

Glossary

- accreditation** The process by which a program or institution documents meeting established guidelines
- accuracy** Closeness of the measured result to the true value
- acrosomal cap** Tip of a spermatozoa head containing enzymes for entry into an ovum
- active transport** Movement of a substance across cell membranes into the bloodstream by electrochemical energy
- acute phase reactants** Low-molecular-weight plasma proteins associated with infection and inflammation
- aerosol** Fine suspension of particles in air
- afferent arteriole** A small branch of the renal artery through which blood flows to the glomerulus of the kidney
- albinism** An inherited condition marked by decreased production of melanin
- albuminuria** Protein (albumin) in the urine
- aldosterone** A hormone that regulates reabsorption of sodium in the distal convoluted tubule
- alimentary tract** The digestive tract, including structures between the mouth and the anus
- alkaptonuria** Homogentistic acid in the urine caused by a failure to inherit the gene to produce homogentistic acid oxidase
- aminoacidurias** Disorders in which increased amino acids are present in the urine
- amniocentesis** Transabdominal puncture of the uterus and amnion to obtain amniotic fluid
- amnion** The membranous sac containing the fetus and amniotic fluid
- amyloid material** A starchlike protein-carbohydrate complex that is deposited abnormally in tissue in some chronic disease states
- andrology** The study of diseases of the male reproductive organs
- antiglomerular basement membrane antibody** Autoantibody against alveolar and glomerular capillary basement membranes found in Goodpasture's syndrome
- anuria** Complete stoppage of urine flow
- arachnoid villi** Projections on the arachnoid membrane of the brain through which cerebrospinal fluid is reabsorbed
- arthritis** Inflammation of the synovial joints
- arthrocentesis** The puncture of a joint to obtain synovial fluid
- ascites** Abnormal accumulation of peritoneal fluid
- azotemia** Increased nitrogenous waste products in the blood
- bacterial endocarditis** Inflammation of the endocardial membrane of the heart caused by bacterial infection
- bacteriuria** Bacteria in the urine
- beta₂ microglobulin** A subunit of the class I major compatibility antigens that enters the blood at a constant rate
- bilirubin** A bright yellow pigment produced in the degradation of heme
- biohazardous** Pertaining to a hazard caused by infectious organisms
- birefringence** The ability to refract light in two directions
- blood-brain barrier** The barrier between the brain tissue and capillary blood through which substances are selectively filtered
- body substance isolation** A guideline stating that all moist body substances are capable of transmitting disease
- Bowman's capsule** Part of the nephron containing the glomerulus
- bright-field microscopy** A procedure by which magnified images appear dark against a bright background
- carcinogenic** Capable of causing cancer
- casts** Elements excreted in the urine in the shape of renal tubules
- catheterized specimen** A urine specimen collected by passing a sterile tube into the bladder
- chain of custody** Step-by-step documentation of the handling and testing of legal specimens
- chain of infection** A continuous link transmitting harmful microorganisms between a source and a susceptible host
- chemical hygiene plan** Protocol established for the identification, handling, storage, and disposal of all hazardous chemicals
- chemical sieving** Macroscopic screening of urine to determine the need for a microscopic examination
- choroid plexuses** A network of capillaries in the ventricle of the brain that produces cerebrospinal fluid
- chylous material** A milky lymphatic fluid containing triglycerides and chylomicrons
- clarity** Transparency of urine ranging from clear to turbid
- coefficient of variation** Standard deviation expressed as a percentage of the mean
- collecting duct** Part of the nephron where the final concentration of urine takes place through the reabsorption of water
- constipation** Infrequent production of feces resulting in small, hard stools
- continuous quality improvement** An institutional program that focuses on customer satisfaction and expectations
- control mean** Average of all data points
- control range** Limit in which expected control values lie, usually plus or minus two standard deviations
- countercurrent mechanism** A selective urine concentration process in the ascending and descending loops of Henle
- creatinine** A substance formed by the breakdown of creatine during muscle metabolism
- creatinine clearance** A test used to measure the glomerular filtration rate
- crenated** Shrunken and irregularly shaped or notched
- cylindruria** The presence of urinary casts
- cystinosis** An inherited recessive disorder disrupting the metabolism of cystine
- cystinuria** Cystine in the urine as a result of a defect in the renal tubular reabsorption of amino acids

