

High Output Stoma Management

This leaflet is for patients who have had surgery and stoma formation. If you have any more questions please speak to a member of the team looking after you such as your stoma nurse, dietitian, doctor or GP.

What is a high output stoma?

The opening where the small bowel (small intestine) is diverted through an opening in the stomach (abdomen) is known as a stoma. A special bag is placed over the stoma to collect waste products.

If a stoma is created high in the bowel then there is not enough space to allow the body time to reabsorb nutrients and fluid. This can result in large volumes of fluid and salt coming out of the stoma. This is known as a high output stoma and can lead to problems with your nutrition and can cause dehydration.

As a general rule you can use the following as a guide for your stoma output. All are volumes per 24 hours:

- 'Normal' output = less than 1 litre
- Moderate output = 1 to 1.5 litres
- Moderate to high output = 1.5 to 2 litres
- High output = 2 to 2.5 litres
- Very high output = 2.5 litres or more

What is the cause of a high output stoma?

It is common for a high output stoma to occur after it is first formed and can take several weeks to settle and slow down. A high output stoma may continue in some situations, such as when the bowel has been shortened to less than two metres.

A high output stoma may also be caused by a temporary condition, such as an infection that will improve over time, but in some cases it may only resolve with further surgery.

How to recognise dehydration

A high output stoma can cause dehydration and so it is important to learn to recognise the signs of dehydration:

- Thirst.
- You are producing less urine and it is dark in colour - urine should be pale.
- Dizziness, especially on standing.
- Lethargy.
- Cramps.
- Rapid, low or weak pulse.

If you are experiencing any of the symptoms above and feel dehydrated please call your stoma nurse, doctor or GP for further advice.

Fluid and high output stoma

Drinking fluids that are low in salt can cause too much fluid to be lost from your stoma. These fluids low in salt are called **hypotonic** and can include water, milk, soft drinks, juices, squash, jelly, tea or coffee.

The main nutrients lost in the stoma fluid are salt, potassium and magnesium which are all important for normal bodily functions. To minimise the loss of these nutrients it is recommended that you follow a **hypotonic fluid restriction**. A fluid restriction may vary between 500ml and one litre per day and your surgeon, dietitian or stoma nurse will advise you on the required restriction.

On top of your fluid restriction you can freely drink **electrolyte solutions known as hypertonic fluids**. A **hypertonic** solution contains a higher concentration of salts than that found in body cells and helps to reduce the stoma output. These salty drinks mean your bowel does not produce as much of its own water and therefore reduces the stoma output. The type of electrolyte solution you drink will depend on the volume of your stoma output.

If your output is **moderate** you can use electrolyte drinks such as Lucozade or Gatorade. Please keep in mind these drinks contain only small amounts of salt so should not be used if you have a high output.

If your output is **high** the recommended drinks are:

- **Double strength Dioralyte:** Two sachets of Dioralyte in 200mls of water.
- **St. Mark's solution:** This is an electrolyte mix you can make up yourself. The recipe for St Mark's electrolyte mix is:
 - Six heaped 5ml teaspoons glucose
 - One level 5ml teaspoon sodium chloride i.e. table salt
 - Half heaped 2.5ml teaspoon sodium bicarbonate i.e. bicarbonate of soda or baking soda
 - Stir all ingredients into one litre of water and chill overnight.

You can buy these powders from any pharmacy or some supermarkets. Alternatively they can be prescribed by your GP.

If you ask your GP to prescribe them they need to be prescribed as follows:

- 20g glucose
- 3.5g sodium chloride
- 2.5g sodium bicarbonate

They are cheaper to buy than to get through a prescription if you pay prescription charges.

You can add a small amount of cordial to the **hypertonic** drinks to improve the taste or add a slice of lemon or lime.

You may also be offered **salt tablets** to take with low salt fluids such as water, tea, coffee or juice. You need to take **one Slow Sodium tablet for every 100ml of low salt fluid**. This usually means swallowing two salt tablets for each cup/mug of low salt drink.

You don't need to do this if you have a salty meal or salted snacks such as crisps, nuts, pretzels at the same time as your drink, as the salt in the food will have the same effect when it mixes with the drink in your stomach.

Salt tablets do not work for everybody. If they appear in your stoma bag undigested then they have not worked.

