

*National Kidney and Urologic Diseases Information Clearinghouse*

# The Kidney Diseases Dictionary



U.S. Department  
of Health and  
Human Services

NATIONAL INSTITUTES OF HEALTH

**NIDDK** NATIONAL INSTITUTE OF  
DIABETES AND DIGESTIVE  
AND KIDNEY DISEASES

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# The Kidney Diseases Dictionary

Some terms listed have many meanings; only those meanings that relate to kidney diseases are included. Words that appear in ***bold italic*** are listed elsewhere in the dictionary.

Information in this dictionary is not a substitute for a visit to your doctor. Talk with a health professional if you have a kidney problem.

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## Pronunciation Guide

This pronunciation guide uses letters and letter combinations, rather than phonetic symbols, to stand for the various sounds in the English language.

### Vowels

a	cat, bat
ah	father
air	pear, hair
ar	park
ay	say, came, weigh
aw	saw, bought
e	bet, set
eh	(used at the <i>end</i> of a syllable or when standing alone) examples: meadow (MEH-doh) enemy (EH-nuh-mee) <i>but</i> diet (DY-et)
ee	feet, neat
i	sit, igloo
ih	(used at the <i>end</i> of a syllable or when standing alone) examples: chicken (CHIH-ken) miracle (MIHR-ih-kuhl) <i>but</i> picnic (PIK-nik)
ihr	near, here
y	fire, idol
eye	(used at the <i>beginning</i> of a syllable or when standing alone) examples: iron (EYE-urn) chloride (KLOR-eyed) <i>but</i> silent (SY-luhnt)
o	hot, cot
oh	coat, home

oo	food, rude
or	tore, soar, for
oy	soil, boy
ou	now, couch
u	put, foot
uh	about, sum, china
ur	hurt, alert
yoo	use
yoor	cure

### Consonants

b	bat, job
ch	chop, itch
d	dig, bed
f	fur, tough, calf
g	grape, big
h	happy
j	joke, nudge
k	kite, car, tack
l	lip, sell
m	move, jam
n	not, knee
ng	ring
p	play, hop
r	rain, fur
s	set, tips
ss	bus, guess, fence
sh	shy, fish
t	toy, boat
th	breath
v	vine, have
w	walk, where
y	yes
z	zip, jazz, has
zh	measure



# A

**ACE inhibitor** (ayss) (in-HIB-ih-tur): an oral medicine that lowers **blood pressure**. ACE stands for **angiotensin-converting enzyme**. For people who have **protein (albumin)** in the **urine**, it also helps slow down **kidney** damage.

**acute** (uh-KYOOT): refers to conditions that happen suddenly and last a short time. Acute is the opposite of **chronic**, or long lasting.

**acute kidney injury** (uh-KYOOT) (KID-nee) (IN-jur-ee): sudden and temporary loss of **kidney function**. See **chronic kidney disease**.

**acute tubular necrosis (ATN)** (uh-KYOOT) (TOO-byoo-lur) (nuh-KROH-siss): a severe form of **acute kidney injury** that develops in people with severe illnesses, like infections, or with low **blood pressure**. Patients may need **dialysis**. **Kidney function** often improves if the underlying disease is treated successfully.

**ADH** (AY-DEE-AYTCH): see **antidiuretic hormone**.

**albumin** (al-BYOO-min): the main **protein** in blood. Large amounts of albumin in the **urine** may be a sign of **chronic kidney disease**. See **urine albumin-to-creatinine ratio**.

**albuminuria** (al-BYOO-min-YOO-ree-uh): a condition in which the **urine** has more than normal amounts of a **protein** called **albumin**. Albuminuria may be a sign of **kidney disease**.

**allograft** (AL-oh-graft): an organ or tissue **transplant** from one human to another.

**Alport syndrome** (AWL-port) (SIN-droh-m): an inherited disorder that affects the cell membranes of the **kidneys**. It generally develops during early childhood and is more serious in boys than in girls. The condition can lead to **end-stage renal disease**, as well as hearing and vision problems. The common symptoms of this condition are **chronic** blood and **protein** in the **urine**.

**amino acids** (uh-MEE-noh) (ASS-idz): the basic building blocks of **proteins**. The body produces many amino acids and others come from food, which the body breaks down for use by the cells. See **protein**.

# A

**amyloidosis** (AM-ih-loy-DOH-siss): a condition in which a proteinlike material builds up in one or more organs. This material cannot be broken down and interferes with the normal function of that organ. In *kidneys*, amyloidosis can lead to *proteinuria*, *nephrotic syndrome*, and *kidney failure*.

**analgesic-associated kidney disease** (AN-uhl-JEE-zik) (uh-SOH-see-ayt-ed) (KID-nee) (dih-ZEEZ): loss of *kidney function* that results from long-term use of analgesic, or pain-relieving, medications. Analgesics that combine aspirin and acetaminophen are most dangerous to the *kidneys*.

**anemia** (uh-NEE-mee-uh): a condition in which the number of red blood cells is less than normal, resulting in less oxygen carried to the body's cells. Anemia can cause extreme fatigue. Anemia is common in people with *chronic kidney disease* or those on *dialysis*. See *erythropoietin*.

**angiotensin** (AN-jee-oh-TEN-sin): a substance in the blood that causes blood vessels to constrict, thus raising *blood pressure*.

**antibiotic** (AN-tee-by-OT-ik): a medicine that kills *bacteria*.

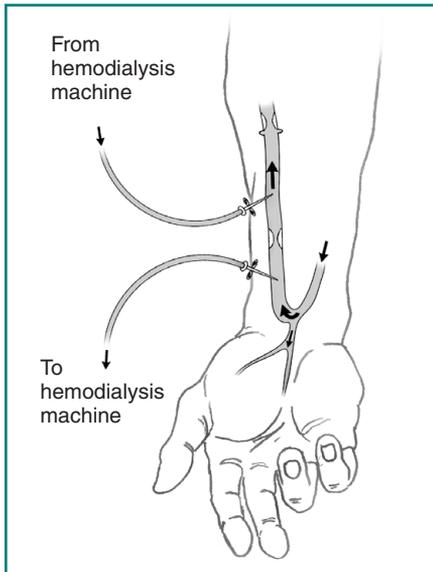
**antidiuretic hormone (ADH)** (AN-tee-DY-yoo-RET-ik) (HOR-mohn): a natural body chemical that slows down the production of *urine*. Some children who wet the bed regularly may lack normal amounts of antidiuretic hormone. Also called *vasopressin*.

