## **Glossary**

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This glossary provides brief explanations of the various technical words and abbreviations used in relation to the treatment of kidney disease.

abdomen The lower part of the trunk, below the chest. Commonly called the tummy or belly.

**access** A method of gaining entry to the bloodstream to allow dialysis. Access methods used for haemodialysis include a catheter, fistula or graft. The term is also used in peritoneal dialysis, referring to the catheter (tube) entering the tummy.

acute A word meaning short-term and of rapid onset, usually requiring a rapid response.

**adequacy** A term that refers to how well dialysis is working. To measure adequacy, tests are carried out to see if enough fluid and waste products are being removed from the blood.

**albumin** A type of protein that occurs in the blood.

**ALG** Abbreviation for anti-lymphocyte globulin, a strong treatment against the rejection of a transplant kidney. ATG, anti-thymocyte globulin, used for the same purpose

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**altruistic donor**. A kidney donor who gives a kidney for no material reward. This may be a family member, but may also include a living donor who gives a transplant to someone they have never met.

alkali A substance that is the chemical opposite of an acid.

alphacalcidol A vitamin D supplement.

amino acids Substances from which proteins are built up.

**anaemia** A shortage of red blood cells in the body, causing tiredness, shortage of breath and pale skin. One of the functions of the kidneys is to make EPO (erythropoeitin), which stimulates the bone marrow to make blood cells. In kidney failure, EPO is not made and anaemia results.

**ANCA** is an abbreviation for anti-neutrophil cytoplasmic antibody. This is a type of antibody that is associated with types of vasculitis.

angioplasty. The use of a balloon to stretch up the narrowing in a blood vessel during an arteriogram.

ankle oedema An abnormal build-up of fluid under the skin around the ankles. It is an early sign of fluid overload.

antibiotic drugs A group of drugs used to treat infections caused by bacteria.

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**antibodies** Substances that normally help the body to fight infection. They are made by white blood cells. After a transplant, antibodies can attack the new kidney and cause rejection. Antibodies are also causes of kidney disease such as glomerulonephritis. Disorders of the bone marrow producing abnormal antibodies can cause amyloid and myeloma.

antigen A substance, usually a protein, that is recognised by the immune system (the body's natural defence system). The body is programmed not to react to antigens from its own cells, but should react vigorously to antigens from bacteria and other invaders. Sometimes the body will react to 'self-antigen', and this can cause some types of kidney disease. Proteins from other people may be recognised as antigens, and this leads to transplant rejection.

anti-inflammatory Reduces inflammation.

APD Abbreviation for automated peritoneal dialysis. A form of peritoneal dialysis that uses a machine to drain the dialysis fluid out of the patient and replace it with fresh solution. APD is usually carried out overnight whilst the patient sleeps. Also known as CCPD.

arteries Blood vessels that carry blood from the heart to the rest of the body.

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**arteriogram** A type of X-ray that uses a special dye to show the blood vessels. The dye is put into the blood vessels via a tube that is inserted into the groin and passed up to the kidneys.

artificial kidney Another name for the dialyser or filtering unit of a dialysis machine.

**ATG** Abbreviation for anti-thymocyte globulin, a strong treatment against the rejection of a transplant kidney.

atheroma Deposits of cholesterol and other fats that cause furring and narrowing of the arteries (also called atherosclerosis).

azathioprine An immuno-suppressant drug used to prevent the rejection of a transplant kidney.

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**bacteria** A type of germ. Bacteria are microscopically tiny, single-celled organisms capable of independent life. Most are harmless, but some cause disease.

**beta-blockers** Tablets that slow down the heart rate and lower blood pressure. Examples are atenolol, metoprolol and propranolol.

**bicarbonate** A substance that is normally present in the blood which is measured in the biochemistry blood test. A low blood level of bicarbonate shows there is too much acid in the blood.

**biochemistry blood test** A test that measures the blood levels of various different substances. Substances measured in people with kidney failure usually include sodium, potassium, glucose, urea, creatinine, bicarbonate, calcium, phosphate and albumin.

**biopsy** A test involving the removal of a small piece of an organ or other body tissue and its examination under a microscope.

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**bladder** The organ in which urine is stored before being passed from the body.

**blood cells** The microscopically tiny units that form the solid part of the blood. There are three main types: red blood cells, white blood cells and platelets.

**blood group** An inherited characteristic of red blood cells. The common classification is based on whether or not a person has certain antigens (called A and B) on their cells. People belong to one of four blood groups, called A, B, AB and O.

