

Dietary Management of Nephrotic Syndrome



Aintree University Hospital
NHS Foundation Trust

Department of Nutrition and Dietetics
Lower Lane
Liverpool L9 7AL
Tel: 0151-525-5980

This leaflet is aimed at patients who have been diagnosed with Nephrotic Syndrome.

What is Nephrotic Syndrome?

The main functions of the kidneys are to act as filters to help clear the body's waste products and maintain a normal balance of chemicals and fluid.

Nephrotic syndrome is a condition whereby the individual 'glomeruli' (often described as 'filters') in the kidneys become 'leaky' and cause large amounts of protein to leak out from your blood into your urine.

Nephrotic syndrome is a collection of symptoms that indicate damage to the kidneys. The main symptoms are:

- Oedema- fluid retention, or swelling, usually in the legs, feet, or ankles and less often in the hands or face
- Proteinuria- large amounts of protein in the urine
- Hyperlipidemia- higher than normal fat and cholesterol levels in the blood
- Hypoalbuminaemia- low levels of albumin in the blood

The above symptoms are all a result of the protein losses from your kidney.

The role of the diet in Nephrotic Syndrome

In addition to various medications, the diet can also play an important role in the management of nephrotic syndrome.

Fluid and salt

Reducing salt and fluid can help to reduce oedema.

Fluid

When fluid builds up in the body, it can cause the following problems:

- Swelling, particularly of ankles, feet and face (oedema)
- Shortness of breath, difficulty breathing
- High blood pressure
- Additional strain on the heart

- Collections of fluid around the lungs, which can cause chest infections/pneumonia

If you notice any of the above symptoms please tell your Doctor/Nurse.

Your Doctor may prescribe medication called a **diuretic** which can help you pass more urine. You may also be asked to drink less fluid. This is called a daily 'fluid allowance' or 'fluid restriction'.

Your fluid allowance or 'fluid restriction' depends on your urine output, medications and level of kidney function and it may change depending on these factors.

You may be asked to do a 24 hour urine collection to determine how much urine you pass.

Whilst in hospital, you may be weighed daily to see how much of your weight is excess fluid. This can influence the amount that you can drink during the day.

Your Doctor, Nurse or Dietitian may be able to advise you on this.

Fluid intake includes drinks and foods. Foods which contain a lot of fluid and which would need to be counted in your fluid allowance include:

- Gravy/sauces
- Soups
- Ice cream
- Jelly
- Custards
- Yoghurts
- Milk on cereal

The following are examples of how much these fluid foods can contain.

Useful Fluid Measures

A mug	=	300mls
A glass	=	200mls
A average cup	=	200mls
A plastic cup	=	150mls
A hospital tumbler	=	200mls
A pint	=	600mls
½ pint	=	300mls
A can of fizzy drink	=	330mls
A measure of spirit	=	25-35mls
An ice cube	=	20mls
A tablespoon	=	15mls
A dessert spoon	=	10mls
A teaspoon	=	10mls
A bowl soup	=	200mls
A scoop ice cream	=	50mls

Bowl of milky pudding/yoghurt	=	100mls
Milk on cereal	=	100mls
Average soup portion	=	200mls

Useful Conversions

1 Litre	=	1000ml (approx 1 ½ pints)
¼ pint	=	150ml
1 pint	=	600ml approx

Your fluid allowance is:

Date	Daily fluid allowance (ml)

Tips to help you keep to your daily fluid allowance

- Use small teacups or half cups, not mugs
- Take small sips rather than big gulps
- Save drinks for in-between meals
- Use a straw with cold drinks to make them last longer
- Gargling or rinse mouth with ice cold water or mouth wash
- Try sucking small ice cubes – add squash or freeze fizzy drinks as a refreshing alternative
- Stimulate saliva production by sucking a small lemon/orange/grapefruit wedge (fresh or frozen)
- Try boiled sweets, mints or chewing gum (if you have diabetes, you may want to choose sugar-free sweets/gum)
- Try and spread your fluid allowance throughout the day
- Do not add salt to your food during cooking or at the table
- Avoid salty foods, e.g. bacon, crisps, salted nuts, processed foods and highly spiced foods
- Don't forget to include fluid rich foods in your allowance, e.g. gravy, soup, ice cream, custard, milk puddings, jelly, sauces, yoghurts

- If you drink alcohol, try to have low volume drinks like spirits with a splash of mixer or on ice instead of pints
- Do not let anyone “top up” your drink
- For social events plan ahead and save some of your fluid allowance to have while out
- Try to drink only when thirsty rather than out of habit or to be sociable
- Remember, alcohol can make you thirstier.

Something to try:

Keep a measuring jug in your kitchen. Start each day with the jug empty.