- cystitis** An inflammation of the bladder
- cytogenetic analysis** An analysis of cellular chromosomes
- D-dimer** A product of fibrinolysis
- demyelination** The destruction of the myelin sheath that protects a nerve
- density** Concentration of solutes present per volume of solution
- diarrhea** Watery stools
- diarthroses** Freely movable joints
- disinfectant** A substance that destroys microorganisms that is used on surfaces rather than the skin
- distal convoluted tubule** Part of the nephron between the ascending loop of Henle and the collecting duct where the final concentration of urinary filtrate begins
- dysentery** An inflammation of the intestines caused by microorganisms resulting in diarrhea
- dysmorphic** Irregularly shaped
- dyspnea** Difficulty breathing
- edema** An accumulation of fluid in the tissues
- efferent arteriole** The small renal artery branch through which blood flows away from the glomerulus
- effusion** An accumulation of fluid between the serous membranes
- endogenous procedure** A test using a substance originating within the body
- erythrophagocytosis** Engulfment of red blood cells by macrophages
- exogenous procedure** A test that requires a substance to be infused into the body
- external quality control** An evaluation using preanalyzed materials received from an agency outside the laboratory
- exudate** Serous fluid effusion caused by conditions producing damage to the serous membranes
- Fanconi's syndrome** A group of disorders marked by renal tubular dysfunction associated with some inherited and acquired conditions
- fasting specimen** The second voided urine specimen collected after fasting
- ferritin** A major storage form of iron found in the liver, spleen, and bone marrow
- fetal lung maturity** The presence of a sufficient amount of surfactant lipoproteins to maintain alveolar stability
- first morning specimen** The first voided urine specimen collected immediately upon arising; recommended screening specimen
- flatus** Gas expelled from the anus
- free water clearance** A test to determine the ability of the kidney to respond to the state of body hydration
- fructosuria** The presence of fructose in the urine
- galactosuria** The presence of galactose in the urine
- gastrocolic fistula** Abnormal passageway between the stomach and the colon
- ghost cells** Red blood cells that have lost their hemoglobin, leaving only the cell membrane; appearing in hyposthenuric urine
- glans** The glandlike body at the tip of the penis
- glomerular filtration rate** The volume of plasma that is filtered by the glomerulus in a specified time
- glomerulonephritis** An inflammation of the glomerulus resulting in impaired glomerular filtration
- glomerulosclerosis** The destruction of glomeruli by scarring and fibrin deposition
- glomerulus** Tuft of capillary blood vessels located in Bowman's capsule where filtration occurs
- glucose tolerance specimens** Fractional collection specimens; urine specimens are collected at the same time as blood samples are drawn to compare the levels of glucose in blood and urine
- glycogenesis** The conversion of glucose to glycogen
- glycogenolysis** The conversion of glycogen to glucose
- glycosuria** Glucose in the urine (glucosuria)
- granuloma** Modular accumulation of inflammatory cells
- harmonic oscillation densitometry** A method of measuring specific gravity using the change in the frequency of a sound wave after it enters a solution
- Hartnup disease** A recessive inherited disorder marked by intestinal absorption abnormalities and renal aminoaciduria
- hematuria** Blood in the urine
- hemoglobinuria** Hemoglobin in the urine
- hemolytic disease of the newborn** Rh incompatibility between mother and fetus that can cause hemolysis of the fetal red blood cells
- hemoptysis** Blood in the sputum
- hemosiderin** An insoluble form of storage iron; a product of red blood cell hemolysis
- hemothorax** The accumulation of blood in the pleural cavity
- homocystinuria** The presence of homocystine in the urine caused by an inherited autosomal recessive disorder
- 2-hour postprandial specimen** Fractional collection specimen; urine specimen collected 2 hours after eating
- hyaluronic acid** Glycosaminoglycan found in synovial fluid that provides lubrication to the joints
- hydramnios** Excess amniotic fluid
- hydrostatic pressure** Pressure exerted by a liquid
- hyperglycemia** Elevated glucose levels in the blood
- hypernatremia** Elevated blood sodium levels
- hypersthenuric** Pertaining to urine specific gravity greater than the 1.010 of the glomerular filtrate
- hyponatremia** Decreased blood sodium levels
- hyposthenuric** Pertaining to urine specific gravity lower than the 1.010 of the glomerular filtrate
- hypoxia** Lack of oxygen
- iatrogenic** Pertaining to a condition caused by treatment, medications, or diagnostic procedures
- immune complexes** Antigen-antibody combinations
- inborn error of metabolism** Failure to inherit the gene to produce a particular enzyme
- indicanuria** The presence of indican in the urine
- infertility** The inability to conceive
- interference-contrast microscopy** A procedure by which three-dimensional images of a specimen are obtained
- internal quality control** The preparation and evaluation of control materials within the laboratory
- interstitial** Pertaining to spaces between tissue cells
- inulin** A fructose-derived substance that is filtered by the kidney and not reabsorbed or secreted and that can be used to measure the glomerular filtration rate
- ischemia** Deficiency of blood to a body area
- isosthenuric** Pertaining to urine specific gravity the same as the 1.010 of the glomerular filtrate
- jaundice** Yellow appearance of skin, mucous membranes, and eye sclera due to increased amounts of bilirubin in the blood
- juxtaglomerular apparatus** Specialized cells located on the afferent arteriole that regulate secretion of renin
- ketonuria** Ketones in the urine
- labia** The outer folds of the vagina

