

Eating and Drinking with a Short Bowel

Information for patients
that have their
jejunum attached
to colon



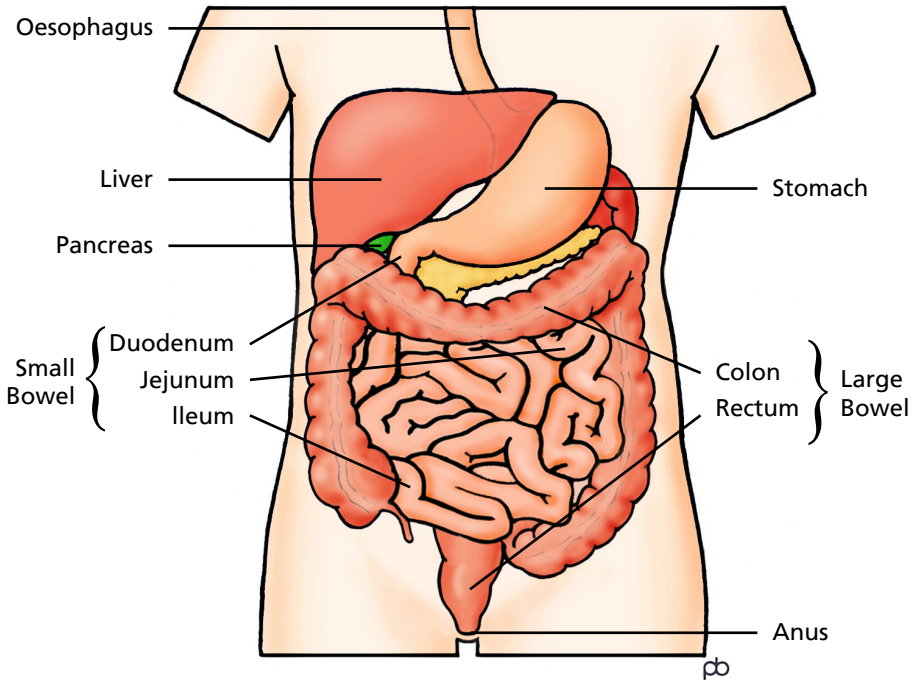
What is short bowel?

Short bowel is a rare condition in which;

1. the small intestine is unable to digest and absorb the correct amounts of nutrients.
2. the body does not reabsorb fluids, including digestive juices, produced by the intestines (the gut).

This can lead to problems such as malnutrition, weight loss, diarrhoea and dehydration.

To understand why this happens, it is helpful to know what happens in a person without short bowel.



DIGESTIVE SYSTEM

The digestive process

Digestion is the process of the food you eat, being broken down into small nutrients. These nutrients are then absorbed by the intestine and go into the bloodstream to feed the body.

Mouth and Stomach

Digestion begins in the mouth which is why it is important that you chew your food thoroughly. When this food reaches the stomach it is churned into a liquid by acid produced in your stomach.

Small bowel

The small bowel is where most of the digestion of food and the absorption of nutrients into the body occurs. To aid digestion, about four litres of 'digestive juices' are made and released by the small intestine each day.

Most digestion occurs in the first part of the small bowel called the duodenum. Once digested most nutrients are absorbed in the second part of the bowel called the jejunum. In the 3rd part of the small bowel, the ileum, most of the juices released to aid digestion are re-absorbed. Vitamin B12 is also absorbed in the ileum.

Large bowel

The remaining fluid that has not been absorbed will pass into the large bowel, the colon, which reabsorbs water and sodium to form a stool.

When you have a short bowel

When you have had a large part of your bowel removed, the length left behind may not be enough for all the fluids and nutrients to be absorbed. This is often referred to as having a short bowel. This can lead the individual experiencing weight loss or becoming dehydrated.

However, having your colon is helpful because it:

- Reabsorbs fluid and salt
- Slows the movement of food through the bowel allowing more time for nutrition to be absorbed
- Absorbs energy from the breakdown of starchy foods in the colon

This booklet aims to help you change the way you eat and drink to prevent dehydration and weight loss.

Guide to eating and drinking

Eating is important and helps keep the inside of the bowel healthy. Therefore, you may need to eat more food than you previously did.

Reintroducing food after surgery

After surgery you may initially have some abdominal pain, bloating and diarrhoea. The following advice can help to reduce these symptoms by:

- Eating small regular meals and snacks
- Choosing soft, low fibre foods
- Chewing your food well

You may be prescribed medications to reduce the amount of acid produced by your stomach (anti-secretory), or that slow down the time taken for food to travel through your gut (anti-motility). This is to reduce the number of times you open your bowels.

Over time, these symptoms may reduce as the bowel adapts and your body is able to digest food better.

Long term dietary changes

To maintain a healthy weight and good health, you should choose a nutritious diet.

