Diabetes: management during religious fasting

Fasting is an important spiritual aspect of many religions, including Islam, Hinduism and Judaism. Fasting periods are a time of prayer and reflection as well as abstinence from food.

Hindus fast for a day each week, from dawn to dusk, as well as on the 11th day after full moon and no moon. In Judaism there are 6 fast-days each year: although each of these are a single day, this still impacts on diabetes management.

For Muslims, during the month-long period of Ramadan, forward planning can ensure that people with diabetes are able to manage their condition during their fast and keep themselves safe from harm.

This 2015 BMJ review is helpful – the review refers to Ramadan, but the principles of diabetes management during fasting naturally relate to Hindus and Jews as well (BMJ Open Diab Res Care 2015;3:e000108).

Although those who are sick are exempted from fasting during the holy month of Ramadan, most diabetics do not regard themselves as sick and therefore do not consider themselves to be exempt. However, if advised by a doctor, because they are at particularly high risk, some will allow themselves to eat/drink.

The Ramadan fast lasts from dawn to sunset, for a period of around 30 days and for the next 7 years this will fall during the UK summer. In 2016 Ramadan will start on 6 June and end on 5 July. During this time people will eat two meals a day, one before sunrise (suhur) and one after sunset (iftar). No fluids or food are taken during daylight hours. This includes water and often medicines too.

The main risks during Ramadan are of hypo- and hyperglycaemia and dehydration.

Assessing risk

Those with diabetes (type 1 and 2) can be divided (on the basis of expert opinion) into one of three groups: high, moderate and low risk.

- Those at high risk should be advised to abstain from fasting.
- Those at moderate risk can usually fast with certain modifications and planning.
- Those at low risk do not need specific health advice/planning in advance of Ramadan.

<table>
<thead>
<tr>
<th>High risk</th>
<th>Moderate risk</th>
<th>Low risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe and recurrent hypos</td>
<td>Well controlled diabetes on:</td>
<td>Well controlled diabetes on:</td>
</tr>
<tr>
<td>Hypo unawareness</td>
<td>- Sulphonylureas</td>
<td>- Diet alone</td>
</tr>
<tr>
<td>Poor glycaemic control</td>
<td>- Insulin</td>
<td>- Gliptins</td>
</tr>
<tr>
<td>Ketoacidosis or hyperosmolar hyperglycaemia in 3m before Ramadan</td>
<td>- Short acting insulin secretagogues</td>
<td>- Glitazones</td>
</tr>
<tr>
<td>Acute illness</td>
<td>- Combination of insulin and oral therapy.</td>
<td></td>
</tr>
<tr>
<td>Job involves intense physical labour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnant women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious comorbidities including neovascular complications, on</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dialysis, cognitive impairment, uncontrolled epilepsy (especially if</td>
<td></td>
<td></td>
</tr>
<tr>
<td>triggered by hypoglycaemia)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Advice for diabetics during Ramadan

Plan ahead – discuss this 2–4m before Ramadan!

Dietary advice

Eat a normal balanced, healthy diet when you eat during Ramadan. However:

- Incorporate slow energy release foods (such as wheat, semolina, beans, rice) before and after fasting.
- Include high fibre foods such as:
Wholegrain cereals, granary bread, brown rice
Beans and pulses
Fruit, vegetables, and salads.
Minimize foods high in saturated fat (such as ghee, samosas, and pakoras).
Use only small amount of mono-unsaturated oils (such as rapeseed or olive oil).

Exercise
- Light and moderate exercise is safe in patients with type 2 diabetes.
- Rigorous exercise is not recommended as the risk of hypoglycaemia may be increased, particularly in patients taking sulphonylureas or insulin.
- If appropriate continue your usual exercise regimen, and try to do this in the non-fasting period (i.e. at night).

Blood glucose monitoring
- Blood glucose monitoring is allowed and does not constitute the break of fast.
- Monitor blood sugar levels if:
  - You suspect hypoglycaemia.
  - You feel unwell.
  - Testing at other times may be useful only if patients are able and willing to adjust their diabetes treatment regimens, such as insulin dosage titration.
- If hypoglycaemia develops, encourage the patient to break their fast.

Managing complications
- Fasting should be stopped if patients develop the warning symptoms of dehydration, hypoglycaemia or hyperglycaemia, or if any complications or acute illness occur.

Drugs and fasting

Some of this is based on the recommendation of the authors as there are only limited trial data. Remember most people will be eating twice a day – before sunrise and after sunset.

- **Metformin**: as most will take their main meal after sunset, split any dose of metformin into 1/3 with the first meal of the day and 2/3 with the meal after sunset.
- **Sulphonylureas**: Swap once daily regimens so that the dose is taken with the larger evening meal. Consider reducing the dose: e.g. if on 80mg bd of gliclazide swap to 40mg in the morning and 80mg at night.
- **Glitazones**: probably safe to continue at usual dose.
- **Gliptins**: low grade evidence that gliptins and metformin may be better than sulphonylurea and metformin but difficult to know if this should affect our practice given evidence base is not very robust.
- **GLP-1 mimetics (e.g. exenatide)**: may be able to continue at normal dose but may need to reduce dose of other agents.
- **Rapid acting insulin secretagogues**: take with the two meals in the usual way.
- **Insulins**: best management may be obtained by using an intermediate acting insulin (taken with the evening meal) and rapid acting insulin with both meals. Dose may need to be adjusted. Those with type 1 on basal bolus insulin should be discouraged from fasting. If they are adamant they want to fast then reduce background insulin by 20% and omit midday insulin if blood sugar ≤7% (53mmol/mol). If blood sugar >7% (53mmol/mol) may need to give insulin but at an adjusted dose (discuss with a specialist).
**Diabetes: management during religious fasting**

- Plan ahead – think about this 2–4m before Ramadan as it may involve changing medication, particularly insulins.
- Encourage a healthy diet and normal exercise, modifying foods so more slow release carbohydrates and fibre.
- Encourage blood sugar monitoring if symptoms of hypoglycaemia or feeling unwell.
- Discuss the need to break the fast if hypog or intercurrent illness or complications develop.
- Adjust drug regimens as necessary.

**Professional development**

- Do you record religion on patients’ medical records? Could this help you identify people who need tailored health advice?

**Practical tools**

- Buddhism – Managing diabetes during fasting – a focus on Buddhist lent: [www.idf.org/sites/default/files/attachments/Managing%20Diabetes%20During%20Fasting%20-%20Focus%20on%20Buddhist%20Lent.pdf](http://www.idf.org/sites/default/files/attachments/Managing%20Diabetes%20During%20Fasting%20-%20Focus%20on%20Buddhist%20Lent.pdf)
- Hinduism – see professional development above, for further reading.

*We make every effort to ensure the information in these pages is accurate and correct at the date of publication, but it is of necessity of a brief and general nature, and this should not replace your own good clinical judgement, or be regarded as a substitute for taking professional advice in appropriate circumstances. In particular check drug doses, side effects and interactions with the British National Formulary. Save insofar as any such liability cannot be excluded at law, we do not accept any liability for loss of any type caused by reliance on the information in these pages.*

**GP Update Limited**

**June 2016**