



## CLINICAL GUIDELINE

# High Output Stoma management in adult acute inpatients

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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### Important Note:

The online version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

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# High Output Stoma (HOS) Pathway

The use of this pathway must be under the supervision of a Senior Clinician / Consultant

This guidance is intended for adult acute patients identified as having a persistent HOS for over 72 hours, displaying signs of clinical dehydration with stoma volumes > 2000ml / day or > 1000ml/day with additional risk factors such as cardiac and / or renal impairment or multiple stoma bag leaks.

## Have the following reversible causes of HOS been excluded?

- Sepsis / Infection
- Active / residual inflammatory bowel disease
- Bowel obstruction or stenosis
- Abrupt withdrawal of steroids or opiates
- Medications (Laxatives/Prokinetics)

**If any of the above cannot be excluded, the patient has a short bowel of 100cm or less to stoma or is haemodynamically unstable, do not proceed prior to discussion with a Senior.**

## Daily tasks

1. Complete HOS checklist
2. Accurate & strict fluid balance (In/Out)
3. Review IV fluids (Resuscitation and/or maintenance)
4. Daily U+Es, Mg2+, Ca2+, PO4 +/- replace
5. Consider poor absorption of oral medication

## Stage 1 - Start Treatment

Day 1-3

### Fluid balance and electrolytes

- Fluid balance/ electrolyte monitoring
- Daily IV maintenance fluids
- Restrict all oral fluids to 1L per day – check patient awareness

### Optimise medication

- Review medications (see reversible causes)
- Prescribe Omeprazole 40mg twice a day and Loperamide capsules 4mg QDS

### Nutritional management

- Encourage a lower fibre/higher energy diet, (see supporting patient information leaflet / full guideline).
- Complete Nutrition Profile / MUST and refer to dietitian via Trakcare if appropriate

### Stoma care

- Refer to stoma care department via Trakcare

Exit Pathway if clear improvement

## Stage 2 - Optimise Treatment

Day 4-6

### Fluid balance and electrolytes

- Fluid balance/ electrolyte monitoring
- Review IV fluids (Resuscitation and/or maintenance)
- Prescribe 1 litre of double strength Dioralyte. Monitor K+ (see full guidelines)
- Restrict all other oral fluids to 1L per day (not Dioralyte)

### Optimise medication

- Increase Loperamide to 8mg QDS (baseline ECG required – see full guideline)

### Nutritional management

- Encourage a lower fibre/higher energy diet, (see supporting patient information leaflet / full guideline)
- Consider early referral to Nutrition Support Team (NST) as may require parenteral nutrition (PN) support

Exit Pathway if clear improvement

## Stage 3 - Escalate Treatment

Day 7-9

### Fluid balance and electrolytes

- Fluid balance/ electrolyte monitoring
- Review IV fluids (Resuscitation and/or maintenance)
- Continue 1 litre double strength Dioralyte (see stage 2)
- Restrict all other oral fluids to 500ml per day

### Optimise medication

- Increase Loperamide to 12-16mg QDS (Repeat ECG required – see full guideline)
- Prescribe Codeine Phosphate 30-60mg QDS (exercise caution if eGFR < 15 or body weight < 40kg due to sedative side effects)

### Nutritional management

- Continue as per stage 1
- Consider referral to Nutrition Support Team (NST) for advice / parenteral nutrition

Exit Pathway if clear improvement

## Day 10 – End of Pathway.

**No Improvement or stoma output > 3L / day.**

- Alert senior clinician, involve Nutrition Support Team
- May require escalation of management and specialist surgical team review

## 2. AIM/OBJECTIVE OF GUIDELINE

This guideline aims to improve the early identification & initial management of a patient identified with a high output stoma (HOS). There is a need to raise awareness of the signs and risks of a high output stoma.

This guideline is for use in the adult acute inpatient population and by standardising care may help to reduce length of stay, readmission rate and complications.

## 3. INTRODUCTION/BACKGROUND

A stoma is defined as “high output” when excessive output volumes result in the patient becoming water, sodium or magnesium deplete. Most commonly this happens when the stoma output persistently exceeds 2000ml/24hrs. Some patients, particularly those with renal impairment, will be unable to maintain their fluid, electrolyte and nutritional balance when the stoma output exceeds 1000ml/24 hours.