**blood level** A measurement of the amount of a particular substance in the blood, sometimes expressed in mmol/l (millimoles per litre) or µmol/l (micromoles per litre) of blood.

**blood pressure** The pressure that the blood exerts against the walls of the arteries as it flows through them. Blood pressure measurements consist of two numbers. The first shows the systolic blood pressure, the second, the diastolic blood pressure. One of the functions of the kidneys is to help control the blood pressure. In kidney failure, the blood pressure tends to be high.

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**blood vessels** The tubes that carry blood around the body. The main blood vessels are the arteries and veins.

**bone marrow** The 'runny' part in the middle of some bones, where blood cells are made.

**BP** Abbreviation for blood pressure.

**brain death** A term indicating that the entire brain has permanently stopped working, and that further life is possible only on a life-support machine. A person must be diagnosed brain dead before their organs can be removed for a cadaveric transplant.

**Bright's disease** A name for glomerulonephritis. This term was used in the past before the different types of glomerulonephritis were given their own names.

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cadaveric transplant A transplant kidney removed from someone who has died.

**calcimimetic**. A type of drug which is recognised by the body as if it is calcium (i.e. 'mimics' the effect of calcium). May be used to help lower the blood level of calcium in people with kidney failure and problems with calcium levels in the blood.

calcium A mineral that strengthens the bones. It is contained in some foods, including dairy products. It is stored in the bones and is present in the blood. The kidneys normally help to keep calcium in the bones. In kidney failure, calcium drains out of the bones, and the level of calcium in the blood also falls.

candida albicans A fungus that sometimes causes peritonitis in patients on peritoneal dialysis.

**CAPD** Abbreviation for continuous ambulatory peritoneal dialysis. A continuous form of PD in which patients perform the exchanges of dialysis fluid by hand. The fluid is usually exchanged four times during the day, and is left inside the patient overnight.

**cardiologist:** A medical doctor who specializes in diagnosing and treating conditions of the heart.

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**catheter** A flexible plastic tube used to enter the interior of the body. A catheter is one of the access options for patients on haemodialysis. For patients on peritoneal dialysis, a catheter allows dialysis fluid to be put into and removed from the peritoneal cavity. A catheter may also be used to drain urine from the bladder.

**CC** (Creatinine Clearance). A test done in addition to blood tests for measuring either kidney, dialysis or transplant function. The normal level for the kidney(s) is about 120 ml/min (1200 litre/week) whilst for CAPD patients it is 50 l/week, CCPD 65 l/week and Haemodialysis 100 l/week.

**CCPD** Stands for "continuous cycling peritoneal dialysis." Similar to CAPD in that dialysis happens inside the body, using the peritoneal membrane as a filter. However, a machine performs the peritoneal dialysis solution exchanges in regular cycles usually during the night. Also generally known as Automated Peritoneal Dialysis (APD).

**cells** The tiny units from which all living things are built up. Most cells have some common features (including a nucleus that is the cell's control centre and an outer membrane or skin that gives the cell its shape). Cells in different parts of the body look different from each other and perform different functions (for example, skin cells are very different from blood cells).

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**cholesterol** A lipid (fat) that is a major contributor to atheroma.

chronic A word meaning long-term and of slow onset, not usually requiring immediate action.

**CKD** Abbreviation for chronic kidney disease. This is an abnormality in the kidneys that is present for more than 3 months, and is graded stages 1-5 for minor to severe kidney disease.

**clearance** The removal of the toxic waste products of food from the body. Clearance is one of the two main functions of the kidneys. In kidney failure, clearance is inadequate and toxins from food build up in the blood.

conservative management. Treatment of end stage kidney disease without the use of dialysis.

**CMV** Abbreviation for cytomegalovirus.

**creatinine** A waste substance produced by the muscles when they are used. The name creatinine is also given to a blood test that measures the blood level of creatinine. The higher the blood creatinine level, the worse the kidneys (or dialysis or a kidney transplant) are working.

**cross-match** The final blood test before a transplant operation is performed. It checks whether the patient has any antibodies to the donor kidney. The operation can proceed only if the cross-match is negative (i.e., no antibodies are found).

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**CT scan** Abbreviation for a computerised tomography scan. An investigation that uses a computer to build up a picture from a series of low-intensity X-rays.

**cycler** A machine used for CCPD (APD) that performs peritoneal dialysis solution exchanges in regular cycles.

cyclosporin An immuno-suppressant drug used to prevent the rejection of a transplant kidney.

**cystitis** A type of infection that causes inflammation of the bladder.

**cytomegalovirus (CMV)** A virus that normally causes only a mild 'flu-like' illness. In people with a kidney transplant (and in other people whose immune system is suppressed), CMV can cause a more serious illness, affecting the lungs, liver and blood.

