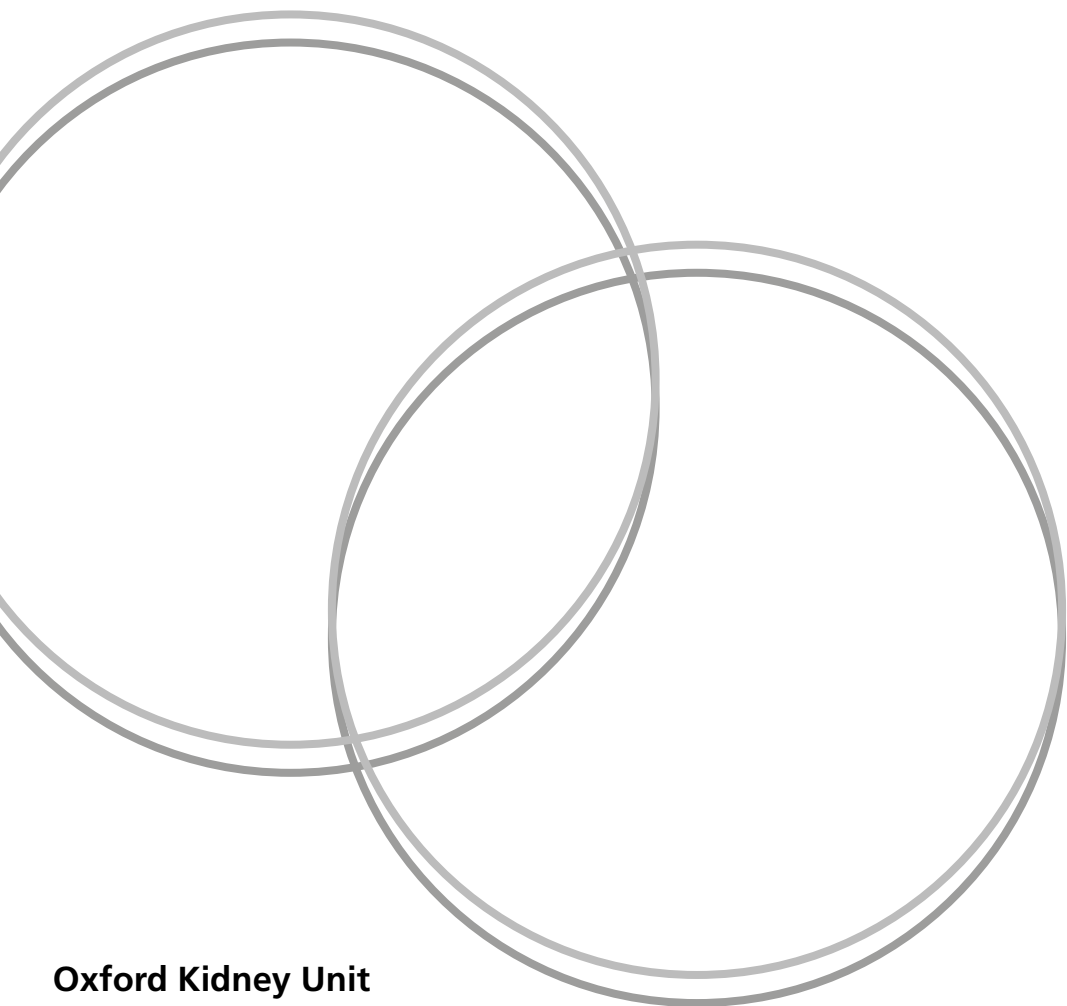


Managing your food and fluid intake when on peritoneal dialysis



When your kidneys are not working properly, waste products and fluid build-up in your blood. Peritoneal dialysis works by removing these waste products and excess fluid. However, it cannot completely replace the work of normal kidneys. Therefore, to stay well you will need to alter some of the foods and drinks you usually have.

We will look at the following in your diet:

- Protein
- Salt
- Fluid
- Potassium
- Phosphate
- Fibre.

Protein

Protein is needed for the growth and repair of all body tissues. This includes maintaining your muscle strength.

A small amount of protein is lost into the drained fluid during the dialysis process. Therefore, to make sure that you have enough protein in your diet you should **aim to eat high protein foods at least twice a day**.

The following foods that are good sources of protein to include as part of your meals:

- Meat, poultry
- Fish
- Quorn, tofu, soya protein products, pea protein products
- Lentils, pulses
- Eggs.

These foods also contain protein, but they are higher in phosphate so may have to be limited (see the phosphate section on page 10):

- Milk
- Cheese
- Yoghurt.

Salt

We would advise you to reduce the amount of salt in your diet. Reducing salt can help:

- reduce feelings of thirst (useful if you are on a fluid restriction)
- prevent carrying extra fluid (oedema)
- reduce blood pressure.

