University Hospitals of Leicester
NHS Trust

Kidney disease: Dietary advice when you are on peritoneal dialysis

Dietetics

Information for Patients

Produced: October 2024
Review: October 2027
Leaflet number: 1541 Version: 1

Introduction

When your kidneys do not work properly, peritoneal dialysis (PD) helps to remove excess fluid and waste products such as urea, that can build up in your body. Having a healthy, well balanced diet alongside PD treatment will help to keep you feeling fit and well.

This leaflet will help guide you through foods that are important for you. This information sheet is suitable for everyone on PD. You may be given more information depending on your individual circumstances by your dietitian.

Protein:

- Foods which contain protein are important for people who have dialysis treatment.
- Aim to eat 2 portions of high protein foods each day.

Salt:

- Limit your salt intake to help control your blood pressure and stop getting very thirsty.

Fluid:

- Manage your fluid intake to help reduce build-up of excess fluid in your body.

Potassium and phosphate:

- We assess each person separately. You may need extra information about these. Your dietitian can help you with this.

For your general health:

- Base your meals around starchy food including high fibre options where possible. A high fibre diet can help to prevent constipation. This is important to keep your PD tube draining well.

- Eat a good variety of fruit and vegetables and eat less processed foods.
- Aim to achieve and maintain a healthy body weight .

Protein

Why do I need protein?

Protein is a key part of your diet. It helps to help maintain muscle, repair body tissue and support your immune system. During the process of peritoneal dialysis, protein is lost into the dialysis fluid which is later drained out. It is important that you have enough in your diet.

What types of protein can I eat?

Aim to eat 2 portions of high protein foods each day. These include:

Animal types	Example portion size	**Vegetarian types**	Example portion size
Meat	A deck of cards (100g)	Pulses for example peas, beans, dahl	3x heaped tbsp.*
Poultry	A deck of cards (100g)	Quorn mince	14 to 15 tbsp. (150g)
Fish	Palm of hand (150g)	Quorn chunks	17 to 18 tbsp. (150g)
Eggs	2x medium	Tofu	Palm of hand (150g)

*Tbsp = tablespoon

Some high protein foods such as milk, yoghurt and cheese may need to be limited if your phosphate levels are high. If you reduce these you may need to eat more of the high protein foods in the table above. Your dietitian can give you more information on this if needed.

If you have taste changes or have 'gone off' meat or protein foods please contact your dietitian or renal community nurse for advice. If you are not eating enough protein this can make you feel weaker. It may cause muscle loss and slower recovery if you became poorly.

The Eatwell Guide, Public Health England, 2024

Salt

Why do I need to reduce how much salt I eat?

We should all be trying to reduce how much salt and salty foods we eat but it is very important for those having dialysis treatment. Too much salt in your diet may raise your blood pressure. Salt can make you thirsty, which is unhelpful if you are trying to reduce your fluid intake.

Around 75% of the salt we eat comes from processed foods. Use fresh foods more than processed foods as this will reduce the amount of salt within the foods you eat.

How can I reduce how much salt I eat?

The table below lists some common foods which are **high** in salt and should be limited.

Cheese	Prawns
Chinese meals	Ready meals including pizza
Crumpets	Salt fish
Foods tinned in brine such as vegetables or fish	Shop bought sandwiches
Gravy granules and stock cubes	Snack foods: crisps, corn snacks, salted nuts, Indian savouries such as sev, gathia, Bombay mix
Processed meat products: for example sausages, bacon, salami, ham, tinned meats, chicken nuggets	Soup – tinned and fresh
Meat and vegetable extract	Soy sauce
Pickle / chutney	Tomato ketchup, mayonnaise and other sauces

Try to choose more unprocessed foods such as:

- Fresh/ frozen/ tinned fruit and fresh/ frozen vegetables (in unsalted water).
- Fresh/frozen meat, poultry and fish.
- Eggs or pulses.

Try to avoid adding salt to your food. If you do use salt, reduce the amount of salt you use slowly. This will help you adjust to new flavours with time.