The most common cause of a chronic high output stoma is a “short bowel”, which results after small bowel resection and formation of a proximal stoma. This may be performed for a number of reasons (e.g. inflammatory bowel disease, mesenteric infarction, defunctioning an enteric fistula), and results in loss of small bowel absorptive capacity to the extent that patients require support to maintain fluid and nutritional requirements in the longer term. Some patients may develop a high output stoma due to impaired bowel function. High output in the early post-operative period following stoma formation can be common, this may resolve, however recognition and appropriate management is important for patients who develop persistent symptoms.

Common acute complications of HOS include:

- Dehydration and acute kidney injury (AKI)
- Hyponatraemia
- Hypomagnesaemia
- Weightloss/malnutrition
- Skin issues associated with frequent stoma leaks

## 4. SCOPE

This guideline is intended for use in adult acute inpatient services and should be under the supervision of a Senior Clinician / Consultant. The Pathway provides clear guidance on the key first steps to diagnose or exclude any underlying reversible causes of a high output stoma and the subsequent required actions which may help to reduce the risk of complications from the HOS.

Supporting documents include a HOS checklist (appendix 1), and a patient information leaflet (appendix 2). The HOS checklist should be used alongside the HOS Pathway, these should be printed & kept in the bed end folder, updated daily by the ward doctor and then filed in the medical notes on completion.

## 5. ROLES/RESPONSIBILITIES

**Medical Staff** – Must use this HOS Pathway under the supervision of a Senior Clinician / Consultant. They should identify acute adult inpatients with high output stoma and follow a safe clinical management plan in line with this pathway. This includes, prescribing appropriate medications, monitoring and replacing electrolytes and ensuring fluid balance is maintained and IV fluids prescribed. They should ensure a referral to Stoma Care & other specialist services e.g. dietitians or psychology if required. If patients fail to improve through use of this HOS Pathway, medical staff are responsible for escalating this to appropriate personnel e.g. specialist teams.

**Nursing Staff** – To highlight patients with a high output stoma who would benefit from this HOS Pathway to medical staff to ensure a standardised approach to management and care.

**Dietitian** – To nutritionally assess and give tailored advice to patients and their family on appropriate diet & fluids specific to their condition.

**Stoma Care** – To assess & give advice and support on the most appropriate stoma care products & appliances.

**Nutrition Support Team (NST)** – To give advice on complex artificial nutritional support, especially but not limited to parenteral nutrition (PN). The NST can provide further information on request regarding PN.

**Copies of the HOS Pathway, HOS checklist & HOS patient information leaflet will be available from the ward, [Clinical Guideline Platform](#), Dietetics or Stoma Care.**

## 6. GUIDELINE

### **6.1 High Output Stoma (HOS) Pathway**

This guidance is intended for adult acute inpatients displaying clinical signs of dehydration with 3 or more days of stoma volumes >2000ml/24hrs or >1000ml/24hrs with additional risk factors such as cardiac and/or renal impairment.

Clinical judgement should be used where fluid balance documentation is incomplete or inaccurate, e.g. due to recurrent undocumented stoma bag leaks. It is not intended for patients within 10 days of stoma formation, as transient increased output is common (seek senior advice if unsure), or for patients who are known to have less than 100cm small bowel remaining (check previous clinic letters and operation notes). For patients with documented short bowel, please discuss with their named Consultant/team.

Prior to commencing the pathway, it is important to rule out acute reversible causes of high output stoma. These include (but are not exclusive to):

- Systemic Sepsis
- Infection (e.g. *Clostridium Difficile*)
- Active or residual inflammatory bowel disease
- Bowel obstruction or stenosis
- Abrupt withdrawal of Steroids or Opiates
- Medication related issues including: Laxatives, Prokinetics (Metoclopramide, Domperidone), Metformin

If any of the above are a consideration/cause of a high output stoma, the HOS Pathway should NOT be commenced and the patient should be discussed with senior medical/surgical staff.

Similarly, if the patient is unwell with evidence of haemodynamic instability as a consequence of hypovolaemia, the pathway should NOT be commenced until adequate fluid resuscitation and stabilisation of the patient has been achieved.