Advice given below, will help you to choose the right foods to improve absorption of nutrients and reduce your risk of dehydration and diarrhoea.

Your diet should ideally be;

- High protein and energy
- Moderate in fat
- High in carbohydrate
- Low in fibre
- Low in oxalate

High protein and high energy

Eating foods high in energy (calories) and protein will help you recover from surgery and maintain your weight.

- Include a portion of protein at each meal for healing. For example; meat, fish, eggs, cheese, yoghurt, lentils or pulses (if vegetarian)

- Include starchy carbohydrate for energy at each meal. For example white bread or chapattis, potatoes, white rice, noodles, pasta or low fibre breakfast cereal
- In between meals, snack on foods such as sandwiches, cereal, crackers, milky drinks, yoghurts, plain biscuits, cakes or crisps, plain scones with butter and jam or muffins are also good options.
- Include desserts such as milk puddings, custard, mousse, ice cream, yoghurt or cheese
- Try adding sugar to drinks, cereals and puddings
- Spread jam, marmalade, honey or syrup thickly on bread or add to milk puddings, porridge and yoghurt
- Try adding custard or ice cream to puddings for extra energy

****please note, if you have diabetes, you may need to discuss with your dietitian about adding sugar to your foods.**

Fat

Fat is a good source of energy to help you gain weight. However some people have difficulty digesting fat. If you notice that your stools are pale in colour, look oily, float on the surface and are difficult to flush away, this may indicate you are not digesting fatty foods very well. You may as a result, need to reduce your fat intake or start a new medication to help you digest fat better.

If you are experiencing any of these symptoms speak to your dietitian about whether decreasing your fat intake is needed at this time. They will be able to discuss your diet with you and advise on ways to reduce your fat intake if necessary.

It is recommended that you avoid very high fat foods in large quantities. These include deep fried foods, foods in rich and creamy sauces, pies and pastries and desserts with double cream.

Carbohydrate

Carbohydrates or starchy foods are a good source of energy and an important part of everyone's diet. A high intake of carbohydrates may help you gain or maintain weight because your body can get energy from the breakdown of starchy foods.

Ways to increase your carbohydrate intake

Refer to the section above 'high energy/high protein' on ways you can increase your carbohydrate intake

- Try high energy desserts such as ice cream, sponge puddings, fruit crumbles and milk puddings.

If you are finding it difficult to eat the amount of food recommended then your dietitian may suggest high energy supplements available on prescription. Your dietitian will advise you if these need to be included in your daily fluid allowance. You can get these supplements from your GP on advice from your dietitian.

Supplement	Frequency

- If fruit is tolerated include it as a dessert or snack removing the skins, seeds and pips if necessary
- If vegetables are tolerated try carrot, parsnip, swede and turnip or any other root vegetables

Fibre

Fibre is not completely digested by the body. Foods high in fibre such as wholegrain cereals, fruit and vegetables pass through your gut quickly. Choosing foods, such as those listed below are lower in fibre and may help reduce diarrhoea. However this does depend on the type of fibre you have. Soluble fibre, such as oats, barley and some fruits, is fine to have. Insoluble fibre which is difficult to digest should be limited.

Ways to limit your fibre intake

- Use white bread instead of brown, wholemeal or seeded
- Use refined breakfast cereals such as Cornflakes, Rice Krispies or porridge instead of high fibre varieties such as All Bran, Bran flakes, Weetabix, Shredded Wheat or Muesli
- Use white pasta and rice instead of brown varieties
- Try not to eat the skin on potatoes
- Eat biscuits made with white flour such as Rich Tea, Marie,

Malted milk, Nice rather than wholemeal biscuits like Hobnobs or Digestives. Try to avoid biscuits with fruit or nuts such as Garibaldi, figs rolls and fruit shortbread

- Eat crackers made with white flour such as cream crackers, Ritz biscuits and breadsticks instead of Ryvita, Oat cakes, Krackerwheat or Hovis biscuits
- Limit your intake of pulses (beans, peas and lentils) unless you are vegetarian, when you should include one portion daily as a source of protein. Ensure the lentils you buy do not have the skin on
- You may include small portions of cooked vegetables but avoid skins, stalks, or seeds if necessary. Root vegetables such as carrots, parsnips, swede etc. are usually tolerated okay.
- Avoid salads
- You can include small portions of fruit but avoid skins, pips, seeds and piths if necessary. Choose tinned or stewed fruit and peeled fruit is fine.
- Avoid nuts. You can have small amounts of smooth peanut butter

Oxalate

Oxalate is a substance found in foods and produced by your body during digestion. It normally attaches to calcium and is passed in the stool. However, following a small bowel resection, fats that are not absorbed enter the colon, attach to calcium, leaving the oxalate free to be passed in the urine. This increases your risk of developing kidney stones.

