

Summary guidelines for supporting patients with Diabetes during Ramadan

This summary document has been adapted from the International Diabetes Federation Ramadan Practical Guidelines (2021).

During Ramadan Muslims with diabetes face challenges in their regular diet, physical activity and medication schedule, which can disturb the metabolic activities. An individualised patient-centric treatment plan and risk stratification (see Appendix 1) needs to be considered to allow both people with type 1 and type 2 to achieve optimal glycaemic outcomes but enable them to observe a risk-free month of fasting during Ramadan. **Risks** include diabetic ketoacidosis, hypoglycaemia, hyperglycaemia, dehydration and thrombosis. **Please note that people with diabetes may follow periods of fast, for religious and non-religious reasons, and they should be counselled also in line with this summary.**

Factors for risk quantification include- type of diabetes, medications, individual hypoglycaemic risk, presence of complications and/or comorbidities, individual social/work circumstances and previous Ramadan experience, see also Appendix 1 (Risk Assessment Tool) and Appendix 2 (Assessment Flowchart)

If people have symptoms of COVID-19, SUSPECTED OR CONFIRMED, they are recommended not to fast. Other groups that do not have to fast include people during periods of sickness and children, however the decision to fast will be individual.

Please refer to specific sick-day rules guidance in times of illness for drug dose modifications [Primary Care Sick Day Guidance for the management of adult patients with diabetes mellitus](#) and ensure all people with diabetes are aware of sick-day rules as part of their annual review and during periods of illness.

Self-monitoring of Blood Glucose (SMBG) – 7-point guide for Ramadan

People with diabetes who are on insulin or sulphonylurea's will benefit from increased SMBG during Ramadan (Figure 1).

Suhoor - morning meal (before sunrise)

Iftar - evening meal (after sunset)

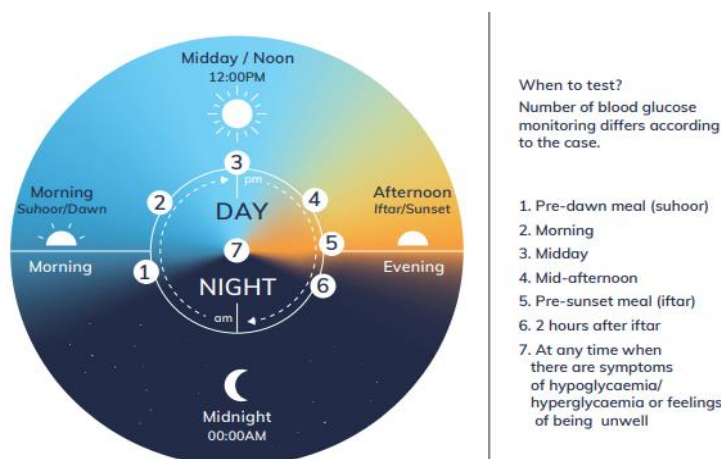
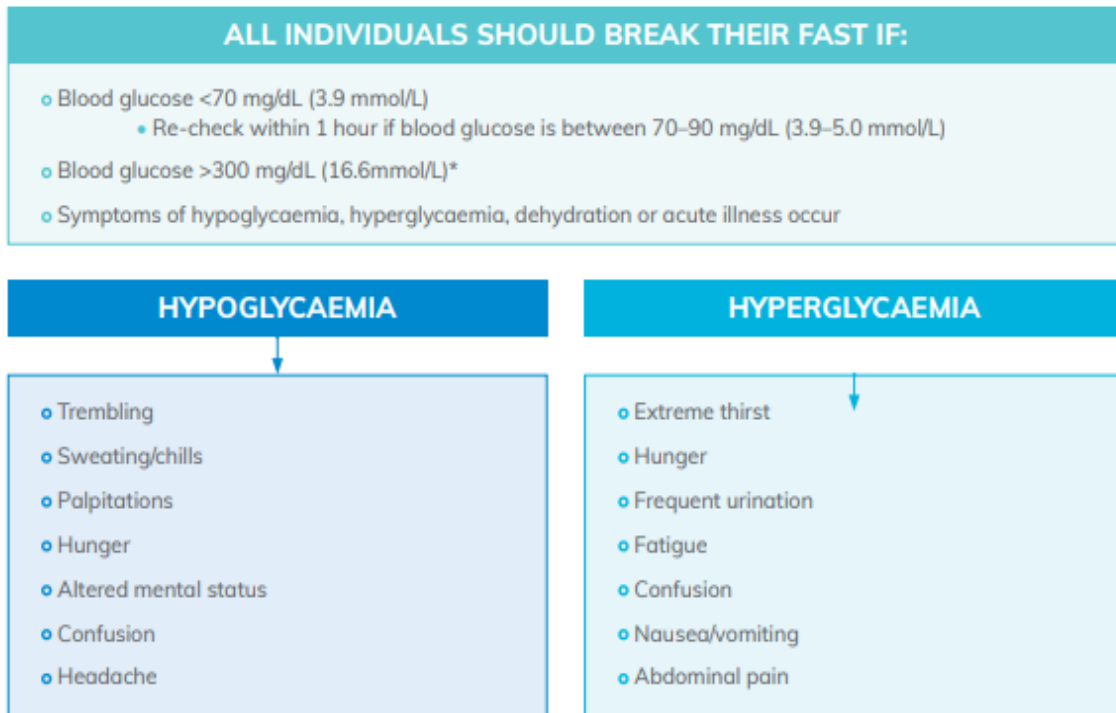