Tips to help you eat less salt:

- Try to get out of the habit of adding salt at the table.
- Flavour your food with herbs and spices instead of salt such as mint, smoked paprika, turmeric.
- Use garlic, ginger, chilli flakes, pepper and mustard in cooking.
- Use less salt/ stock cubes in cooking.

How much salt is in our food?

Look at labels on food packaging. Using the table below you will be able to see which foods are low, medium or high in salt. Colour coding on packaging can be a quick way to check this.

Low (green)	Medium (Amber)	High (Red)
Less than 0.3g / 100g food	0.3 - 1.5g / 100g food	More than 1.5g / 100g food

(Action on salt)

Try to limit the number of foods coded as red. Aim to eat mainly foods that are coded green and amber.

Adults should aim to have less than **6g of salt a day**.

If there are no traffic light colour codes you can work out how much salt is in your food by reading the label. On nutritional labels you can find how much salt is in 100g of the food. This is not always the same size as a portion. Check the weight of your portion to make sure you use the information correctly.

Can I use a salt alternative?

If you are following a low potassium diet, please be aware that processed foods often contain a salt substitute called potassium chloride, instead of regular table salt (sodium chloride).

Potassium chloride is easily absorbed by our bodies and can raise the potassium levels in blood. Check labels on products, mainly if labeled as “reduced salt”. Avoid those which have potassium chloride. Salt substitutes such as LoSalt should be avoided.

For more information and ideas on reducing salt intake visit:

- www.kidneycareuk.org
- www.actiononsalt.org.uk/

Fluid

During peritoneal dialysis treatment fluid can be removed from the body.

Too much fluid in the body is called fluid overload.

Too little fluid in the body is called dehydration.

Some people notice these changes in their fluid levels. If there is too much fluid in the body they can be more tired, have ankle swelling and difficulty breathing. If there is not enough fluid in the body they can be dizzy, have dry skin, dry mouth and low blood pressure.

Most people who have peritoneal dialysis will need to manage the amount of fluid they have (drinks or wet foods). Wet foods are described as foods that are liquid at room temperature, for example ice cream and gravy.

The amount of fluid that you can have will depend on the amount of fluid that you get rid of through pee and dialysis.

The nurses will teach you to check your fluid balance by monitoring your dialysis (how much fluid is removed), your pee (urine) output and your weight. The aim is to keep you in balance; to avoid having too much or too little fluid in your body.

When you first start dialysis you may pass normal amounts of urine. This means that you can drink a normal amount of fluid. However, most people find that their urine output decreases, to the point where some people stop passing urine entirely.

If you are passing less urine, but continue to drink the same amount your body will have too much fluid. If you think this is happening please tell your renal community nurse or doctor. You may be asked to drink less. This is called a fluid restriction.

It is often recommended that you reduce how much you drink to avoid needing to remove lots of fluid via dialysis. Having too much fluid removed by dialysis can leave you feeling tired and washed out.

Useful measures:

These can help you to “add up” how much you are drinking:

Tea cup	180ml	Disposable plastic cup	150ml
Mug	200ml	Table spoon	15ml
½ pint glass	285ml	Dessert spoon	10ml
Can of fizzy drink	330ml	Small ice cube	15ml

How can I manage how much fluid I have?

As well as drinks, remember to count fluid in foods like: gravy, sauces, yoghurts, milk puddings and ice lollies.

1. Estimate the fluid content from the weight. For puddings and yoghurts, the fluid content = 1/2 the actual weight or volume. For example, 200ml of custard should be seen as 100ml of fluid.
2. Daily milk allowance should be counted as part of your fluid intake.
3. If you are taking oral nutritional supplement drinks (ONS), these should be counted in your fluid allowance.
4. Remember to include the amount of fluid that you use to take your medications as part of your fluid intake.

The fluid in fruit and vegetables does not need to be included as part of your fluid allowance. You do not need to count the fluid absorbed when cooking dry foods such as rice or pasta.

What can I do if I feel thirsty?

