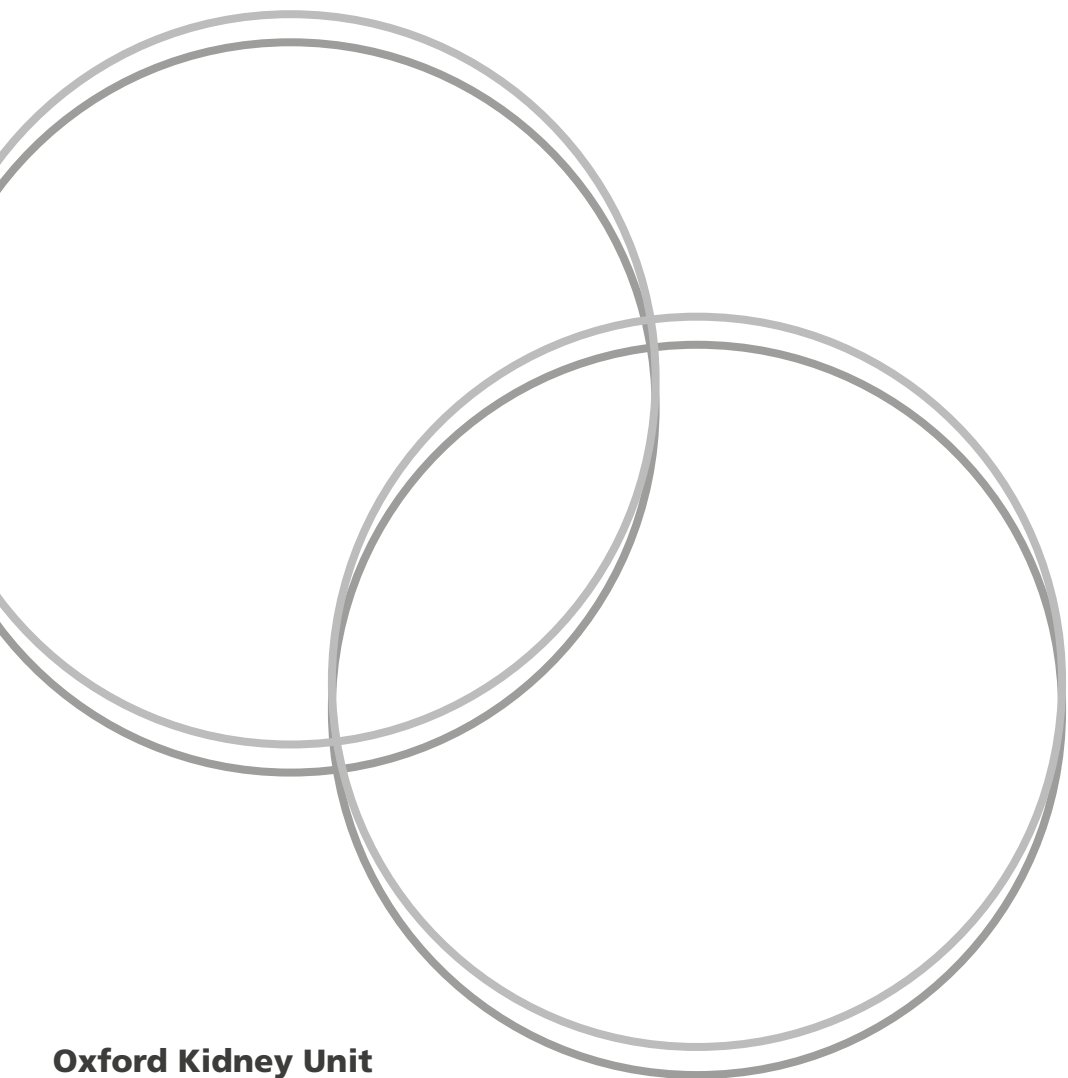




Oxford University Hospitals
NHS Foundation Trust

The Kidney Failure Risk Equation

Information for patients



Oxford Kidney Unit

Chronic Kidney Disease and Kidney Failure

Chronic kidney disease (CKD) is a long-term condition where your kidneys don't work as well as they should. It becomes more common as we get older. Chronic kidney disease can get worse over time. If your kidneys stop working this is known as kidney failure. Your kidney team will speak to you about your options, which may include dialysis, a kidney transplant, or supportive (conservative) management.

Predicting the Future

Whilst chronic kidney disease is common, the number of people who develop kidney failure is relatively low. Your risk of chronic kidney disease getting worse over time, or if you will ever reach kidney failure, can be difficult to accurately predict.

Even if we know that you are likely to experience kidney failure, it is still difficult to know when this will happen. Sometimes, people can feel surprised when their expectations about their kidney disease don't quite match up with what the kidney team suggest or predict.

Glomerular Filtration Rate

Your kidneys act as filters, getting rid of waste toxins and excess water into urine. The better your kidneys are functioning, the higher the 'filtration rate'. The kidney team use a blood test to see what the filtration rate is, which is called the eGFR (Estimated Glomerular Filtration Rate).

It is difficult to measure the GFR directly, so it is estimated using a formula. Calculating your eGFR involves taking a blood sample and measuring the levels of a waste product called creatinine. It also considers your age, your biological sex and gender and your ethnic group.

Often this is referred to as the percentage of normal kidney function. For example, an eGFR of 50ml/min equates to 50% kidney function. The normal rate in young fit people is 90-120 ml/min. It is much lower in older people (50-80 ml/min).

The Kidney Failure Risk Equation

Recently, a tool has been developed that can help us to be more accurate in our predictions. It is called the Kidney Failure Risk Equation (KFRE).