Figure 1: Recommended SMBG testing times for people on insulin and sulphonylureas

Specific SMBG Targets for when individuals should break fast (Figure 2)



*Consider individualisation of care

Figure 2: Recommended SMBG targets when people on insulin and sulphonylureas should break fast

Type 2 Diabetes Drug Modifications Advice- please refer to specialist teams for T1DM advice

Suhoor - morning meal (before sunrise) Iftar - evening meal (after sunset)

| Medicine | Dosing Advice |
|---|--|
| | Changes to metformin dosing |
| Metformin | <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid green; border-radius: 15px; padding: 5px; width: 30%;"> <p style="text-align: center;">Once-daily dosing (Both immediate and slow release) No dose modification usually required Take in the evening (at Iftar)</p> </div> <div style="border: 1px solid green; border-radius: 15px; padding: 5px; width: 30%;"> <p style="text-align: center;">Twice-daily dosing (Both immediate and slow release) No dose modification usually required Take in the evening (at Iftar) and morning (at Suhoor)</p> </div> <div style="border: 1px solid green; border-radius: 15px; padding: 5px; width: 30%;"> <p style="text-align: center;">Three times daily dosing Morning dose to be taken at Suhoor (morning) Combine afternoon dose with evening dose & take in the evening (at Iftar)</p> </div> </div> |
| Acarbose | No dose modification as the risk of hypoglycaemia is low. |
| Thiazolidinediones (TZDs) | No dose modifications. Dose can be taken in the evening (at Iftar) or in the morning (at Suhoor). |
| Glucagon-like peptide -1 receptor agonist (GLP-1 RAs) | As long as GLP-1 RAs have been appropriately initiated prior to Ramadan (at least 6-8 weeks before), no further dose modifications are required. If initiated less than 6 weeks before, consult initiating prescriber for advice. |
| | Changes to SU and short acting insulin secretagogue dosing |
| Sulfonylureas (SU) or short acting secretagogues e.g. repaglinide Note: Higher risk of hypoglycaemia with SUs | <p style="text-align: center;">Once-daily dosing Take in the evening (at Iftar)</p> |
| | <p style="text-align: center;">Twice-daily dosing Same morning and evening dose Evening dose (at Iftar) remains unchanged. Consider also reducing the morning dose (at Suhoor) in patients with well-controlled blood glucose levels by 25-50%.</p> |
| | <p style="text-align: center;">Twice-daily dosing Higher morning and lower evening dose Switch morning and evening dose. Consider also reducing the morning dose (at Suhoor) in patients with well-controlled blood glucose levels by 25-50%.</p> |
| | <p style="text-align: center;">Twice-daily dosing Lower morning and higher evening dose Both doses remain unchanged. Consider also reducing the morning dose (at Suhoor) in patients with well-controlled blood glucose levels by 25-50%.</p> |
| | <p style="text-align: center;">Three-times daily dosing Stop lunch time dosing. Switch morning and evening dose if the higher dose is in the morning. Consider reducing the morning dose (at Suhoor) in patients with well-controlled blood glucose levels by 25-50%.</p> |
| | <p style="text-align: center;">Older drugs in the class and long-acting or modified release SU</p> <p>Modified release sulfonylureas: Change to short acting preparation e.g. gliclazide due to the risk of hypoglycaemia with modified release sulfonylureas and follow the advice above. Older drugs (e.g.: glibenclamide) carry a higher risk of hypoglycaemia and should be avoided. Change to short acting preparation e.g. gliclazide due to the risk of hypoglycaemia with modified release sulfonylureas and follow the advice above. Second generation Sulfonylureas (gliclazide, glimepiride) should be used in preference due to the lower risk of hypoglycaemia.</p> |
| Dipeptidyl Peptidase -4 (DPP-4) inhibitors | No dose modifications. |
| Sodium glucose co-transporter 2 (SGLT-2) inhibitors | As long as SGLT-2 inhibitors have been appropriately initiated prior to Ramadan (at least 4 weeks before), no further dose modifications are required. If initiated less than 4 weeks before, consult initiating prescriber for advice. Take in the evening (at Iftar). Ensure adequate hydration. |