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**Deceased donor transplant**. A transplant kidney removed from someone who has died.

**dehydration** A condition in which the body does not contain enough water to function properly. Dehydration often occurs with low blood pressure, which causes weakness and dizziness.

diabetes mellitus A condition (also known as sugar diabetes or simply as diabetes) in which there is too much sugar in the blood. Whether this type of diabetes is controlled by insulin, tablets or diet, it can cause kidney failure. This happens most often to people who have had diabetes for longer than ten years.

**dialyser** The filtering unit of a dialysis machine. It provides the dialysis membrane for patients on haemodialysis. The dialyser removes body wastes and excess water from the blood in a similar way to a normal kidney.

**dialysis** An artificial process by which the toxic waste products of food and excess water are removed from the body. Dialysis therefore takes over some of the work normally performed by healthy kidneys. The name dialysis comes from a Greek word meaning 'to separate' – i.e., to separate out the 'bad things' in the blood from the 'good things'.

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**dialysis fluid** The liquid that provides the 'container' into which toxic waste products and excess water pass during dialysis for removal from the body.

dialysis machine The machine used to perform haemodialysis. It includes a dialyser, which filters the patient's blood. The machine helps to pump the patient's blood through the dialyser, and monitors the dialysis process as it takes place.

dialysis membrane A thin layer of tissue or plastic with many tiny holes in it, through which the process of dialysis takes place. In peritoneal dialysis, the patient's peritoneum provides the dialysis membrane. For haemodialysis, the dialysis membrane is made of plastic. In each case, the membrane keeps the dialysis fluid separate from the blood (essential because dialysis fluid is toxic if it flows directly into the blood). However, the tiny holes in the membrane make it semi-permeable, allowing water and various substances to pass through it.

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diastolic blood pressure A blood pressure reading taken when the heart is relaxed. It is taken after the systolic blood pressure and is the second figure in a blood pressure measurement.

**diffusion** A process by which substances pass from a stronger to a weaker solution. Diffusion is one of the key processes in dialysis (the other is ultrafiltration). During dialysis, body wastes such as creatinine pass from the blood into the dialysis fluid. At the same time, useful substances such as calcium pass from the dialysis fluid into the blood.

**diuretic drugs** The medical name for water tablets. These drugs increase the amount of urine that is passed. Two commonly used diuretics are frusemide and bumetanide.

donor A person who donates (gives) an organ to another person (the recipient).

donor kidney A kidney that has been donated.

**doppler scan** A type of ultrasound scan (sound-wave picture)that provides information about blood flow through the arteries.

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**ECG** Abbreviation for electrocardiogram. A test that shows the electrical activity within the heart.

**ECHO** Abbreviation for echocardiogram. A type of ultrasound scan (sound-wave picture)that shows how well the heart is working.

**eGFR**. Abbreviation of estimated glomerular filtration rate. Measurement of how much blood is filtered by the kidneys, calculated from the blood level of creatinine.

**endocrinologist:** A medical doctor who specializes in treating disorders of the endocrine glands, including the pancreas.

end-stage renal failure (ESRF) A term for advanced chronic kidney failure. People who develop ESRF will die within a few weeks unless treated by dialysis or transplantation. These treatments control ESRF but cannot cure it. Once a patient has developed ESRF, they will always have it, even after a transplant.

end-stage renal disease (ESRD) An alternative name for end-stage renal failure.

**established renal failure (ERF)** An alternative name for end-stage renal failure or end-stage renal disease.

**EPO** Abbreviation for erythropoeitin.

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erythropoeitin A hormone, made by the kidneys, which stimulates the bone marrow to produce red blood cells.

**ESRF** Abbreviation for end-stage renal failure.

**ESRD** Abbreviation for end-stage renal disease.

**exit site** The point where a catheter comes out through the skin. Exit site infections can be a problem for PD patients.

**exchange transplant**. Sometimes a person cannot receive a living donor kidney transplant because of blood group incompatibility or other antibody incompatibility, even though they have a family member willing to donate a kidney. It may be possible to find another potential donor and recipient who are incompatible with each other, but where the kidneys can be 'exchanged', each recipient having transplant from the other person's donor.

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**fistula** An enlarged vein, usually at the wrist or elbow, that gives access to the bloodstream for haemodialysis. The fistula is created by a surgeon in a small operation. It is done by joining a vein to an artery. This increases the flow of blood through the vein and causes it to enlarge, making it suitable for haemodialysis needles.