**anuria** (an-YOO-ree-uh): a condition in which the body stops making *urine*.

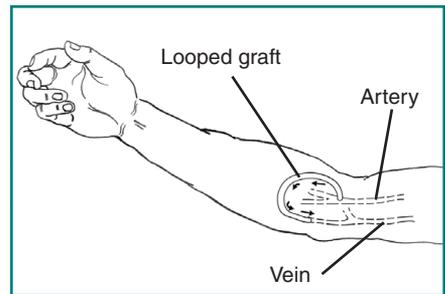
**ARB** (arb): an oral medicine that lowers *blood pressure*. ARB stands for *angiotensin* receptor blocker. For people who have *protein (albumin)* in the *urine*, it also helps slow down *kidney* damage.

**arteriovenous (AV) fistula**

(ar-TIHR-ee-oh-VEE-nuhss) (FISS-tyoo-luh): surgical connection of an *artery* directly to a *vein*, usually in the forearm, created in people who will need *hemodialysis*. The AV fistula causes the vein to grow thicker, allowing the repeated needle insertions required for hemodialysis. Development of the AV fistula takes 4 to 6 months after surgery before it can be used for hemodialysis. The AV fistula is the preferred method of *vascular access*. See *hemodialysis* under *dialysis*.

**Arteriovenous fistula**

**arteriovenous (AV) graft** (ar-TIHR-ee-oh-VEE-nuhss) (graft): in *hemodialysis*, surgical connection of an *artery* to a *vein* using a soft, flexible tube, which can be used for repeated needle sticks. See *hemodialysis* under *dialysis*.

**Arteriovenous graft**

**artery** (AR-tur-ee): a large blood vessel that carries blood with oxygen from the heart to all parts of the body.

**ATN** (AY-TEE-EN): see *acute tubular necrosis*.

**autoimmune disease** (AW-toh-ih-MYOON) (dih-ZEEZ): a disorder in which the body's *immune system* attacks and destroys body tissue instead of protecting the body from foreign substances, as it normally does. Examples are *Goodpasture syndrome* and *lupus erythematosus*. See *lupus nephritis*.

# B

**bacteria** (bak-TIHR-ee-uh): tiny organisms that cause infection or disease.

**biopsy** (BY-op-see): a procedure in which a tiny piece of tissue, such as from the *kidney* or *bladder*, is removed for examination with a microscope.

**bladder** (BLAD-ur): the balloon-shaped organ inside the *pelvis* that holds *urine*.

**blood pressure:** the force of blood exerted on the inside walls of blood vessels. Blood pressure is expressed as two numbers. For example, a blood pressure result of 120/80 is said as “120 over 80.” The first number is the systolic pressure, or the pressure when the heart pushes blood out into the *arteries*. The second number is the diastolic pressure, or the pressure when the heart rests.

**blood urea nitrogen (BUN)** (bluhd) (yoo-REE-uh) (NY-troh-jen): a waste product in the blood that comes from the breakdown of *protein*. The *kidneys* filter blood to remove *urea*. As *kidney function* decreases, the BUN level increases.

**bruit** (broo-EE): a whooshing sound made when blood flows through a narrow vessel. A bruit in the abdomen may be a sign of *renal artery stenosis*.

**BUN** (BEE-YOO-EN): see *blood urea nitrogen*.

**calcitriol** (KAL-sih-TRY-ol): a *hormone* produced by the *kidneys* to help the body absorb dietary *calcium* into the blood and bones.

**calcium** (KAL-see-uhm): a mineral the body needs for strong bones and teeth. Under certain conditions, calcium may form stones in the *kidney*.

**calcium oxalate stone** (KAL-see-uhm) (OK-suh-layt) (stohn): a *kidney stone* made from *calcium* and *oxalate*.

**CAPD** (SEE-AY-PEE-DEE): see *continuous ambulatory peritoneal dialysis* under *dialysis*.

**catheter** (KATH-uh-tur): a tube inserted through the skin into a blood vessel or cavity to draw out body fluid or infuse fluid. In *peritoneal dialysis*, a catheter is used to infuse *dialysis solution* into the abdominal cavity and drain it out again. See *peritoneal dialysis* under *dialysis*.

**CCPD** (SEE-SEE-PEE-DEE): see *continuous cycling peritoneal dialysis* under *dialysis*.

**chronic** (KRON-ik): refers to disorders that last a long time, often years. *Chronic kidney disease* may develop over many years and lead to *end-stage renal disease*. Chronic is the opposite of *acute*, or brief.

**chronic kidney disease (CKD)** (KRON-ik) (KID-nee) (dih-ZEEZ): any condition that causes reduced *kidney function* over a period of time. CKD is present when a patient's *glomerular filtration rate* remains below 60 milliliters per minute for more than 3 months or when a patient's *urine albumin-to-creatinine ratio* is over 30 milligrams (mg) of *albumin* for each gram (g) of *creatinine* (30 mg/g). CKD may develop over many years and lead to *end-stage renal disease*.

**chronic kidney disease-mineral and bone disorder (CKD-MBD)** (KRON-ik) (KID-nee) (dih-ZEEZ) (MIN-ur-uhl) (and) (BOHN) (diss-OR-dur): abnormal bone *hormone* levels caused by the failure of the diseased *kidneys* to maintain the proper levels of *calcium* and *phosphorus* in the blood. CKD-MBD results in weak bones, a condition known as *renal osteodystrophy*. CKD-MBD is a common problem in people with *kidney disease* and affects almost all patients receiving *dialysis*.

