

# ADA guideline for diabetes during Ramadan

## STAR HEALTH DESK

Most of the diabetic Muslims have strong desire to fast during the month of Ramadan. But many of them can not perform it as there is a risk of an assortment of complications like hypoglycemia, hyperglycemia, diabetic ketoacidosis, dehydration and thrombosis.

A patient's decision to fast should be made after ample discussion with his or her physician concerning the risks involved. Patients who insist on fasting should undergo pre-Ramadan assessment and receive appropriate education and instructions related to physical activity, meal planning, glucose monitoring, and dosage and timing of medications. The management plan must be highly individualised. Close follow-up is essential to reduce the risk for development of complications. American Diabetes Association (ADA) has recommended the following guideline for the proper management of diabetes during Ramadan.

**Categories of risks in patients with type 1 or type 2 diabetes who fast during Ramadan**

## Very high risk

• Severe hypoglycemia within the last 3 months prior to

## Ramadan

- Patient with a history of recent hypoglycemia
- Patients with hypoglycemia unawareness
- Patients with sustained poor glycemic control
- Ketoacidosis within the last 3 months prior to Ramadan
- Type 1 diabetes
- Acute illness
- Hyperosmolar hyperglycemic coma within the previous 3 months
- Patients who perform intense physical labor
- Pregnancy
- Patients on chronic dialysis

## High risk

- Patients with moderate hyperglycemia (average blood glucose between 150 and 300 mg/dl)
- A1C (7.5-9%)
- Patients with renal insufficiency
- Patients with advanced macrovascular complications
- People living alone that are treated with insulin or sulfonylureas
- Patients living alone
- Patients with comorbid conditions that present additional risk factors
- Old age with ill health
- Drugs that may affect mentation

### Recommended changes to treatment regimen in patients with type 2 diabetes who fast during Ramadan

Before Ramadan	During Ramadan
<b>Patients on diet and exercise control</b>	<b>No change needed (modify time and intensity of exercise), ensure adequate fluid intake</b>
<b>Patients on oral hypoglycemic agents</b>	<b>Ensure adequate fluid intake</b>
Biguanide, metformin 500 mg three times a day, or sustained release metformin (Glucophage R)	Metformin, 1,000 mg at the sunset meal (Iftar), 500 mg at the pre-dawn meal (Suhur)
TZDs, pioglitazone or rosiglitazone once daily	No change needed
Sulfonylureas once a day, e.g., glimepiride 4 mg daily, gliclazide MR 60 mg daily	Dose should be given before the sunset meal (Iftar); adjust the dose based on the glycemic control and the risk of hypoglycemia
Sulfonylureas twice a day, e.g., glibenclamide 5 mg or gliclazide 80 mg, twice a day (morning and evening)	Use half the usual morning dose at the pre-dawn meal (Suhur) and the full dose at the sunset meal (Iftar), e.g., glibenclamide 2.5 mg or gliclazide 40 mg in the morning, glibenclamide 5 mg or gliclazide 80 mg in evening
<b>Patients on insulin</b>	<b>Ensure adequate fluid intake</b>
70/30 premixed insulin twice daily, e.g., 30 units in morning and 20 units in evening	Use the usual morning dose at the sunset meal (Iftar) and half the usual evening dose at pre-dawn (Sehr), e.g., 70/30 premixed insulin, 30 units in evening and 10 units in morning; also consider changing to glargin or detemir plus lispro or aspart

## Moderate risk

- Well-controlled patients treated with short-acting insulin secretagogues such as repaglinide or nateglinide

## Low risk

- Well-controlled patients treated with diet alone, metformin, or a thiazolidinedione who are otherwise healthy

## Management plan

**Individualization:** Perhaps the most crucial issue is the realisation that care must be highly individualised and that the management plan will differ for each specific patient.

**Frequent monitoring of blood sugar:** It is essential that patients have the means to monitor their blood glucose levels multiple times daily. Muslim scholars recommended that blood tests for glucose monitoring and taking insulin do not invalidate the fasting of Ramadan. This is especially critical in patients with type 1 diabetes and in patients with type 2 diabetes who require insulin.

## Pre-Ramadan medical assessment and educational counseling

All patients with diabetes who wish to fast during Ramadan should undergo the necessary preparations to undertake the fast as safely as possible. These include medical assessment and educational counseling.

especially at the sunset meal, should be avoided.

**Exercise:** Normal levels of physical activity may be maintained. However, excessive physical activity may lead to higher risk of hypoglycemia and should be avoided, particularly during the few hours before the sunset meal.

## Breaking the fast: All patients

should understand that they must always and immediately end their fast if hypoglycemia (blood glucose of 60 mg/dl [3.3 mmol/l]) occurs, since there is no guarantee that their blood glucose will not drop further if they wait or delay treatment. The fast should also be broken if blood glucose reaches 70 mg/dl (3.9 mmol/l) in the first few hours after the start of the fast, especially if insulin, sulfonylurea drugs, or meglitinide are taken at pre-dawn. Finally, the fast should be broken if blood glucose exceeds 300 mg/dl (16.7 mmol/l).

