

Medicine Facts and Medical Terms

Helping you understand your kidney disease care plan

Class Goals

- 1. Understand some of the medicines used for people with kidney disease.**
- 2. Understand the words used to describe kidney disease.**

Overview

Many medicines are excreted by the kidneys. When kidney function decreases, medicine doses may need to be changed.

Some medicines can damage the kidneys. Always follow your doctor's advice about taking your medicines because:

- Most medicines have side effects, in addition to their desired effects.
- Some medicines have unwanted effects when they are taken with other medicines.

Always take the right dose of your medicines at the right times. Closely follow all instructions for taking your medicines. Do not take medicines without your doctor's approval.

This chapter describes medicines that are most often prescribed for people with kidney disease. It also includes definitions of many of the medical terms you will hear as you work with your healthcare team.



Always take the right dose of your medicines at the right times. Closely follow all instructions for taking your medicines.

Medicines Used to Manage Kidney Disease

Phosphate Binders

Sevelamer (Renagel), calcium acetate (PhosLo), calcium carbonate (Tums), aluminum hydroxide (Alu-cap, Alu-tab, Amphogel, Dialume), lanthanum carbonate (Fosrenol), sevelamer carbonate (Renvela)

Phosphate binders are used by people on dialysis to treat high phosphorus levels in their blood. Phosphate binders prevent your body from absorbing phosphorus from the food you eat. The phosphorus then passes from your body in the stool. This helps prevent bone disease by keeping the right calcium-phosphorus balance in your body. When these medicines are prescribed, they should be taken with meals and snacks.

Erythropoietin (EPO)

Procrit, Aranesp

Erythropoietin is a hormone normally made in the kidney. It tells your bone marrow to produce red blood cells. This medicine can be given *intravenously* (through an IV tube) or injected under the skin (*subcutaneously*, or SQ).

Iron Supplements

Iron supplements provide the building blocks your body needs to make new blood when there is a lack of iron in your body or in your diet. Iron supplements are available in pills or as an injection. The injection is used when pills are not effective or you need a lot of iron at one time.

- **Pills:** Ferrous sulfate (Feosol, Fer-In-Sol, Fero-Gadument), ferrous gluconate (Fergon), ferrous fumarate (Femiron, Feostat, Fumerin, Ircon)
- **Injectable:** Iron gluconate (Ferrlecit), iron sucrose (Venofer)

Anticoagulants (Blood-thinners)

Warfarin (Coumadin), Heparin, Lovenox

Blood-thinning medicines help prevent blood clots. They are used during hemodialysis to keep the blood from clotting in the blood access, blood lines, and dialyzer. Heparin is also placed in dialysis catheters to prevent clotting while the catheter is not in use.

Antihypertensives (Blood Pressure Medicines)

Antihypertensives are drugs that reduce or control high blood pressure. Different groups of these medicines decrease blood pressure in different ways. You may take a combination of these antihypertensives:

- **ACE inhibitors:** Lisinopril, captopril, enalapril, benazepril, ramapril
- **Beta blockers:** Metoprolol, atenolol, propranolol, carvedilol
- **Diuretics:** Hydrochlorothiazide, spironolactone, furosemide (Lasix), toseamide (Demedex), metolozone (Zaroxolyn)
- **ARBs:** Losartan, valsartan, irbesartan, telmisartan, olmesartan, candesartan
- **Calcium channel blockers:** Amlodipine, felodipine, isradipine, nicardipine, diltiazem, verapamil

Calcium Supplements

- Calcium citrate and vitamin D (Citracal)
- Calcium carbonate (Tums)
- Calcium carbonate and vitamin D (Oscal)

Vitamin D (25-Dihydroxycholecalciferol) Supplements

Vitamin D supplements help control *hyperparathyroidism* in patients with end-stage renal disease (ESRD). Vitamin D also helps strengthen bones.

- Vitamin D3 (cholecalciferol)
- Vitamin D2 (ergocalciferol)
- Active form of vitamin D calcitriol (Rocaltriol), paricalcetriol (Zemplar)
- Cincalcet (Sensipar)

Laxatives and Stool Softeners

- *Psyllium mucilloid* (Metamucil): A *bulk-forming* laxative that adds mass to stool, which makes bowel movements easier to pass.
- *Docusate sodium* (Colace): A stool softener.
- Bisacodyl (Dulcolax): A *stimulant* laxative that speeds up the muscles of your colon, which makes stool pass faster.
- *Polyethylene glycol* (Miralax): An *osmotic* laxative that draws water into the stool, which makes bowel movements easier to pass.

Immunosuppressives (Suppress the Immune System)

Deltasone (Prednisone), cyclophosphamide (Cytoxan), cyclosporine (Sandimmune, Neoral), azathioprine (Imuran), ATG, FK 506 (Tacrolimus), MMF (Mycophenolate or cellcept), sirolimus (Rapimmune)

Immunosuppressives are used to prevent or reduce rejection of transplanted organs.

Other Vitamin Supplements

Nephrocaps, Nephrovits

B and C vitamins are water-soluble. This means they are not stored in the body. During dialysis, these water-soluble vitamins are removed, so they must be replaced by taking supplements.

Always talk with your doctor before taking any vitamins.

Medical Terms

Anemia – A condition where you have a low number of red blood cells in your body. It can make you feel tired and cold.

Artery – A blood vessel that carries blood from the heart to the tissues.

Artificial kidney (dialyzer) – A membrane that removes waste from the blood and restores the chemical balance in the body. It is used in hemodialysis.

Blood access – The site used during hemodialysis to remove and return your blood from the dialysis machine. Surgery is needed to prepare the site. A *fistula* and a *graft* are types of blood access.

Blood pressure – The pressure within the arteries. It is highest when the heart beats and lowest between beats.