Some simple ways of reducing your salt intake include:

- Avoid or use less salt in cooking and avoid adding salt at the table (this includes sea salt, pink Himalayan salt as well as table salt).
- Use alternative flavourings such as herbs, spices, black pepper, garlic, lemon juice to flavour your food.
- Reduce your intake of foods which are high in salt and switch to lower salt alternatives

Salt table showing alternative foods

MEAT, FISH AND VEGETARIAN ALTERNATIVES	
Higher salt foods	Lower salt alternatives
Processed meat such as bacon, ham, salami, sausages, pies and burgers	Unprocessed meat and fish such as freshly cooked chicken, lamb, pork, beef and fish
Smoked fish such as smoked haddock, smoked salmon	Unsmoked fish
Tinned fish in brine	Tinned fish in spring water or oil
Meat-free bacon, sausages & nuggets	Meat-free mince, Quorn pieces, Tofu

DAIRY

Higher salt foods

Cheese spread (such as Dairylea, Primula), hard cheeses (such as cheddar, edam, stilton, halloumi)

Lower salt alternatives

Cottage cheese, cream cheese (such as Philadelphia), mozzarella

SAVOURY SNACKS

Higher salt foods

Crisps, salted nuts, salted snacks (such as Twiglets, Pretzels), Ritz biscuits, TUC biscuits, mini cheddars

Lower salt alternatives

Plain popcorn, plain breadsticks, cream crackers, Ryvita, rice cakes

MISCELLANEOUS

Higher salt foods

Marmite, Bovril, stock cubes, gravy granules, tinned or packet soups, Pot Noodles, bottled sauces such as soy sauce and tomato ketchup

Lower salt alternatives

Natex savoury spread, Meridian yeast extract, low or zero salt stock cubes, reduced salt gravy granules or homemade gravy, homemade soup, reduced salt sauces, vinegar

If you have been advised to follow a low-potassium diet, you should also avoid all salt substitutes such as LoSalt and SoLo as they contain potassium chloride.

Understanding food labelling

Approximately 75% of our salt intake comes from ready-made foods. It is important to look at food labels when making decisions about which foods to buy. Remember, food labels may show the salt content per 100g and not always the salt content of the entire portion.

This is high	This is moderate	This is low
Over 1.5g per 100g or over 1.8g per portion	0.3-1.5g per 100g	Under 0.3g per 100g

Choose foods with green colour labels and fewer with amber colour labels. Where possible try to avoid foods with red colour labels.

Fluid

When your kidneys are not working properly you are not able to get rid of all the fluid that you drink. Peritoneal dialysis helps to remove fluid from the body, but if you drink more than is being removed you can become fluid overloaded.

The signs of being fluid overloaded are a rapid increase in weight and a rise in blood pressure. You may also notice that you have swollen ankles and are breathless.

Your fluid allowance = 750ml + previous days 24-hour urine output

Many people on peritoneal dialysis pass good volumes of urine and therefore do not need to follow a fluid restriction. However, you will probably pass less urine over time. If this happens you will need to have your fluid allowance reassessed and reduce your fluid intake. Ask your peritoneal dialysis nurse or dietitian for more information.

What counts as fluid?

- All hot and cold drinks.
- Soup, gravy, thin sauces.
- Jelly, ice lollies.
- Ice cubes.

Fluid rich foods such as custard, yogurt, and ice cream count as half the volume of fluid for example 120ml yoghurt = 60ml fluid.

Tips to help you keep to your fluid allowance:

- Use a measuring jug or water bottle to help manage your allowance.
- Use a smaller cup or only fill your cup or mug to halfway.
- Try to drink only when you are thirsty rather than out of habit or to be sociable.
- Sucking ice cubes or ice lollies can be more refreshing, use squash to flavour ice cubes.
- Sucking sugar free sweets such as mints, boiled sweets or chewing gum.
- A piece of fruit can be a refreshing alternative to having a drink.
- Avoid eating salty foods or adding salt to your foods as these will make you thirsty.

For more information, ask your dialysis nurse or dietitian for the managing your fluid patient information leaflet.

Potassium

Potassium is an essential mineral found naturally in foods.

The target potassium level is 3.5-5.5 mmol/ L.

Peritoneal dialysis usually removes potassium very well and most people on peritoneal dialysis can include high potassium foods freely in their diet. If you were following a low potassium diet before, your dietitian may advise you to relax some of your restrictions on commencing peritoneal dialysis.

Sometimes, peritoneal dialysis does not remove enough potassium so the potassium level in the blood may be high. A dietitian may advise you to have less high potassium foods in your diet. This includes if you need to temporarily stop dialysis or if you have problems with getting enough dialysis.

