# Suggested Perioperative Oral Hypoglycaemic Management

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<tr><th rowspan="2"></th><th rowspan="2">Class</th><th rowspan="2">Examples</th><th rowspan="2">Day Prior to Admission</th><th colspan="2">Day of Surgery</th><th rowspan="2">Post Op</th></tr>
<tr><th>Morning Surgery</th><th>Afternoon Surgery</th></tr>
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<tbody>
<tr><td rowspan="3">Omit While Fasting</td><td>Meglitinides</td><td>• Nateglinide<br>• Repaglinide</td><td rowspan="2">Take as Usual</td><td>Omit morning dose</td><td>Give morning dose if eating</td><td rowspan="5">Withhold oral hypoglycaemics until eating and drinking normally</td></tr>
<tr><td>Sulphonylureas</td><td>• Glibenclamide<br>• Gliclazide<br>• Glimepiride<br>• Glipizide<br>• Glyburide</td><td>Omit morning dose</td><td>Omit all doses</td></tr>
<tr><td>SGLT-2 Inhibitors[1]</td><td>• Canagliflozin<br>• Dapagliflozin<br>• Empagliflozin<br>• Ertugliflozin</td><td><u>Day Case Only</u><br>Continue until DOS<br>Minimise Fasting<br>(Skip DOS Only)<br><br><u>Overnight Stay</u><br>Last Dose Day -3<br>(Skip 2 Days Plus DOS)<br><br><u>Colonoscopy / Bowel Prep</u><br>Last Dose Day -4<br>(Skip 3 Days Plus DOS)</td><td colspan="2">Omit on day of Surgery</td></tr>
<tr><td rowspan="5">Can Continue While Fasting</td><td>Alpha-Glucosidase Inhibitors</td><td>• Acarbose</td><td rowspan="5">Take as Usual</td><td>Omit morning dose</td><td>Give morning dose if eating</td></tr>
<tr><td>DPP-IV Inhibitors</td><td>• Alogliptin<br>• Linagliptin<br>• Saxagliptin<br>• Sitagliptin<br>• Vildagliptin</td><td colspan="2" rowspan="4">Take as Usual</td></tr>
<tr><td>GLP-1 Analogues</td><td>• Exenatide<br>• Liraglutide</td><td>Take as normal</td></tr>
<tr><td>Biguanides[2]</td><td>• Metformin</td><td rowspan="2">Withhold oral hypoglycaemics until eating and drinking normally</td></tr>
<tr><td>Thiazolidinediones</td><td>• Pioglitazone<br>• Rosiglitazone</td></tr>
</tbody>
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[1]***SGLT2i****s: Diabetic ketoacidosis (inc with normal BGL) has been reported in patients taking SGLT2is.*
*Risk Factors include conditions leading to a restricted food/ fluid intake, including bowel preparation or prior to bariatric surgery.*
*SGLT2is should be withheld pre-operatively at least one day, or longer, coinciding with the period of reduced food intake.*

*Patients admitted for major surgery, surgical emergencies or major illness should have SGLT2is withheld and blood ketones monitored daily. Urine ketones are not reliable.*

*SGLT2si may be restarted once normal diet is re-established, acute illness has stabilised and ketones are normal.*

[2]***Metformin*** *only needs to be withheld if:*
- *contrast medium is to be used*
- *<u>Or</u> baseline eGFR is < 60ml/1.73m2*
- *patient is deemed at significant risk of perioperative decline in renal function*

*In these cases, metformin should be omitted on the day of the procedure and for the following 48 hours, until renal function is confirmed to be normal*

*Patients admitted for surgical emergencies or acute illness should have metformin held if GFR < 30*

*SGLT-2: Sodium-Glucose Cotransporter 2, DPP-IV: Dipeptidyl Peptidase IV, GLP-1: Glucagon-Like Peptide 1*

## Suggested Perioperative Insulin Management

<table>
<tr><th></th><th colspan="2">Example Insulin Types</th><th>Day Prior to Admission</th><th>Day of Surgery</th><th>While on Insulin Infusion</th></tr>
<tr><td rowspan="3">Daily Insulin</td><td rowspan="3">• Lantus<br>• Levemir<br>• Toujeo</td><td>morning</td><td>Give Usual Dose</td><td>Give 80% usual dose and check BGL on admission</td><td rowspan="3">Give 80% of Usual<br>Long Acting Insulin Dose</td></tr>
<tr><td>lunchtime</td><td>Reduce to 80% of usual Dose</td><td>Restart Insulin at normal dose once Eating and Drinking</td></tr>
<tr><td>evening</td><td>Reduce to 80% of usual Dose</td><td>Give Usual Dose</td></tr>
<tr><td rowspan="3">BD Insulin</td><td colspan="2">Ultra-Long Acting Insulins<br>• Lantus<br>• Levemir<br>• Toujeo</td><td>Give usual AM Dose<br>Reduce PM Dose to 80%</td><td>Reduce morning Dose to 80%<br>Give Usual evening Dose</td><td>Give 80% of Usual<br>Long Acting Insulin Dose</td></tr>
<tr><td colspan="2">Biphasic Insulins<br>• Humalog Mix 25<br>• Humalog Mix 50<br>• Humulin 30/70<br>• Mixtard 30/70<br>• Mixtard 50/50<br>• Novomix 30</td><td>Give Usual Dose</td><td>Give 50% of usual morning dose<br>Omit lunchtime dose (if on TDS regimen)<br>If normal evening meal: give usual evening Dose<br>If small evening meal: give half dose<br>If no evening meal: give Basal Component only</td><td rowspan="2">Replacing Short-Acting,<br>Intermediate and<br>Pre-Mixed Insulin With<br>Long Acting Insulin<br>at a dose of 0.2U per kg</td></tr>
<tr><td colspan="2">Combination Intermediate PLUS short acting insulin (ie 2 injections BD)<br>Intermediate Acting<br>• Humulin NPH<br>• Protophane<br>Short Acting<br>• Actrapid<br>• Apidra<br>• Humalog<br>• Humulin S<br>• Novorapid</td><td>Give Usual Dose</td><td>Morning<br>Calculate usual total morning dose<br>(eg 20U protophane + 8U Novorapid = 28U)<br>Give half as intermediate acting on morning of surgery<br>(eg 14U protophane, no Novorapid)<br>Evening<br>Leave evening meal dose unchanged</td></tr>
<tr><td>Short Acting Insulin</td><td colspan="2">Boluses doses before meals<br>Inc bolus component of Basal Bolus Regimens<br>Short Acting Insulins<br>• Actrapid<br>• Apidra<br>• Fiasp<br>• Humalog<br>• Humulin R<br>• Novorapd</td><td>Give Usual Dose</td><td>Omit morning dose if not eating breakfast<br>Omit lunchtime Dose if not eating lunch<br>If normal evening meal: give usual evening Dose of short acting insulin<br>If small evening meal: give half evening dose of short acting insulin<br>If no evening meal: give no evening short acting insulin</td><td>Replacing Short-Acting Insulin With Long Acting Insulin at a dose of 0.2U per kg</td></tr>
<tr><td>Insulin Pump</td><td colspan="2">All Insulin Pumps Use a Fast Acting Insulin, eg<br>• Humalog<br>• NovoRapid<br>• Apidra</td><td>Give Usual Dose</td><td>Use 80% of usual basal rate on initiation of surgery.<br>Return to normal rate once patient conscious and<br>Able to manage their glucose control<br>BGL must be measured q1h while patient unconscious.<br>Device must be reachable during surgery and able to discontinued<br>Or turned off if BGL < 4mmol/L</td><td>Continue Usual Management</td></tr>
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