Figure 3: A guide to dose adjustments for people taking antidiabetic agents who fast during Ramadan (adapted from IDF-DAR 2021)

| SGLT2i NOT RECOMMENDED TO CONTINUE IN FOLLOWING PEOPLE WHO ARE FASTING DURING RAMADAN | |
|--|--------------------------------|
| Elderly | Patients with renal impairment |
| Hypotensive individuals | Those at risk of dehydration |
| Those taking diuretics | |

Insulin dose adjustments for people with T2DM during fasting

Long and short-acting insulins

| Changes to long- and short-acting insulin dosing during Ramadan | |
|--|---|
| Long/intermediate-acting (basal) insulin NPH/determir/glargine/degludec once-daily Reduce dose by 15-30% Take at Iftar NPH/determir/glargine twice-daily Take usual morning dose at Iftar Reduce evening dose by 50% and take at suhoor | Short-acting insulin Normal dose at Iftar Omit lunch-time dose Reduce suhoor dose by 25-50% |

Pre-mixed insulin

| Changes to premixed insulin dosing during Ramadan | | |
|---|--|--|
| Once-daily dosing Take normal dose at iftar | Twice-daily dosing Take normal dose at iftar Reduce the suhoor dose by 25-50% | Three times daily dosing Omit the afternoon dose Adjust iftar and suhoor doses Carry out dose-titration every 3 days (see below) |

Adjust Suhoor [morning meal (before sunrise)] and Iftar [evening meal (after sunset)] doses according to blood glucose test results (see table in Figure 4 below).

Dose titration should be performed every 3 days and adjustments made according to BG levels

| Fasting / pre-Iftar / pre-Suhoor blood glucose | Pre-Iftar (evening meal) | Pre-Iftar* / Post-Suhoor** | Pre-Iftar (evening meal) |
|--|--------------------------|----------------------------|--------------------------|
| | Basal Insulin | Short-acting Insulin | Pre-mixed insulin |
| <70 mg/dL (3.9mmol/L) or symptoms | Reduce by 4 units | Reduce by 4 units | Reduce by 4 units |
| <90 mg/dL (5.0 mmol/L) | Reduce by 2 units | Reduce by 2 units | Reduce by 2 units |
| 90-126 mg/dL (5.0-7.0 mmol/L) | No change required | No change required | No change required |
| >126 mg/dL (7.0 mmol/L) | Increase by 2 units | Increase by 2 units | Increase by 2 units |
| >200mg/dL (16.7 mmol/L) | Increase by 4 units | Increase by 4 units | Increase by 4 units |