FK506 Another name for tacrolimus.

**fluid overload** A condition in which the body contains too much water. It is caused by drinking too much fluid, or not losing enough. Fluid overload occurs in kidney failure because one of the main functions of the kidneys is to remove excess water. Fluid overload often occurs with high blood pressure. Excess fluid first gathers around the ankles (ankle oedema) and may later settle in the lungs (pulmonary oedema).

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**glomerulus** One of the tiny filtering units inside the kidney.

glomerulonephritis Inflammation of the glomeruli, which is one of the causes of kidney failure.

**glucose** A type of sugar. There is normally a small amount of glucose in the blood. This amount is not usually increased in people with kidney failure unless they also have diabetes mellitus. Glucose is the main substance in PD fluid, drawing excess water into the dialysis fluid from the blood by osmosis.

**graft** A type of access for haemodialysis. The graft is a small plastic tube that connects an artery to a vein. It is inserted into the arm or leg by a surgeon. Haemodialysis needles are inserted into the graft, which can be used many hundreds of times.

**GFR**. Abbreviation of glomerular filtration rate. Measurement of how much blood is filtered by the kidneys, if the GFR is low there is kidney disease.

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haemodialysis A form of dialysis in which the blood is cleaned outside the body, in a machine called a dialysis machine or kidney machine. The machine contains a filter called the dialyser or artificial kidney. Each dialysis session lasts for three to five hours, and sessions are usually needed three times a week.

haemodialysis catheter A plastic tube used to gain access to the bloodstream for haemodialysis.

haemodialysis unit The part of a hospital where patients go for haemodialysis.

haemoglobin (Hb) A substance in red blood cells that carries oxygen around the body. Blood levels of haemoglobin are measured to look for anaemia. A low Hb level indicates anaemia.

**Hb** Abbreviation for haemoglobin.

**HDL**. Abbreviation for high density lipoprotein. One of the types of cholesterol in the blood, representing cholesterol being returned to the liver for recycling. A high HDL level may therefore be beneficial, but has to be interpreted in the light of the LDL level.

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**heart-beating donor** A term used to describe a donor whose heart is still beating after brain death has occurred. Most, but not all, cadaveric transplants come from heart-beating donors.

**hepatitis** An infection of the liver, usually caused by a virus. Two main types, called hepatitis B and hepatitis C, can be passed on by blood contact. This means that dialysis patients, especially those on haemodialysis, have an increased risk of getting these infections. Care is taken to reduce this risk, and regular virus checks are made on all kidney patients.

home haemodialysis Treatment on a dialysis machine installed in a patient's own home. For home haemodialysis to be considered, the patient must have a partner or friend who is able to supervise every dialysis session.

**hormones** Substances that act as chemical messengers in the body. They are produced in parts of the body called endocrine glands. Hormones travel around the body in the blood and control how other parts of the body work. For example, parathyroid hormone from the parathyroid glands affects kidney function.

HTA Abbreviation for Human Tissue Authority. The Government organisation that oversees transplantation, and appoints and trains the assessors that donor and recipient must see before living donor transplants. www.hta.gov.uk

**hyperparathyroidism** A disorder in which the parathyroid glands make too much parathyroid hormone.

hypertension High Blood Pressure

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**intravenous pyelogram (IVP)** A special X-ray of the kidneys. A dye that shows up on X-rays is used to show the drainage system of the kidneys. The dye is injected into the patient's arm, travels in the blood to the kidneys, and is passed from the body in the urine.

**immune system** The body's natural defence system. It includes organs (such as the spleen and appendix), lymph nodes (including the 'glands' in the neck) and specialist white blood cells called lymphocytes. The immune system protects the body from infections, foreign bodies and cancer. To prevent rejection of a transplant kidney, it is necessary for patients to take immuno-suppressant drugs.

**immuno-suppressant drugs** A group of drugs used to dampen down the immune system to prevent rejection of a transplant kidney. Commonly used examples are cyclosporin, azathioprine and prednisolone. Tacrolimus (FK506) is a newer example.

**IVP** Abbreviation for intravenous pyelogram.

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**kidneys** The two bean-shaped body organs where urine is made. They are located at the back of the body, below the ribs. The two main functions of the kidneys are to remove toxic wastes and to remove excess water from the body. The kidneys also help to control blood pressure, help to control the manufacture of red blood cells and help to keep the bones strong and healthy.

**kidney biopsy** Removal of a small piece of kidney through a hollow needle for examination under a microscope. It is needed to diagnose some causes of kidney failure, including nephritis.