- lactosuria** The presence of lactose in the urine
- lamellar body** Organelle produced by type II pneumocytes in the fetal lung that contain lung surfactants
- lecithin-sphingomyelin ratio** A comparison of lung surfactants that is performed to determine fetal lung maturity
- Lesch-Nyhan disease** An inherited sex-linked recessive purine metabolism disorder marked by excess uric acid crystals in the urine
- leukocyturia** Leukocytes (white blood cells) in the urine
- liquefaction** The conversion of solid or coagulated material to a liquid form
- lithiasis** The formation of renal calculi (kidney stones)
- lithotripsy** A procedure using ultrasonic waves to crush renal calculi
- loop of Henle** The U-shaped part of the renal tubule consisting of a thin descending limb and a thick ascending limb
- macula densa** Specialized cells located on the distal convoluted tubule that interact with the juxtaglomerular cells
- malabsorption** Impaired absorption of nutrients by the intestine
- maldigestion** Impaired digestion of foodstuffs
- maple syrup urine disease** An autosomal recessive trait causing increased levels of the branched chain amino acids, leucine, isoleucine, valine, and their ketone acids in the urine
- Material Safety Data Sheet** A document provided by the vendor or manufacturer of a chemical substance describing the chemical's characteristics
- maximal reabsorptive capacity** The maximum reabsorption ability for a solute by renal tubules
- meconium** The dark-green mucus containing stool formed by a fetus
- medullary interstitium** Spaces between the cells in the medulla of the kidney that contain highly concentrated fluid
- melanoma** A tumor of the melanogen-producing cells, which is frequently malignant
- melanuria** Increased melanin in the urine
- melituria** Increased urinary sugar
- meninges** Protective membranes around the brain and spinal cord
- meningitis** Inflammation of the meninges, frequently caused by microbial infection
- metabolic acidosis** A decrease in the blood pH caused by a metabolic increase in acidic elements
- microalbuminuria** Low levels of urine protein not detected by reagent strips
- midstream clean-catch specimen** Specimen collected in a sterile container after cleansing the glans penis or urinary meatus; the first portion of urine is voided into the toilet, the midportion is collected, and the remaining portion is voided into the toilet
- mucopolysaccharides** Glycosaminoglycans consisting of a protein core with polysaccharide branches
- mucopolysaccharidoses** A group of genetic disorders marked by excess mucopolysaccharides in blood and urine
- myoglobinuria** Myoglobin in the urine
- necrosis** Death of cells
- nephron** A functional unit of the kidney that forms urine
- nephropathy** Disease of the kidneys
- nephrotic syndrome** A renal disorder marked by massive proteinuria, lipiduria, and edema caused by disruption of the glomerular membrane
- nocturia** Excessive urination during the night
- occult blood** Blood that is not visible to the naked eye