*Reduce the insulin dose taken before Suhoor (before sunrise)

**Reduce the insulin dose taken before Iftar (before evening meal)

Figure 4: A guide to dose adjustments for people taking antidiabetic agents who fast during Ramadan (adapted from IDF-DAR 2021)

Insulin pump

Caution high risk patient group specialist diabetes team input required- see also main IDF-DAR (2021) Guidance

- Basal rate

Reduce dose by 20–40% in the last 3–4 hours of fasting.

Increase dose by 0–30% early after iftar

- Bolus rate

Normal carbohydrate counting and insulin sensitivity principles apply

General dietary advice for patients with diabetes during Ramadan (IDF 2021)

| TABLE 1: DIETARY ADVICE FOR PEOPLE WITH DIABETES FASTING DURING RAMADAN | |
|---|--|
| Divide the daily calories between Suhoor and Iftar, plus one to two snacks if necessary. | |
| Ensure meals are well balanced | <ul style="list-style-type: none"> • 45% - 50% complex carbohydrates E.g., barley, wheat, oats, millet, semolina, beans, lentils • 20% - 30% protein • <35% fat (preferably mono- and polyunsaturated) |
| Include low glycaemic index, high-fibre foods that release energy slowly before and after fasting | <ul style="list-style-type: none"> • E.g., granary bread, beans, rice |
| Include plenty of fruit, vegetables and salads | |
| Minimise foods that are high in saturated fats | <ul style="list-style-type: none"> • E.g. ghee, samosas, pakoras |
| Avoid sugary desserts | |
| Use small amounts of oil when cooking | <ul style="list-style-type: none"> • E.g., olive, canola oil, rapeseed |
| Keep hydrated between sunset and sunrise by drinking water or other non-sweetened beverages | |
| Avoid caffeinated and sweetened drinks | |

Key Components of a Ramadan-focused Educational Programme (IDF 2021)

| | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Risk quantification and exemptions, and removing misconceptions |
| <input checked="" type="checkbox"/> | Blood glucose monitoring |
| <input checked="" type="checkbox"/> | Fluids and dietary advice |
| <input checked="" type="checkbox"/> | Physical activity and exercise advice |
| <input checked="" type="checkbox"/> | Medication adjustment and test fasting |
| <input checked="" type="checkbox"/> | When to break the fast |
| <input checked="" type="checkbox"/> | Recognition of hypoglycaemia and hyperglycaemia symptoms |

Sick Day Rules Further Information

BSSE APC: [Primary Care Sick Day Guidance for the management of adult patients with diabetes mellitus](#)

Patient Leaflets Trend UK: <http://trend-uk.org/resources/>

Diabetes UK: https://www.diabetes.org.uk/about_us/news/coronavirus

NHS: <https://www.nhs.uk/conditions/coronavirus-covid-19/>

Additional resources for Diabetes during Ramadan Advice:

Diabetes UK: <https://www.diabetes.org.uk/guide-to-diabetes/managing-your-diabetes/ramadan>

Diabetes on the net: <https://www.diabetesonthenet.com/journals/issue/572/article-details/how-manage-diabetes-during-ramadan> PDF

International Diabetes Federation: Diabetes and Ramadan Practical Guidelines (2021) <https://idf.org/our-activities/education/diabetes-and-ramadan/healthcare-professionals.html> and free online course (1hour) available at: <https://www.idfdiabeteschool.org/Short-Course/diabetes-ramadan/en>

Appendix 1-Risk Assessment Tool

PRINT AND COMPLETE AND INSERT INTO PATIENTS NOTES AS PART OF PERSONALISED CARE PLAN

IDF-DAR Guidelines categorise people with diabetes into 3 risk groups – very high risk, high risk and moderate risk/low risk. The risk can be minimised by attending a pre-Ramadan assessment, regular SMBG, structured education, medication adjustments and nutrition and exercise advice.