This risk may be reduced by:

- Reducing your oxalate intake (see below)
- Taking a moderate fat diet (see previous section)
- Ensuring you have enough calcium in your diet (see next page)

Foods high in oxalate which need to be limited:

Spinach, nuts, sesame seeds, strong black tea, chocolate, cocoa, beetroot, bran-containing breakfast cereals, wholemeal bread, rhubarb, beans (including baked beans in tomato sauce), soybeans and soy products

Ensure an adequate calcium intake:

- Aim for 300-600ml of milk each day or the equivalent from cheese or yoghurt
- 200mls of milk contains the same amount of calcium as one small carton of yoghurt (150ml) or a matchbox (30g) portion of cheese

Fluids

Your colon absorbs fluid and salt so people with their colon do not usually have problems with dehydration unless part of the colon has been removed and you have a short bowel. Over time your colon will get better at absorbing fluid and salt and your diarrhoea should improve. However, if your diarrhoea does not improve then you may be at risk of becoming dehydrated.

To reduce the risk of dehydration you have to drink less not more. The more you drink, the more fluid and salt you will lose which will cause you to become more dehydrated.

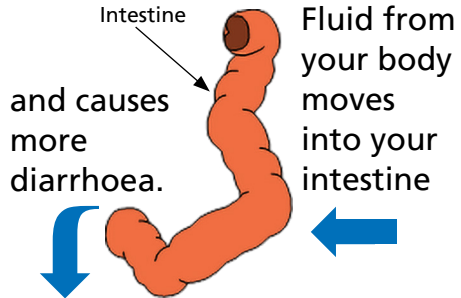
If you become dehydrated regularly you may be advised to restrict your fluid intake and to drink an oral rehydration solution (see the next page)

Your fluid allowance

It is recommended that you drink _____ml of oral rehydration solution each day. The allowance for all other fluids is _____ml each day.

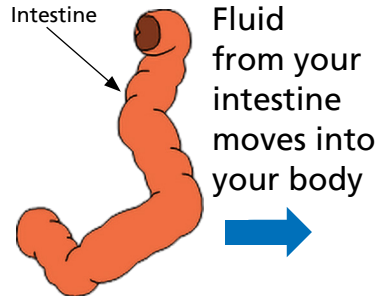
Drinks low in salt (water, tea, coffee, juice, squash)

Drinks low in salt will cause sodium and fluid to move from the body into your intestine resulting in diarrhoea which will cause dehydration.



Oral rehydration solution (high in salt)

Drinks high in salt will cause sodium and fluid to move from inside your intestine into the rest of your body. This may reduce your diarrhoea which helps prevent dehydration.



Suitable fluids

If you are on a fluid restriction it is important that the fluids you drink are the best for your short bowel.

Suitable drinks	Unsuitable drinks
Ovaltine	Fizzy drinks
Horlicks	Fruit smoothies
Tea	High energy drinks
Coffee	Lucozade
Fruit juice (small amounts)	Powerade
Sugar free squash	Red Bull
Oxo	
Bovril	
Bouillon	

Dehydration

It is very important that you learn to recognise the signs of dehydration. You may experience thirst, a reduction in how much urine you pass which may also be dark and concentrated, tiredness, cramps, dry skin, dizziness on standing up or notice dark circles under your eyes. If you think that you might be dehydrated please contact a member of the Nutrition Team.

You may be asked to take any of the following oral rehydration solutions.

- **Dioralyte (available on prescription)**

Mix 8 -10 sachets with 1 litre (1000ml) tap water

- **St Mark's electrolyte mix**

Mix six level 5ml spoons of glucose powder, one level 5ml spoon of sodium chloride **and half** heaped 5ml spoon of sodium bicarbonate in 1 litre (1000ml) of tap water.

You can buy the powders from any pharmacy and some supermarkets or they can be prescribed from your GP. Sodium chloride is table salt and sodium bicarbonate is also known as bicarbonate of soda or baking soda.

If you need to get electrolyte mix prescribed, please show your GP this leaflet.

Rx St Mark's Electrolyte Mix

Formula: -	Glucose	20g
	Sodium chloride	3.5g
	Sodium bicarbonate	2.5g

Tips to help you take your oral rehydration solution

- The electrolyte mix is best served chilled
- It can be frozen and taken as a slush
- Try drinking it through a straw
- You may wish to add a **small amount** of no added sugar squash or fruit juice 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
- A squeeze of fresh lemon or lime juice may be added

In hot conditions we sweat and lose salt and fluid from the body. This means, people with short bowel are more likely

to get dehydrated and you may find you need to drink more electrolyte mix to replace these losses. Please note that you can drink as much of these electrolyte mixes as needed

Tips to help you stick to your fluid allowance

- Sip all fluids, including your oral rehydration solution, slowly throughout the day
- Use smaller cups and glasses
- Suck boiled sweets or mints
- Suck ice cubes or ice lollies as part of your fluid allowance
- Try to keep busy so you are not thinking about feeling thirsty

Alcohol

Any alcohol you wish to drink must be included in your fluid allowance. Some medications should not be taken with alcohol. Please discuss this with your doctor or pharmacist.

