

# Proteinuria

## What is proteinuria?

Proteinuria means the appearance of protein in the urine. Often it is detected on a routine check. Usually there are no symptoms from it.

## What causes proteinuria?

Protein should not normally appear in the urine in early detectable quantities. It is usually kept in the blood by the filtering units (glomeruli) within the kidney. Proteinuria is an indicator that the kidneys are damaged in some way. Diseases that affect the filtering units themselves are the most common cause of heavy proteinuria. Sometimes this is called glomerulonephritis, meaning inflammation of the glomeruli.

## What is the protein?

A dipstick test of the urine detects albumin, which is an important protein component of the blood. Even small amounts of protein may be detected on dipstick testing. The dipstick test does not give an accurate concentration of protein and can be affected by the overall volume of urine. One way to assess how much protein is passed into the urine per day is to collect all the urine passed over 24 hours. Now it is more common to compare the amount of protein to the amount of creatinine in a single sample of urine, a test called PCR or ACR (protein creatinine ratio or albumin creatinine ratio). This is usually just as good.

## Is the proteinuria always a bad thing?

High levels of proteinuria are always important, however proteinuria that is small in amount and comes and goes is not as significant. Sometimes low levels of proteinuria are early signs of kidney disease that can get worse with time. Some examples of proteinuria that are not so important are:

- When it only occurs following strenuous exercise
- When it only occurs with a fever
- When it is absent in the morning but occurs later in the day (orthostatic proteinuria)
- When it occurs only during a urine infection

## **Nephrotic Syndrome**

Nephrotic syndrome occurs when there is a heavy leakage of protein, so that the blood levels of protein fall. It often causes ankle swelling and fluid retention, and can cause other problems too. [Nephrotic syndrome](#) is described elsewhere if you need to know more about it.

### **What further investigations are needed?**

In trying to find out the cause of proteinuria doctors will want to know about any previous illnesses, operations and treatment that you may have had for any medical condition in the past. They will also want to know if anyone in your family has had any kidney diseases. It will also be important to know about your general health , and particularly to know your blood pressure and the results of some tests of how well the kidney works. You will be tested for diabetes. More detailed tests may include the analysis of a 24 hour collection of urine and kidney scans or X-rays. Sometimes a [kidney biopsy](#) may be suggested, although this is not usually required unless the level of protein leakage is high, or if there are other signs of kidney disease.

### **What are the treatments?**

If the amount of proteinuria is high or if the kidney function is affected it is particularly important to find out the cause. Heavy proteinuria can damage the kidney if it is present over a long period of time. The treatments may differ depending on the cause of the proteinuria - if this is known. See [EdRenINFO](#) for individual causes of proteinuria.

It is essential that anyone with proteinuria is monitored over time. However for most people, who have a lower level of proteinuria, the right thing is simply to monitor urine tests, blood pressure and kidney function over a prolonged period. If things are stable this may be just once a year and these tests need not be always undertaken from hospital or by specialists. All nephrologists will recommend paying particular attention to ensuring good [blood pressure control](#), however well the kidneys are working.

### **Where can I find further information?**

Information on [blood pressure in kidney disease](#), and on [chronic renal failure](#), may be relevant.

Further information on certain types of glomerulonephritis causing proteinuria can be found through [EdRenINFO](#) or [SEARCH](#) the site.

For general practitioners and healthcare workers, a [guideline on the management of proteinuria](#) is available. For information on using estimations from single urine samples instead of 24 hour urine collections, see [proteinuria - EdREN Handbook](#)

**Acknowledgements:** The author of this page was Gemma Browne. It was first published in August 2000. The date it was last modified is shown in the footer.