**kidney donor** A person who gives a kidney for transplantation.

**kidney failure** A condition in which the kidneys are less able than normal to perform their functions of removing toxic wastes, removing excess water, helping to control blood pressure, helping to control red blood cell manufacture and helping to keep the bones strong and healthy. Kidney failure can be acute or chronic. Advanced chronic kidney failure is called end-stage renal failure (ESRF).

kidney machine Another name for a dialysis machine.

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**kidney transplant** An alternative name for a transplant kidney, or for the transplant operation during which a new kidney is given to the recipient.

**KT/V** A measure of dialysis adequacy. The calculation is rather complicated, but it measures the amount of dialysis given and corrects for body size. The target KT/v is 1.2 for haemodialysis and 1.7 for CAPD, 2.0 for CCPD (APD)

**LDL**. Abbreviation for low density lipoprotein. One of the types of cholesterol in the blood, the fraction more likely to lead to fatty deposits in the arteries.

LFTs Abbreviation for liver function tests.

line infection A term for an infection of a haemodialysis catheter (or line).

lipids Another name for fats. People with kidney failure tend to have raised lipid levels in the blood.

**liver function tests (LFTs)** Blood tests that show how well the liver is working. They often appear at the bottom of the biochemistry test results. Some people with kidney failure also have liver problems.

**living related transplant (LRT)** A transplant kidney donated (given) by a living relative of the recipient. A well-matched living related transplant is likely to last longer than either a living unrelated transplant or a cadaveric transplant.

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**living unrelated transplant** A kidney transplant from a living person who is biologically unrelated to the recipient (such as a husband or wife).

LRT Abbreviation for a living related transplant.

lymphocytes Specialist white blood cells that form part of the immune system.

**malnutrition** Loss of body weight, usually due to not eating enough (especially foods providing protein and energy). Malnutrition is the major nutritional problem of dialysis patients.

marker A substance that is known to occur in the presence of another substance. Both creatinine and urea are markers for many less easily measurable substances in the blood. The higher the blood levels of these marker substances, the higher also are the levels of harmful toxins in the blood.

MDRD. Abbreviation of the name of the mathematical equation used to calculate eGFR (see eGFR, above).

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**membrane** A thin, skin-like layer, resembling a piece of 'cling film'. The peritoneum is a natural membrane used as the dialysis membrane in peritoneal dialysis. In haemodialysis, the dialysis membrane is a plastic membrane inside the dialyser.

methylprednisolone A strong version of prednisolone, a drug used to prevent or treat the rejection of a transplant kidney.

microscopic polyarteritis A type of kidney disease where blood vessels in the kidneys and other parts of the body are affected. See medical information on 'vasculitis'.

Mmol/I Abbreviation for millimoles per litre. A unit used to measure the blood levels of many substances. Creatinine is measured in smaller units called micromoles per litre (µmol/I).

molecule The smallest unit that a substance can be divided into without causing a change in the chemical nature of the substance.

MRA scan. Abbreviation of magnetic resonance angiogram. Type of MRI scan which takes pictures of arteries.

MRI scan Abbreviation for magnetic resonance imaging scan. A scanning technique that uses magnetism, radiowaves and a computer to produce high-quality pictures of the body's interior.

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**nephr-** Prefix meaning relating to the kidneys.

**nephron** Small filtering unit in the kidney, made up of blood vessels (glomeruli) and tubules.

**nephrectomy** An operation to remove a kidney from the body. A bilateral nephrectomy is an operation to remove both kidneys.

**nephritis** A general term for inflammation of the kidneys. Also used as an abbreviation for glomerulonephritis (GN). A kidney biopsy is needed to diagnose nephritis.

nephrology The study of the kidneys.

**NHS Blood and Transplant** The organisation that organises transplant allocation and oversees the performance of transplant units in the UK. Used to be called UKTransplant, and before that UKTSSA. www.uktransplant.org

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**obstructive uropathy** A blockage, often caused by kidney stones or a birth defect of the kidney or ureter, where urine cannot flow out of the kidney. The blockage makes it difficult for the kidneys to remove wastes and extra fluids.

**oedema** An abnormal build-up of fluid, mainly water, in the body. People with kidney failure are prone to fluid overload leading to oedema. The two most common places for water to collect in the body are around the ankles (ankle oedema) and in the lungs (pulmonary oedema).

**OKT3** Abbreviation for Orthoclone K T-cell receptor 3 antibody, a strong treatment for the rejection of a transplant.

**organ** A part of the body that consists of different types of tissue and that performs a particular function. Examples include the kidneys, heart and brain.

