

RENAL DIETETIC SERVICE

A renal dietetic service is provided to all renal patients including predialysis, nephrotic, dialysis, acute kidney injury and transplant patients.

This service is provided by 5 renal dietitians and a dietetic assistant namely:

Yvonne Bradburn	Monday am, Wednesday am, Thursday all day
Joanne Maguire	Tuesday, Wednesday, Friday
Rowan Eyles	Tuesday all day, Wednesday am, Friday am
Maria Barrett	Monday-Friday
Adele Taylor	Tuesday all day, Thursday am, Friday all day
Bridget Hines	Monday -Thursday

We can also be contacted on our office extension 40675.

Dietetic Cover arrangements:

Ward 3 renal inpatients and outliers	Maria Barrett/Rowan Eyles/Adele Taylor/Joanne Maguire/Bridget Hines
Glaxo Renal Unit	Maria Barrett
Solihull Renal Unit & Renal Inpatients	Rowan Eyles
Castle Vale Renal Unit	Yvonne Bradburn
Runcorn Road Renal Unit	Joanne Maguire
Peritoneal Dialysis	Adele Taylor and Joanne Maguire
Renal Clinic - Wednesday am	Joanne Maguire/Maria Barrett/Rowan Eyles
BHH Low Clearance Clinic	Rowan Eyles/Maria Barrett/Adele Taylor/Joanne Maguire
Solihull Low Clearance Clinic	Rowan Eyles
Good Hope Low Clearance Clinic	Yvonne Bradburn
Home Haemodialysis	Yvonne Bradburn

Which renal patients require dietary advice?

In renal failure waste products build up in the blood e.g. urea, potassium and phosphate. A high salt intake can contribute to an increase in blood pressure

and a build up of fluid. This build up of waste products and anaemia can cause the patient to feel nauseous and lethargic. As a result many patients lose their appetite and do not consume an adequate nutritional intake, therefore becoming malnourished. Malnourished patients are at an increased risk of infection and illness and a reduced ability to cope with their disease state. All renal patients will therefore require dietary advice either to:

1. Ensure an adequate nutritional intake
2. Increase nutritional intake if this is inadequate, to meet their nutritional requirements.
3. Modify dietary intake if this indicated.

Each renal patient is an individual and it is extremely important that dietary advice is tailored to suit them, based on:

Clinical condition

Stage of renal failure i.e. chronic kidney disease, end stage kidney disease, acute kidney injury, nephrotic syndrome or transplant.

Biochemistry

Current dietary intake

Current nutritional status

Fluid status

Dietary treatment of renal failure

There are a number of different dietary treatments available dependent on the individual patient. These include:

- (1) Nutritional support (moderate protein, high calorie diet)
- (2) Low potassium diet
- (3) Low phosphate diet
- (4) No added salt (NAS)
- (5) Fluid restriction.
- (6) Weight management

(1) Nutritional Support

What treatment can be given if the patient's food intake is poor?

1. Promote increased food intake through small, frequent meals and snacks.
2. Food Fortification
3. Nutritional Supplements/sip feeds
4. Enteral tube Feeding

NB: There is a hospital policy regarding provision of snacks and drinks from home. A snacks list is available from the renal dietitians in line with the policy.

How can the patient's food intake be monitored?

- Food Record Charts to record food intake to facilitate accurate dietary assessment.
- Assess changes in dry weight
- Anthropometric measurements such as Handgrip Strength (HGS)
- Changes in biochemistry

Will the patient with poor food intake require dietary restrictions?

Often if the patients' food intake is inadequate to meet nutritional requirements, serum levels of potassium and phosphate are in or below the normal range. Patients should therefore not be advised on any dietary restrictions as they are not indicated and subsequently limit food intake further.

Patients 'may need to continue to limit intake to within a fluid allowance, which will also necessitate limiting salt intake. Excessive fluid gains will contribute to breathing difficulties making it more difficult for the patient to consume adequate amounts of food.

What if the patient is also diabetic?

For the diabetic renal patient consideration also needs to be given to ensuring all puddings and drinks are low in sugar and that the patient achieves optimum blood sugar control. Poor blood glucose control can lead to an increase in serum potassium and also make a patient thirsty and therefore susceptible to fluid overload.

What if the patient is elderly?

Elderly patients tend to have smaller appetites and therefore need greater encouragement with food intake.

Consideration also needs to be given as to whether the elderly patient requires additional assistance at home with shopping for food and meal preparation. In some cases it may be more appropriate for the patient to have meals delivered. Consider involving the Renal Unit Social Worker and/or Renal Outreach OT

(2) POTASSIUM RESTRICTION

When and why should potassium intake be restricted?

Hyperkalaemia is potentially dangerous as it can lead to cardiac arrest, while *hypokalaemia* can contribute to heart failure. The aim for treatment is to keep potassium levels between 3.5-5.5mmol/l.

It is important to remember that there are many non-dietary reasons for an elevated potassium level. These include:

- Inadequate dialysis
- Increased catabolism
- Dehydration
- Infection/sepsis
- Constipation
- ACE inhibitors prescribed for blood pressure control e.g. Ramipril, Enalapril etc.
- Acidosis
- Poorly controlled blood sugars
- Following a blood transfusion.