**CKD** (SEE-KAY-DEE): see *chronic kidney disease*.

# C

**CKD-MBD** (SEE-KAY-DEE-EM-BEE-DEE): see *chronic kidney disease-mineral and bone disorder*.

**congenital nephrotic syndrome** (kon-JEN-ih-tuhl) (nef-ROT-ik) (SIN-droh-m): a genetic *kidney disease* that develops before birth or in the first few months of life. Congenital nephrotic syndrome usually leads to *end-stage renal disease* and the need for *dialysis* or a *kidney transplant* by the second or third year of life.

**continuous ambulatory peritoneal dialysis (CAPD)** (kon-TIN-yoo-uhss) (AM-byoo-luh-TOR-ee) (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): see *peritoneal dialysis* under *dialysis*.

**continuous cycling peritoneal dialysis (CCPD)** (kon-TIN-yoo-uhss) (SY-kl-ing) (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): see *peritoneal dialysis* under *dialysis*.

**creatinine** (kree-AT-ih-noon): a waste product from *protein* in the diet and from the normal breakdown of muscles of the body. Creatinine is removed from blood by the *kidneys*; as *kidney disease* progresses, the level of creatinine in the blood increases.

**creatinine clearance** (kree-AT-ih-noon) (KLIHR-ants): a test that measures how efficiently the *kidneys* remove *creatinine* from the blood. Low creatinine clearance indicates impaired *kidney function*.

**cyst** (sist): an abnormal sac containing gas, fluid, or a semisolid material. Cysts may form in the *kidneys* or in other parts of the body. See *medullary sponge kidney*, *renal cysts*, and *polycystic kidney disease*.

**cystine stone** (SISS-teen) (stohn): a rare form of *kidney stone* consisting of the *amino acid* cystine.

**cystinuria** (SISS-tih-NYOO-ree-uh): a condition in which *urine* contains high levels of the *amino acid* cystine. If cystine does not dissolve in the urine, it can build up to form *kidney stones*.

**cystitis** (siss-TY-tiss): *inflammation* of the *bladder*, causing pain and a burning feeling in the *pelvis* or *urethra*.

**cystoscope** (SISS-toh-skohp): a tubelike instrument used to look inside the *urethra* and *bladder*. The procedure is called *cystoscopy*.

# D

**diabetes** (DY-uh-BEE-teez): a condition characterized by high blood glucose, resulting from the body's inability to use blood glucose for energy. In type 1 diabetes, the *pancreas* no longer makes *insulin*, and therefore glucose cannot enter the cells to be used for energy. In type 2 diabetes, either the pancreas does not make enough insulin or the body is unable to use insulin correctly. Also called diabetes mellitus.

**diabetes insipidus** (DY-uh-BEE-teez) (in-SIH-puh-duhss): a condition characterized by frequent and heavy urination, excessive thirst, and an overall feeling of weakness. This condition may be caused by a defect in the *pituitary gland* or the *kidney*. In diabetes insipidus, blood glucose levels are normal. See *nephrogenic diabetes insipidus*.

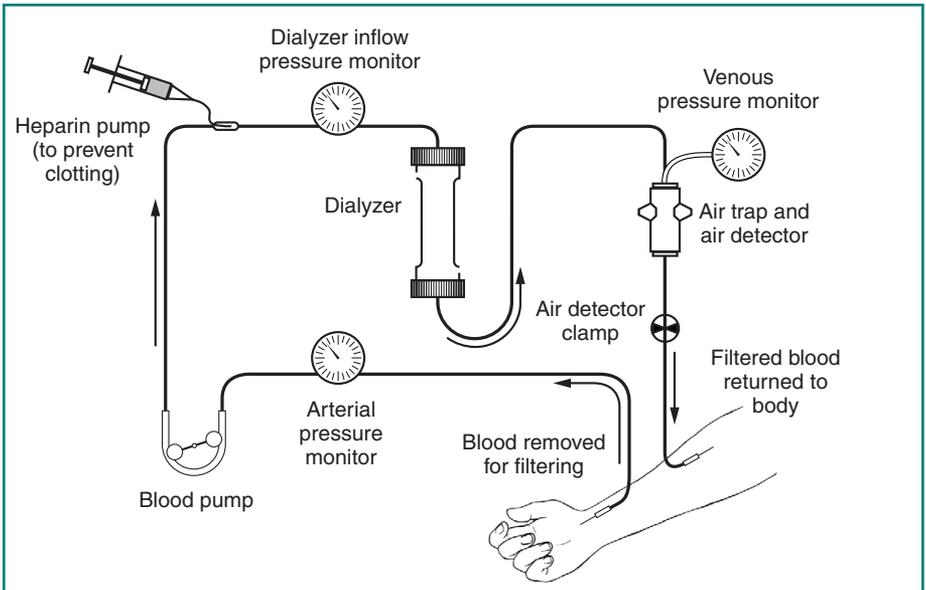
**dialysate** (dy-AL-ih-SAYT): the part of a mixture that passes through a *semipermeable membrane*. The wastes from blood that pass into the *dialysis solution* become dialysate. The term dialysate is sometimes used as a synonym for dialysis solution.

**dialysis** (dy-AL-ih-siss): the process of filtering wastes from the blood artificially. Filtering wastes is normally done by the *kidneys*. If the kidneys fail, the blood must be filtered artificially. The two major forms of dialysis are *hemodialysis* and *peritoneal dialysis*.

# D

- **hemodialysis** (HEE-moh-dy-AL-ih-siss): the use of a machine to filter wastes from the blood after the *kidneys* have failed. The blood travels through tubes to a *dialyzer*, which removes wastes and extra fluid. The filtered blood then flows through another set of tubes back into the body.
- **peritoneal dialysis** (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): filtering the blood by using the lining of the abdominal cavity, or belly, as a *semipermeable membrane*. A cleansing liquid,

called *dialysis solution*, is drained from a bag into the abdomen. Fluid and wastes flow through the lining of the abdominal cavity and remain “trapped” in the dialysis solution. The solution is then drained from the abdomen, removing the extra fluid and wastes from the body. The two main types of peritoneal dialysis are *continuous ambulatory peritoneal dialysis* and *continuous cycling peritoneal dialysis*.