**osmosis** The process by which water moves from a weaker to a stronger solution through tiny holes in a semi-permeable membrane. In peritoneal dialysis, it is osmosis that causes excess water to pass from the blood into the dialysis fluid.

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paired transplant. Sometimes a person cannot receive a living donor kidney transplant because of blood group incompatibility or other antibody incompatibility, even though they have a family member willing to donate a kidney. It may be possible to find another potential donor and recipient who are incompatible with each other, but where the kidneys can be 'exchanged', each recipient having transplant from the other person's donor.

parathyroidectomy An operation to remove the parathyroid glands.

parathyroid glands Four pea-sized glands near the thyroid gland at the front of the neck. They produce parathyroid hormone.

parathyroid hormone (PTH) A hormone produced by the parathyroid glands, which helps control blood levels of calcium. When the level of calcium in the blood is low, PTH boosts it by causing calcium to drain from the bones into the blood. PTH is the best long-term indicator of the severity of renal bone disease.

**PCKD** Abbreviation for polycystic kidney disease.

PD Abbreviation for peritoneal dialysis.

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**PD** catheter A plastic tube through which dialysis fluid for peritoneal dialysis is put into, and removed from, the peritoneal cavity. The catheter is about 30 cm (12 in) long and as wide as a pencil. A small operation is needed to insert the catheter permanently into the abdomen.

**peritoneal cavity** The area between the two layers of the peritoneum inside the abdomen. The peritoneal cavity contains the abdominal organs, including the stomach, liver and bowels. It normally contains only about 100 ml of liquid, but expands easily to provide a reservoir for the dialysis fluid in peritoneal dialysis.

**peritoneal dialysis (PD)** A form of dialysis that takes place inside the patient's peritoneal cavity, using the peritoneum as the dialysis membrane. Bags of dialysis fluid, containing glucose (sugar) and various other substances, are drained in and out of the peritoneal cavity via a PD catheter.

**peritoneal equilibration test (PET)** A measurement of the rate at which toxins pass out of the blood into the dialysis fluid during peritoneal dialysis. Patients are described as 'high transporters' (if the toxins move quickly) and 'low transporters' (if the toxins move more slowly). The test is used to assess a patient's suitability for different types of PD.

peritoneum A natural membrane that lines the inside of the wall of the abdomen and that covers all the abdominal organs (the stomach, bowels, liver, etc.). The peritoneum provides the dialysis membrane for peritoneal dialysis. It has a large surface area, contains many tiny holes and has a good blood supply.

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**peritonitis** Inflammation of the peritoneum, caused by an infection. People on peritoneal dialysis risk getting peritonitis if they touch the connection between their PD catheter and the bags of dialysis fluid. Most attacks are easily treated with antibiotic drugs.

**PET** In this context, an abbreviation for the peritoneal equilibration test. (The abbreviation PET in PET scan is short for positron emission tomography.)

**phosphate** A mineral that helps calcium to strengthen the bones. Phosphate is obtained from foods such as dairy products, nuts and meat. The kidneys normally help to keep the right amount of phosphatein the blood. In kidney failure, phosphate tends to build up in the blood. High phosphate levels occur with low calcium levels in people with renal bone disease.

**phosphate binders** Tablets that help prevent a build-up of phosphate in the body. Phosphate binders combine with phosphate in food so that it passes it out of the body in the faeces. The most commonly used phosphate binders are calcium carbonate (e.g., Calcichew) and aluminium hydroxide (e.g., Alucaps).

plasma The liquid part of the blood in which the blood cells float.

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**platelets** A type of blood cell that helps the blood to clot.

polyarteritis A type of kidney disease where blood vessels in the kidneys and other parts of the body are affected. See medical information on 'vasculitis'

polycystic kidney disease (PCKD) An inherited disease (a disease that runs in families) in which both kidneys are full ('poly-' means 'many') of cysts (abnormal lumps). PCKD is one of the causes of kidney failure. It is diagnosed by an ultrasound scan.

**potassium** A mineral that is normally present in the blood, and which is measured in the biochemistry blood test. Either too much or too little potassium can be dangerous, causing the heart to stop. People with kidney failure may need to restrict the amount of potassium in their diet.

prednisolone A drug used to prevent the rejection of a transplant kidney.

**proteins** Chemical components of the body, formed from amino acids. The body needs supplies of protein in the diet to build muscles and to repair itself.

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PTH Abbreviation for parathyroid hormone.

**pulmonary oedema** A serious condition in which fluid builds up in the lungs, causing breathlessness. People with kidney failure develop pulmonary oedema if fluid overload is not treated promptly.