You may find that, at times, you feel very thirsty. This can make it hard for you to keep to your fluid allowance. Try the following ideas to help you overcome this:

1. Use a smaller cup, or use an ice cube in place of a drink.
2. Sip drinks more slowly and spread out your fluid allowance over the day.
3. You can stimulate saliva and stop your mouth feeling dry by sucking a slice of lemon or lime, sugar free mints, boiled sweets and chewing sugar free gum.
4. Stay cool by wearing looser clothing and avoid overheating.
5. Limit the amount of salt and very spicy foods you eat. This will help to reduce your thirst.
6. Try to suck small ice cubes if you are thirsty (count each ice cube as 15ml). These can be flavoured with squash if you like.

The nurse, dietitian or doctor will be able to help you work out how much your fluid intake should be to avoid problems with fluid overload.

Potassium and phosphate

Potassium

You may have been told in the past to lower the potassium in your diet. It is common for potassium levels in the blood to rise when your kidney function gets worse. High levels of potassium in your blood can cause an abnormal heart beat.

When you first start dialysis, potassium levels tend to improve because some is being removed, but it may rise again.

As PD is done most days it is generally good at removing potassium. If your potassium levels are high, please talk with your dietitian.

Phosphate

You may have been told in the past to lower your phosphate intake. It is common for phosphate levels in the blood to rise when your kidney function gets worse.

High phosphate levels in the blood can:

- Cause hardening of your blood vessels. This increases the risk of heart disease and strokes.
- Cause calcium deposits (like chalk) in the skin and other parts of your body.
- Affect your bones, making them ache and become brittle.

As well as changes to your diet, you may also be prescribed some tablets known as phosphate binders. There are many different types available. These are listed below. Your doctor or dietitian can talk about these with you.

Name of phosphate binder
Calcium carbonate (Adcal, Calcichew)
Calcium acetate (Phosex, Renacet)
Sevelamer hydrochloride/carbonate (Renvela, Renagel)
Lanthanum carbonate (Fosrenol)
Sucroferric oxyhydroxide (Velphoro)
Calcium acetate and magnesium carbonate (Osvaren)

These tablets work by binding with phosphate in food and reduce the amount of phosphate that is absorbed by the body.

As a general rule, they should be taken with food (either just before or with the food) **except for lanthanum.** This should be taken **right after** food**.**

Check the label on your medicine for advice on how to take the phosphate binder you have been prescribed. You will need to either chew the tablet, swallow it whole or if it is a powder dissolve in liquid or food.

If you are not eating then you do not need to take a phosphate binder as it will not work.

The dietitian can guide you on how you can match your tablets with your food to get the most benefit from them.

More information about reducing your potassium and phosphate intake is available. Discuss this with the dietitian if your potassium/ phosphate levels are high.

What about healthy eating?

Starchy foods and fibre

Starchy foods are one of the main sources of energy. They are needed to make sure you eat a balanced diet. You should try to include at least 1 of the following starchy foods at each meal:

Potato, pasta, bread, cereal, rice, chapatti.

Eating more fibre containing foods can help to prevent constipation. This is important to keep your PD tube draining well.

Choose wholemeal and wholegrain varieties for good sources of fibre. For example, brown bread, wholegrain rice/pasta, wholemeal flour.

Some breakfast cereals are a good source of fibre. For example oats, Weetabix, shredded wheat, bran flakes.

Fruits and vegetables

Fruit and vegetables are another good source of fibre. They also have lots of vitamins. Aim for at least 5 servings a day. For example this could be 2 pieces of fruit and 3 portions of vegetables. 1 portion is 80g or a handful. If you are following a low potassium diet, your dietitian can give you a list of lower potassium fruits and vegetables.

It is recommended that all patients with kidney problems avoid star fruit as it may cause harmful effects.

Vitamins and minerals

If you eat a varied diet it is unlikely that you will need extra vitamins. However, if you are worried then please talk to your dietitian. Water soluble vitamins are lost during dialysis and depending on your dietary intake it may be useful to take a supplement. **Check with your doctor/ dietitian before you think about taking health food supplements as some are not suitable.**

Maintaining a healthy body weight

Many people notice that their appetite improves once they start on dialysis. They find that their body weight starts to rise. For some this is a welcome sign that they are eating better and regaining weight that was lost before. However, others find this weight gain can make them become heavier than they were before and this may be unwanted for their health.