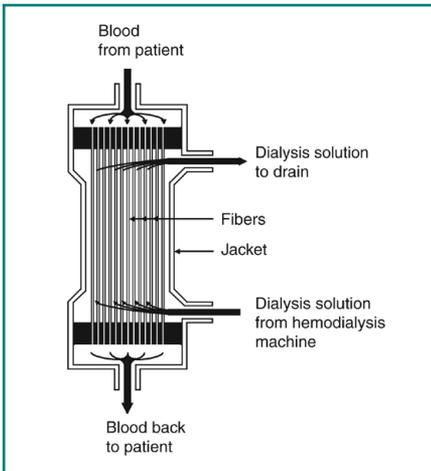
**Hemodialysis**

# D

- **continuous ambulatory peritoneal dialysis (CAPD)** (kon-TIN-yoo-uhss) (AM-byoo-luh-TOR-ee) (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): a form of peritoneal dialysis that does not need a machine. With CAPD, the blood is always being filtered. The *dialysis solution* passes from a plastic bag through a *catheter* and into the abdomen. The dialysis solution stays in the abdomen with the catheter sealed. After several hours, the person using CAPD drains the solution back into a disposable bag. Then the person refills the abdomen with fresh solution through the same catheter to begin the filtering process again.
  - **continuous cycling peritoneal dialysis (CCPD)** (kon-TIN-yoo-uhss) (SY-kling) (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): a form of peritoneal dialysis that uses a machine. This machine automatically fills and drains the *dialysis solution* from the abdomen. A typical CCPD schedule involves three to five *exchanges* during the night while the person sleeps. During the day, the person using CCPD performs one exchange with a *dwel time* that lasts the entire day.
- dialysis solution** (dy-AL-ih-siss) (suh-LOO-shuhn): a cleansing liquid used in the two major forms of *dialysis—hemodialysis* and *peritoneal dialysis*. Dialysis solution contains dextrose, a sugar, and other chemicals similar to those in the body. Dextrose draws wastes and extra fluid from the body into the dialysis solution. The term *dialysate* is sometimes used as a synonym for dialysis solution.

# D-E

**dialyzer** (DY-uh-LY-zur): an attachment to the *hemodialysis* machine. The dialyzer has two sections separated by a *semipermeable membrane*. One section holds *dialysis solution*. The other holds the patient's blood. See *hemodialysis* under *dialysis*.



## Structure of a typical hollow fiber dialyzer

**diuretic** (DY-yoo-RET-ik): an oral medicine that lowers *blood pressure* by aiding the *kidneys* in removing fluid from the blood.

**dwell time:** in *peritoneal dialysis*, the amount of time *dialysis solution* remains in the patient's abdominal cavity between *exchanges*. See *peritoneal dialysis* under *dialysis*.

**edema** (eh-DEE-muh): swelling caused by too much fluid in the body.

**electrolytes** (ee-LEK-troh-lyts): chemicals in the body fluids and *dialysis solution*, including sodium, *potassium*, magnesium, and chloride. The *kidneys* control the amount of electrolytes in the body. When the kidneys fail, electrolytes get out of balance, causing potentially serious health problems. *Dialysis* can restore the balance.

**end-stage renal disease (ESRD)** (END-STAYJ) (REE-nuhl) (dih-ZEEZ): total and permanent *kidney failure*. When the *kidneys* fail, the body retains fluid. Harmful wastes build up. A person with ESRD needs treatment to replace the work of the failed kidneys.

**erythropoietin** (uh-RITH-roh-POY-uh-tin): a *hormone* made by the *kidneys* to help form red blood cells. Lack of this hormone may lead to *anemia*.

# E-F

**ESRD** (EE-ESS-AR-DEE): see *end-stage renal disease*.

**ESWL** (EE-ESS-DUHB-uhl-YOO-EL): see *extracorporeal shock wave lithotripsy*.

**exchange** (eks-CHAYNJ): in *peritoneal dialysis*, the draining of used *dialysis solution* from the abdomen, followed by refilling with a fresh bag of solution. See *peritoneal dialysis* under *dialysis*.

**extracorporeal shock wave lithotripsy (ESWL)** (EKS-truh-kor-POH-ree-uhl) (shok) (wayv) (LITH-oh-TRIP-see): a nonsurgical procedure using shock waves to break up *kidney stones*.

**feces** (FEE-seez): the solid waste that passes through the rectum as a bowel movement. Feces are undigested food, *bacteria*, mucus, and dead cells.

**fistula** (FISS-tyoo-luh): see *arteriovenous fistula*.

# G

**GFR** (JEE-EF-AR): see *glomerular filtration rate*.

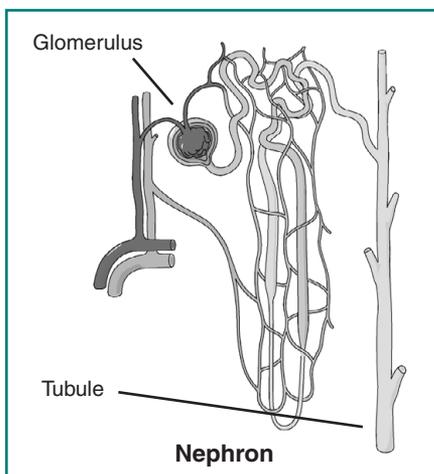
**glomerular filtration rate (GFR)** (gloh-MAIR-yoo-lar) (fil-TRAY-shuhn) (rayt): the rate at which the *kidneys* filter wastes and extra fluid from the blood, measured in milliliters per minute.

**glomeruli** (gloh-MAIR-yoo-ly): plural of *glomerulus*.

**glomerulonephritis** (gloh-MAIR-yoo-loh-neh-FRY-tiss): *inflammation* of the *glomeruli*. Most often, it is caused by an *autoimmune disease*, but it can also result from infection.

**glomerulosclerosis** (gloh-MAIR-yoo-loh-skluh-ROH-suhss): scarring of the *glomeruli*. It may result from *diabetes* (diabetic glomerulosclerosis) or from deposits in parts of the glomeruli (focal segmental glomerulosclerosis). The most common signs of glomerulosclerosis are *proteinuria* and *chronic kidney disease*.

