

Ramadan: Diabetes and fasting toolkit



Managing diabetes whilst fasting in Ramadan

Pharmacists play an essential role in supporting patients with long-term conditions and advising them on the safe and effective use of their medicines. This toolkit is designed to help you understand the key elements of Ramadan and fasting in order to support patients with diabetes. This can also be a valuable aid in carrying out a Medicines Use Review (MUR) effectively.

Religious and cultural beliefs, such as fasting, can impact on health conditions and therefore by supporting patients with the management of their condition, they will be able to make a more informed decision about whether they will fast and subsequently fast safely.

If an individual is advised by a medical practitioner that fasting would be potentially detrimental, then most Muslims and their religious authorities would agree that the individual should abstain from fasting. Some individuals may choose to fast despite medical advice and it is essential that all individuals feel supported in their choice and that their choice is respected and managed accordingly.

Ramadan

Ramadan is the 9th month of the Islamic lunar calendar and lasts for 29-30 days each year depending on the sighting of the moon. Census data indicates there are approximately 2.7 million Muslims in the UK with a significant proportion diagnosed with diabetes, and it can often be difficult for these patients to know how to best manage their health whilst fasting. Equally, these patients may be suffering from other health conditions and may be taking additional medicines for their treatment. Therefore to provide an individualised service tailored to their needs is paramount.

Fasting

Fasting during the month of Ramadan is one of the five pillars of Islam and is obligatory for all Muslims. During Ramadan, Muslims will abstain from all food and drink (including water) during daylight hours (dawn to sunset) and eat only two meals per day;

- **'Suhoor'**: the meal before dawn at the beginning of the fast.
- **'Iftar'**: the meal at sunset to mark the end of the fast.

It is important to note that the Islamic calendar is 11 days shorter than the Gregorian calendar, and therefore Ramadan traverses the seasons with time. For the next decade, Ramadan will fall in the spring / summer months in the UK with long hours of fasting (16 – 20 hours) without eating and drinking.

Fasting is obligatory for all Muslims however there are some exemptions to this, which include ill-health as quoted in the Qur'an [Surah Al-Baqarah \[2:183-185\]](#) (the Islamic Holy text). Certain people with health problems including those with diabetes are exempt from fasting, and also the following:

- Anyone who may be putting their health at serious risk by fasting, e.g. patients with diabetes using insulin and/or medication, patients who have diabetic complications (damage to their eyes, kidney or the nerves in their hands or feet) or patients with poorly controlled diabetes.
- Children (under the age of puberty)
- Elderly or frail patients
- Those who are sick or have a certain health or mental health condition (please advise individuals to speak to their GP and their local Imam)
- Those with learning difficulties
- Those who are travelling long distances where the journey may be difficult
- Pregnant, breastfeeding or menstruating women

Importantly, most people with diabetes do not perceive themselves as being ill and therefore may still choose to fast.

According to Islamic practice those patients, who cannot fast, can make up for the fasts by either offering charity or fasting at other times of the year when their health is better or in winter when the days are shorter. It is also worth pointing out that these patients can still take part in the nightly **Taraweeh** prayers or reading the Qur'an throughout the month of Ramadan. For further information, patients should be advised to speak to their local Imam.

The risks of fasting

The human body enters a fasting state after 8 hours of not consuming food. At this point, the body will start to use its stored sources of glucose to try and regulate blood glucose levels. This can be challenging for patients with diabetes and more so for patients whose diabetes is poorly controlled.

There are three main risks associated with fasting for people with diabetes:

- Hypoglycaemia (low blood glucose)
- Hyperglycaemia (high blood glucose)
- Dehydration and thrombosis (formation of blood clots in the blood vessels)

Hypoglycaemia: In patients who take certain tablets (e.g. sulfonylureas like gliclazide) or insulin for diabetes, fasting increases their risk of low blood glucose levels or "hypos". The longer lengths of fasts at present in the UK will put people with diabetes at even higher risks of hypos.

Hyperglycaemia: Ramadan is not just about fasting and should be thought of as cycles of fasting and feasting: with the larger meals of Suhoor and Iftar, people with diabetes are at risk of high blood glucose levels. In addition, some patients may change doses or omit taking their medicines without informing their healthcare professionals and so this may also lead to high blood glucose levels.