Exit from the HOS Pathway can be considered at any point in stages 1-3 (on consultation with a senior clinician). If the patient is improving clinically with clear and consistent evidence of reduced stoma output, reducing IV fluid requirements and stable biochemistry.

Important supporting information for the HOS pathway is found in sections 6.2 to 6.5 below.

### **6.2 Fluid and electrolyte management**

**Assessment -** Patients should be assessed daily for clinical features of dehydration or fluid overload and observation charts/fluid balance reviewed by ward doctors.

#### **IV fluids -**

Prescribe maintenance IV fluids daily as per current NHSGGC policy / best practice as well as replacing the previous day's stoma losses minus 1 litre. These losses are likely to be sodium rich and as such the replacement IV fluid choice should reflect this. Careful consideration should be exercised to prevent over or under hydration. Check the entire daily volume of IV fluid provided alongside any prescribed IV medications e.g. antibiotics, and include this within the total volume prescribed (e.g. for a patient with stoma losses of 2500ml the previous day and receiving 1000ml of IV medications daily, prescribe maintenance fluid requirements plus 500ml). Clinical judgement will be necessary where documentation of fluid balance is incomplete or inaccurate e.g. due to stoma bag leaks.

Exercise caution when prescribing IV fluids for elderly, frail or any patients with cardiac/renal disease.

**Monitoring -** Urea and electrolytes (U+Es), bone profile and magnesium should be checked daily. Guidance on correcting abnormalities is available in the Adult Therapeutics Handbook. Oral magnesium salts may increase stoma output, consider replacing magnesium IV where required and refer to NHS GGC policy on this.

#### **Oral fluids -**

Jejunal mucosa is "leaky" and sodium moves rapidly across it. Jejunal interstitial fluid maintains a sodium concentration of around 100mmol/L. Consequently, sodium is excreted if large volumes of water, or any solution with a sodium concentration of less than 90 mmol/l, is consumed as there will be net efflux of sodium from the plasma into the bowel lumen with subsequent fluid loss via the stoma.

Patients with a HOS may be very dehydrated and thirsty. It is important NOT to encourage them to drink unlimited volumes of hypotonic fluids (e.g. water, tea, coffee, diluting juices), "isotonic" sports drinks or hypertonic fluids (e.g. full sugar fizzy drinks, fruit juices and most sip feeds).

Oral fluids should be restricted (to 1000ml or 500ml in 24hrs as per relevant stage in the HOS Pathway), and the restriction clearly documented and communicated to the patient. A HOS patient information leaflet should be provided (Appendix 2).

Where Dioralyte is commenced (stage 2 of the HOS Pathway onwards) this should always be made up as "double strength" in relation to the directions on the sachet, ie 10 sachets in 1 litre of water or 2 sachets in 200ml x 5/day.

Suggestions for making the solution more palatable can be found in the HOS patient information leaflet (appendix 2). 1000ml of double strength Dioralyte contains 120mmol sodium and 40mmol potassium. U+Es should be monitored daily and a potassium free alternative (eg St Mark's solution) considered in hyperkalaemia or renal impairment.

Dioralyte is unlikely to be required if the patient is commenced on PN, see following NHSGGC document for further information [Medication for High Output Stoma](#)

### **6.3 Medication**

- Prokinetics (e.g. metoclopramide, domperidone) and laxatives (including bulk-forming laxatives such as fybogel) should be stopped.
- Consider the possibility for malabsorption and modify preparation/route of medications if necessary. Note Omeprazole 40mg twice daily (for reduction of GI secretions) should be given orally where possible.
- All patients taking loperamide at doses >4mg qds to reduce gut motility require a baseline ECG. If found to have QT prolongation rationalise risk factors and discuss with the ward pharmacist / seek advice from a senior clinician and see MHRA alert 2017
- Where addition of codeine phosphate is considered in Stage 3 of the HOS Pathway, caution should be exercised if eGFR<15ml/min or body weight <40kg due to the potential for sedative side effects.

Further information on NHSGGC Guidance for Medication for High Output Stoma due to Short Bowel Syndrome in adults can be found [here](#).