**glomerulus** (gloh-MAIR-yoo-luhss): a tiny set of looping blood vessels in the *nephron* where blood is filtered in the *kidney*.



## Glomerulus

**Goodpasture syndrome** (GUD-pass-tyur) (SIN-droh-m): a rare disease that usually includes bleeding from the lungs, coughing up blood, and *inflammation* of the *kidneys* that can lead to *kidney failure*. This condition is an *autoimmune disease*.

**graft**: in a *transplant*, the transplanted organ or tissue. See also *arteriovenous graft*.

# H

**hematocrit** (hee-MAT-oh-krit): a measure that tells what portion of a blood sample consists of red blood cells. Low hematocrit suggests *anemia* or massive blood loss.

**hematuria** (HEE-muh-TYOO-ree-uh): blood in the *urine*, which can be a sign of a *kidney stone*, *glomerulonephritis*, or other *kidney* problem.

**hemodialysis** (HEE-moh-dy-AL-ih-siss): see *dialysis*.

**hemolytic uremic syndrome (HUS)** (HEE-moh-LIT-ik) (yoo-REE-mik) (SIN-droh-m): a disease that affects the blood and blood vessels. It destroys red blood cells, cells that cause the blood to clot, and the lining of blood vessels. HUS is often caused by the *Escherichia coli* bacterium in contaminated food. People with HUS may develop *acute kidney injury*.

**Henoch-Schönlein purpura (HSP)** (HEH-nok) (SHURN-lyn) (PUR-poo-ruh): an *autoimmune disease* affecting mostly children between ages 2 and 11 that causes the blood vessels in the skin to swell. Rash and bruising are the main symptoms. *Kidney* damage results in a small percentage of children with HSP.

**hormone** (HOR-mohn): a natural chemical produced in an organ or gland and released into the blood to trigger or regulate particular body functions. The *kidney* releases three hormones: *erythropoietin*, *renin*, and *calcitriol*.

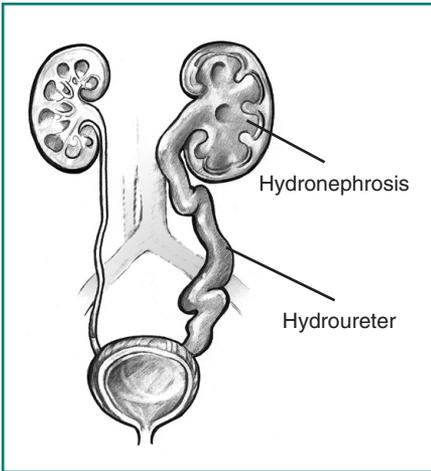
**HSP** (AYTCH-ESS-PEE): see *Henoch-Schönlein purpura*.

**HUS** (AYTCH-YOO-ESS): see *hemolytic uremic syndrome*.

**hydronephrosis** (HY-droh-neh-FROH-siss): swelling of the *kidney* and *renal pelvis*, usually because something is blocking *urine* from flowing into or out of the *bladder*.

# H

**hydronephrer** (HY-droh-YOOR-uh-tur): swelling of the *ureter*, usually because something is blocking *urine* from flowing into or out of the *bladder*.



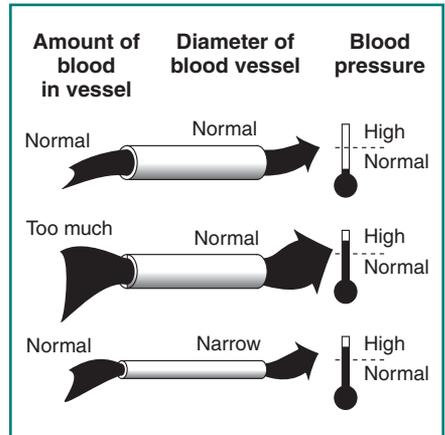
**Hydronephrosis and hydroureter**

**hypercalciuria** (HY-pur-KAL-see-YOO-ree-uh): abnormally large amounts of *calcium* in the *urine*.

**hyperkalemia** (HY-pur-kuh-LEE-mee-uh): abnormally large amounts of *potassium* in the blood, often as a result of poor *kidney* function or inadequate *dialysis*.

**hyperoxaluria** (HY-pur-OK-suh-LYOO-ree-uh): unusually large amounts of *oxalate* in the *urine*, leading to *kidney stones*.

**hypertension** (HY-pur-TEN-shuhn): a condition present when blood flows through the blood vessels with a force greater than normal. Also called high *blood pressure*. Hypertension can strain the heart, damage blood vessels, and increase the risk of *kidney* problems, heart attack, stroke, and death.



## Hypertension

**hypokalemia** (HY-poh-kuh-LEE-mee-uh): abnormally small amounts of *potassium* in the blood, often as the result of a *kidney* defect, including some forms of *renal tubular acidosis*.

**IgA nephropathy** (EYE-JEE-AY) (neh-FROP-uh-thee): a *kidney* disorder caused by deposits of the *protein* immunoglobulin A (IgA) inside the *glomeruli* (filters) within the kidney. The IgA protein damages the glomeruli, leading to blood and protein in the *urine*, swelling in the hands and feet, and sometimes *kidney failure*.

**immune system** (ih-MYOON) (SISS-tuhm): the body's system for protecting itself from viruses and *bacteria* or any foreign substances.

**immunosuppressant** (IM-yoo-noh-soo-PRESS-uhnt): a drug given to stop the natural responses of the body's *immune system*. Immunosuppressants are given to prevent organ rejection in people who have received a *transplant* and to people with certain *autoimmune diseases*, like lupus.

**inflammation** (IN-fluh-MAY-shuhn): swelling and redness that results from injury to tissue.

**insulin** (IN-suh-lin): a *hormone* that helps the body use glucose for energy. The beta cells of the *pancreas* make insulin. When the body cannot make enough insulin, insulin must be taken by injection or other means.

**interstitial nephritis** (IN-tur-STISH-uhl) (neh-FRY-tiss): *inflammation* of the *kidney* cells that are not part of the fluid-collecting units. Interstitial nephritis is a condition that can lead to *acute kidney injury* or *chronic kidney disease*.