Dehydration and thrombosis: The long hours of fasting also means long periods without water and puts people with diabetes at greater risk of dehydration. This can cause low blood pressure, acute kidney injury and increased risk of clotting/thrombosis (deep vein thrombosis, pulmonary embolism).

Staying safe whilst fasting

Patients who wish to fast during Ramadan should be advised to **speak to their GP or diabetes team about fasting as early as possible**, who will be able to tell them whether it is safe to fast and if any changes need to be made to their medicines.

Some patients believe taking their medication can negate their fast, however, patients should be advised to not stop taking their medication or using insulin without consulting their GP.

The following steps can help patients to stay safe whilst fasting and should be an important part of the Pharmacist's consultation during an MUR:

- **Testing blood glucose levels regularly** during their fast and especially if they feel unwell. **Testing blood glucose levels does not break the fast and is permissible during Ramadan.**
- **Eating a meal at Suhoor just before sunrise.**
Long hours without eating can increase the risk of 'hypos'. Eating at the last permissible time will help keep the blood glucose levels more balanced.
- **Drinking plenty of fluids (sugar-free), particularly water, at Suhoor and after Iftar.**

When should patients with diabetes not fast or break their fast

Patients should be advised to not fast or break their fast if they experience any of the following:

- Their blood sugar level falls **to or below 3.3mmol/l at any time** of the fast **OR**
- Their blood sugar level is **3.9mmol/l at the start of the fast and they are on insulin or sulfonylureas (e.g. gliclazide)**
- If blood glucose level is **higher than 16.7 mmol/l**, they must stop fasting immediately
- If there are any signs of **dehydration**, they should stop fasting immediately and have a drink of water
- If they start to feel **unwell, disorientated, confused, or if they collapse or faint**, they must stop fasting immediately and have a drink of water and check their blood glucose level

Managing hypos

'Hypo' or hypoglycaemia is when the blood glucose levels fall below normal (less than 4.0 mmol/l). People often experience hypos in different ways, but some of the common signs to look out for are:

- Sweating
- Trembling and Shaking
- Hunger
- Going pale
- Heart palpitations
- Irritability
- Feeling dizzy

The low blood sugar level must be treated **IMMEDIATELY** with one of the following (15 to 20g of a fast-acting carbohydrate):

- three glucose or dextrose tablets
- five (halal) jelly sweets
- a small glass (150-200 ml) of a sugary (non-diet) drink
- a small carton (150-200 ml) of pure fruit juice
- a tube of glucose gel

Blood glucose level must be rechecked after 10 minutes and if it is still less than 4.0mmol/l, the above treatment should be repeated.

It is **important** to ask patients to check that their test strips are in date before use.

After a hypo, people should be advised to eat 15 to 20g of a slower-acting carbohydrate to stop the glucose levels going down again. Examples are:

- A sandwich
- Piece of fruit
- Bowl of cereal
- Glass of milk

Food choices during Ramadan

During Ramadan eating patterns are different to normal. It is important to eat a balanced diet, include foods from all the food groups and to be sensible with portion sizes.

Dietary suggestions include:

- Fibre rich foods which are digested slowly; bran, cereals, whole wheat, grains and seeds, potatoes with skin, vegetables such as green beans and most fruits including apricots, prunes, figs
- Wholegrain carbohydrates foods at Suhoor reduce hunger and keep blood glucose levels more stable during the fast; such as wholegrain bread with seeds, porridge, semolina, bran flakes
- Avoiding processed foods and foods with refined carbohydrates (white sugar, white flour)
- Limiting sugary foods and drinks. Replace with fresh fruits
- Avoiding fried foods. Bake or grill foods instead
- Reducing salt intake and sauces

Overeating and eating the wrong foods (such as fried foods, foods high in fat and sugar) in large quantities will not only cause weight gain but also lead to big increases and imbalances in your blood glucose levels.



Exercise

Whilst fasting, exercise will increase the risk of hypos, especially if people are on treatment with insulin and sulfonylureas. Exercise can also increase the risk of dehydration, especially if people are on SGLT-2 inhibitors and diuretics.

