

Membranous nephropathy

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What is membranous nephropathy?

Glomeruli are the filtering units of the kidney. There are about 1 million of them in each kidney. In membranous nephropathy the filtering layer becomes thickened and there is a protein leak into the urine. Other things can cause this too, so the diagnosis of membranous nephropathy can be only be made by a kidney biopsy. It is sometimes called **membranous nephritis** or **membranous glomerulonephritis**.

What causes it?

About two thirds of membranous nephropathy is what is called 'idiopathic'. This means that no cause can be identified. However the remaining one third of cases are associated with other conditions, usually diseases which are caused by a disturbance of the immune system. The problem is caused by an autoimmune attack on the cell within the glomerulus that make the glomerular basement membrane, known as podocytes. "Autoimmune" means that the damage is caused by the body's own immune system.

Membranous Nephropathy : About a quarter of cases are linked with one of the conditions below	
Type of Condition	Examples
Problems with immune system	Types of arthritis like SLE
Drugs	Penicillamine, Gold, Captopril, other drugs very rarely
Cancer	Some types of cancer
Infections	Hepatitis B and Hepatitis C virus
Toxins	Mercury, Formaldehyde, possibly hydrocarbons such as petrols (gasoline)

Others	Many rare causes
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How will it affect me?

Many people with membranous nephropathy have no symptoms. Usually they come to medical attention because an abnormal amount of protein is detected in their urine when it is tested as part of a health screen, at work or at their Family Doctors. Some people notice a gradual and increasing swelling of their ankles (called oedema), and if the protein leak is severe they will develop [nephrotic syndrome](#). Membranous nephropathy is the commonest cause of nephrotic syndrome in adults in the developed world.

To diagnose membranous nephropathy you need to have a [kidney biopsy](#).

In about 5 -15% of cases the protein present in the urine (called proteinuria) will disappear of its own accord - known as a remission
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In about 30-40% of cases the proteinuria will lessen - called a partial remission. In some cases, perhaps 25%, the disease will progress and cause the slow loss of kidney function, eventually resulting in kidney failure and the need for dialysis or a kidney transplant.

It is impossible to say what will happen to each individual patient, but there are some factors which may suggest that a patient will fall into one group or another. Some factors that suggest that the disease may progress are:

Factors that increase the chance of loss of kidney function
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Being male and over 50

If amount of proteinuria remains high

Kidney biopsy shows more scarring

Blood pressure is not well controlled

Kidney function is abnormal at diagnosis
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There is a known cause (eg Hepatitis B or C infection) but it cannot be cured

Although it is not possible to predict what will happen to each individual with certainty, predictions become more reliable as more information is gathered, and more time passes.

Treatment of membranous nephropathy

If you have nephrotic syndrome you will need specific treatment for this, see our separate section on [nephrotic syndrome](#).

The treatments advised for membranous nephropathy fall into two groups. The first group are treatments that may help the disease itself. The second group are treatments for consequences of the kidney damage, which are really the same as for other kidney diseases.

Treatment should not be recommended unless the possible side effects of that treatment are outweighed by the likely benefits to you of that treatment. Often the best advice may be for **no specific treatment**, but to continue to monitor your kidney function over the years, particularly if you are likely to fall into the group of patients that improve on their own - often it will take 3 or 4 years to clarify this. Treatments to control [blood pressure](#) and [nephrotic syndrome](#) are still likely to be required.

Research is still trying to establish the best treatments to control membranous nephropathy and prevent it from causing kidney failure. The fact that the disease improves on its own in some people makes it hard to know whether a treatment has contributed to this. In the UK you may be asked to consider being entered into a trial comparing different treatments. Most nephrologists in the UK otherwise reserve these treatments for people whose disease is severe and likely to cause further kidney damage.

Treatments for membranous nephropathy itself:

Steroids are a group of chemicals that occur naturally in the body in small amounts. Steroid tablets are refined and concentrated versions of these chemicals. The commonest type of steroid used is called Prednisolone.

Your doctor may suggest you take a course of prednisolone, and will work out the dose depending on your body weight. Steroids alone are probably rarely enough though, and most likely your doctor will suggest a course of prednisolone together with another tablet or course of injections - one of the immunosuppressive drugs, more information is available on our page on

[immunosuppressive therapy](#)

Immunosuppressive drugs act on the immune system to 'damp down' its activity. They are used in the treatment of many sorts of glomerulonephritis including membranous nephropathy, because the immune system is partly responsible for the damage to the glomeruli, although what triggers the immune system to have this abnormal effect is incompletely understood. There is some evidence to suggest that 'damping down' the immune system may halt or moderate the damage being done to the glomeruli, and so prevent the disease from progressing to cause kidney failure. The commonest drugs used are cyclophosphamide, chlorambucil, and cyclosporin. [More information on immunosuppressive therapy](#) is available.

Treatments for the consequences of kidney diseases

If the protein leak is severe, treatment may be needed for [nephrotic syndrome](#).

Some patients may need treatment for chronic renal failure, which is described in our pages on [chronic renal failure and its progression](#). These are important if worsening of kidney damage is to be minimised or prevented, and are likely to include drugs to treat blood pressure (anti-hypertensives). Medications to reduce blood cholesterol may be needed, and if swelling (oedema) is present, drugs which reduce fluid retention called diuretics may be needed.

Where can I get further information?

The following [EdRenINFO](#) pages provide relevant information:

- [Nephrotic syndrome](#)
- [Chronic renal failure and its progression](#)

- [High blood pressure and kidney disease](#)

There is a self-help group for patients at www.mgninfo.co.uk

Key points

Membranous nephropathy is a type of kidney disease that causes a leak of protein into the urine. When severe, this is called nephrotic syndrome.

Most cases have no known cause but are probably autoimmune, like thyroid disease and diabetes.

Sometimes the severity of the protein leak reduces with time without treatment.

In a small proportion of patients there is a gradual loss of kidney function leading to a need for dialysis.

Changes in kidney function may take many years to develop.

Treatment may include control of blood pressure, control of blood lipids and anticlotting treatment.

The use of special immunosuppressive treatment can be helpful in some cases.

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