This can be completed by any practice staff that manage people with diabetes and those in moderate to high risk to be signposted to diabetes clinical leads in the practice.

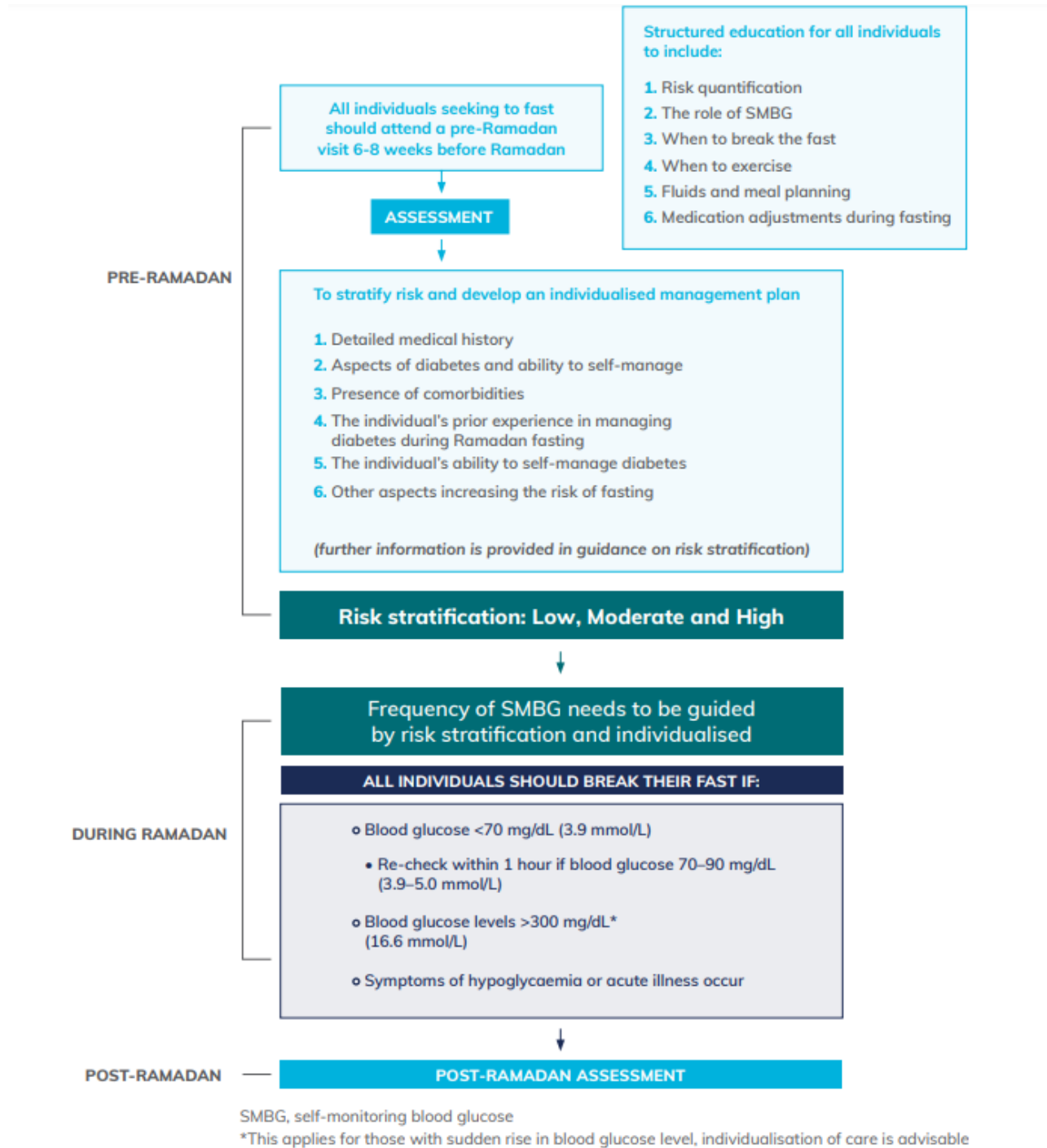
| TABLE 2: ELEMENTS FOR RISK CALCULATION AND SUGGESTED RISK SCORE FOR PEOPLE WITH DIABETES MELLITUS (DM) THAT SEEK TO FAST DURING RAMADAN | | | |
|---|------------|---|------------|
| Risk Element | Risk Score | Risk Element | Risk Score |
| 1. Diabetes type and duration | | 8. MVD Complications/Comorbidities | |
| Type 1 diabetes | 1 | Unstable MVD | 6.5 |
| Type 2 diabetes | 0 | Stable MVD | 2 |
| 2. Duration of Diabetes (years) | | No MVD | 0 |
| A duration of ≥ 10 | 1 | 9. Renal Complications/Comorbidities | |
| A duration of < 10 | 0 | eGFR < 30 mL/min | 6.5 |
| 3. Presence of hypoglycaemia | | eGFR 30–45 mL/min | 4 |
| Hypoglycaemia unawareness | 6.5 | eGFR 45–60 mL/min | 2 |
| Recent Severe hypoglycaemia | 5.5 | eGFR >60 mL/min | 0 |
| Multiple weekly Hypoglycaemia | 3.5 | 10. Pregnancy* | |
| Hypoglycaemia less than 1 time per week | 1 | Pregnant not within targets* | 6.5 |
| No hypoglycaemia | 0 | Pregnant within targets* | 3.5 |
| 4. Level of glycaemic control | | Not pregnant | 0 |
| HbA1c levels > 9% (11.7 mmol/L) | 2 | 11. Frailty and Cognitive function | |
| HbA1c levels 7.5–9% (9.4–11.7 mmol/L) | 1 | Impaired cognitive function or Frail | 6.5 |
| HbA1c levels < 7.5% (9.4 mmol/L) | 0 | > 70 years old with no home support | 3.5 |