### **6.4 Nutritional support for high output stoma patients**

Early and regular nutritional screening via MUST should be completed and a referral via TrakCare should be made to Dietetics per MUST guidelines. Dietitians will nutritionally assess & give tailored advice and guidance on specific requirements to help manage a HOS. Patients and their family can be supported by the information in the patient information leaflet. There is potential for malabsorption and subsequently malnutrition to occur with a HOS, therefore close monitoring of the patient's weight and oral intake is required.

### **6.5 Stoma Care and patient support**

Referral to the Stoma Care department via TrakCare should be performed as soon as the pathway is commenced if this has not already been done.

Many patients with a HOS require long periods of time in hospital and/or recurrent admissions. Managing a HOS can have a significant impact on a patient's day to day activities e.g. frequent bag/dressing changes, embarrassment associated with leakage and multiple regular medications. Patients should be encouraged to discuss any concerns. Advice on sources of support available can be sought from the Stoma Care team.

## High Output Stoma (HOS) Checklist

This is the supporting checklist for the High Output Stoma Pathway. To be completed daily by the ward doctor. Please keep in bed end folder & file in medical notes on completion.

**Do not proceed with this checklist if the patient has a short bowel of 100cm or less to stoma.**

**Do not proceed with this checklist if the patient is haemodynamically unstable e.g. hypotensive, tachycardic and/or acutely unwell requiring fluid resuscitation. Seek senior support and guidance.**

	YES	NO	
1. Stoma volume > 2000ml/24 hours or > 1000ml/24 hours with frequent bag leaks or cardiac or renal impairment?			<b>Name:</b> Affix patient ID label <b>Address:</b> _____ _____ _____ <b>DoB:</b> _____ <b>CHI:</b> _____ Named Consultant Date of admission: ___/___/___ Reason for admission / Date of surgery
2. Persistent high output stoma for >72hrs?			
3. Recent or current clinical signs of dehydration?			
4. Is it ten days or more since most recent bowel surgery?			
5. Have all potential underlying reversible causes of high output stoma been excluded? Such as: <ul style="list-style-type: none"> <li>• Systemic Sepsis?</li> <li>• Infection? (e.g. Clostridium Difficile)</li> <li>• Active or residual inflammatory bowel disease?</li> <li>• Bowel obstruction or stenosis?</li> <li>• Abrupt withdrawal of steroids or opiates?</li> <li>• Medications e.g. Laxatives or Prokinetics?</li> </ul>			
Do not proceed to Stage 1 if you have answered No to any of the above questions.			
Proceed to Stage 1 if you have answered Yes to all of the above questions.			

<b>Name:</b>	Affix patient ID label
<b>Address:</b>	_____
	_____
	_____
<b>DoB:</b>	_____
<b>CHI:</b>	_____

Stage 1 – Start Treatment Day 1-3	Tick box / enter data		
	Day 1	Day 2	Day 3
<b>Sign &amp; Date</b>			
<b>Stoma Volume (mL)</b> (from previous 24hours)			
<b>Fluid Balance +/-ve (mL)</b> (from previous 24hours)			
Daily Weight (Kg)			
<b>Daily electrolytes</b> U+Es, Mg <sup>2+</sup> , Ca <sup>2+</sup> , PO <sub>4</sub> +/- replace. Highlight any abnormalities			
<b>Daily IV maintenance fluids</b> (Prescribe 1.5-2.5L + previous day stoma losses minus 1L) include other fluids in total given e.g. IV medications. *Caution is required in elderly, frail and in those with cardiac and / or renal impairment			
<b>Restrict all oral fluids to 1L</b> (ensure patient is aware of restriction)			
<b>Medication Review</b> (stop prokinetics and laxatives)			
<b>Prescribe</b> (Document reason if not prescribed) <ul style="list-style-type: none"> <li>• Omeprazole 40mgs twice daily</li> <li>• Loperamide capsules 4mgs four times a day</li> </ul>			
<b>Encourage a lower fibre/ higher energy diet</b> (see supporting patient information leaflet/ full guideline).			
Refer to Stoma Care Department via TrakCare	<b>Date actioned:</b>		
Refer to Dietitian via TrakCare if appropriate	<b>Date actioned:</b>		
<p>If there is clear and consistent improvement in stoma output and biochemistry by day 3 - exit pathway, relax any fluid restrictions and review on going supporting measures e.g. IV fluids.</p> <p>Consider the following to inform your decision</p> <ul style="list-style-type: none"> <li>• Stoma volume improved / not improved by day 3?</li> <li>• Stable / unstable Biochemistry by day 3?</li> <li>• Is this patient suitable to stop IV fluids by day 3?</li> </ul>			