For every drink or measure of fluid you have, add the same amount of water to the jug.

You will then be able to see your total intake of fluid as the day goes on.

Alcohol

Your Doctor will be able to advise you if it is safe for you to drink alcohol. It is important that you do not exceed Government Guidelines on alcohol intake.

It is recommended that men drink no more than 3-4 units a day and women no more than 2-3 units a day, with at least 2 or more alcohol-free days a week.

Alcohol will also contribute to your fluid allowance and if you are on a renal diet, some may need to be avoided due to their potassium or phosphate content. Your Dietitian can discuss this with you.

Diabetes

If you have diabetes, high blood sugar levels can cause extreme thirst, which can lead to you drinking more fluids. This can make fluid overload worse.

If your blood sugars are running high, please seek advice from your GP, Nurse, Diabetes Nurse or if you are under a Diabetes Centre seek advice.

Salt

What is salt?

Salt is made up of sodium and chloride. Salt is the major source of sodium in our diet. It is the sodium part of this chemical which is harmful to health.

Most people in the UK consume more salt than is required. The reason why our intake of salt is too high is because many people are not aware that salt is hidden in lots of foods.

In fact, 75% of our salt intake comes from salt added to everyday foods such as cereals, soup, ready meals, snacks and processed meats.

Only 25% of our salt intake comes from salt added at the table or in cooking. It is therefore easy to eat too much salt without adding any yourself!

Why do I need to lower my salt intake?

Too much salt in your diet increases your blood pressure and the amount of fluid retained in your body.

High blood pressure increases the risk of developing heart disease and strokes. High blood pressure can also lead to further kidney damage.

What are the benefits of reducing my salt intake?

- Helps to lower your blood pressure
- Helps to prevent fluid retention
- Helps to reduce the feeling of thirst, which is helpful if you are on a fluid restriction.

How much salt can I eat?

In the UK today, we eat an average of 9-12g of salt a day. Current guidelines recommend that we should have a **maximum of 6g of salt per day** (2.4g sodium). This is the equivalent to just under one teaspoon of salt a day.

The following practical tips will help you to cut down the salt in your diet:

- Do not add salt to your food. Remember that other types of salt e.g. rock salt and sea salt are no different and have no health benefits. You may use a pinch of salt in cooking
- To start with, food may taste bland; however, it does not take long for your taste buds to lose the taste for salt. Flavour your foods with herbs, spices, garlic and lemon instead of salt (see the “alternative flavourings” section to follow)
- Use fewer tinned, packaged and processed foods. Avoid processed foods, such as dried packet mixes, soups and sauces or tinned soups, dehydrated meals e.g. cup a soup, pot noodles or packet rice meals and manufactured products, e.g. meat pies, beef burgers
- Limit bacon, ham, sausages, corned beef, tinned meat, tongue, meat or fish pastes, pates and luncheon meat. Choose fresh “off the bone” deli roast cuts of meat such as chicken turkey, beef, pork, or lamb where possible
- Avoid smoked meat or fish
- Avoid salty snacks such as crisps, salted nuts and salted crackers
- Bottled sauces (e.g. soy sauce, tomato sauce, brown sauce) and high salt flavour enhancers (e.g. stock cubes, gravy granules) can be used sparingly
- Remember, foods tinned in brine means that they are tinned in salt water. Look for foods tinned in spring water or oil instead
- Opt for fresh or frozen vegetables instead of tinned. If buying tinned vegetables, choose those tinned in water only
- Choose homemade soup instead of tinned or packet soup

- Try not to have more than two servings (e.g. 2 matchbox size pieces) of hard cheese per week. Cottage cheese and cream cheese tend to be lower in salt
- Avoid salt substitutes such as Lo Salt, Selora, Biosalt, Pansalt and Ruthmol. These are also high in potassium and are therefore not suitable if you have kidney problems

✓ Foods Allowed

Cereals

Bread. Limit to 4 slices/day. Try thin sliced or a small loaf e.g. Weight Watchers, Danish, Hovis.

Breakfast cereals, eg cornflakes, Special K, Weetabix, rice Krispies, Shredded Wheat

Dried or fresh pasta. Plain rice noodles

Currant loaf¹, teacakes^{*}, scones^{**}, malt loaf^{*}, potato cakes^{*}, crackers (unsalted)

Plain biscuits (e.g. rich tea, Marie or Arrowroot, cream biscuits)

Dairy Products

Milk^{**}, cream^{**}. Low fat fruit yoghurt^{**} /natural yoghurt^{**} /fromage frais^{**}. Eggs^{**}, butter and margarine (choose unsalted varieties if possible)

Cream cheese, cottage cheese

Vanilla ice cream^{**}

Meat

Lamb, beef, pork, chicken, turkey, duck, liver^{**}, tripe^{**} (fresh or frozen)

Fish

Fresh or frozen white fish e.g. cod, haddock

Fresh or frozen oily fish^{**} e.g. mackerel, salmon, pilchards, fresh tuna

Fish in breadcrumbs/batter, fish fingers

Tinned fish in spring water or sunflower oil (drained).