**pyelonephritis** Inflammation of the drainage system of the kidneys, one of the causes of kidney failure. It can be diagnosed by an ultrasound scan or by an intravenous pyelogram (IVP).

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**radio-isotope scan** A method of obtaining pictures of the body's interior, also called a radio-nuclide scan. A small amount of a mildly radioactive substance is either swallowed or injected into the bloodstream. The substance gathers in certain parts of the body, which then show up on pictures taken by a special machine.

radio-nuclide scan Another name for a radio-isotope scan.

**recipient** In the context of transplantation, a person who receives an organ from another person (the donor).

**red blood cells** Cells in the blood which carry oxygen from the lungs around the body.

**reflux** The movement of a liquid, such as urine, in the opposite direction to normal. The word reflux is sometimes used to mean reflux nephropathy.

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reflux nephropathy A condition in which urine passes back up from the bladder, through the ureter, to the kidney, where it can cause infections. It occurs because a valve that normally prevents

the backflow of blood from the bladder is faulty. Reflux nephropathy is one of the causes of kidney failure.

**rejection** The process by which a patient's immune system recognises a transplant kidney (or other transplanted organ) as not its 'own' and then tries to destroy it and remove it from the body. Rejection can be acute or chronic.

**renal** Adjective meaning relating to the kidneys.

**renal artery** The blood vessel which carries blood from the heart to the kidneys.

**renal bone disease** A complication of kidney failure, in which bone health is affected by abnormally low blood levels of calcium and vitamin D and high levels of phosphate. Without treatment, renal bone disease can result in bone pain and fractures.

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**renal unit** A hospital department that treats disorders of the kidneys.

**renovascular disease** Atheroma affecting the blood vessels that supply the kidneys ('reno-' means relating to the kidney, and '-vascular' means relating to the blood vessels). Renovascular disease is a common cause of kidney failure in older patients.

residual renal function The remaining capacity of a kidney patient's own kidneys to remove wastes and excess fluid from the blood.

**rigors** Cold shivers that sometimes occur with a fever. They can be a symptom of an infected haemodialysis catheter.

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satellite haemodialysis unit A place where some patients go for haemodialysis away from the main hospital renal unit. Satellite units have relatively few nurses and are suitable only for healthy patients, who do some of the haemodialysis preparation themselves. These units tend to be more easily accessible to patients than most main hospital buildings.

**scan** One of several techniques for obtaining pictures of the body's interior without using conventional X-rays. Examples include CT scans, MRI scans, radio-isotope scans and ultrasound scans.

**semi-permeable** An adjective, often used to describe a membrane, meaning that it will allow some but not all substances to pass through it. Substances with smaller molecules will pass through the holes in the membrane, whereas substances with larger molecules will not.

**sodium** A mineral that is normally present in the blood, and which is measured in the biochemistry blood test. Sodium levels are not usually a problem for people with kidney failure and are quite easily controlled by dialysis.

**sphygmomanometer** The instrument used to measure blood pressure.

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**staphylococcus** One of a group of bacteria responsible for various infections (often called 'staph' infections). A common cause of peritonitis in patients on peritoneal dialysis and of line infections in haemodialysis patients.

**stent**. A metal frame inserted into a blood vessel after angioplasty to help keep the vessel open, preventing any further narrowing.

**stroke** A sudden and often severe problem in the nervous system, usually caused either by blood flow to part of the brain being obstructed (blood clot) or by bleeding into the brain.

**subclavian/subclavian vein** The subclavian vein is the large vein behind the collarbone which is sometimes used for haemodialysis.

supportive care. Treatment of end stage kidney disease without the use of dialysis.

**systolic blood pressure** A blood pressure reading taken when the heart squeezes as it beats. The systolic blood pressure is measured before the diastolic blood pressure and is the first figure in a blood pressure measurement.

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tacrolimus An immuno-suppressant drug, also known as FK506, which may take over from cyclosporin as the mainstay of immuno-suppression.

tissue A collection of similar cells that share a similar function, such as skin cells or kidney cells.

**tissue type** A set of inherited characteristics on the surface of cells. Each person's tissue type has six components (three from each parent). Although there are only three main sorts of tissue type characteristic (called A, B and DR), each of these comes in 20 or more different versions. Given the large number of possibilities, it is unusual for there to be an exact tissue type match between a transplant kidney and its recipient. However, the more characteristics that match, the more likely is a transplant to succeed.

tissue typing A blood test that identifies a person's tissue type.

**toxins** Poisons. One of the main functions of the kidneys is to remove toxins from the blood (a process known as clearance).