## Nutrition: The diet during

Ramadan should not differ significantly from a healthy and balanced diet. It should aim at maintaining a constant body mass. The common practice of ingesting large amounts of foods rich in carbohydrate and fat,

usually occurs as the day goes by and worsens at the end of the day. When associated with "low blood pressure", the headache can be quite severe and can also cause nausea before Iftar. You can cut down caffeine and tobacco slowly starting a week or two before Ramadan. Herbal and caffeine-free teas may be substituted. Reorganise your sleep schedule during the Ramadan so as to have adequate sleep.

Again, weakness, dizziness, tiredness, poor concentration, perspiring easily, feeling shaky (tremor), unable to perform physical activities, headache, palpitations are symptoms of low blood sugar. Having too much sugar (i.e. refined carbohydrates) especially at Sehr, the body produces too much insulin causing the blood glucose to drop. One should eat complex carbohydrates at Sehr so that blood sugar falls slowly and also the food lasts longer making you less hungry.

Increased acid levels in the empty stomach can aggravate the conditions. It presents itself as a burning feeling in the stomach area under the ribs and can extend up to the throat. Spicy foods, coffee, fast food and cola drinks worsen these conditions. Medications are available to control acid levels in the stomach. People with proven peptic ulcers and hiatus hernia should consult their doctor well before Ramadan.

Kidney and urinary tract infection and kidney stones may occur in people who drink less liquid. Therefore, it is essential to drink extra liquids so as to prevent stone formation.

## Joint pain: The increased pressure on the knee joints during Salat (Prayer) and pain due to this may aggravate during Ramadan. In the elderly and those with arthritis this may result in pain, stiffness, swelling and discomfort. Lose weight so that the knees do not have to carry any extra load. Exercise the lower limbs before Ramadan so that they can be prepared for the additional strain. Being physically fit allows greater fulfillment, thus enabling one to be able to perform salat with ease.

**Headache:** Caffeine and tobacco withdrawal or doing too much in one day, lack of sleep, hunger usually cause headache as the day goes by and it worsens at the end of the day. When asso-



DR RUBAUL MURSHED

All health information to keep you up to date

## Enjoy good health in Ramadan

Fried foods and most fast foods available in the shops are unhealthy and should be limited. They cause heartburn, reflux, stomach upset and as well weight problems. Try to avoid too much spicy and foods that produce wind e.g. eggs, fizzy or carbonated drinks etc. Try to also keep away from fatty and foods containing too much sugar.

Over-eating, especially at Sehr is a bad idea. As well as to avoid too much tea at Sehr. Tea makes pass more urine taking with it valuable mineral salts that body would need during the day.

Fasting has advantages in getting rid of addictions and unhealthy habits. In fact, this is an ideal month to stop smoking completely and also the time to regulate other habits like heavy tea/coffee usage or tobacco/betel/pan chewing. If you cannot give up smoking, cut down gradually after iftar. And even after Ramadan — continue this habit and quit permanently — as smoking is injurious to health.

The body's immediate need at the time of iftar is to get an available energy source in the form of glucose for every living cell, particularly the brain and nerve cells.

Dates and juices are high-quality sources of sugars. These are adequate to bring low blood glucose levels to normal levels in most cases. Juice and soup help maintain water and mineral balance in the body.

But an imbalance diet and too many servings of juices or sherbets and sweets during Iftar have been found to be unhealthy. Although the primary aim of a fasting Muslim, who is not sick is to obey the rules to religious norms, it brings in numerous health benefits as well. But for people who suffer from any medical condition that related to lot of medicine should monitor their body and physiology more closely.

## Healthy diet for Ramadan

DR RIFFAT H LUCY

Millions of Muslim started fasting with the advent of the holy month of Ramadan. During this month, health and diet issues are very important for all of us especially for the ailing and people living with specific health complications.

Most of the health problems are likely to arise during Ramadan from inappropriate diet, over-eating etc. Our diet in Ramadan should be as simple as possible and it is better to be similar with our usual diet. The diet should be consumed in a proper way so that we maintain our normal weight, neither losing nor gaining. However, if one is obese, Ramadan is an ideal

fast-digesting foods last for only 3 to 4 hours. Slow-digesting foods are foods that contain grains and seeds like barley, wheat, oats, beans, lentils (daal), whole meal flour, unpolished rice, etc. (called complex carbohydrates). Fast-burning foods are foods that contain sugar, white flour, etc. (called refined carbohydrates).

The body's immediate need at the time of Iftar is to get an easily available energy source in the form of glucose for every living cell, particularly the brain and nerve cells. Dates are excellent source of fibre, carbohydrates, potassium and magnesium and juices are good sources of sugars. Dates and juice are sufficient to bring low blood glucose levels to

fibre-containing foods are bran-containing foods, whole wheat, grains and seeds, vegetables like green beans, peas, spinach, and other herbs like methi, iron-rich leaves, fruit with skin, dried fruit, etc.