Vegetables

All fresh and frozen vegetables. (Boil all potatoes and vegetables if you are on a low potassium diet)

Tinned vegetables in water labelled "no added salt"

Fruit

All fruit

(Fruit and vegetables should be limited to four portions/day if on a low potassium diet)

Sugar and sweet preserves

Sugar, honey, marmalade, jam, syrup.

Sweets and chocolate^{*}, ^{**}

Beverages

Tea, fruit and herbal teas, coffee^{*}, hot chocolate^{*, **}, fruit juice^{*}, cordials
Fizzy drinks/waters
Alcohol within Government guidelines

Miscellaneous

Pepper, vinegar, mustard powder, herbs and spices
(see alternative flavourings section)
Unsalted crisps (potato crisps should be avoided if on a low potassium diet)
Unsalted nuts^{*, **},
Reduced salt baked beans (check labelling)
Traditional Bisto gravy powder may be used in small amounts

****These products should be limited if you have been advised to follow a low potassium diet***

*****These products should be avoided or limited if you have been advised to follow a low phosphate diet.***

X Foods to limit (due to high salt content)

Cereals

All Bran^{*, **}, Branflakes^{**}, Salted porridge
Salted biscuits or crackers e.g. Ritz, Tuc
Tinned spaghetti^{*}, ravioli
Savoury rice, instant/pot noodles

Dairy Products

Limit cheese^{**} (hard, processed, continental, cheese spread) to one matchbox servings a week

Meat

Processed and tinned meat e.g. corned beef, ham and tongue
Smoked meats e.g. ham, bacon
Pate^{**}
Limit “unsmoked” or “reduced salt” bacon to once a week
Sausages, burgers, pies, pasties and black pudding^{**}
Convenience/ready made meals (check labelling)

Fish

Smoked fish, e.g. kippers^{**}, and yellow haddock
Shellfish^{**} e.g. prawns^{**}, shrimps and scampi^{**}
Fish paste
Fish cakes
Tinned fish in brine e.g. sardines^{**}, tuna

Vegetables

Tinned vegetables, olives and other vegetables in brine

Fruit

None to limit

Sugar and sweet preserves

None to limit

Beverages

Tinned and bottled vegetable juice e.g. tomato juice *

Miscellaneous

Salt, garlic salt, sea salt, rock salt.

Meat or yeast extracts e.g. Bovril*, Oxo, Marmite*, stock cubes

Bottled sauces and pickles e.g. tomato ketchup, gravy mixes and granules use sparingly

Salt substitutes* e.g. Lo Salt, Selora

Tinned and packet soups

Salted crisps and snacks

Salted nuts*,**

****These products should be avoided if you have been advised to follow a low potassium diet.***

*****These products should be avoided/limited if you have been advised to follow a low phosphate diet***

Reduced Salt/Low Salt Products

Many supermarkets now stock “reduced salt” ranges of foods and drinks

It is important to check the labelling and take caution as they may contain salt substitutes e.g. Lo Salt, Selora, Biosalt, Pansalt and Ruthmol. These are all high in potassium and are not suitable for you.

Food Labelling

Always check the label!

1. Look at the Nutritional Information

If you regularly check the nutrition information on food labels it can help you to choose healthier lower salt options.

Some foods can contain nearly the daily-recommended amount i.e. 6g, in just one serving! Check claims such as “low in salt” with care.

A bag of crisps that claims to contain 25% less salt than normal crisps, however may still contain a lot of salt.

Look at the figure for salt per 100g as this will give you an idea of whether it is high in salt. Some labels also give the figure for salt as sodium.

High = more than 1.5g salt per 100g (or 0.6g sodium per 100g)

Low = 0.3g salt or less per 100g (or 0.1g sodium per 100g)

If the amount of salt or sodium is between these figures then that is a medium level of salt.

Traffic light labels

Some foods produced may have “traffic light” colours on the front of the packet usually for salt, sugar and fat. This is to try and help you to choose healthier options.

Red = high, only eat small amounts or occasionally

Amber = medium, therefore eat in moderation

Green = healthier choice

Many of the foods with traffic light colours on them will have a mixture of colours, so try to go for more greens and ambers and fewer reds.

If the label says that the product contains a “trace” amount of sodium, it means it contains minimal amounts of sodium and is therefore suitable to have.