During Ramadan there are special additional nightly prayers '**Taraweeh prayers**' held in local Mosques. **These prayers have exertional activity.**

Patients with diabetes should be advised:

- Taraweeh prayers increase the risk of hypos and dehydration
- They should carry glucose treatment and water with them
- Eat the evening meal before going for Taraweeh prayers
- Include starchy carbohydrate foods in the meal to prevent low blood sugar levels

Ramadan and Smoking

People with diabetes who smoke have increased risk of heart disease. During Ramadan, Muslims must abstain from smoking (including Vaping, Shisha and any form of tobacco consumption) during the fasting period. As Ramadan is a time of self-control and discipline, it is a good time to give up smoking.

Where appropriate provide advice on quitting or alternatively direct them to locally available services.

Fasting risk guide

The table below is a helpful guide to determine an individual's risk of fasting:

High Risk Advised not to fast	<ul style="list-style-type: none">• Type 1 diabetes• Use more than two insulin injections a day• Poor control of diabetes defined as HbA1c > 69 mmol/mol (> 8.5%)• Problems with frequent low blood sugar levels• No symptoms with low blood sugar levels• Problems with kidneys, liver, heart or poor vision• Are currently unwell, including a diabetic foot infection or foot ulcer• Hospital admission within the last six months for very high blood sugar levels• Hospital admission within the last six months for very low blood sugar levels• Pregnant
Moderate Risk Do not fast unless agreed with doctor	<ul style="list-style-type: none">• Moderate glycaemic control, defined as HbA1c = 58 –69 mmol/mol (7.5–8.5%) and no major complications of diabetes• Well-controlled diabetes, defined as HbA1c < 58 mmol/mol (< 7.5%) treated with sulfonylurea, short-acting insulin secretagogue, insulin or treated with a combination oral or oral and insulin treatment
Low Risk Should be able to fast with advice	<ul style="list-style-type: none">• Diabetes controlled with diet only• Diabetes well-controlled with monotherapy (metformin, DPP-4 inhibitors, acarbose, glucagon-like peptide 1 agonists, sodium-glucose co-transporter 2 inhibitors or thiazolidinediones) and otherwise healthy

If the person is **low risk** (i.e. the diabetes is well-controlled with diet or tablets and there are no complications of diabetes), they should be able to fast.

If the person is **high risk** or **moderate risk**, then they should not fast unless approved by their GP, because their body may not cope well with fasting.

Points to remember:

- Certain people, including those with illnesses are exempt from fasting and can make up for fasts with charity or at another time when the fasts are shorter and their health is better
- Please advise patients wishing to fast to speak to their diabetes team or GP as soon as possible
- Blood glucose levels must be checked regularly through the fast and whenever they feel unwell. This will not break the fast
- If at the start of the fast the blood glucose level is 3.9mmol/l and the patient is taking sulfonylureas (such as gliclazide) or on insulin, they must be advised not to fast
- If the blood glucose level is less than 3.3mmol/l at any time in the fast, the patient must be advised to stop fasting immediately and treat the low blood glucose
- If the blood glucose level is higher than 16.7 mmol/l, the patient must be advised to stop fasting immediately
- If there are signs of dehydration, then the patient must be advised to stop fasting immediately and have a drink of water
- If a patient starts to feel unwell, disoriented, confused, or if they collapse or faint, you must advise them to stop fasting immediately, have a drink of water and check their blood glucose level
- Advise patients to always carry glucose treatment and water with them, as well as diabetes identification, such as a medical alert bracelet

Useful resources and further reading

Diabetes UK Ramadan Patient Information sheet available at:

https://www.diabetes.org.uk/resources-s3/2017-09/1118A_Ramadan%20Factsheet_Update_April2017_amended.pdf

Fasting and managing your diabetes during Ramadan: English and other useful information about diabetes, visit Diabetes UK website: <http://www.diabetes.org.uk/home>

Muslim Council of Britain Patient Information sheet 'Ramadan and diabetes – A guide for patients' available at:

<http://www.mcb.org.uk/british-muslims/factsheet-guides>

South Asian Health Foundation Patient Information sheet 'Fasting with diabetes during Ramadan' available at:

<http://www.sahf.org.uk/resources/>

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