| 5. Type of treatment | | No frailty or loss in cognitive function | 0 |
| Multiple daily mixed insulin Injections | 3 | 12. Physical Labour | |
| Basal Bolus/Insulin pump | 2.5 | Highly Intense physical labour | 4 |
| Once daily Mixed insulin | 2 | Moderate Intense Physical Labour | 2 |
| Basal Insulin | 1.5 | No physical labour | 0 |
| Glibenclamide | 1 | 13. Previous Ramadan Experience | |
| Gliclazide/MR or Glimepride or Repaglinide | 0.5 | Overall negative experience | 1 |
| Other therapy not including SU or Insulin | 0 | No negative or positive experience | 0 |
| 6. Self-Monitoring of Blood Glucose (SMBG) | | 14. Fasting hours (location) | |
| Indicated but not conducted | 2 | ≥ 16 hours | 1 |
| Indicated but conducted sub-optimally | 1 | < 16 hours | 0 |
| Conducted as indicated | 0 | DKA — Diabetic Ketoacidosis HONC — Hyperglycaemic Hyperosmolar Nonketotic Coma eGFR — Estimated glomerular filtration rate MVD — Macrovascular disease | |
| 7. Acute complications | | No DKA or HONC | |
| DKA/ HONC in the last 3 months | 3 | 0 | |
| DKA/ HONC in the last 6 months | 2 | | |
| DKA/ HONC in the last 12 months | 1 | | |

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

| | |
|----------------|---------------|
| SCORE 0 TO 3 | LOW RISK |
| SCORE 3.5 TO 6 | MODERATE RISK |
| SCORE > 6 | HIGH RISK |

<https://idf.org/our-activities/education/diabetes-and-ramadan/healthcare-professionals.html>

Appendix 2-Assessment Flowchart



<https://idf.org/our-activities/education/diabetes-and-ramadan/healthcare-professionals.html>