<b>Name:</b>	Affix patient ID label
<b>Address:</b>	_____
	_____
	_____
<b>DoB:</b>	_____
<b>CHI:</b>	_____

Stage 2 – Optimise Treatment Day 4-6	Tick box / enter data		
	Day 4	Day 5	Day 6
<b>Sign &amp; Date</b>			
<b>Stoma Volume (mL)</b> (from previous 24hours)			
<b>Fluid Balance +/-ve (mL)</b> (from previous 24hours)			
Daily Weight (Kg)			
<b>Daily electrolytes</b> U+Es, Mg <sup>2+</sup> , Ca <sup>2+</sup> , PO <sub>4</sub> +/- replace. Highlight any abnormalities			
<b>Daily IV maintenance fluids</b> (Prescribe 1.5-2.5L + previous day stoma losses minus 1L) include other fluids in total given e.g. IV medications. *Caution is required in elderly, frail and in those with cardiac and / or renal impairment			
<b>Restrict all oral fluids to 1L/day</b> (excluding 1L Dioralyte)			
<b>Prescribe</b> (Document reason if not prescribed) <ul style="list-style-type: none"> <li>• Increase Loperamide to 8mgs four times a day</li> <li>• Double strength Dioralyte (2 x sachets in 200ml x 5 times per day or 10 sachets in 1 litre)</li> </ul>			
<b>ECG Date completed and any abnormalities</b> (All patients on > 4mgs four times per day need a baseline ECG to exclude prolonged QT and when loperamide is increased)			
<b>Encourage patient to choose a lower fibre/ higher energy diet</b> - see supporting patient information leaflet.			
Consider early referral to Nutrition Support team (NST) as may require parenteral nutrition (PN) Yes/No			
<p>If there is clear and consistent improvement in stoma output and biochemistry by <b>day 6</b> - exit pathway, relax any fluid restrictions and review on going supporting measures e.g. IV fluids.</p> <p>Consider the following to inform your decision</p> <ul style="list-style-type: none"> <li>• Stoma volume improved / not improved by day 6?</li> <li>• Stable / unstable Biochemistry by day 6?</li> <li>• Is this patient suitable to stop IV fluids by day 6?</li> </ul>			

<b>Name:</b>	Affix patient ID label
<b>Address:</b>	_____
	_____
	_____
<b>DoB:</b>	_____
<b>CHI:</b>	_____

Stage 3 – Escalate Treatment Day 7-9	Tick box / enter data		
	Day 7	Day 8	Day 9
<b>Sign &amp; Date</b>			
<b>Stoma Volume (mL)</b> (from previous 24hours)			
<b>Fluid Balance +/-ve (mL)</b> (from previous 24hours)			
Daily Weight (Kg)			
<b>Daily electrolytes</b> U+Es, Mg <sup>2+</sup> , Ca <sup>2+</sup> , PO <sub>4</sub> +/- replace. Highlight any abnormalities			
<b>Daily IV maintenance fluids</b> (Prescribe 1.5-2.5L + previous day stoma losses minus 1L) include other fluids in total given e.g. IV medications. *Caution is required in elderly, frail and in those with cardiac and / or renal impairment			
<b>Restrict all other oral fluids to 500ml/day</b> (excluding 1L of double strength Dioralyte)			
<b>Prescribe</b> (Document reason if not prescribed) <ul style="list-style-type: none"> <li>• Increase Loperamide to 12-16mgs four times a day</li> <li>• Codeine Phosphate 30-60mgs four times a day (exercise caution if eGFR &lt; 15 or body weight &lt; 40kg due to sedative side effects).</li> <li>• Continue with 1L double strength Dioralyte / day</li> </ul>			
<b>ECG</b> seek senior/ cardiology support if QT prolonged <b>Date completed and any abnormalities</b>			
Encourage patient to have a lower fibre/ higher energy diet - see supporting patient information leaflet.			
Consider referral to Nutrition Support Team (NST) for advice / Parenteral Nutrition (PN). Yes / No.			
If there is clear and consistent improvement in stoma output and biochemistry by <b>day 9</b> - exit pathway, relax any fluid restrictions and review on going supporting measures e.g. IV fluids.			

