

Advice from IDF-DAR on managing patients with diabetes who fast during Ramadan

The following pages feature key recommendations published by the IDF-DAR to assist Healthcare Professionals (HCP) in the management of people with diabetes during Ramadan, and to help minimise the risks associated with fasting.

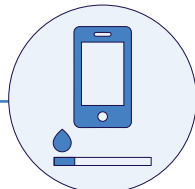
What would you like to learn about?

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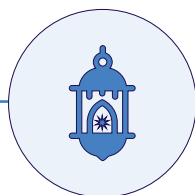
Pre-Ramadan assessment in patients with diabetes who want to fast

A pre-Ramadan assessment should take place **6–8 weeks** before Ramadan. A detailed medical history should be obtained at this appointment and fasting risk should be determined by reviewing:



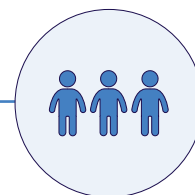
Diabetes-related factors

- Diabetes type and duration
- Presence of hypoglycaemia
- HbA_{1c} levels
- History of SMBG
- Acute complications
- Renal complications/comorbidities
- MVD complications/comorbidities
- Diabetes treatment



Ramadan-related factors

- Previous Ramadan experience
- Fasting hours (geographical location)



Individual factors

- Pregnancy
- Frailty and cognitive function
- Engagement in physical labour

Prior to Ramadan, patients should also receive structured education on:

- Role of SMBG
- Fluid intake
- Meal planning
- When to exercise
- Medication adjustments
- Risk quantification
- When to break the fast

MVD, macrovascular disease; SMBG, self-monitoring of blood glucose

All recommendations presented above are taken from the IDF-DAR 2021 guidelines.

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Risk calculation and suggested risk score for people with diabetes who want to fast during Ramadan

Total score	Category
0 to 3	Low risk
3.5 to 6	Moderate risk
>6	High risk

Diabetes type and duration	
	Score
Type 1	1
Type 2	0
A duration of ≥10 years	1
A duration of <10 years	0

Acute complications	
	Score
DKA/HONC in the last 3 months	3
DKA/HONC in the last 6 months	2
DKA/HONC in the last 12 months	1
No DKA or HONC	0

Physical labour	
	Score
Highly intense physical labour	4
Moderate intense physical labour	2
No physical labour	0

Fasting hours according to (location)	
	Score
≥16 hours	1
<16 hours	0

Presence of hypoglycaemia	
	Score
Hypoglycaemia unawareness	6.5
Recent severe hypoglycaemia	5.5
Multiple weekly hypoglycaemia	3.5
Hypoglycaemia <1 time per week	1
No hypoglycaemia	0

MVD complications/comorbidities	
	Score
Unstable MVD	6.5
Stable MVD	2
No MVD	0

Renal complications/comorbidities	
	Score
eGFR <30 mL/min	6.5
eGFR 30–45 mL/min	4
eGFR 45–60 mL/min	2
eGFR >60 mL/min	0

SMBG	
	Score
Indicated but not conducted	2
Indicated but conducted sub-optimally	1
Conducted as indicated	0

Glycaemic control	
	Score
HbA _{1c} >9% (>11.7 mmol/L)	2
HbA _{1c} 7.5–9% (9.4–11.7 mmol/L)	1
HbA _{1c} <7.5% (<9.4 mmol/L)	0

Pregnancy*	
	Score
Pregnant not within targets*	6.5
Pregnant within targets*	3.5
Not pregnant	0

Frailty and cognitive function	
	Score
Impaired cognitive function or frail	6.5
>70 years old with no home support	3.5
No frailty or loss in cognitive function	0

Previous Ramadan experience	
	Score
Overall negative experience	1
No negative experience/positive experience	0

Diabetes treatment	
	Score
Multiple daily mixed insulin injections	3
Basal Bolus/Insulin pump	2.5
Once-daily mixed insulin	2
Basal insulin	1.5
Glibenclamide	1
Gliclazide/MR or glimepiride or repaglanide	0.5
Other therapy not including SU or insulin	0

DKA, diabetic ketoacidosis; eGFR, estimated glomerular filtration rate; HONC, hyperglycaemic hyperosmolar non-ketotic coma; MR, modified release; MVD, macrovascular disease; SMBG, self-monitored blood glucose; SU, sulphonylurea

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*Pregnant and breastfeeding women have the right to not fast regardless of whether they have diabetes.

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The 10 principles of nutrition for fasting during Ramadan in patients with diabetes

- 1 Divide an adequate amount of daily calories between *Suhoor* and *Iftar*, plus 1–2 snacks if necessary
- 2 Meals should be balanced, with 45–50% carbohydrates, 20–30% protein and 30–35% fat, and saturated fat should be limited to <10% of total daily caloric intake
- 3 Design meals using the 'Ramadan plate' method
- 4 Avoid sugary desserts after *Iftar* and between meals
- 5 Low GI, high-fibre carbohydrates are preferable
- 6 Drink water and non-sweetened beverages between meals
- 7 Take *Suhoor* as late as possible
- 8 Consume adequate protein and fat at *Suhoor* to induce satiety
- 9 *Iftar* should begin with water to rehydrate and 1–3 dates to raise blood glucose
- 10 Low calorie snacks such as fruit, nuts, or vegetables may be consumed between meals

GI, glycaemic index

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Insulin dose adjustments for adults with type 1 diabetes