Some dialysis fluids contain glucose (such as green, yellow, orange and red bags) which removes fluid from your body. Glucose is a form of sugar which gives calories (energy). Your body absorbs some glucose from the dialysis fluid. As this is extra calories on top of your food intake this can cause weight gain. The higher strength/ stronger bags have more glucose in them (used to remove more fluid) and so even more calories are absorbed.

If you are worried that you are gaining weight talk to your health care team who can advise.

What should I do if I lose my appetite?

Some people find that their appetite is not very good. A loss of appetite or a feeling of fullness can be common on PD treatment. If you are not eating enough you may become deficient in important nutrients. You will take longer to recover from infections, for example, peritonitis (inflammation of the tummy lining).

A loss of appetite can be related to many things but it can mean that your dialysis prescription may need changing. Your dialysis prescription is balanced between lifestyle choice and dialysis needs which can change over time. It may be possible that adjustment to your dialysis can be made to help you feel better. Discuss this with your doctor, renal community nurse or dietitian.

Your dietitian can suggest ways to have more calories and increase the amount of protein to suit your personal likes and dislikes. You may find it easier to eat small, regular meals and snacks throughout the day. If there is a concern that your are not eating enough, the dietitian may offer nutritional supplements.

If you are worried about not eating enough, contact your dietitian to talk about it more.

Diabetes and peritoneal dialysis

If you have diabetes, you may notice that your blood sugar control changes when you start on peritoneal dialysis. This is due to the glucose that you will absorb from the bags. The affect of this on your blood sugar levels is very personal so you may need to do more regular monitoring or changes to your diabetes treatment. If you feel you need help doing this then speak to a member of staff.

Eating in hospital

If you go into hospital, please ask for the renal menu. This menu is suitable for adults with kidney disease.

If you have peritonitis (inflammation of the tummy lining) it is important to eat as well as possible to help recovery. The nursing staff can refer you to the dietitians if you are eating less than normal and would like support.

Where can I find further information?

Kidney Care UK: www.kidneycareuk.org

Kidney Kitchen: www.kidneycareuk.org/about-kidney-health/living-kidney-disease/kidney-kitchen/

Kidney Beam: https://beamfeelgood.com/kidney%20disease

You can also access your blood results via Patient knows best by registering here:

my.patientsknowbest.com/

Feedback

We aim to make sure that our dietary information sheets are up to date, relevant and easy to follow. We welcome comments and feedback on our dietary information sheets so speak with your dietitian or contact us by writing to:

Renal Dietitians Office
Leicester General Hospital
Gwendolen Road
Leicester
LE5 4PW

Contact details

If you have any questions or concerns about your diet, please contact your renal dietitian (Monday to Friday 9am to 4pm). If you are calling outside of these times, please leave a message and we will call you back.

Contact number for Leicester Renal dietitians: **0116 258 8002**

If you are under the care of a Renal dietitian outside of Leicester, please contact your local service.

اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہِ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔
على هذه المعلومات بلغةٍ أخرى، الرجاء الاتصال على رقم الهاتف الذي يظهر في الأسفل
જો તમને અન્ય ભાષામાં આ માહિતી જોઈતી હોય, તો નીચે આપેલ નંબર પર કૃપા કરી ટેલિફોન કરો

ਜੇ ਤੁਸੀਂ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੁੰਦੇ ਹੋ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਹੇਠਾਂ ਦਿੱਤੇ ਗਏ ਨੰਬਰ 'ਤੇ ਟੈਲੀਫੋਨ ਕਰੋ।
Aby uzyskać informacje w innym języku, proszę zadzwonić pod podany niżej numer telefonu

Previous reference:

If you would like this information in another language or format such as EasyRead or Braille, please telephone 0116 250 2959 or email equality@uhl-tr.nhs.uk

LEICESTER'S RESEARCH

Leicester's Hospitals is a research active trust so you may find research happening on your ward or in your clinic. To find out about the benefits of research and become involved yourself, speak to your clinician or nurse, call 0116 258 8351 or visit www.leicestersresearch.nhs.uk/patient-and-public-involvement