Bruit – A murmur or buzzing sound that can be heard at the fistula or graft site.

Continuous ambulatory peritoneal dialysis (CAPD) – The most common type of peritoneal dialysis. With CAPD, the blood is always being cleaned. It uses a system of bags and tubing. A machine is not needed.

Continuous cycling peritoneal dialysis (CCPD) – A form of peritoneal dialysis that uses a cycling machine. The machine does the exchanges while the person sleeps. It usually does 3 to 5 exchanges per night.

Chronic kidney disease (CKD) – Any disease that causes a loss of kidney function over time. There are 5 stages of CKD, based on the amount of kidney function that remains.

Daily short dialysis – Hemodialysis that is done 5 to 7 times a week. Each session lasts 2 to 3 hours and is done at home.

Deceased donor (cadaveric) transplant – A transplant that uses a kidney donated by a person who has recently died.

Deciliter – A measure of volume equal to one-tenth of a liter.

Dialysate (bath) – The solution used in dialysis to remove *metabolic waste products* from the blood.

Dialysis – A process that maintains the chemical balance of the blood when the kidneys have failed, also called “cleaning the blood.”

Dialysis access – Any device used to connect a person to dialysis. This includes peritoneal catheters, fistulas, artificial vessels (grafts), and hemodialysis catheters.

Dialyzer – A part of the hemodialysis machine that removes wastes and extra fluid from the blood, also called the artificial kidney.

Dry weight (tissue weight) – A range of normal weight when no extra fluid is present. Your dry weight changes when your “tissue” body weight changes.

Edema – An abnormal collection of fluid that causes swelling in body tissues.

Erythropoietin (EPO) – A hormone made by the kidneys and liver. It tells your bone marrow to make red blood cells.

Fistula – A patient’s own vein that is changed by joining an *artery* (which has high blood flow) to a *vein* (which has lower blood flow). This process makes the vein become larger, and the vein walls get stronger. A fistula is done to prepare the vein for hemodialysis access.

Fluoroscopy – A type of X-ray scan that shows the internal organs in motion.

Glomerular filtration rate (GFR) – A test used to estimate how much blood is being cleaned through the filters in the kidney each minute.

Graft – An artificial vessel implanted under the skin and joined to an artery and vein for hemodialysis access.

Hematocrit – The percentage of volume of blood that is red blood cells.

Hemodialysis – A form of dialysis that uses an artificial kidney to clean blood of wastes and excess fluids.

Hypertension – High blood pressure.

Hypotension – Low blood pressure.

Interventional radiologist – A clinician who uses fluoroscopy to insert and remove catheters. An interventional radiologist also dilates or places stents in a fistula or graft to open up a fistula or graft that has become too narrow.

Kidney disease programs (KDPs) – State-funded programs that help people with chronic kidney disease handle the expenses related to their treatment. KDPs serve as payors of last resort.

Kilogram – A measure of weight. One kilogram equals 2.2 pounds.

Liter – A measure of volume. One liter equals 1.06 quarts.

Living related donor – A person who is willing to donate a kidney, and is related to the recipient.

Living unrelated donor – A person who is willing to donate a kidney, but is not related to the recipient.

Metabolic waste products (metabolic end-products) – Chemicals produced by normal body functions. Waste products are not needed by the body, and many are usually removed by the kidneys.

Milli (m) – A prefix used in the metric system meaning one-thousandth.

Milligram (mg) – A measure of weight, equal to one-thousandth of a gram.

Milliliter (ml) - A measure of volume. One milliliter equals one-thousandth of a liter.

Nephrologist – A doctor who specializes in treating patients with kidney problems and high blood pressure.

Nocturnal hemodialysis – Hemodialysis that is done overnight while the patient is sleeping. It can be done at home or in a dialysis center.

Peritoneal catheter – A soft tube that is about as wide as a pencil and 13 to 15 inches long. It is inserted into the peritoneal cavity through the skin of the abdomen. In peritoneal dialysis, dialysate enters the body through this catheter.

Peritoneal dialysis – a form of dialysis that uses the lining of the abdomen as a filter to remove wastes and extra fluids from blood.

Peritoneal membrane – A sac that lines the abdominal cavity and holds organs in place inside the peritoneum. This membrane looks like cellophane with holes.

Peritoneum – The smooth sac that lines the inside of the abdomen.

Peritonitis – An inflammation or infection of the peritoneal membrane. Peritonitis is treated with antibiotics that are included in the peritoneal dialysate fluid.

Phosphorus (phosphate) binder – A medicine that binds with phosphorus so the phosphorus does not get into the blood. Bound phosphorus goes out of the body in the stool. A phosphorus binder must be taken with food.

Protein – A nutrient the body uses to replace old or damaged tissues and to build new tissues, such as muscle and blood.

Residual renal function – The level of kidney function people who have chronic kidney disease still have.

Serum – The liquid part of the blood that is left after clots form.

Shunt – Another name for fistula or graft blood access.

Stent – A tube made of metal or plastic that can be inserted into a blood vessel to keep it open.

Thrill – A vibrating feeling found in a fistula or graft where blood from the artery enters the vein.

Transplantation – Surgery to place a kidney (or other organ) from a donor into a recipient.

Ultrafiltration – The process of removing water from the blood. In hemodialysis, this is done by putting pressure on the blood in the dialyzer. In peritoneal dialysis, it is done by using higher levels of glucose.

Uremia – The collection of waste products in the blood. The kidney normally filters these wastes and excretes them from the body in urine.

Vascular – Refers to the blood vessels and the body system that carries blood.

Vascular catheter – A man-made (synthetic) tube or catheter. It is inserted through the skin into a blood vessel for hemodialysis.

Vein (venous) – Blood vessels that carry blood from the body tissues to the heart.