For other people, dialysis removes too much potassium so the level in your blood may be low, and your dietitian may advise you to have more high potassium foods in your diet.

A high or low level of potassium in your blood can be dangerous for your heart. Also a low potassium may increase your risk of developing PD peritonitis. Your dietitian will advise you on whether you need to change the amount of potassium in your diet.

Here is a table highlighting some foods and drinks that are high in potassium. If you need to change the amount of potassium in your diet your dietitian will provide you with more detailed information.

Potatoes	Non-boiled potatoes, such as chips, jacket potato, hash browns, potato waffles
Vegetables	Brussel sprouts, spinach, parsnips, tomatoes
Fruit	Bananas, mango, melon (except watermelon which is lower in potassium), dried fruit
Drinks	Fruit juice, coffee, hot chocolate, beer, cider
Snacks	Potato crisps, nuts, chocolate

Your individual advice on potassium in your diet:

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Phosphate

Phosphate is a mineral found naturally in foods and is also used as a food additive.

Phosphate levels in the blood can increase when the kidneys are not working properly. Over time, this can lead to heart disease and weak bones which are more likely to break. It can also cause your skin and eyes to be itchy.

The target phosphate level is 1.1-1.7mmol/L.

Peritoneal dialysis removes some phosphate from the drained fluid, but it may be necessary to have less phosphate in your diet as well. You may also have been prescribed a phosphate binder, which reduces the amount of phosphate you absorb from your food. Your dietitian or peritoneal dialysis nurse can give you more information on when to take this.

Here is a list of your individual goals for controlling phosphate:

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Fibre

Fibre is important to prevent constipation and keep your bowels regular. Constipation is a common problem on peritoneal dialysis which can prevent the catheter from draining properly. People on peritoneal dialysis need to have a bowel motion at least twice a day. A diet high in fibre as well as laxatives can help your dialysis work well.

Foods' high in fibre that are good for you to eat are:

- Wholemeal or granary bread instead of white bread.
- Whole wheat breakfast cereal such as Weetabix, Shredded Wheat, Bran flakes.
- Brown rice and wholemeal pasta rather than white.
- Pulses such as lentils, chickpeas, beans – try and include these in a meal at least once a week.
- Fruit and vegetables – aim to eat five portions per day.
- Linseed (golden or brown, but not linseed oil) – aim to gradually build up to having one tablespoon twice a day. You can add to meals such as cereals or salads.

If you have a poor appetite

Peritoneal dialysis can make you feel full as you have extra fluid in your peritoneum. As a result, you may find that your appetite is reduced. Here are some ideas to prevent unintentional weight loss:

- Eat little and often—have small meals with nourishing snacks in between.
- Cold foods can sometimes be more appetising – try a sandwich or chilled dessert.
- If there are times of the day when your appetite is better, take advantage of this.

Contact your renal dietitian or dialysis nurse if your appetite remains reduced and you are losing weight.

If you are gaining weight

Depending on your dialysis regime, you may absorb some of the sugar from the peritoneal dialysis fluid. Sometimes this can lead to weight gain, especially if you have a good appetite. If you are gaining weight here are some ways to prevent further weight gain:

- Choose low-sugar and low-fat products.
- Have less foods high in sugar and saturated fat, such as biscuits, chocolate, cake, sweets, sugar-sweetened drinks, butter and oils and red meats.
- Use healthy cooking methods (grilling, dry roasting or steaming)
- Limit your alcohol intake.
- Make sure meals are of a sensible size – you could try using a smaller plate.
- Try to limit snacks between meals. If you need a snack, choose lower calorie options like vegetable sticks, a piece of fruit or a handful of plain popcorn.
- Keep yourself occupied. Boredom can lead you into the kitchen.
- Be as active as you can to burn excess calories.

Vitamins and minerals

If you are having daily dialysis your dietitian may recommend a multivitamin which is suitable for people on dialysis. This is because dialysis can remove some water-soluble vitamins. Over-the-counter multivitamins are often not suitable as they can contain vitamin A which can build up in the blood when the kidneys are not working properly. You can ask your dietitian if a renal multivitamin would be suitable for you.

Keeping Active

Peritoneal dialysis should not prevent you from being physically active. In fact, it can help with your overall health. Benefits include:

- Improved heart health.
- Better blood pressure control.
- Improved sleep.
- Increased efficiency of dialysis.
- Helping to maintain strength and balance.
- Improving your mood and mental wellbeing.

If you are struggling with your mobility, you can ask one of the team for the Renal Unit information leaflet on Chair Based Exercises for Strength and Balance (Information for renal dialysis patients).

