

## Nutrition and Dietetics

# Renal Disease - Haemodialysis and diet

**This information should only be used by patients on haemodialysis and should only be followed with supervision from a dietitian.**

Healthy kidneys remove excess fluid and waste products from your blood. When your kidneys are not working properly, waste products including excess phosphate and potassium can build up in your blood.

Haemodialysis (HD) helps to remove these waste products. Together with your diet, these will help to keep you well. You will be advised individually on your diet, depending on your blood results and fluid requirements.

**Your personalised dietary plan, on (date) .....**

Meet your protein requirements ([see section 1](#)) .....

Follow the low phosphate diet ([see section 2](#)).....

Follow the low potassium diet ([see section 3](#)).....

Follow the low salt advice ([see section 4](#)).....

Follow the fluid restrictions ([see section 5](#)).....

**This dietary plan is likely to change, depending on your renal function and blood test results. Your renal dietitian will advise you on this accordingly.**



## Patient Information

### 1. Protein

Protein is needed to repair and maintain your body tissue and for building muscles. Some protein is lost from your body through the dialysis process, so it is important to eat plenty of protein to replace what is lost. This will make sure you do not become malnourished.

Rich sources of protein include meat, fish, chicken, turkey, eggs, cheese and milk. Protein is also found in plant-based sources such as beans, lentils, and soya products.

### Individual protein requirements

To meet your protein requirement, you should aim for ..... portions of protein per day.

1 protein portion is:

- 30g (1oz) meat or chicken (cooked weight) such as a small chicken breast (4-5 protein portions) or 2 slices roast meat (3 protein portions)
- 30g (1oz) fish (cooked weight), such as 1 fishcake or 2 fish fingers
- 30g (1oz) hard cheese - a matchbox size piece
- 60g (2oz) cottage cheese – 2 tablespoons
- 1 egg
- 200ml ( $\frac{1}{3}$  pint) milk (dairy or soya)
- 1 tub yogurt (dairy or soya)
- 90g (3oz) peas, beans, or lentils (cooked weight)
- 30g (1oz) dried or raw beans or lentils - 1 heaped tablespoon
- 60g (2oz) Quorn (equivalent to 1 Quorn steak)
- 60g (2oz) soya beans cooked (2 tablespoons)
- 90g (3oz) tofu (cooked weight) - about  $\frac{1}{3}$  of a standard pack of firm tofu
- 30g (1oz) fried tofu

## Patient Information

**The following foods are rich in phosphate, and may need to be limited in your diet:**

- Milk - 300mls (½ pint) per day (you could swap ¼ pint (140ml) of milk for 1 yogurt)
- Eggs - up to ..... a week
- Cheese - up to ..... a week

## 2. Phosphate

It is important to control the phosphate and calcium levels in your blood. If your phosphate level is too high, this can lead to itchy skin, bone damage and hardening of your blood vessels.

**Recommended phosphate level for people on dialysis: 1.1 - 1.7 mmol/l**

Your renal dietitian will discuss with you if a phosphate restriction is necessary and provide you with more information.

## 3. Potassium

Potassium is a naturally occurring mineral found in most foods. The amount of potassium in your blood is normally controlled by your kidneys. Dialysis removes a lot of potassium, but this builds up again in your blood on the days you do not dialyse.

An increased blood potassium level results in muscle weakness and can seriously affect your heart.

**Recommended potassium level for people on haemodialysis: 3.5 – 6.0 mmol/l**

Potassium levels can be controlled by:

- Following a low potassium diet **if advised by the renal team**
- Maintaining regular bowel movements/avoiding constipation

## Patient Information

- Following your medical treatment plan. Parts of your medical treatment that can help control your potassium levels include attending dialysis, taking sodium bicarbonate if prescribed, and getting support to keep your blood sugar levels within the recommended range.

Your renal dietitian will discuss with you if a potassium restriction is necessary and provide you with more information.

### 4. Salt

If you have too much salt, it can make you thirsty. This will make it harder for you to stick to your fluid allowance. Too much salt can also make your body retain fluid and can contribute to high blood pressure.