**intravenous pyelogram** (IN-truh-VEE-nuhss) (PY-el-oh-GRAM): an x ray of the *urinary tract*. A dye is injected into a *vein* in the patient's arm to make the *kidneys*, *ureters*, and *bladder* visible on the x ray and to show any blockage in the urinary tract.

# K

**kidney** (KID-nee): one of the two bean-shaped organs that filter wastes from the blood. The kidneys are located near the middle of the back, one on each side of the spine. They create *urine*, which is delivered to the *bladder* through tubes called *ureters*.

**kidney disease** (KID-nee) (dih-ZEEZ): see *acute kidney injury* and *chronic kidney disease*.

**kidney dysplasia** (KID-nee) (diss-PLAY-zee-uh): a condition in which the internal structures of one or both of a baby's *kidneys* do not develop normally while the baby is growing in the womb. Fluid-filled sacs called *cysts* replace normal kidney tissue. Kidney dysplasia usually happens in only one kidney.

**kidney failure** (KID-nee) (FAYL-yoor): loss of *kidney function*. See *end-stage renal disease*, *acute kidney injury*, and *chronic kidney disease*.

**kidney function** (KID-nee) (FUHNK-shuhn): the amount of work done by the *kidneys*. A decline in kidney function means the kidneys are not filtering wastes and fluid from the blood as well as they should. See *glomerular filtration rate*.

**kidney stone** (KID-nee) (stohn): a stone that develops from crystals that form in *urine* and build up on the inner surfaces of the *kidney*, in the *renal pelvis*, or in the *ureters*. Kidney stones include *calcium oxalate stones*, *cystine stones*, *struvite stones*, and *uric acid stones*.

**Kt/V** (KAY-TEE-OH-vur-VEE): a measurement of *dialysis* dose. The measurement takes into account the efficiency of the *creatinine clearance*, the treatment time, and the total volume of *urea* in the body. Kt/V is also used in determining the adequacy of *peritoneal dialysis*. See *urea reduction ratio*. See *peritoneal dialysis* under *dialysis*.

# L-M

**lithotripsy** (LITH-oh-TRIP-see): a method of breaking up *kidney stones* by using shock waves or other means.

**lupus nephritis** (LOO-puhss) (neh-FRY-tiss): *inflammation* of the *kidneys* caused by an *autoimmune disease* called systemic lupus erythematosus. The condition can cause *hematuria* and *proteinuria*, and it may progress to *end-stage renal disease*.

**MCCK** (EM-SEE-DEE-KAY): see *multicystic dysplastic kidney* and *kidney dysplasia*.

**medullary sponge kidney (MSK)** (MED-yoo-LAIR-ee) (spuhnj) (KID-nee): a birth defect in which *cysts* form in the central part of the *kidney*, causing a spongelike appearance and blocking the flow of *urine* through the *tubules*.

**membrane** (MEM-brayn): see *semipermeable membrane*.

**membranoproliferative glomerulonephritis (MPGN)** (MEM-bruh-noh-proh-LIF-ur-uh-tiv) (gloh-MAIR-yoo-loh-neh-FRY-tiss): a disease in which *inflammation* leads to scarring in the *glomeruli*, causing *proteinuria*, *hematuria*, and sometimes *chronic kidney disease* or *end-stage renal disease*. MPGN occurs primarily in children and young adults.

# M-N

## **membranous nephropathy**

(MEM-bruh-nuhss) (neh-FROP-uh-thee): a disorder that hinders the *kidneys*' ability to filter wastes from the blood because of harmful deposits on the glomerular membrane. Some cases of membranous nephropathy develop after an *autoimmune disease* or malignancy, but most develop without a known cause.

## **MPGN (EM-PEE-JEE-EN):**

see *membranoproliferative glomerulonephritis*.

## **MSK (EM-ESS-KAY):** see

*medullary sponge kidney*.

## **multicystic dysplastic kidney**

(MCDK) (MUHL-tee-SISS-tik) (diss-PLASS-tik) (KID-nee): see *kidney dysplasia*.

**nephrectomy** (neh-FREK-toh-mee): surgical removal of a *kidney*.

## **nephrogenic diabetes insipidus**

(NEF-roh-JEN-ik) (DY-uh-BEE-teez) (in-SIH-puh-duhss): constant thirst and frequent urination because the *kidney tubules* cannot respond to *antidiuretic hormone*. The result is an increase in *urine* formation and excessive urine flow.

**nephrolithiasis** (NEF-roh-lih-THY-uh-siss): the condition of having *kidney stones*.

## **nephrologist** (neh-FROL-uh-jist):

a doctor who treats people who have *kidney* problems or related conditions, such as *hypertension*.

## **nephrology** (neh-FROL-uh-jee): a

branch of medicine concerned with diseases of the *kidneys*.

**nephron** (NEF-ron): a tiny part of the *kidneys*. Each kidney is made up of about 1 million nephrons, which are the working units of the kidneys, removing wastes and extra fluids from the blood.

# N-O

**nephropathy** (neh-FROP-uh-thee): disease of the *kidneys*. See *acute kidney injury* and *chronic kidney disease*.

**nephrostomy** (neh-FROST-uh-mee): a *catheter*, or tube, inserted into the *kidney* through the skin to allow *urine* to drain directly from the kidney into an external bag.

**nephrotic syndrome** (nef-ROT-ik) (SIN-droh-m): a collection of symptoms that indicate *kidney* damage. Symptoms include high levels of *protein* in the *urine*, lack of protein in the blood, and high blood cholesterol.

**nuclear scan** (NOO-klee-ur) (skan): a test of the structure, blood flow, and function of the *kidneys*. The doctor injects a mildly radioactive solution into a patient's arm *vein* and uses x rays to monitor its progress through the kidneys.

**oxalate** (OK-suh-layt): a chemical that combines with *calcium* in *urine* to form the most common type of *kidney stone*, the *calcium oxalate stone*.

# P

**pancreas** (PAN-kree-uhss): an organ that makes *insulin* and enzymes for digestion. The pancreas is located behind the lower part of the stomach and is about the size of a hand.

