

Renal Services

Diabetic nephropathy

What I need to know about nephropathy?

Diabetes is a disease where the body can no longer control the sugar levels inside your bloodstream. Constantly high blood sugars over a long period of time leads to blood vessel damage. As a result, many parts of the body can be affected.

A combination of high blood pressure and poor control of diabetes can lead to damage of the kidney, which is known as diabetic nephropathy.

How is kidney disease detected in its early stages?

Ideally, we should try to pick up any damage to the kidney as early as possible so we can treat and prevent any further deterioration. There are very few symptoms or signs of kidney disease at this early stage and tests are needed to detect kidney damage. These tests are done routinely at your GP practice or the diabetic clinic.

Blood tests will need to be done about 2 weeks before the clinic appointment and these will include:

Urea and electrolytes

These blood tests are used to show the function of the kidney. In particular, your creatinine level is measured. This is a waste product produced by the muscles.

The kidney acts as a filter and cleans your blood of waste products. If your creatinine levels start to rise, it probably indicates your kidney is not functioning well and is not cleaning the blood as it should do.



Patient Information

HbA1C (glycated haemoglobin)

This blood test measures how much sugar is attached to your red blood cells. It shows what the average blood sugar control has been over the last 2 to 3 months. If sugar levels have been high, more sugar will attach to the red blood cells and HbA1C will be raised.

Urine tests

One of the very earliest indications of diabetic kidney disease is the leakage of protein in the urine. The kidney is a filter which cleans the blood but normally that filter does not allow protein to leak out into the urine. Increasing protein in the urine indicates the barrier or filter has been damaged as a result of kidney disease.

If tests indicate that you have diabetic nephropathy, you may be referred by your diabetologist or GP to a kidney specialist. The kidney specialist will often do further investigations as well as performing an ultrasound scan of the kidney.

What treatment is available for diabetic nephropathy?

Diabetic nephropathy can be slowed and further damage to the kidney prevented if caught early enough. Treatment of early diabetic disease includes good control of blood, diabetes and cholesterol.

- Blood pressure – High blood pressure will affect your kidneys. Nearly all patients with diabetic nephropathy need blood pressure tablets. There are many types, but we usually use a type of blood pressure tablet called an ACE inhibitor, which provides special protection. You may find that you need more than one type.
- Blood glucose control – This is important in both slowing down the damage to your kidney and slowing down the development of any other complications associated with diabetes. We are aiming to keep your HbA1c level at less than 7mmol.
- Cholesterol – It is important that this is controlled by following a healthy diet. Most patients with diabetic nephropathy also need tablets such as simvastatin or atorvastatin, to have a cholesterol level of less than 5.
- Smoking – This damages the lining of the blood vessels, which already have some damage if you have diabetes and diabetic nephropathy. Smoking can increase the risk of a heart attack and gangrene to the legs. Help can be offered to help you give up smoking.

Patient Information

You will continue to be seen in a diabetic or renal diabetic clinic every 2-4 months until your results stabilise. You will then be seen less frequently.

It is essential that you continue to attend our diabetic annual review so that any other complications can be prevented or detected and slowed down.

What further treatment will I need until my kidney function deteriorates?

If your kidney function deteriorates, further interventions may be needed to deal with any complications.

Fluid retention

As the kidneys fail, you may get fluid retention which can lead to breathlessness or swollen ankles / legs. You will need to reduce your fluid intake a little and use tablets called diuretics, such as furosemide, to remove more fluid from your body through your kidneys.

Diet

Your diet will need restricting if you develop severe kidney failure. A specialist dietician will see you to advise you on this.

You need to continue to eat well but restrict some of the foods that can cause problems in kidney failure, especially foods containing potassium. These can cause heart problems if your potassium level gets too high.

If after the measures taken your kidney function continues to deteriorate, your kidney team may discuss preparation plans for renal replacement therapy such as dialysis with you.

We often transfer you to a pre-dialysis clinic. This allows you more time to discuss with the kidney specialist (nephrologist) or specialist nurse about further treatments. This is also done if your creatinine level rises to about 250.

These treatments can involve artificial kidney treatment (Dialysis).

There are two main types of dialysis

- Haemodialysis – The blood is cleaned of poisons using a machine.
- CAPD – ‘Continuous Ambulatory Peritoneal Dialysis’. Special fluid is passed in and out of the abdominal cavity to remove the poisons.

You will need this treatment if the kidneys drop to 10% of its usual function, there is water retention, and a build up of poisons in the body. This can progress slowly or rapidly. You will generally feel unwell.

You may also be considered for a kidney or kidney/pancreas transplant if this is appropriate for you.

To be put on a waiting list, you have to go through an assessment checking your fitness and looking at how your diabetes might have affected other parts of your body.

How will my life be affected?

If you are on dialysis, it is possible to lead an active life. Some patients are able to continue working. It depends on how much your diabetes has affected other parts of your body.

If you need any further information or clarification, please contact the **Renal Ward** on 024 7696 7777.

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Document History

Department:	Renal
Contact:	28264
Updated:	March 2023
Review:	March 2025
Version:	6
Reference:	HIC/LFT/395/07