



Patient Instruction Leaflet

For patients with diabetes undergoing surgery or procedures requiring a period of starvation

Information for patients with diabetes controlled by tablets, or by injections of GLP-1 analogues - Byetta[®] (exenatide), Bydureon[®] (long-acting exenatide), Victoza[®] (liraglutide), Lyxumia[®] (lixisenatide), Ozempic[®] (semaglutide) or Trulicity[®] (dulaglutide)

Please read the following information carefully prior to your surgery or procedure. This booklet will help you manage your diabetes medication before and after a surgical procedure.

Follow the instructions in the table overleaf marked **“What to do with you medication before surgery”**. If you are also on insulin, you will receive a separate leaflet with instructions relating to this.

If your operation is in the **morning** (if your appointment letter has advised you to come into hospital before 9am on the day of surgery):

- Do not eat any food after midnight.
- Drink clear fluids such as black tea or coffee, sugar-free squash or water up to 6.30am.

If your operation is in the **afternoon** (if your appointment letter has advised you to come into hospital after 9am on the day of surgery):

- Eat breakfast before 7am and eat no food after this time.
- Drink clear fluids such as black tea or coffee, sugar-free squash or water up to 10am.

If you are having a colonoscopy or CT colonography, please refer to the specific information leaflets for these procedures in relation to what foods you are allowed to eat prior to the procedures. This information leaflet will also tell you what to do with your diabetes medication before you have your procedure.




When you travel to and from the hospital for your operation, carry some suitable quick acting glucose treatment to provide 15g to 20g carbohydrate e.g. glucose (dextrose) tablets, glucose (dextrose) oral gel, 200ml (a small carton) of smooth orange juice (no bits). If you have symptoms of low blood sugar such as sweating, dizziness, blurred vision or shaking please test your blood sugar if you are able to do so. If it is less than 6 mmol/L preferably take 1-2 tubes of glucose gel or 4-6 glucose tablets. If these are not available, take 200ml of a sugary drink e.g. smooth orange juice (no bits). **Please tell staff at the hospital that you have done this**, as it is possible that your surgery may have to be delayed.

After your operation you will be offered food and drink when you feel able to eat. If you are eating and drinking normally you should resume taking your normal tablets with your evening meal, or the day after surgery. However if you are on a tablet called **metformin**, this should be stopped for 48 hours following your operation, and only restarted if you are feeling well, with no vomiting.

What to do with your medication before surgery

Your pre-assessment nurse will tick all the medicines you are on.

Tablets	Day before going into hospital	Day of surgery		
		Patient for a.m. surgery	Patient for p.m. surgery	After surgery
Metformin <input type="checkbox"/>	No bowel prep: Take as normal Bowel prep (instructed to take laxatives e.g. Klean-Prep before your operation): Omit all doses	Do not take	Do not take	Restart 48 hours after surgery – unless you are given specific advice by your healthcare professional
Sulfonylureas (e.g. gliclazide, glipizide, glibenclamide, glimeperide) <input type="checkbox"/>	Take as normal	Do not take	Do not take morning dose. If taken twice daily take evening dose only if eating	Restart when eating and drinking normally
Pioglitazone <input type="checkbox"/>	Take as normal	Do not take	Do not take	Restart when eating and drinking normally.
DPP IV inhibitors (e.g. sitagliptin, vildagliptin, saxagliptin, alogliptin, linagliptin) <input type="checkbox"/>	Take as normal	Do not take your morning dose, if taken in morning	Do not take your morning dose, if taken in morning	Recommence when eating and drinking normally
GLP-1 analogues (e.g. exenatide, liraglutide, lixisenatide, dulaglutide, semaglutide) <input type="checkbox"/>	Take as normal	Do not take	Do not take	Recommence when eating and drinking normally – unless you are given specific advice by your healthcare professional

Tablets	Day before going into hospital	Day of surgery		
		Patient for a.m. surgery	Patient for p.m. surgery	After surgery
SGLT-2 inhibitors (e.g. dapagliflozin, canagliflozin, empagliflozin) 	Omit all doses	Do not take	Do not take	Treatment may be restarted once you are fully recovered from surgery – seek urgent medical assistance if you develop any of the below: rapid weight loss, feeling sick or being sick, stomach pain, fast and deep breathing, sleepiness.
Acarbose 	Take as normal	Do not take morning dose if advised to miss breakfast	Take morning dose only if breakfast eaten. Do not take your lunchtime dose	Restart when eating and drinking normally
Meglitinides (repaglinide or nateglinide) 	Take as normal	Do not take morning dose if advised to miss breakfast	Take morning dose only if breakfast is eaten. Do not take your lunchtime dose.	Restart when eating and drinking normally.