**pelvis** (PEL-viss): the bowl-shaped bone that supports the spine and holds up the digestive, urinary, and reproductive organs. The legs connect to the body at the pelvis.

**percutaneous nephrolithotomy** (PUR-kyoo-TAY-nee-uhss) (NEF-roh-lih-THOT-uh-mee): a method for removing *kidney stones* via surgery through a small incision in the back.

**peritoneal cavity** (PAIR-ih-toh-NEE-uhl) (KAV-ih-tee): the space inside the lower abdomen but outside the internal organs.

**peritoneal dialysis** (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): see *dialysis*.

**peritoneum** (PAIR-ih-toh-NEE-uhm): the *semipermeable membrane* lining the *peritoneal cavity*.

**phosphate** (FOSS-fayt): *phosphorus* combined with oxygen.

**phosphate binders** (FOSS-fayt) (BYND-urz): medications that bind *phosphate* in the digestive tract so that phosphate leaves the body in *feces*.

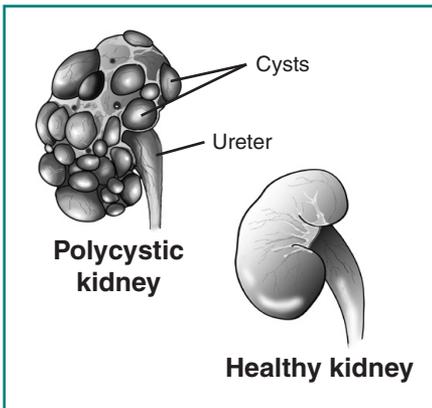
**phosphorus** (FOSS-for-uhss): a mineral found in many foods, such as beans, nuts, milk, and meat. Too much phosphorus in the blood pulls *calcium* from the bones.

**pituitary gland** (pih-TOO-ih-TAIR-ee) (gland): a pea-sized gland at the base of the brain that regulates the body's balance of *hormones*.

**PKD** (PEE-KAY-DEE): see *polycystic kidney disease*.

# P

**polycystic kidney disease (PKD)** (POL-ee-SISS-tik) (KID-nee) (dih-ZEEZ): an inherited disorder characterized by many grapelike clusters of fluid-filled *cysts* that make both *kidneys* larger over time. These cysts take over and destroy working kidney tissue. PKD may cause *chronic kidney disease* and *end-stage renal disease*.

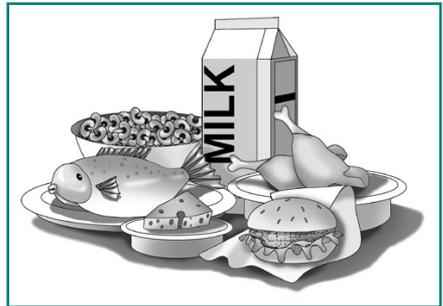


## Polycystic kidney disease

**potassium** (poh-TASS-ee-uhm): a mineral and *electrolyte* found in the body and in many foods.

**protein** (PROH-teen): 1. one of the three main nutrients in food. Foods that provide protein include meat, poultry, fish, cheese, milk, dairy products, eggs, and dried beans. 2. proteins are also used in the body

for cell structure, fighting infection, and other functions. After the body's cells use protein, it is broken down into waste products containing nitrogen that must be removed by the *kidneys*. The blood absorbs *amino acids* and uses them to build and mend cells.



## Sources of protein

**proteinuria** (proh-teen-YOO-ree-uh): a condition in which the *urine* contains large amounts of *protein*, a sign that the *kidneys* are damaged. See *albumin* and *urine albumin-to-creatinine ratio*.

**pyelonephritis** (PY-uh-loh-neh-FRY-tiss): an infection of the *kidneys*, usually caused by a germ that has traveled up through the *urethra*, *bladder*, and *ureters* from outside the body.

# R

**renal** (REE-nuhl): of or relating to the *kidneys*. A renal disease is a disease of the kidneys. Renal failure means the kidneys are damaged.

**renal agenesis** (REE-nuhl) (ay-JEN-uh-siss): the absence or severe malformation of one or both *kidneys*.

**renal artery stenosis** (REE-nuhl) (AR-tur-ee) (steh-NOH-siss): narrowing of the *artery* that supplies blood to the *kidney*, often resulting in *hypertension* and kidney damage.

**renal cell carcinoma** (REE-nuhl) (sel) (KAR-sih-NOH-muh): a type of *kidney* cancer.

**renal cysts** (REE-nuhl) (sists): abnormal fluid-filled sacs in the *kidney* that range in size from microscopic to much larger. Many simple *cysts* are harmless, while other types can seriously damage the kidneys.

**renal osteodystrophy** (REE-nuhl) (OSS-tee-oh-DISS-troh-fee): weak bones caused by *chronic kidney disease-mineral and bone disorder*. Renal osteodystrophy is a common problem for people on *dialysis* who have high *phosphate* levels or insufficient vitamin D supplementation.

**renal pelvis** (REE-nuhl) (PEL-viss): the basin into which the *urine* formed by the *kidneys* is excreted before it travels to the *ureters* and *bladder*.

**renal tubular acidosis** (REE-nuhl) (TOO-byoo-lur) (ASS-ih-DOH-siss): a defect in the *kidneys* that hinders their normal excretion of acids. Failure to excrete acids can lead to weak bones, *kidney stones*, and poor growth in children.

**renal vein thrombosis** (REE-nuhl) (vayn) (throm-BOH-siss): blood clots in the vessel that carries blood away from one of the *kidneys*. This condition can occur in people with *nephrotic syndrome*.

**renin** (REE-nin): a *hormone* made by the *kidneys* that helps regulate the volume of fluid in the body and *blood pressure*.