2. Check the ingredients

Sodium is not only found in salt but also in a variety of other forms. So when checking ingredients, look out for salt, sodium chloride, sodium nitrite, sodium nitrate, and monosodium glutamate (MSG).

Protein

Protein is an important part of your diet as it is used for the growth and repair of all body tissues.

However it is important not to consume too much protein as this can cause increased protein losses in the urine and may also speed up the rate of renal failure.

You should aim to have a moderate protein intake which your dietitian will advise you further on.

Below are some suggested portion sizes:

Meat	3-4oz per portion, i.e. chicken breast size
Fish	2-3oz per portion, i.e. cod fillet
Eggs	2 per portion, i.e. cooked as an omelette
Cheese	2oz, i.e. 1 matchbox size
Yoghurt	1 pot of yoghurt or other milky pudding
Milk	½ pint per day

High Cholesterol

Nephrotic syndrome can sometimes result in raised cholesterol levels within the blood, which can often rapidly resolve when nephrotic syndrome can be successfully treated: however, this is not always the case, and raised cholesterol may persist.

In this instance, the following dietary advice may help to lower blood cholesterol levels, should your dietitian advise you to do so.

Cells within the body contain a chemical building block, known as cholesterol, which produce steroid hormones and Vitamin D as well as manufacturing bile acids which aid the digestion and absorption of dietary fats.

Understanding HDL and LDL cholesterol

Cholesterol is carried in the blood attached to proteins, known as high density lipoproteins (HDL) or “good cholesterol”, and low density proteins (LDL) sometimes referred to as “bad cholesterol”.

Awareness of your personal levels of these within the body can help to understand your risk of heart disease. Raised LDL cholesterol can cause blood vessels to narrow or become blocked – increasing your risk of chest pain (angina), stroke and heart attacks.

Sources of saturated/unsaturated fats:

Saturated fats	Unsaturated fats
Full-fat dairy products; meat and meat products such as pasties, sausages and pies; biscuits, cakes and pastries; savoury snacks; chocolate; butter, ghee and lard; coconut milk/cream; and coconut and palm oils.	Polyunsaturated fat – Sunflower, soya, corn or safflower oil/soft spreads/margarines; oily fish; and fish oil. Monounsaturated fat – Olive and rapeseed oil, avocado, nuts.

Tips for reducing saturated fat in the diet

Saturated fat can often be found in cakes, biscuits, pastries and ready meals. A helpful guide is to become familiar with food labelling of these products. For example, foods high in saturated fat will contain more than 5g of saturated fat per 100g. Foods which are considered to be lower in saturated fat will contain anything less than 1.5g per 100g.

Note: Be aware of a diet high in sugary foods as sugars from refined carbohydrates (i.e white bread, breakfast cereals, crackers, cakes etc.) can also affect blood cholesterol levels by lowering HDL cholesterol (“good cholesterol”) and contributing to raised LDL cholesterol levels (“bad cholesterol”) within the blood.

Foods to help lower blood cholesterol

Some foods can actively lower your blood cholesterol. Soluble fibre is a type of dietary fibre which dissolves in water in the gut to form a gel-like substance. This in turn soaks up cholesterol like a sponge and carries it out of the body where it cannot do any damage.

Sources of soluble fibre which we should aim to consume regularly within the diet include: oats and oat bran; linseeds (flaxseeds); barley; fruit and vegetables; and vegetable proteins. Vegetable proteins are non-meat sources such as nuts; beans; and pulses which include peas, soya, lentils and chickpeas, which all contribute to the lowering of blood cholesterol.

Reduced Appetite

As a consequence of nephrotic syndrome you may experience a reduced appetite. Your dietitian can provide ways in which you can get the most from the foods that you are currently eating and may also suggest nutritional supplement drinks to help prevent weight loss.

Weight Management

In order to treat nephrotic syndrome you may be prescribed steroids by the medical team, which can cause your weight to increase. If you would like to lose weight please discuss this with your dietitian.

Renal Diet

Depending on your level of kidney function and blood results, you may need to follow a special renal diet. Your Dietitian can discuss this with you.

Useful websites

British Heart Foundation:

<http://www.bhf.org.uk/heart-health/prevention/healthy-eating/food-labels.aspx>

<http://www.bhf.org.uk/about-us/our-policies/preventing-heart-disease/salt.aspx>

<http://www.bhf.org.uk/heart-health/prevention/healthy-eating/salt.aspx>

British Dietetic Association:

<https://www.bda.uk.com/foodfacts/Salt>

Contact Details

Dietitian Name: _____

Telephone Number: (0151) 529 3473



If you require a special edition of this leaflet

This leaflet is available in large print, Braille, on audio tape or disk and in other languages on request. Please contact:

Tel No: 0151 529 2906

Email: interpretationandtranslation@aintree.nhs.uk