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**transplant** A term used to mean either a transplant kidney (or other transplant organ) or a transplant operation.

**transplantation** The replacement of an organ in the body by another person's organ. Many different organs can now be successfully transplanted, including the kidneys, liver, bowel, heart, lungs, pancreas, skin and bones.

**transplant kidney** A kidney removed from one person (the donor) and given to another person (the recipient). Transplant kidneys may be either cadaveric transplants, living related transplants or living unrelated transplants.

**transplant operation** The surgical operation by which a patient is given a donated organ. The operation to insert a transplant kidney takes about two to three hours. The new kidney is placed lower in the abdomen than the patient's own kidneys, which are usually left in place. Blood vessels attached to the transplant kidney are connected to the patient's blood supply, and the new kidney's ureter is connected to the patient's bladder.

**transplant waiting list** A system that seeks to find the 'right' transplant organ for the 'right' patient. It is coordinated nationally by UKTSSA, whose computer compares patients' details (including blood group and tissue type) with those of cadaveric organs that become available. The average waiting time for a transplant kidney is about two years.

**tunnel infection** A possible problem for patients on peritoneal dialysis. It occurs when an infection spreads from the exit site into the 'tunnel' (i.e., the route of the PD catheter through the abdominal wall).

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**UKM (urea kinetic modelling).** A measurement of dialysis adequacy. Now superseded by URR (haemodialysis) and KT/V and weekly clearance calculation (CAPD/CCPD/APD)

**UKTSSA** Abbreviation for United Kingdom Transplant Support Service Authority, based in Bristol. This is the national coordinator for cadaveric transplants in the UK. Now called NHS Blood and Transplant.

**ULTRA** Abbreviation for Unrelated Live Transplantation Regulatory Authority. This government body must give approval to all living unrelated transplants. These assessments are now carried out by the HTA and ULTRA no longer exists.

**ultrafiltration** The removal of excess water from the body. Ultrafiltration is one of the two main functions of the kidneys. In kidney failure, problems with ultrafiltration result in fluid overload. Dialysis provides an alternative means of ultrafiltration.

**ultrasound scan** A method of obtaining pictures of internal organs, such as the kidneys, or of an unborn baby, using sound waves. A device that sends out sound waves is held against the body. The sound waves produce echoes, which the scanner detects and builds up into pictures.

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under-dialysis Not having enough dialysis. If a dialysis patient doesn't achieve target blood levels for creatinine, the symptoms of kidney failure are likely to return. The amount of dialysis will then have to be increased.

**urea** A substance made by the liver. It is one of the waste products from food that builds up in the blood when someone has kidney failure. Like creatinine, urea is a marker for other more harmful substances. The higher the urea level, the worse is the kidney failure.

**uraemia** The condition where a person gets sick from wastes building up in the blood. Symptoms may include nausea, weight loss, high blood pressure, and/or trouble sleeping.

**ureters** The tubes that take urine from the kidneys to the bladder.

**urethra** The body's tube that takes urine from the bladder to the outside of the body.

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**urinary catheter** A plastic tube inserted into the bladder for the removal of urine.

urination: The passing of urine out of the body.

**urine** The liquid produced by the kidneys, consisting of the toxic waste products of food and the excess water from the blood.

**URR** (urea reduction ratio) A measure of dialysis adequacy. It is the fall in blood urea levels over a session of haemodialysis, expressed as a percentage (for example pre dialysis urea = 25, post dialysis = 10, URR = 60%). For someone on three times a week haemodialysis, the UK standard for URR is 65%, though this may be hard to achieve in all people.

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vancomycin An antibiotic drug, commonly used to treat peritonitis and line infections.

vasodilator drugs Tablets that lower the blood pressure by making the blood vessels wider, so that the blood can flow through them more easily.

**veins** Blood vessels which carry blood from the body back to the heart.

**virus** A type of germ responsible for a range of mild and serious illnesses. Viruses are much smaller than bacteria and usually reproduce inside the cells of other living organisms.

**vitamin** D A chemical that helps the body to absorb calcium from the diet. Blood levels of vitamin D are usually low in people with kidney failure.

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water tablets The common name for diuretic drugs.

wegener's granulomatosis A type of kidney disease where blood vessels in the kidneys and other parts of the body are affected. See medical information on 'vasculitis'.

white blood cells Cells in the blood that normally help to fight infection. They are part of the immune system. After a kidney transplant, they can be a 'bad thing', as they may attack (reject) the new kidney.

**xenotransplantation** The transplanting of tissues or organs from one type of animal into a human or other type of animal.

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