 15–30%.
- To be taken at iftar

Short-acting insulin
- Normal dose at iftar
- Lunch-time dose to be omitted
- Suhoor dose to be reduced by 25–50%

Premixed insulin
- 1 Time daily: Normal dose to be taken at iftar
- 2 Times daily: Normal dose to be taken at iftar, Suhoor dose to be reduced by 25–50%
- 3 Times daily: Afternoon dose dose to be omitted. Iftar & suhoor doses should be adjusted. Dose titration to be carried out every 3 days

Insulin pump
- Basal rate: Dose to be reduced by 20–40% in the last 3–4 hours of fasting. Dose to be increased by 0–30% early after iftar
- Bolus rate: Normal carbohydrate counting and insulin sensitivity principles apply