Peri-operative Management of Diabetes

General Principles:
1. Where possible patients receive education regarding the importance of good glucose control relative to post-operative outcome and achieve good glucose control in the community prior to admission for surgery.
2. Patients scheduled for elective surgery should have an HbA1c < 70mmol/mol.
3. Promote self-medication where possible/appropriate
4. Avoid the use of variable rate intra-venous insulin infusions (VRIIs - sliding scales) where possible
5. Indications for VRIIs are poor glycaemic control and anticipated prolonged starvation (more than 2 missed meals)
6. Maintenance fluid with VRIII should be 5% glucose in 0.45% saline to prevent hyponatremia
7. Ideal capillary blood glucose (CBG) should be 6-10 mmol/L and acceptable CBG is 4-12 mmol/L.
8. Blood glucose should be measured hourly during surgery to minimise the risk of neuroglycopenia.

Patient seen in SOPD and offered surgery – check HbA1c now if recent result is not included in GP referral letter

HbA1c is > 69mmol/mol and/or Patient has concerning co-morbidities
- Refer to Anaesthetic Review Clinic
  - Review at ARC. Importance of good pre- and peri-operative diabetic control re-iterated. Patient referred to community diabetic team sc-tr.sussexdiabetesenquiries@nhs.net
  - Patient reviewed in community within 2 weeks and adjustments made to diabetic medication with the aim of reducing HbA1c with in a 2 month time frame.

Patient is admitted on the morning of surgery, for either day surgery or an in-patient stay, HbA1c < 69 mmol/mol and CBG on admission is within acceptable limits

Patient has Type II Diabetes and doesn’t take insulin
- Stop oral hypoglycaemics when NBM
- Don’t start a VRIII unless CBG is outwith acceptable limits (4-12 mmol/L)

Patient has type II diabetes and takes insulin
- Continue long-acting basal insulin (reduce dose by 20% if prone to hypoglycaemia), stop short-acting insulins and check blood glucose hourly whilst NBM. Don’t start VRIII unless CBG outside acceptable limits (4-12 mmol/L)

Patient has Type I diabetes
- Continue Long-acting insulin (reduce dose by 20% if prone to hypoglycaemia), allow patient to manage glucose control unless they are not confident or able to do so. Don’t start VRIII unless CBG is outside acceptable limits (4-12 mmol/L) or starvation is prolonged

Patient is admitted on day of surgery and most recent HbA1c is > 70mmol/mol, CBG is >12 mmol/mol on admission – do not cancel the surgery if patient has already been through process outlined above.

Patient has Type II DM and is due to have minor/day surgery
- Monitor CBG hourly
- Check for ketones
- Consider 2-4 units of actrapid to lower CBG

Patient is being taken insulin and or is due to have major surgery which necessitates a prolonged period of starvation (missing more than 2 meals) or insertion of prosthetic material (such as joint replacement, vascular graft)
- Commence VRIII and maintenance fluids (5% dextrose or 4% dextrose in 0.18% saline @ approx 1.2mls/kg/hr). Aim to keep CBG within ideal limits (6-10 mmol/mol).
- Request urgent in-patient diabetic review (on line via intranet) or bleep SpR on 8809

Surgery is delayed for a fixed period of 3 months during which the community diabetic team will optimise the patient’s glucose control as much as it is possible to do so, patient is then listed for surgery.

VF 02/2017
Pre-operative Management of Diabetes: Elective patients – Surgical outpatients

Are you listing your patient for surgery?

Do they have diabetes?

If so please ask your secretary to send a ‘diabetes checklist letter’ to the GP to prepare your patient for surgery.

Date:……………………Proposed surgery / procedure:………………………………………………..

Dear Dr……………………/ Diabetes Practice Nurse,

Your patient has been referred for surgery

As they have diabetes please can you complete the following form and send it back to the referring surgeon.

Please check their HbA1c if not done in the last two months.

If their HbA1c is >69mmol/mol this could delay surgery. Please consider up titrating their medications and /or referring to your local specialist diabetes team.

Please could you provide the following information:

<table>
<thead>
<tr>
<th></th>
<th>Result</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of diabetes (e.g Type 1 / Type 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment (including times and doses)</td>
<td></td>
<td></td>
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<tr>
<td>HbA1c</td>
<td></td>
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<tr>
<td>Diabetes co-morbidites (e.g. renal, feet)</td>
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<td></td>
</tr>
</tbody>
</table>

Impending surgery can be a time when a patient with diabetes may feel motivated to make lifestyle changes in weight management, activity / exercise and smoking.

‘Poor glycaemia control is associated with greater post-operative morbidity and mortality. By optimising pre-operative diabetes control you can help reduce the risk of post-operative mortality by 50%. Ref: JBDS: 2016: Management of adults with diabetes undergoing surgery and elective procedures: improving standards.

If there is a reason why control cannot be improved, please state this clearly to enable the risks and benefits of surgery to be assessed.

Yours sincerely

Name of referring surgeon
Pre-operative Management of Diabetes: Day of surgery

Is your patient going for surgery?

Do they have diabetes?

If HbA1c ≥ 70 mmol/mol request urgent in-patient diabetic review (on line via intranet)

Remember check blood glucose hourly
Aim for CBG 6-10 mmol/L

Patient is:
• only expected to miss one meal

• CBG > 12mmol/L (on two consecutive occasions)
• Hba1c ≥ 70 mmol/mol

No

Patient has Type I diabetes
Continue Long-acting basal insulin (reduce dose by 20%)
Allow patient to manage glucose control unless they are not confident or able to do so.

Type 2 diabetes; on insulin
Continue long-acting basal insulin (reduce dose by 20%)
Stop short-acting or mix insulin.

Type 2 Diabetes; not on insulin
Stop oral hypoglycaemicals when NBM

Patient is:
• expected to miss more than 2 meals (IE unlikely to resume oral intake immediately post-op)

Yes

Use a variable rate insulin infusion with maintenance fluids at 1.2mls/kg/hr (e.g. 4% glucose in 0.18% saline)

Consider VR II if
• Patient is having a prosthesis (e.g. joint replacement, vascular graft)

Remember to stop a VR II when the patient has returned to the ward; is eating and drinking; and has had their usual diabetes medications