- Occupational Safety and Health Administration** The government agency created to protect employees from potential health hazards in the workplace through the development and monitoring of regulations
- oligohydramnios** Decreased amniotic fluid
- oligoclonal bands** Electrophoretic bands migrating in the gamma region that are present in cerebrospinal fluid and serum
- oliguria** A marked decrease in urine flow
- oncotic pressure** The osmotic pressure of a substance in solution caused by the presence of colloids
- organic acidemias** The accumulation of organic acids in the blood, mainly isovaleric, propionic, and methylmalonic acids
- orthostatic proteinuria** Increased protein in urine only when an individual is in an upright position
- osmolar clearance** The amount of plasma filtered each minute to produce a urine with the same osmolarity as plasma
- osmolarity** The osmotic pressure of a solution expressed in milliosmols per kilogram; it is affected only by the number of particles present
- osmotic diarrhea** An increased retention of water and solutes in the large intestine associated with malabsorption and maldigestion
- osmotic gradient** The difference in the concentration of substances on either side of a membrane
- outcomes** Results of the process to improve customer satisfaction
- pancreatic insufficiency** The decreased ability of the pancreas to secrete digestive enzymes
- paracentesis** Surgical puncture into the abdominal cavity to obtain peritoneal fluid
- parietal membrane** Serous membrane lining the walls of the pleural, pericardial, and peritoneal cavities
- passive transport** Movement of molecules across a membrane by diffusion because of a physical gradient
- pentosuria** The presence of pentose sugars in the urine
- pericardiocentesis** Surgical puncture into the pericardial cavity
- pericarditis** An inflammation of the membranes enclosing the heart
- peritoneal lavage** Introduction and subsequent removal of fluid into the peritoneal cavity to detect the presence of abnormal substances
- peritonitis** An inflammation of the membranes lining the peritoneal cavity
- peritubular capillaries** The capillaries surrounding the renal tubules
- personal protective equipment** Items used to protect the body from infectious agents
- phase-contrast microscopy** Procedure in which magnified images show varied intensities of light and dark and are surrounded by haloes
- phenylketonuria** The presence of abnormal phenylalanine metabolites in the urine
- pigmented villonodular synovitis** Proliferation of synovial cells forming brown nodules, resulting in inflammation, pain, and hemorrhagic effusions
- pleocytosis** Increased numbers of normal cells in the cerebrospinal fluid
- podocytes** Epithelial cells of the inner lining of Bowman's capsule that contain footlike processes
- polarizing microscopy** A procedure in which magnified birefringent images appear bright or colored against a black background
- polydipsia** Excessive thirst
- polyuria** Marked increase in urine flow
- porphobilinogen** Immediate precursor of the porphyrins involved in the synthesis of heme
- porphyrias** Disorders of porphyrin metabolism that are inherited or acquired

