Oxford University Hospitals
NHS Foundation Trust

Oxford Kidney Unit

What do my blood and dialysis results mean?

Information for patients

If you are on haemodialysis (HD) or peritoneal dialysis (PD) this leaflet is for you. It will provide you with information about the ideal ranges for your blood results. It will also help you to understand the results of tests that are taken whilst you are on dialysis. There are other blood tests that your kidney team may request and your nurse or doctor will explain these to you.

If you have any questions, please contact your local Dialysis Unit.

Blood test	Ideal range	What does this do in my body?	How will it affect me?
Potassium	4.0 - 6.0mmol/l	This is a mineral in the body regulated by the kidneys. It is essential for maintaining electrical impulses throughout the body, including the heart.	If your potassium level is too high or too low it can lead to problems with your heart rhythm, which can be very dangerous. Your dietitian will advise you on potassium in your diet.
Phosphate	1.1 - 1.7mmol/l	This mineral is important for keeping your bones healthy, it works with calcium.	High levels of phosphate can lead to chalky deposits building up in your blood vessels, brittle bones and make you itchy. Phosphate is not removed easily by dialysis. Phosphate binding tablets help to reduce phosphate levels in the blood. Your dietitian will advise you on phosphate in your diet and we can give you a CKD mineral bone disorder leaflet.
Urea	Less than 20mmol/l	This is a waste product of protein broken down in your body.	It is removed easily from your body by dialysis. In normal kidney function the level is 2.5 to 7.1mmol/L
Creatinine	This will depend on the amount of muscle you have and your size. Ask your nurse what is right for you.	This is a waste product of muscle breakdown in your body.	It is removed from your body by dialysis. In normal kidney function the level is 74.3 to 107mmol/l. It is higher in muscular people and people from Africa.
Calcium	2.1 - 2.5mmol/l	This mineral is important for healthy bones and muscle function.	Calcium levels can fall in kidney failure, leading to brittle bones, twitching and tingling. Vitamin D tablets help to control calcium levels.

Blood test	Ideal range	What does this do in my body?	How will it affect me?
Parathyroid hormone (PTH)	14 - 62pmol/l	This hormone regulates the levels of calcium and phosphate in your body.	A high PTH level can lead to high calcium and phosphate levels, causing brittle bones, aches and pains in your joints and chalky deposits in your blood vessels. Vitamin D tablets can help to control your PTH level. If you have very high levels you may need a special medication or an operation to remove your parathyroid glands.
Albumin	Greater than 35g/l	This is a protein in the blood which is an indicator of nutrition.	Low levels of albumin may indicate that you have been unwell.
Haemoglobin (Hb)	100 - 120g/dl	This is a measurement of the level of red blood cells in your blood, which are important for carrying oxygen around your body.	Low haemoglobin (anaemia) is common in chronic kidney disease, as the kidneys don't produce the hormone (erythropoietin) which is needed to make red blood cells. Anaemia can make you feel tired, short of breath and lacking in energy. You will probably be prescribed erythropoietin and iron injections.
Blood pressure	Less than 140/85 or lower	High blood pressure may cause heart disease; this increases the risk of having a heart attack or a stroke. Low blood pressure can make you feel dizzy and increase your risk of falling over. If your blood pressure is very high or low you may need adjustment of your dry weight or medication. We will talk with you about this.	

Haemodialysis tests	Ideal range	How will it affect me?
URR (urea reduction ratio)	Greater than 65%	URR indicates how well dialysis is cleaning your blood of urea, which is one of the toxins that builds up in kidney failure. It is measured every 3 months. To measure your URR, a sample of your blood is taken before and after dialysis. This is not available on PatientView.
Average monthly blood flow on haemodialysis	Greater than 350mls/min	Higher blood flows improve the quality of your dialysis, because more of your blood is cleaned. This is not available on PatientView.
Transonic result of the flow of your fistula or graft	This is different for each person; ask your dialysis nurse what yours is.	Early identification of problems with fistula/graft flow rates, and appropriate treatment, avoids poor dialysis and helps to make sure your fistula/graft remains well. These readings are taken every three months or as required.
Average inter-dialytic fluid gain (the amount of fluid that you put on between dialysis treatments)	As low as possible	Building up too much fluid in between dialysis can lead to high blood pressure and heart failure. Excessive fluid removal during dialysis causes cramps and low blood pressure. If you are struggling to manage your fluid allowance, please speak to your dialysis nurse. We also have a leaflet available that will give you some tips on managing your fluid allowance and a renal dietitian available; ask your nurse for their contact number.

Peritoneal dialysis tests	Ideal range	How will it affect me?
Adequacy Kt/V Creatinine clearance	Greater than 1.7 Greater than 50L/wk/1.73m^2	Your dialysis adequacy and clearance is the efficiency of your dialysis. This is calculated by measuring the amount of creatinine and urea in both your blood and 24 hour PD fluid sample. This is measured every 6 months or if your PD team are worried about your dialysis.
Peritoneal Equilibrium Test (PET)	There are 4 categories: high, high average, low average and low	A PET test measures the movement of fluid and toxins across your peritoneal membrane. This will help your PD nurse adapt your PD to suit your membrane. It is measured once a year, as your membrane changes over time on PD. Your PD nurse will tell you more about this.
Urine volume	No ideal range	This is measured every 6 months, or if your PD nurse is worried about your dialysis. Your urine volume will probably reduce the longer you are on dialysis. Some people may not pass any urine.
Total volume PD and urine output	Greater than 750mls in 24 hours	You may need to reduce the amount of liquid you can drink over 24 hours. Your PD nurse will talk to you more about fluid and volume control.

Where can I get further information?

Oxford Kidney Unit

This has useful information about the unit.

Website: www.ouh.nhs.uk/oku/

PatientView

This shows your latest blood results, letters and medicines.

Website: www.patientview.org

NHS Choices

NHS Choices has a wide range of information about health related illness.

Website: www.nhs.uk

National Kidney Federation – Kidney Patients UK (NKF)

UK kidney patient charity with lots of information on all aspects of kidney treatments.

Website: www.kidney.org.uk

Kidney Care UK

Kidney patient charity providing advice, support and financial assistance.

Website: www.kidneycareuk.org

100,000 Genomes Project

World class research is carried out at Oxford University Hospitals. We are also a Genomics Medicine Centre and you may be eligible to take part in the 100,000 Genomes project. During your visit you may be approached about clinical research studies and the Genomes project. If you would like further information, please ask your healthcare professional or visit the website: **www.ouh.nhs.uk/research/projects/genomes.aspx**

If you have a specific requirement, need an interpreter, a document in Easy Read, another language, large print, Braille or audio version, please call **01865 221 473** or email **PALS@ouh.nhs.uk**

Authors: Julie Witts, Swindon Renal Unit Manager
Jayne Woodhouse, Advanced Nurse Practitioner, Peritoneal Dialysis
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Oxford University Hospitals NHS Foundation Trust
Oxford OX3 9DU
www.ouh.nhs.uk/information

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