It takes four pieces of information about a person with kidney disease and uses them to calculate the risk of kidney failure in future. The four things the calculation needs are:

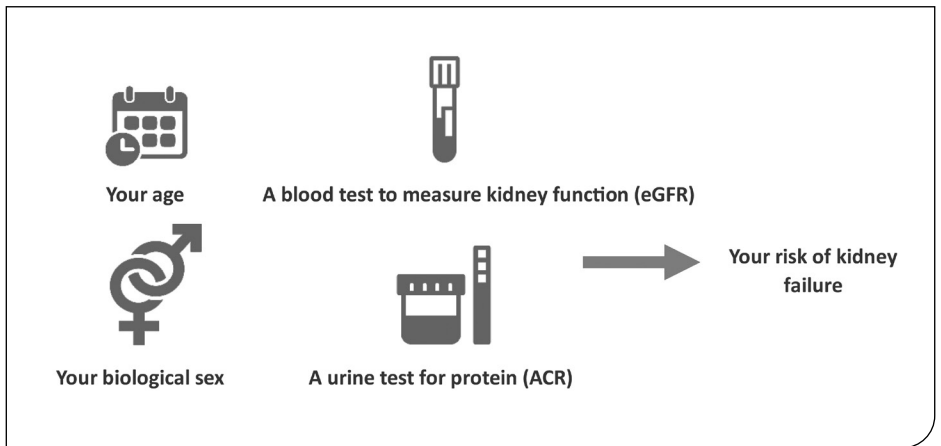


Diagram demonstrating the factors needed to measure KFRE:

- your age
- a blood test to measure kidney function (eGFR)
- your biological sex
- a urine test for protein (ACR).

Why does it need to know my biological sex?

Your biological sex is important to the calculation because people who are assigned male at birth (AMAB) are at a slightly higher risk of their kidney disease worsening over time compared to people who are assigned female at birth (AFAB). The calculation takes into account this slight difference in risk when it makes its prediction.

There is uncertainty as to what specifically the term 'sex' refers to in the KFRE. Currently it is suggested that sex refers to a combination of your assigned sex at birth; your sex hormones; if you are currently on hormonal therapy; and your gender identity. It is worth discussing this with your kidney team to ensure we get the balance of these factors right when calculating your KFRE result. The information on your biological sex will only be used where it is relevant to the care that you receive. We will continue to use your preferred gender pronouns.

What is the Albumin: Creatinine Ratio (ACR)?

ACR is a test for how much protein (albumin) is in the urine. Normally there is very little, or no protein found in urine. However, if you have kidney disease then your kidneys can leak protein into the urine. Increasing levels of protein can be a sign of the severity of kidney disease.

What does the KFRE result mean?

The KFRE gives a percentage risk of you reaching kidney failure within 2 years and 5 years.

For example:

- 10% within 2 years, you have a 10 in 100 chance of developing kidney failure
- 25% within 5 years, you have a 25 in 100 chance of developing kidney failure.

How is this useful?

The results are useful for you in three ways:

Firstly, using the KFRE can help identify higher-risk patients earlier as it allows a GP or kidney team more time to possibly slow the progression of kidney failure by:

- Giving you the right medications.
- Helping you with any changes to your lifestyle.
- Discussing treatments such as dialysis or kidney transplantation.

Secondly, it may identify if you are at a lower risk. This helps to avoid unnecessary tests and procedures that you might not need or benefit from.

Thirdly, the results can help you know what to expect in the future. Some people feel that kidney failure is happening more quickly than is expected for them, but their risk is quite low. Other people might feel that their chances of kidney failure are low when it might be high.

Where can I find out more information?

If you would like more information on KFRE, please speak to a member of the kidney team. You can also find information on the websites below.

Kidney Failure Risk

This website explains the calculation and is recommended by NICE.
Website: www.kidneyfailurerisk.co.uk

Oxford Kidney Unit

Chronic Kidney Disease patient information leaflet.

Website: www.ouh.nhs.uk/patient-guide/leaflets/files/67069Pckd.pdf

YouTube

A video that explains KFRE.

Website: www.youtube.com/watch?v=ZEZkm9N69bE

This leaflet has been developed in collaboration with the: Leicester, Leicestershire, and Rutland Chronic Kidney Disease Integrated Care Delivery Project.



Useful websites

Oxford Kidney Unit

Lots of information about the Oxford Kidney Unit for patients and carers.

Website: www.ouh.nhs.uk/oku

UK Kidney Association

Patient information leaflets and advice.

Website: www.ukkidney.org/patients/information-resources/patient-information-leaflets

Kidney Patient Guide

Information for patients with kidney failure and those who care for them.

Website: www.kidneypatientguide.org.uk

Kidney Care UK

A charity which has lots of practical support and information for people with kidney disease.

Website: www.kidneycareuk.org

Six Counties Kidney Patients Association

The SCKPA is run for patients by patients or family members.

They offer support to people suffering from kidney disease or who are on dialysis. They work closely with the Oxford Kidney Unit and have branches in Oxfordshire, Northamptonshire, Buckinghamshire, and Milton Keynes, and parts of Wiltshire, Gloucestershire and Berkshire.

Website: www.sixcountieskpa.org.uk

National Kidney Federation

A charity which has lots of practical support and information for people with kidney disease.

Website: www.kidney.org.uk

OUH Patient Portal - Health for Me

Please ask a member of the renal team to sign you up to the patient portal.

Website: www.ouh.nhs.uk/patient-guide/patient-portal

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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Oxford University Hospitals NHS Foundation Trust
www.ouh.nhs.uk/information



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