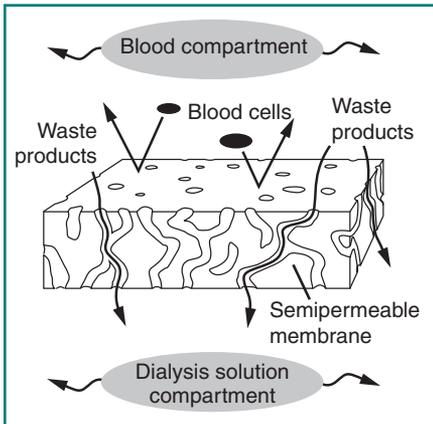
# S-T

## semipermeable membrane

(SEM-ee-PUR-mee-uh-buhl)

(MEM-brayn): a thin sheet, or layer, of tissue that lines a body cavity or separates two parts

of the body. A semipermeable membrane can act as a filter, allowing some particles to pass from one part of the body to another while keeping other particles in place. In *hemodialysis*, the artificial membrane in a *dialyzer* acts as the semipermeable membrane filtering waste products from the blood. In *peritoneal dialysis*, the *peritoneum* acts as the semipermeable membrane.



## Semipermeable membrane

**struvite stone** (STROO-vyt) (stohn):

a type of *kidney stone* caused by infection.

**thrill:** a vibration or buzz that

can be felt in an *arteriovenous fistula*, an indication that blood is flowing through the fistula.

**transplant** (TRANZ-plant):

placement of a healthy organ into the body to take over the work of a damaged organ. A *kidney transplant* may come from a living donor, often a relative, or from someone who has just died.

**tubule** (TOO-byool): one of millions

of tiny structures within the *kidneys* that collect *urine* from the *glomeruli*.

# U

**UACR** (YOO-AY-SEE-AR): see *urine albumin-to-creatinine ratio*.

**ultrasound** (UHL-truh-sound): a technique that bounces safe, painless sound waves off organs to create an image of their structure.

**urea** (yoo-REE-uh): a waste product found in the blood that results from the normal breakdown of *protein* in the liver. Urea is normally removed from the blood by the *kidneys* and then excreted in the *urine*. Urea accumulates in the body of people with *kidney failure*.

**urea reduction ratio (URR)** (yoo-REE-uh) (ree-DUHK-shuhn) (RAY-shee-oh): a blood test that compares the amount of *blood urea nitrogen* before and after *dialysis* to measure the effectiveness of the dialysis dose.

**uremia** (yoo-REE-mee-uh): the illness associated with the buildup of *urea* in the blood because the *kidneys* are damaged. Symptoms include nausea, vomiting, loss of appetite, weakness, and mental confusion.

**ureteroscope** (yoo-REE-tur-oh-skohp): a tool for examining the *bladder* and *ureters* and for removing *kidney stones* through the *urethra*. The procedure is called ureteroscopy.

**ureters** (YOOR-uh-turz): tubes that carry *urine* from the *kidneys* to the *bladder*.

**urethra** (yoo-REE-thruh): the tube that carries *urine* from the *bladder* to the outside of the body.

**uric acid stone** (YOOR-ik) (ASS-id) (stohn): a *kidney stone* that may result from a diet high in animal *protein*. When the body breaks down this protein, uric acid levels rise and can form stones.

**urinalysis** (YOOR-ih-NAL-ih-siss): a test of a *urine* sample that can reveal many problems of the *urinary tract* and other body systems. The sample may be observed for color, cloudiness, and concentration; signs of drug use; chemical composition, including glucose; the presence of *protein*, blood cells, or germs; or other signs of disease.

**urinary tract** (YOOR-ih-NAIR-ee) (trakt): the system that takes wastes from the blood and carries them out of the body in the form of *urine*. The urinary tract includes the *kidneys*, *renal pelvises*, *ureters*, *bladder*, and *urethra*.

**urinary tract infection (UTI)** (YOOR-ih-NAIR-ee) (trakt) (in-FEK-shuhn): an illness caused by harmful *bacteria* growing in the *urinary tract*.

**urinate** (YOOR-ih-nayt): to release *urine* from the *bladder* to the outside of the body.

**urine** (YOOR-in): liquid waste product filtered from the blood by the *kidneys*, stored in the *bladder*, and expelled from the body through the *urethra* by the act of voiding, or urinating. See *urinate* and *void*.

**urine albumin-to-creatinine ratio (UACR)** (YOOR-in) (al-BYOO-min) (too) (kree-AT-ih-noon) (RAY-shee-oh): a measurement that compares the amount of *albumin* with the amount of *creatinine* in a *urine* sample. A patient has *chronic kidney disease* if the UACR is over 30 milligrams (mg) of albumin for each gram (g) of creatinine (30 mg/g).

**urolithiasis** (YOOR-oh-lih-THY-uh-siss): the condition of having stones in the *urinary tract*.

**URR** (YOO-AR-AR): see *urea reduction ratio*.

**UTI** (YOO-TEE-EYE): see *urinary tract infection*.

# V-W

**vascular access** (VASS-kyoo-lur) (AK-sess): a general term to describe where blood is removed from and returned to the body during *hemodialysis*. A vascular access may be an *arteriovenous fistula*, an *arteriovenous graft*, or a *catheter*. See *hemodialysis* under *dialysis*.

**vasculitis** (VASS-kyoo-LY-tiss): *inflammation* of the blood vessel walls. This swelling can cause rash and disease in multiple organs of the body, including the *kidneys*.

**vasopressin** (VAY-soh-PRESS-in): see *antidiuretic hormone*.

**vein** (vayn): a blood vessel that carries blood to the heart.

**vesicoureteral reflux** (VESS-ih-koh-yoo-REE-tur-uhl) (REE-fluhks): an abnormal condition in which *urine* backs up into the *ureters*, and occasionally into the *kidneys*, raising the risk of infection.

**void**: to *urinate*; to empty the *bladder*.

**Wegener's granulomatosis** (VUHG-uh-nurz) (GRAN-yoo-loh-muh-TOH-siss): an *autoimmune disease* that damages the blood vessels and causes disease in the lungs, upper respiratory tract, and *kidneys*.

## **National Kidney Disease Education Program**

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The National Kidney Disease Education Program (NKDEP) is an initiative of the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, U.S. Department of Health and Human Services. The NKDEP aims to raise awareness of the seriousness of kidney disease, the importance of testing those at high risk, and the availability of treatment to prevent or slow kidney disease.



# National Kidney and Urologic Diseases Information Clearinghouse

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