Over-eating and drinking of too much tea and liquid at Sehr is not a healthy practice, but drink as much water or fruit juices as possible between Iftar and bedtime so that your body may adjust fluid levels in time. Tea makes you pass more urine taking valuable mineral salts with it that your body would need during the day.

Excessive sweating, weakness, tiredness, lack of energy, dizziness, especially on getting up from sitting position, pale

usually occurs as the day goes by and worsens at the end of the day. When associated with "low blood pressure", the headache can be quite severe and can also cause nausea before Iftar. You can cut down caffeine and tobacco slowly starting a week or two before Ramadan. Herbal and caffeine-free teas may be substituted. Reorganise your sleep schedule during the Ramadan so as to have adequate sleep.

Again, weakness, dizziness, tiredness, poor concentration, perspiring easily, feeling shaky (tremor), unable to perform physical activities, headache, palpitations are symptoms of low blood sugar. Having too much sugar (i.e. refined carbohydrates) especially at Sehr, the body produces too much insulin causing the blood glucose to drop. One should eat complex carbohydrates at Sehr so that blood sugar falls slowly and also the food lasts longer making you less hungry.

Increased acid levels in the empty stomach can aggravate the conditions. It presents itself as a burning feeling in the stomach area under the ribs and can extend up to the throat. Spicy foods, coffee, fast food and cola drinks worsen these conditions. Medications are available to control acid levels in the stomach. People with proven peptic ulcers and hiatus hernia should consult their doctor well before Ramadan.

Kidney and urinary tract infection and kidney stones may occur in people who drink less liquid. Therefore, it is essential to drink extra liquids so as to prevent stone formation.

**Joint pain:** The increased pressure on the knee joints during Salat (Prayer) and pain due to this may aggravate during Ramadan. In the elderly and those with arthritis this may result in pain, stiffness, swelling and discomfort. Lose weight so that the knees do not have to carry any extra load. Exercise the lower limbs before Ramadan so that they can be prepared for the additional strain. Being physically fit allows greater fulfillment, thus enabling one to be able to perform salat with ease.

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time to shade the extra pounds.

The foods eaten should be well balanced, containing foods from each food group, i.e. fruits, vegetables, meat or chicken or fish, bread or cereals and dairy products. Fried foods which are prepared traditionally are unhealthy and should be limited. Fatty foods and foods containing too much sugar should also be restricted. These types of food cause indigestion, heartburn, and weight problems.

In view of the long hours of fasting, we should consume slow digesting foods including fibre containing foods rather than fast-digesting foods. Slow digesting foods last up to 8 hours, while

normal levels. Juice and soup help maintain water and mineral balance in the body. Bananas are a good source of potassium, magnesium and carbohydrates. Haleem is an excellent source of protein and is a slow-burning food which includes beans, lentil and whole meal flour. An unbalanced diet and too many servings of sherbets and sweets with added sugar have been found to be unhealthy.

You can develop constipation which can cause piles (haemorrhoids), fissures and indigestion with a bloated feeling. It happens due to too much refined foods, too little water and not enough fibre in the diet.

Prompt headache, mood swings and irritability is usually due to a sudden decrease in caffeine and tobacco withdrawal, doing too much in one day, lack of sleep, hunger

and appearance and feeling faint are symptoms associated with slight fall of blood pressure. This tends to occur towards the afternoon due to little fluid in body and decreased salt. Intake of salty food in Sehr will help to overcome this situation of lethargy and tiredness. But persons with high blood pressure should check their blood pressure may need their medication adjusted during Ramadan after consulting their doctor.

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## Common health problems during Ramadan and their solutions

**Constipation:** Constipation can cause piles (haemorrhoids), fissures (painful cracks in anal canal) and indigestion with a bloated feeling. Too much refined foods, too little water and not enough fibre in the diet can cause constipation.

**Indigestion and wind:** Over-eating and too much fried and fatty foods, spicy foods, and foods that produce wind e.g. eggs, cabbage, lentils, carbonated drinks like cola produce gas and indigestion. Do not over-eat, drink fruit juices or better still drink water to avoid these problems.

**Lethargy:** Excessive sweating, weakness, tiredness, lack of energy, dizziness, especially on getting up from sitting position, pale appearance and feeling faint are symptoms associated with "low blood pressure". This tends to occur towards the afternoon during fasting hours in Ramadan. Too little fluid intake, decreased salt intake usually cause these problems. To get remedy, keep cool, increase fluid and salt intake. Low blood pressure should be confirmed by taking a blood pressure reading when symptoms are present. Persons with high blood pressure and hiatus hernia should consult their doctor well before Ramadan.

**Kidney stones:** Kidney stones may occur in people who have less liquid to drink. Therefore, it is essential to drink extra liquids so as to prevent stone formation.

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**Gastritis and hiatus hernia:** Increased acid levels in the empty stomach in Ramadan aggravate the conditions. It presents as a burning feeling in the stomach area under the ribs and can extend up to the throat. Spicy foods, coffee, fast food and cola drinks worsen these conditions. Medications are available to control acid levels in the stomach. People with proven peptic ulcers and hiatus hernia should consult their doctor well before Ramadan.

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