**Day 10 – End of Pathway.**  
If nil improvements or stoma output is >3L/day

- Alert senior clinician and involve NST.
- May require escalation of management and specialist surgical team review

Information about

# High Output Stoma Management

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Given by: \_\_\_\_\_

## Introduction

This leaflet aims to help explain some of the symptoms you are experiencing and the reasons we may ask you to change your diet and fluid intake. This information will not be appropriate for everyone with a stoma, only for specific patients, **please always follow the guidance from your health professional.**

## What is a high stoma output?

If your stoma often leaks or produces more than 2 Litres per day, or over 1 Litre per day if you have additional risk factors such as cardiac and, or renal impairment then you may be at risk of dehydration.

Signs of dehydration include feeling very thirsty, having a dry mouth, cramps, headaches, lethargy, producing a small amount of urine or very dark urine.

Dehydration can also make you feel confused, dizzy or light headed.

When you are at home, if you feel unwell and your stoma output suddenly stops or slows down significantly you should get immediate medical advice from your GP.

When you are at home, if your stoma output significantly increases it could be for a variety of reasons, it is important to follow the fluid advice in this leaflet and if your output remains much higher than normal for more than 24 hours, you should get medical advice from your GP.

The bowel has an important role in absorbing fluid and salts. Most fluid is absorbed in the large bowel. Although people can manage without their large bowel, if it has been removed (or has been disconnected) you may be at risk of experiencing a high output from your stoma.

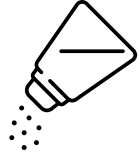
A high stoma output can also lead to poor absorption of nutrients and if left unchecked may lead to nutritional deficiencies and weight loss.

For most, absorption should get better over time and your stoma output may decrease. Occasionally, if the length of bowel left inside is too short, the fluid your bowel produces moves too fast for your body to absorb it. Your doctor will discuss this with you if it is a concern.

There are several things that you can do to help reduce your stoma output and improve absorption:

**Your stoma output may be reduced by:**

- Limiting intake of ordinary fluids e.g. water, tea and coffee.
- Reducing fluids high in caffeine such as espresso, Coca Cola or Irn-Bru or drinks that are very high in sugar e.g. smoothies.
- Drinking from a smaller cup and sipping fluids slowly.
- Drinking an Electrolyte Mix solution e.g., St. Marks Solution instead of ordinary fluids – always follow the advice from your health professional.
- Increasing daily salt intake, add when cooking and at the table.
- Reducing fibre intake.
- Taking your medications to reduce the stoma output.
- Taking food and drink at different times rather than together.



## Fluids

We may advise you to limit your intake of ordinary fluids while your bowel adapts, your hospital health care team or GP will advise you if you need to do this and how much you should be drinking each day.

- Even when you are thirsty, drinking too much ordinary fluids (e.g. plain water, tea, coffee, water, and fizzy drinks, squash or fruit juice) may increase your stoma output which could make you more dehydrated.

- We may advise you to drink an **Electrolyte Mix instead** of, or alongside ordinary fluids, this may be ‘double strength’ (made twice as strong as it would normally be taken). It is important to always follow advice from your health professional.
- An **Electrolyte Mix** is high in salt and can help your body absorb fluid more easily. This will help reduce your stoma output and helps keep you hydrated. If we advise you to drink this solution, you may find it tastes salty. You can improve the taste by:
  - » Sipping it through a straw.
  - » Adding a small amount of squash, fruit juice or cordial to improve the taste. This is best added while making up the solution rather than adding to each glass so that the salt content remains high.
  - » Adding fresh lemon or lime juice.
  - » Taking it chilled. You can also freeze it and take it as a slush if you are at home.
  - » Please do not add ice as this will dilute the solution.

Your health professional will advise you if you have to make up the following **Electrolyte Mix (St. Mark’s Solution)** and for how long.