You should resume taking your normal tablets after surgery as directed, when you are eating and drinking. However, your blood sugars may be higher than usual for a day or so.

Sick Day Rules for People with Diabetes

What should I do if I am unwell when I get home?

- **NEVER** stop taking your tablets or injections (except those listed below on page 5, if you have diarrhoea, vomiting or a high temperature). Illness will usually increase your body's need for insulin.
- **DRINK** at least 100ml of water or sugar-free fluid every hour – this is around 5 pints (or 2.5 litres) in 24 hours
- **EAT** as normally as you can. If you cannot eat or if you have a smaller appetite than normal, replace solid food during illness, with one of the following:
 - 400ml milk
 - 200ml carton fruit juice
 - 150-200ml non-diet fizzy drink
 - 1 scoop ice cream
 - 1 small carton yogurt (120g)
- **REST** and avoid strenuous exercise as this may increase your blood sugar level during illness.

If you are unwell due to the surgery you have just received, please follow your surgical discharge advice.

When should I contact my GP surgery, out of hours service or usual diabetes care provider?

- **CONTINUOUS** diarrhoea and vomiting, and/or high fever.
- **UNABLE** to keep food down for 4 hours or more, or you have missed more than 1 meal.
- **NO IMPROVEMENT** in symptoms within 24-48 hours.

Remember to tell your healthcare professional you have recently had surgery or a procedure.

Medicines and Dehydration: Patient Information

This information is about what actions to take if you develop an illness that causes dehydration. These actions are called “medicine sick day rules”.

Who is this information for?

This information is for people who take the following long-term medicines.

- **ACE inhibitors:** a medicine for high blood pressure and heart conditions
Examples: names ending in “pril” such as lisinopril, perindopril, ramipril
- **ARBs:** a medicine for high blood pressure and heart conditions
Examples: names ending in “sartan” such as losartan, candesartan, valsartan
- **NSAIDs:** anti-inflammatory pain killers
Examples: ibuprofen, naproxen, diclofenac
- **Diuretics:** sometimes called “water pills” for excess fluid and high blood pressure
Examples: furosemide, bendroflumethiazide, indapamide, spironolactone
- **Metformin:** a medicine for diabetes
- **SGLT2 inhibitors:** medicines for diabetes
Examples: dapagliflozin, empagliflozin, canagliflozin

Which illnesses cause dehydration?

Dehydration is the loss of fluid from your body. Vomiting, diarrhoea and fever (high temperature, sweats, shaking) can make you dehydrated. If you are sick once or have diarrhoea once, then you are unlikely to become dehydrated. Having two or more episodes of vomiting or diarrhoea can lead to dehydration: in these cases, you should follow the advice in this leaflet.

What is the problem?

Taking certain medicines when you are dehydrated can result in you developing a more serious illness. These are:

- **ACE inhibitors, ARBs and NSAIDs:** if you are dehydrated, these medicines can stop your kidneys working properly.
- **Diuretics:** these medicines can make dehydration more likely.
- **Metformin:** dehydration can make it more likely that you will develop a serious side effect called lactic acidosis.
- **SGLT2 inhibitors:** can worsen dehydration and cause acid in the blood

What actions should I take?

If you develop a dehydrating illness, you should temporarily stop taking the medicines listed above. It is very important that you re-start your medicine(s) once you have recovered from the illness. This would normally be after 24 to 48 hours of eating and drinking normally. When you re-start your medicines, just take them as normal: do not take extra for the doses you have missed.

Contact details for Diabetes Nurse Teams (Monday – Friday 09.00 – 17.00):

Inverness, Badenoch, Strathspey, Ross and Cromarty	01463 704631
Caithness & Sutherland	01847 893442
Fort William and Skye	07816 060497

Contact details for NHS 24: Tel 111

Further Resources

Information adapted from:

Joint British Diabetes Societies for inpatient care: Management of adults with diabetes undergoing surgery and elective procedures: Improving standards (Revised March 2016) (available from <https://abcd.care/resource/management-adults-diabetes-undergoing-surgery>)

Healthcare Improvement Scotland and Scottish Patient Safety Programme: Medicines and Dehydration Patient Information (Version 2) (available from <https://ihub.scot/improvement-programmes/scottish-patient-safety-programme-spsp/spsp-medicines-collaborative/high-risk-situations-involving-medicines/medicines-sick-day-rules-card/>)

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