Premixed (analogue or conventional)	<ul style="list-style-type: none"> • Move usual pre-Ramadan morning dose to <i>Iftar</i> • Take 50% of pre-Ramadan evening dose at <i>Suhoor</i> 	Monitor with at least 2–3 daily readings and whenever hypoglycaemic symptoms develop
CSII/Insulin pump	<p>Basal rate adjustment</p> <ul style="list-style-type: none"> • Decrease 20–40% for last 3–4 hours of fast • Increase 10–30% for first few hours after <i>Iftar</i> <p>Bolus doses</p> <ul style="list-style-type: none"> • Apply same principles as before Ramadan 	Monitor with CGM
MDI (basal bolus) with conventional insulin	<p>NPH insulin</p> <ul style="list-style-type: none"> • Take usual pre-Ramadan morning dose in the evening during Ramadan • Take 50% of pre-Ramadan dose at <i>Suhoor</i> <p>Regular insulin</p> <ul style="list-style-type: none"> • Evening meal dose remains unchanged • Take 50% of pre-Ramadan evening dose at <i>Suhoor</i> • Skip afternoon dose 	Use 7-point blood glucose monitoring or monitor with 2–3 readings staggered throughout the day
MDI (basal bolus) with analogue insulin	<p>Basal insulin</p> <ul style="list-style-type: none"> • Reduce dose by 30–40% • Take at <i>Iftar</i> <p>Rapid analogue insulin</p> <ul style="list-style-type: none"> • Reduce <i>Suhoor</i> dose by 30–50% • Skip pre-lunch dose • Adjust <i>Iftar</i> dose based on 2-hour post-<i>Iftar</i> glucose reading 	Use 7-point glucose monitoring

CGM, continuous glucose monitoring; CSII, continuous subcutaneous insulin infusion; MDI, multiple dose injections; NPH, neutral protamine Hagedorn

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Insulin dose adjustments for type 2 diabetes

<p>Long/intermediate-acting (basal) insulin</p>	<p>NPH/detemir/glargine/glargine 300/degludec, ONCE DAILY</p> <ul style="list-style-type: none"> • Reduce dose by 15–30% • Take at <i>Iftar</i> <p>NPH/detemir/glargine, TWICE DAILY</p> <ul style="list-style-type: none"> • Take usual morning dose at <i>Iftar</i> • Take 50% of evening dose at <i>Suhoor</i>
<p>Short-acting insulin</p>	<ul style="list-style-type: none"> • Normal dose at <i>Iftar</i> • No lunch-time dose • Reduce <i>Suhoor</i> dose by 25–50%
<p>Premixed insulin dosing</p>	<p>ONCE DAILY</p> <ul style="list-style-type: none"> • Normal dose at <i>Iftar</i> <p>TWICE DAILY</p> <ul style="list-style-type: none"> • Take normal dose at <i>Iftar</i> • Reduce <i>Suhoor</i> dose by 20–50% <p>THREE TIMES DAILY</p> <ul style="list-style-type: none"> • No afternoon dose • Adjust <i>Iftar</i> and <i>Suhoor</i> doses • Dose-titration every 3 days (see Chapter 10 of the IDF-DAR guidelines)
<p>Insulin pump dosing</p>	<p>Basal rate</p> <ul style="list-style-type: none"> • Reduce dose by 20–40% in last 3–4 hours of fasting • Increase dose by up to 20% early after <i>Iftar</i> <p>Bolus rate</p> <ul style="list-style-type: none"> • Normal carbohydrate counting and insulin sensitivity principles apply

For unit-specific titration recommendations for type 2 diabetes, as determined by individual blood glucose readings, see Chapter 10 of the IDF-DAR guidelines.

degludec, insulin degludec 100 U/mL; detemir, insulin detemir; glargine, insulin glargine 100 U/mL; glargine 300, insulin glargine 300 U/mL; NPH, neutral protamine Hagedorn

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Recommended dose adjustments for all other medications

Oral anti-diabetic drugs (OADs)

Metformin	Sulphonylureas	Acarbose
Once daily <ul style="list-style-type: none"> No adjustment usually required Take at <i>Iftar</i> 	Once daily <ul style="list-style-type: none"> Dose for those with well-controlled blood glucose may be reduced Take at <i>Iftar</i> 	<ul style="list-style-type: none"> No adjustment required Take at <i>Iftar</i>
Twice daily <ul style="list-style-type: none"> No adjustment usually required Take at <i>Iftar</i> and <i>Suhoor</i> 	Twice daily <ul style="list-style-type: none"> No adjustment at <i>Iftar</i> Reduce <i>Suhoor</i> dose for those with well-controlled blood glucose 	Thiazolidinediones e.g. pioglitazone <ul style="list-style-type: none"> No adjustment Take with <i>Iftar</i> rather than <i>Suhoor</i>
Three times daily <ul style="list-style-type: none"> Take morning dose before <i>Suhoor</i> Combine afternoon dose with <i>Iftar</i> dose 	Older drugs e.g. glibenclamide <ul style="list-style-type: none"> Should be avoided 	Short-acting insulin secretagogue
Prolonged-release <ul style="list-style-type: none"> No adjustment usually required Take at <i>Iftar</i> 	Second generation sulphonylureas e.g. glicazide, glimepiride <ul style="list-style-type: none"> Should be used in preference 	Three-meal dosing may be reduced/redistributed to two doses
		SGLT-2 inhibitors <ul style="list-style-type: none"> No adjustment Taken with <i>Iftar</i>

Incretin-based therapies

DPP-4 inhibitors	GLP-1 RAs
No adjustment required	No adjustment if appropriate dose titration prior to Ramadan (>2–4 weeks before) has occurred

For further information on patients on multiple types of medication, please see Chapter 10 of the IDF-DAR guidelines

DPP-4, dipeptidyl peptidase-4; GLP-1 RAs, glucagon-like peptide-1 receptor agonists; SGLT-2, sodium-glucose co-transporter-2
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