To keep safe when exercising, remember to always stay within your capabilities, so start slowly and build up steadily, take rests as you need to and do not overdo it.

If you have concerns about performing certain activities with a PD catheter, you should check with your peritoneal dialysis nurse or doctor to ensure it is safe to do so first.

Meal suggestions

Breakfast

- Porridge
- Weetabix, Shredded Wheat, Shreddies, Rice Krispies or Cornflakes
- Bread or toast with butter/spread and jam/marmalade
- Boiled/scrambled or poached egg with bread or toast
- English muffin with butter/spread and jam.

Light meal

- Sandwiches, rolls, pitta bread or bagels
- Sandwich fillings – fresh chicken, turkey, beef, lamb, pork, cottage cheese, cream cheese, egg, tuna, salmon (fresh or tinned boneless in oil or spring water), hummus
- Pasta or rice salad with salmon, tuna, or chicken and / or chickpeas
- Poached or scrambled egg on toast
- Omelette with red pepper and / or courgette
- Reduced salt baked beans on toast.

Main meal

- Chicken or mixed bean casserole with mashed potato and broccoli
- Spaghetti Bolognese
- Lamb, beef, chicken, lentil, chickpea curry with rice or chapatti
- Roast meat (or Quorn roast) with carrots, green beans and roast potato
- Gravy made with gravy browning or reduced salt gravy granules
- Shepherd's pie, cottage pie, can use meat-free mince instead
- Fish pie with peas
- Salmon with boiled potato and green salad
- Tofu stir-fry with whole wheat noodles
- Chicken or lentil tagine with couscous
- Chilli con carne with rice, can use meat-free mince instead
- Chickpea curry or lentil dhal with rice and vegetables.

Desserts

- Fruit pie, fruit crumble, tinned fruit, fresh fruit, pavlova
- Yoghurt or fromage frais, ice cream, custard, rice pudding, trifle, crème caramel
- Soya yogurts.

Snack foods

- Cucumber, carrot, pepper sticks with hummus, cream cheese, or tzatziki
- Breadsticks, cream crackers, water biscuits, oat cakes, crispbread, rice cakes
- Bread, toast, English muffin, croissant
- Vegetable or meat samosa
- Plain biscuits, cream filled biscuits, jam filled biscuits
- Unsalted popcorn, corn, or maize snacks such as tortilla chips, Wotsits, Skips, Monster Munch
- Sponge cake, plain flapjack
- Fruit.

Drinks

- Water, tonic water, soda water, flavoured water
- Tea, 1x weak instant coffee per day
- Squash, cordial
- Light coloured fizzy drinks – e.g., lemonade, Fanta, Sprite.

If you have diabetes, limit, or avoid sugary foods.

We can only provide advice or information if we care for you under the Oxford Kidney or Transplant Unit (Churchill Hospital). This includes the network units at Banbury, High Wycombe, Milton Keynes, Stoke Mandeville and Swindon (Great Western Hospital). If you do not attend these sites, please contact your local care team for support.

Contacts

Renal Dietitians

Churchill Hospital

Tel: **01865 225 061**

Oxford Peritoneal Dialysis (PD) Unit

Tel: **01865 225 792**

(8am to 6pm, Monday to Friday)

Email: **pd.team@ouh.nhs.uk**

(between 8.30am and 4.30pm)

Wycombe PD unit

Tel: **01494 426 349**

(8am to 6pm, Monday to Thursday)

Swindon PD unit

Tel: **01793 605 288**

Email: **RenalPDSwindon@oxnet.nhs.uk**

(8am to 6pm, Monday to Friday)

Milton Keynes PD unit

Tel: **01908 996 465**

(8am to 4pm, Monday to Friday)

Email: **RenalPDMiltonKeynes@oxnet.nhs.uk**

The PD nurses may be visiting people at home, so all units have an answerphone telling you who to contact if no one is available.

Useful websites

Oxford Kidney Unit

Lots of information about the Oxford Kidney Unit for patients and carers.

Website: www.ouh.nhs.uk/oku

Kidney Patient Guide

Information for patients with kidney failure and those who care for them.

Website: www.kidneypatientguide.org.uk

Kidney Care UK

A charity which has lots of practical support and information for people with kidney disease.

Website: www.kidneycareuk.org

Six Counties Kidney Patients Association

The SCKPA is run for patients by patients or family members.

They offer support to people suffering from kidney disease or who are on dialysis. They work closely with the Oxford Kidney Unit and have branches in Oxfordshire, Northamptonshire, Buckinghamshire, and Milton Keynes, and parts of Wiltshire, Gloucestershire and Berkshire.

Website: www.sixcountieskpa.org.uk

National Kidney Federation

A charity which has lots of practical support and information for people with kidney disease.

Website: www.kidney.org.uk

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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