Food and high output stoma

General tips for healthy eating with a high stoma output include:

- Take a varied diet for good health. Aim to include foods from all food groups: bread and cereals, vegetables, fruit, meat and dairy.
- Develop a regular eating pattern for better stoma function.
- Smaller more frequent meals may be better tolerated, particularly in the first few weeks.
- Avoid fluids around mealtimes.
- When you have a salty meal use the opportunity to have your favourite non-salty drink.
- Take your time and chew food thoroughly.
- Avoid heavy meals or snacks before bedtime.
- You may require extra calories and protein. Your dietitian will advise you if this is the case.

Adding salt into the diet is the main dietary change to adopt with a high output stoma:

- Cook your meals with salt and sprinkle salt on your meals
- Eat salty foods such as cheese, soup, bacon, ham, sausages, smoked fish like kippers, shellfish, canned fish in brine (tuna, sardines, salmon), meat and fish pastes.
- Use Oxo, Bovril, gravy granules or stock cubes to make sauces.
- Try spreads made from yeast extracts like Marmite or Vegemite.
- Include salty snacks such as salted crisps, savoury or salty biscuits.
- Use soya sauce when able.

Choose starchy carbohydrates to help thicken the stoma output:

- White bread, chapattis, potatoes (no skins), sweet potatoes, green bananas, yam, plantains, white rice or pasta
- Cereals like rice crispies, cornflakes, oats and porridge
- Dishes made with maize, millet or cornmeal
- Marshmallows may also help to thicken the stoma output.

It is important to include **fruit and vegetables** in your diet as they provide a range of vitamins and minerals that are essential for good health. However, sometimes the fibre in fruits and vegetables may affect your stoma output. If some fruits and vegetables upset you, then try:

- Peeled fruits and vegetables with nil skins.
- Stewed, baked or pureed fruits or tinned fruits in natural juice.
- Unsweetened fruit juices – note this will count towards your fluid restriction.
- Vegetables in soup or casseroles, pureed if necessary.

Food and drinks to avoid

Food and drinks that may irritate the bowel and increase stoma output:

- **Fibre** in foods can make your output more liquid, so you may need to limit your intake of wholemeal bread, wholegrain cereals, pulses, leafy green vegetables, raw vegetables, sweetcorn, fruits and nuts. Try these foods in small amounts initially, and then increase to find your tolerance. When your stoma output is no longer high you may want to reintroduce fibre but always in small quantities, ensuring that the foods are well cooked and chewed.
- **Caffeine** containing drinks such as tea, coffee and cola. Avoid especially before bedtime if you notice they increase your stoma output.
- **High fermentable carbohydrate foods.** There are certain foods that are not well absorbed by the bowel and can cause extra gas to be produced and can cause a looser stoma output. See below for dietary changes you can make.
- **Spicy foods** such as chilli and curry may upset your stoma function. Initially choose milder foods for the first few weeks post-surgery and then reintroduce whilst monitoring output.

- Some types of **alcohol**, such as beer, may increase your stoma output. It is recommended to take alcohol in moderation. For men aim for less than 3-4 units per day and for women less than 2-3 units per a day.
- **Some foods may cause blockage** of the stoma e.g. sweetcorn, celery and mangoes. Have these foods in moderation, chop and chew them well.
- **Artificially sweetened diet drinks** may cause your stoma output to increase.

Fermentable carbohydrates

As mentioned, restricting fermentable carbohydrate foods may help control a looser stoma output. It is important to first ensure you have followed all the previous guidance on eating regularly, chewing your food well and being mindful of your fibre intake prior to decreasing the fermentable carbohydrates in your diet.

The main sources of fermentable carbohydrates come from fruit and vegetables. The following table shows fruits, vegetables and other fermentable carbohydrates to limit and suitable alternatives to choose.