### **Recipe for Electrolyte Mix (St. Mark’s Solution)**

**Sip throughout day if you have been advised to take by your health professional.**

Formula:

- Glucose 20g [ 6 level 5 ml spoonful’s ] +
- Sodium Chloride 3½g [ 1 level 5 ml spoonful ] +
- Bicarbonate of Soda 2½g [1 heaped 2.5 ml spoonful ]
- **Make up in 1 Litre of tap water.**

You can buy the powders from any community pharmacy and some supermarkets. Sodium Chloride is table salt which you may

have in your home already. If we have advised you to take this solution, you will need to follow the instructions above. You will need to make up the solution fresh each day.

## **Salt**

The output from your stoma is salt rich. Each day you will lose salt from your stoma.

It is important to try to replace this loss by following a diet higher in salt, as follows:

- Sprinkle a little salt on your meals.
- Try cooking with salt when at home.
- Increase your intake of the following salty foods: cheese, bacon, ham, smoked fish, fish canned in brine (tuna, sardines, salmon), meat and fish pastes, Oxo, Bovril, marmite, salted crisps, savoury or salty biscuits, pretzels and crackers.

## **Fibre**

- Food that is high in fibre is often difficult to digest and can speed up bowel movements increasing your stoma output.
- Lower fibre foods such as white bread, pasta, rice or noodles may help reduce your stoma output.
- Reduce your fibre intake by:
  - » Avoiding high fibre foods, such as whole grains, beans, pulses, nuts, seeds, the skins, stalks, seeds of fruits and vegetables.
  - » Choosing lower fibre starchy foods with every meal, such as potatoes (avoiding tough skins), white rice, pasta, bread, or low fibre breakfast cereals (e.g. rice crispies or cornflakes).
- Foods which may loosen the stoma output include large portions of raw fruit, fruit smoothies or fresh fruit juice, raw vegetables (includes salad), very spicy foods, fried

and very fatty foods, leafy green vegetables, strong coffee, some sweeteners or foods and sweets that contain artificial sweeteners e.g., Sorbitol, xylitol or mannitol. Try to reduce the amount of these foods in your diet.

- Have small portions of peeled fruit and well-cooked vegetables. Remove tough skins, stalks, seeds and pips if you can.
- Avoid whole nuts and dried fruit.

## **If you have a small appetite**

- We will encourage you to eat a high energy and high protein diet to help with your energy intake and reduce risk of weight and muscle loss. Please discuss with your dietitian.
- We would encourage low fibre or energy dense snacks between meals and suggest only having sips of fluids at the same time as your meals and snacks.
- Suitable snacks include cheese, butter and crackers, toast, bagels, croissants, brioche, pancakes or scones with lots of butter, smooth nut butters, cheese, full fat Greek yoghurts, plain sponge, crisps and dips.

If you are vegetarian, you should discuss your diet with your dietitian to make sure your energy and protein intake is adequate.

## **Medications**

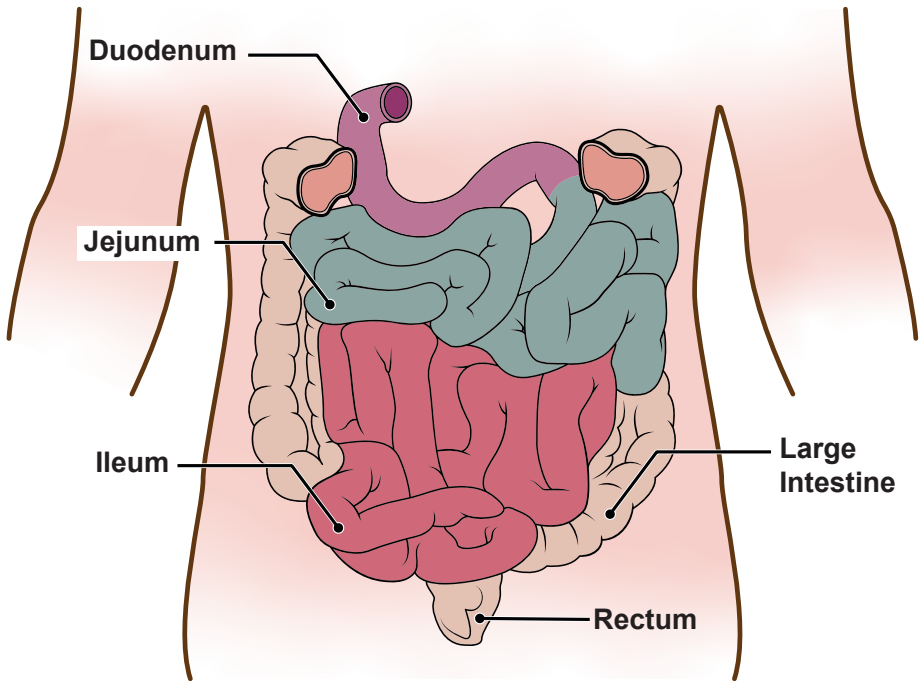
We can use certain medications to slow down the bowel and aid absorption.