Salt

If diarrhoea is a regular issue for you, you will lose a lot of salt (sodium) and it is important to try and replace these losses by following a diet high in salt;

- Salt should be added when cooking potatoes, rice, pasta and vegetables
- Salt should be added to your meals at the table
- Flavour foods with soya sauce, garlic or celery salt
- Use tomato ketchup or brown sauce with meals

The following foods are high in salt and should be eaten regularly:

- Cheese, bacon, ham, gammon, grilled sausages
- Smoked fish such as kippers, salmon and mackerel
- Canned fish such as tuna, sardines, salmon, pilchards, mackerel in brine
- Meat and fish pastes
- Tinned foods such as spaghetti and ravioli
- Use Oxo, Bovril, gravy granules or stock cubes to add flavour and make sauces/gravy
- Yeast extracts such as Marmite and Vegemite
- Salty crisps, savoury biscuits and crackers
- Pot noodles and packet savoury rice

Medicines used in short bowel

The medicines prescribed for people with short bowel work in one of two ways, either slowing down the passage of food and drink in the intestines (anti-diarrhoeal) or reducing the amount of acid produced by your stomach (anti-secretory).

Anti-motility medications

- Loperamide
- Codeine Phosphate

These need to be taken 30-60 minutes before food to work best. These medications are usually prescribed in much higher doses than for someone who does not have short bowel. Your GP will be advised of this by your nutrition team.

Anti-secretory medications

- Omeprazole
- Ranitidine
- Lansoprazole

Any fluid used to take your medicine should come from your fluid allowance so you may find it helpful to take your medications with electrolyte mix.

It is important that you do not take any other medications from a chemist or health food shop without discussing it first with your doctor or pharmacist as they may interfere with your prescribed medications.

If you have had the last part of your small bowel (ileum) removed you will require vitamin B12 injections every three months to prevent anaemia. Your GP or clinician can discuss this with you.

Long term monitoring

The treatment you are offered and advice given in this leaflet is to help prevent you becoming malnourished and dehydrated. It is important that your progress is monitored regularly. When you attend the outpatients clinic you will be weighed, have blood taken and be asked for a urine sample to help us monitor your condition.


Weight

Your weight is important because it tells us how well nourished you are. Your weight will fluctuate daily due to the amount of fluid in your body. It is important that you weigh yourself once a week at home and if you are losing weight please contact a member of the nutrition team on the contact numbers at the end of this leaflet.

Urine

Your urine is important because it tells us if you are dehydrated. The colour of your urine is a good guide to see how well hydrated you are and the guide below will help you assess this.

Check the colour of your urine everyday.

	1
	2
	3
	4
	5
	6

If your urine matches 1,2 or 3 you are well-hydrated

If your urine matches 4-6 you are dehydrated

If you think you are dehydrated, a **random urinary sodium** is the best test and you should ask your GP to check this for you. If it is below 20 you are dehydrated and should contact the nutrition team as soon as possible and they will advise you accordingly.

Please show this leaflet to any other health professionals you may come into contact with, such as your GP or district nurse. You may find that you are given incorrect advice by people who are not used to caring for people with short bowel.

If you ever need to seek treatment elsewhere it is important to let whoever is caring for you know that you have short bowel and are a patient under the Leeds Nutrition Team.

Additional Information

This booklet has been produced by the Leeds Teaching Hospitals Dietetic Department with information provided by The St Mark's Hospital Dietetic Department in London.

Other useful contacts:

Please contact us for more information. Office hours are Monday to Friday 8:30am to 4:30pm.

Nutrition Team Office: 0113 2068649

Dietetic Office: 0113 2066383

PINNT

Patients On Intravenous & Nasogastric Nutrition Therapy

Telephone: **01223 880616**

PO Box 3126

Christchurch

Dorset

BH23 2XS

Website: www.pinnt.com

PALS Information

If you have any concerns or questions about your care you can contact

PALS: 0113 206 6261

You can also download a form from the Trusts website <http://www.leedsth.nhs.uk> and submit it electronically.

Or you can also email patientexperience.leedsth@nhs.net

The Leeds Nutrition Team are always happy to advise health care professionals regarding the treatment of patients with short bowel.

If you have any questions in relation to your diet and stoma/ fistula output, speak to your Dietitian who will be able to advise further.

Dietitian

Contact
Number



What did you think of your care?

Scan the QR code or visit bit.ly/nhsleedsfft

Your views matter



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