	Foods high in fermentable carbohydrates to limit	Suitable alternatives low in fermentable carbohydrate to include
Fruit Have up to two portions spread throughout the day. One portion is 80g fresh fruit.	Apple, apricot, blackberry, cherry, lychee, nectarine, peach, pear, plum, prune, watermelon, mango. Tinned fruit in apple/pear juice Fruit juice	Unripe banana, blueberry, cantaloupe melon, clementine, Gallia melon, grapes, grapefruit, honeydew melon, kiwifruit, lime, lemon, satsuma, orange, passion fruit, papaya, pineapple, raspberry, strawberry
Vegetables Have at least three portions per day. One portion is 80g. There is no upper limit to the amount you can have.	Artichoke (globe and Jerusalem), asparagus, avocado, beans and pulses (chick peas, broad beans, soy beans, black eyed peas, butter beans, lentils, baked beans, kidney beans), beetroot, broccoli, Brussels sprouts, cabbage, cauliflower, chicory root, fennel, garlic, leek, mange tout, mushroom, okra, onion (red, white, Spanish, shallots), peas, spring onion (white part)	Alfalfa, aubergine, bamboo shoots, beansprouts, butternut squash, bok choy, carrot, celery, courgette, chive, green beans, lettuce, olive, parsnip, pepper (green, orange, yellow, red), plantain, potato, pumpkin, spinach, spring onion (green part), sweet potato, sweetcorn. Note: <ul style="list-style-type: none"> • Asafoetida powder can be used to provide onion flavour. • Use garlic infused oil to provide garlic flavour.
Fructose	Honey	Maple or Golden Syrup
Galactans	Legumes: chickpeas, lentils, red kidney beans, baked beans, butter beans, soybeans, pistachio and cashew nuts	Small handful: brazil nuts, chestnuts, macadamia nuts, peanuts, pecans, pine nuts and walnuts. Hazelnuts and almonds - limit to 10 a time.

<p>Lactose You do not need to restrict lactose unless it appears to increase your stoma output or produce excessive gas. If you feel that lactose affects your stoma output negatively it is important to ensure you choose suitable alternatives to maintain your calcium intake.</p>	<p>Milk: Cow's, Sheep and Goat's cheeses: ricotta, cottage cheese, processed cheese, cheese slices, low fat cheese Drinking yoghurt, fromage frais. Custard, ice-cream</p>	<p>Lactose-free milk such as Lactofree®, rice milk, soya milk, oat milk. Opt for 'calcium enriched'. Cheese: 'hard' cheeses, cream cheese, brie, edam, feta, goats, Camembert. Yogurt: lactose-free, soya, crème fraiche. Ice-cream substitutes: gelati, sorbet, soya ice cream. It is important to consume enough calcium rich foods, so ensure you have at least three portions of calcium rich foods per day. This would include:</p> <ul style="list-style-type: none"> • 250mls milk or equivalent • One pot yogurt (125g) • Match box size portion of cheese
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Medicines used for patients with high output stomas

Your doctor is likely to have started you on medications to help manage the two main problems with high output stomas.

Anti-motility medicines

These medicines help to slow down the passage of food and fluid through your bowel. Common medicines are:

- Loperamide: The capsules can pass through the bowel without dissolving so they should be opened up and sprinkled on moist food such as full fat yogurt, custard or jam.
- Codeine Phosphate: Take one hour before meals / bed.

These drugs must be taken 30 to 60 minutes before every meal. It is normal for you to be prescribed high doses of these medications.

Anti-secretory medicines

These medicines reduce the amount of acid your stomach produces and so helps to lower the amount moving through your bowel. You will still digest your food with these medicines.

- Omeprazole
- Lansoprazole
- Ranitidine.

It may be necessary for you to have vitamin B12 injections if your bowel cannot absorb it well. Please discuss this with your doctor or dietitian if you are not sure.

Long term monitoring

You should ensure you receive long term follow up with your doctor, surgeon, dietitian, stoma nurse and pharmacist until your stoma is stable.

You should weigh yourself regularly and check back with your GP or dietitian, particularly if you find it hard to maintain your weight, or if you are very thirsty all of the time. You may need to have your blood or urine sodium content measured to help manage your condition.

Remember:

- Your weight will vary by a kilogram or two during the day and between days.
- Weigh yourself when your stoma bag is empty.
- The trend of your weight over time is more important than a day to day fluctuation.

If you continue to lose weight your dietitian may decide that you require nutritional supplements on prescription. Your dietitian will decide how many you need to take per day and request a prescription from your GP.

Remember that supplement drinks are low salt and would be included as part of your hypotonic fluid restriction. You may be advised to take salt tablets with your supplement drinks; your dietitian will advise you if this is necessary.

Contact us

If you have any questions or concerns about your nutrition please speak to your dietitian. If you do not have a dietitian, your nurse, doctor or GP can refer you.

The Department of Nutrition and Dietetics
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Blackshaw Road
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SW17 0QT
Tel. 020 8725 0485

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.stgeorges.nhs.uk

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you on-the-spot advice and information when you have comments or concerns about our services or the care you have received. You can visit the PALS office between 9.30am and 4.30pm, Monday to Friday in the main corridor between Grosvenor and Lanesborough Wing (near the lift foyer).

Tel: 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS Choices

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health.

Web: www.nhs.uk

NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

Tel: 111

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