- Loperamide (Immodium).
  - » This can be a tablet or a capsule. Loperamide slows down the action of the bowel, helping more fluid, salt and nutrients to be absorbed.



- » Usually you take it 4 times per day and needs to be taken around 20-30 minutes before eating or going to bed.
- Codeine Phosphate.
  - » This is a tablet (we do not recommend the syrup in patients with a stoma), it also slows down the bowel and is often used in conjunction with Loperamide. Some people may experience side effects such as drowsiness or headache. If this happens, please tell your doctor.
- Omeprazole or Lansoprazole.
  - » These drugs reduce the amount of acid produced by the stomach and can help to reduce stoma output.

### **Further Information or Contact Details of team**



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- NHSGGC Guidance for Medication for High Output Stoma due to Short Bowel Syndrome in adults 2018, accessed via <http://www.staffnet.ggc.scot.nhs.uk/Acute/Division%20Wide%20Services/Food%20Fluid%20And%20Nutrition/Documents/NRM%20-%20Section%205.6%20Medication%20for%20High%20Output%20Stoma.pdf>






## POINTS TO CONSIDER WHEN DEVELOPING A CLINICAL GUIDELINE

Lead Authors are encouraged to consider the overall presentation of the Clinical Guideline in line with the NHSGGC [Accessible Information Policy](#) which is available via Staff Net.

Area	Recommendation
Guideline Title	Provide a clear title which accurately reflects the Clinical Guideline content. As per the Clinical Guideline Framework and Checklist, the following naming convention is preferred: Drug name or procedure – Condition – Patient Group – Scope
Format	Please provide original guideline in WORD format if available. A standard front page will be added by Clinical Effectiveness Staff and the combined document will be uploaded to the directory in PDF Format.
Front page	All guidelines will have a standard front page (unless Service specify otherwise).
NHS logo	NHS logo to be inserted at top right hand corner.
Font	Font should be consistent throughout, consider Arial 11 as standard. For headers, consider using bold font in Arial 12. Use <b>bold</b> type for emphasis, rather than italics, underlining, capitalisation, or simulated handwriting.
Page layout	A portrait format is preferable.
Margins	Margins are recommended as 1.5cm.
Spacing	Use single line spacing.
Bullet points	When using bullet points, please use bullet library and ensure all points are aligned correctly
Headers/Footers	Any headers and footers should be consistent throughout and correspond with the guideline title. The footer should contain guideline name, version number, review date and page numbers
Pagination	Consider pagination – does this match a table of contents if included?
Language	The first time you use an abbreviation or acronym write it in full unless it's well known. Don't use an acronym if you're not going to use it again later in the text.
Hyperlinks	Ensure all hyperlinks work appropriately, in particular any which link to external facing Sites. Do not hyperlink to a desktop or a Department specific site.
Tables	Use gridlines to define table sections. Text should be clear and easy to read, preferably Arial 10 (as a minimum). If cutting and pasting a table, please ensure all information is copied from original document correctly.
Pictures/Figures/Graphs	Avoid too much text in a graphic, use footnotes instead, if appropriate. Resolution must be high; guideline will be uploaded in PDF format. Consider copyright permissions for any illustrations or photos used.

Flow charts

If including a flowchart, appropriate symbols should be used

Symbol	Name	Function
	Start/end	An oval represents a start or end point
	Arrows	A line is a connector that shows relationships between the representative shapes
	Input/Output	A parallelogram represents input or output
	Process	A rectangle represents a process
	Decision	A diamond indicates a decision