#### How to reduce your salt intake:

- Avoid adding salt at the table
- Avoid very salty foods such as tinned and packet soups, Oxo, Bovril, Marmite, stock cubes, and salted snacks such as crisps and nuts
- Check food labels – foods with more than 1.5g salt per 100g are high in salt, so look for an alternative
- Experiment with other seasonings, such as herbs, spices, garlic, vinegar and pepper instead of adding salt

Try to limit the following foods:

- Cheese
- Bacon, tongue, tinned meat such as corned beef and Spam
- Sausages
- Beef burgers
- Smoked fish, smoked cheese and smoked or cured meats
- Ready meals
- Salted biscuits

**Salt substitutes** such as Lo Salt or Pan Salt **should be avoided** as they **contain potassium**.

### 5. Fluid

As your kidneys are not working properly, you may not be able to get rid of all the fluid that you drink. Too little fluid will make you dehydrated, and too much fluid will make you overloaded which will put more strain on your heart and lungs.

You should limit your fluid intake to ..... daily.

**Remember** to count the fluid in foods like soups, gravy, sauces, curry, milk puddings, ice cream, custard, jelly and yogurt.

Solid foods, such as fruit and vegetables, are not counted.

The weight you gain in between dialysis sessions gives us a useful guide of whether you are drinking too much fluid.

The effect of excess fluid gain will vary between individuals, but regularly putting on more than 2kg in between dialysis sessions will be harmful.

## 6. What can I eat?

<b>Meat (not processed)</b>	Beef, lamb, pork, chicken, turkey
<b>Fish (not processed)</b>	White fish (cod, plaice, coley, haddock) Oily fish (salmon, trout, tuna, boneless mackerel)
<b>Vegetarian protein</b>	Tofu, soya, peas, green beans, lentils (for portion sizes, see the <a href="#">Protein section</a> )
<b>Bread</b>	Have a variety - wholemeal, granary, white, pitta bread, rolls, chapatti, croissant
<b>Rice</b>	White, brown, basmati, risotto
<b>Pasta and noodles</b>	White or wholemeal
<b>Breakfast cereals</b>	Any sort without nuts or dried fruit or chocolate, such as, porridge, Weetabix, Shreddies or Rice Krispies (the milk should be from your allowance)
<b>Preserves</b>	Jam, marmalade, honey
<b>Fats and Oils</b>	Mono or polyunsaturated oils such as olive or rapeseed oil, corn oil or sunflower oil. Mono or polyunsaturated margarine such as Flora, Vitalite, supermarket own brands. Butter in moderation
<b>Bakery*</b>	Digestive, shortbread, rich tea, custard cream, cream crackers, rice crackers, water biscuits, jam and cream biscuits. Croissant, English muffins, bagels.
<b>Sweets**</b>	Boiled sweets, fruit pastilles, gums and jellies, mints, chewing gum, plain Turkish delight and Sherbet
<b>Savoury snacks*</b>	(These are salty – only have them occasionally) Skips, Wotsits, tortilla chips, rice crackers, wheat crunchies, popcorn, rice cakes

## Patient Information

<b>Drinks</b>	Count all drinks in the fluid allowance Tea, fizzy drinks (except Coke or Pepsi), ordinary or diet squash, fruit and herbal teas, water, sparkling and flavoured water, Barley Cup
<b>Condiments</b>	Pepper, vinegar, mustard, herbs and spices, mint sauce, tartar sauce, horseradish sauce, salad cream, mayonnaise, Worcester sauce, chutney and pickle, cranberry sauce

\* If you are trying to lose weight, reduce your intake of cake and biscuits.

\*\* Be careful with these choices if you are diabetic.

## 7. Blood Results

Good dialysis and following your diet plan aims to control your blood results and fluid gains between dialysis sessions.

If you would like a chart to explain and follow your own blood levels, ask your dietitian. You can also check your levels monthly on the renal unit, or if you register with 'Patient Knows Best', you can keep an eye on your own results.

## 8. Summary

- It is important that you eat well now you are on dialysis
- If you are not eating well, your dietitian can provide dietary advice, and/or nutritional supplements, which can be prescribed by your GP
- Eat generous portions of protein foods
- Limit salty foods and avoid adding salt at the table
- Know your fluid allowance
- Limit foods high in phosphate if advised by your dietitian and take binders if prescribed
- Potassium – reduce your intake if advised by your dietitian
- Your diet plan may change over time

**Warning – Starfruit contains a chemical which can be extremely dangerous to people with kidney problems, they should be avoided.**

## Patient Information

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