Patients are advised on a low potassium diet based on individual dietary assessment by the dietitian.

How is potassium intake restricted?

When patients are advised on a low potassium diet they are advised to:

- Reduce foods high in potassium including: fruit juice, coffee, bananas, mushrooms, tomatoes, baked beans, chips, crisps, chocolate and nuts.
- Boil vegetables and potatoes - discarding the liquid afterwards. (Boiling removes the potassium naturally present in vegetables)
- Avoid Lo Salt as this is potassium chloride.

(3) PHOSPHATE RESTRICTION

When and why is phosphate intake restricted?

A prolonged high phosphate level can cause skin itching but over a long period of time can cause debilitating bone disease and deposition of calcium phosphate complexes in the skin, eyes, blood vessels, heart, gut and other major organs, which in the worst cases can cause heart and gut failure. It can also cause hyperparathyroidism, which may result in the patient requiring a parathyroidectomy.

How is phosphate levels controlled?

1. Dietary phosphate restriction

All protein foods contain phosphate i.e. meat, chicken, fish, eggs and cheese. It is however, important that patients have two protein foods a day to obtain adequate protein.

Patients are advised on a low phosphate diet based on individual dietary assessment by the dietitian.

When patients are advised on a low phosphate diet they are advised to reduce their intake of milk, eggs, yoghurt, cheese, offal, shellfish and fish such as pilchards, sardines.

2. Phosphate binders

Usually diet alone is inadequate to control phosphate levels. Phosphate binders are often prescribed alongside diet to control serum phosphate levels. These bind to phosphate and prevent further absorption of phosphate in the gut from protein foods.

To work effectively phosphate binders must be taken at the same time as meals containing phosphate. The dose needs to be titrated to the phosphate content of the meal i.e. a cooked meal will require a greater number of phosphate binders than a sandwich, and it may not be necessary to take phosphate binders with breakfast.

Phosphate Binders include:

Calcichew	(Calcium Carbonate - 1250mg)	}	taken <u>before</u> meals
Adcal	(Calcium Carbonate - 1500mg)		
Phosex	(Calcium Acetate - 1000mg)	}	taken <u>during</u> meals
Phoslo	(Calcium Acetate - 667mg)		
Osvaren	(Calcium Acetate, Magnesium Carbonate - 435mg+235mg)		
Renagel	(Sevelemar -800mg)		
Fosrenol	(Lanthanum Carbonate -500mg/750mg / 1000mg)		
Alucaps	(Aluminium Hydroxide - 475mg)		

(4) SALT RESTRICTION

Why is salt intake restricted?

A No Added Salt diet - NAS (80-100mmol/day) is used to treat patients with high blood pressure and to aid control of fluid retention (a high salt intake increases thirst and causes fluid retention).

How is salt intake restricted?

When patients are advised on a NAS diet they are advised to:

- Not add salt at the table
- Use minimal salt in cooking
- Reduce foods high in salt including; convenience foods, take-away foods, bacon, sausages, cheese and crisps.

Patients are advised on alternative ways of flavouring food to avoid bland unappetising meals.

NB: A few renal patients may be salt losers depending on the cause of their renal failure and these patients will require an increased salt intake.

(5) FLUID ALLOWANCE

Why is fluid intake restricted?

Chronic kidney disease patients who have not yet commenced dialysis do not need to restrict fluid intake as their urine output is usually sufficient to control fluid balance. The only time fluid intake is restricted in this group of patients is when resistant oedema is present.

All dialysis patients will require a fluid allowance as urine output usually reduces and eventually ceases when patients commence dialysis. It is important to minimise fluid gains in dialysis patients as excessive fluid gains cause hypertension and may eventually contribute to cardiovascular disease. Usually fluid intake is restricted to 500mls plus previous days urine output or 1000mls per day for anuric (no urine output) patients, as per Renal Directorate policy.

Fluid intake will also be restricted in nephrotic patients with resistant oedema. In acute kidney injury, patients' fluid intake is restricted when patients are anuric. When this group of patients are recovering renal function and become oliguric (increasing urine output) the fluid restriction

should be stopped. Often at this point these patients need active encouragement to drink adequate amounts of fluid to replace the dramatic increases in fluid losses via their increased urine output.

How is fluid restricted?

Patients will need advice on strategies for controlling their fluid intake within their fluid allowance.

We have a renal multidisciplinary fluid education booklet which can be used by all members of the team including nursing staff, to explain the rationale for a fluid restriction and also to give practical tips on controlling fluid intake within the individual allowance.

Small water jugs (500mls) are available for patients on a fluid restriction as inpatients and patients should be encouraged to monitor their fluid intake and control this within their allowance.

It is extremely important that all fluid intakes are recorded for inpatients on a fluid restriction, on the fluid balance chart. This provides a means of monitoring the patient's fluid balance. It also involves the patient in monitoring his/her own fluid intake.

(6) WEIGHT MANAGEMENT

The Renal Dietetic team are continuing to develop links with the Weight Management Specialist Dietetic teams within Birmingham Heartlands Hospital and in both Solihull and BEN PCTs. This means that we are able to offer specialist dietetic input to ensure safe effective weight loss in those patients who have a BMI > 30 and are motivated to lose weight to be considered for transplant or BMI > 35 with co morbidities and are motivated to lose weight for general health.