porphyrins Intermediate compounds in the synthesis of heme
porphyrinuria The presence of porphyrins in the urine
postrenal proteinuria Increased protein in the urine caused by infections/inflammation that add protein to the urine after its formation

precision Reproducibility of a test result

prerenal proteinuria Increased protein in the urine caused by factors affecting the plasma before it reaches the kidney

preventive maintenance Checks on instruments and equipment on a regular schedule

process System of what is done to the patient

proficiency testing Performance of tests on specimens provided by an external monitoring agency

protein error of indicators Indicators change color in the presence of protein at a constant pH

proteinuria Protein in the urine (albuminuria)

proximal convoluted tubule The nearest tubule to the glomerulus where reabsorption of essential substances begins

pseudochylous material Milky appearing effusion that does not contain chylomicrons

purpura Small capillary hemorrhages

pyelonephritis Infection of the renal tubules

quality assurance Methods used to guarantee quality patient care

quality control Methods used to monitor the accuracy of procedures

radioisotope A substance that emits radiant energy

ragocytes Neutrophils containing ingested clumps of IgG

random specimen Urine collected at any time without prior patient preparation

refractometry Measurement of the light-bending capability of solutions

Reiter cells Vacuolated macrophages containing ingested neutrophils associated with nonspecific arthritic inflammation

reliability The ability to maintain both precision and accuracy

renal plasma flow The volume of plasma passing through the kidneys per minute

renal proteinuria Protein in the urine caused by impaired renal function

renal threshold Plasma concentration of a substance at which active transport stops and increased amounts are excreted in the urine

renal tubular acidosis The inability to produce an acid urine in the presence of metabolic acidosis

renin Proteolytic enzyme produced by the kidney that reacts with angiotensinogen to produce angiotensin to increase blood pressure

renin-angiotensin-aldosterone system Regulates flow of blood to and within the kidneys by responding to changes in blood pressure and plasma sodium content

resolution The ability to separate fine structures for visualization of detail

rhabdomyolysis Muscle destruction

secretory diarrhea The increased secretion of water and electrolytes into the large intestine caused by bacterial enterotoxins

semen Fluid containing spermatozoa

serous fluid Fluid formed as a plasma ultrafiltrate that provides lubrication between the parietal and visceral serous membranes

shift Abrupt change in the mean

Sjögren's syndrome An autoimmune disorder associated with a defect in glandular production of moisture

specific gravity The density of a solution compared with that of a similar volume of distilled water, influenced by both the number and size of the particles present

spermatids Immature spermatozoa

spermatozoa Sperm cells

standard deviation Measurement statistic that indicates the average distance each data point is from the mean

Standard Precautions Guideline describing personnel protective practices

steatorrhea Excess fat in the feces

stools Fecal material discharged from the large intestine

subarachnoid space The area between the arachnoid and pia mater membranes

suprapubic aspiration The technique to obtain sterile urine specimens for bacterial culture or cytologic examination by introducing a sterile needle through the abdomen into the bladder

surfactants Phospholipids secreted by type II pneumocytes to maintain alveolar integrity

syncytia A group of cells continuous with adjoining cells

synovial fluid Plasma ultrafiltrate containing hyaluronic acid that provides lubrication of the joints

synoviocytes Cells in the synovial membrane that secrete hyaluronic acid

systemic lupus erythematosus Autoimmune disorder affecting the connective tissue resulting in damage to organs, particularly the kidney and joints

Tamm-Horsfall protein Mucoprotein found in the matrix of renal tubular casts

thoracentesis Surgical puncture into the thoracic cavity to collect pleural fluid

three-glass collection Urine specimen collected in three separate sterile containers; used to determine prostatic infection

thrombosis Formation of a blood clot

timed specimen Urine specimen collected over an interval of time for a quantitative analysis of a urine chemical, usually a 24-hour collection

titratable acidity Hydrogen ions in the urine that can be quantitated by titration with a base to a pH of 7.4

total quality management Institutional policy to provide customer satisfaction

transudate Serous effusion produced as a result of disruption of fluid production and regulation between the serous membranes

traumatic tap Surgical puncture contaminated with capillary blood

trend Gradual change in one direction of the mean of a control substance

tubular reabsorption Substances moved from the tubular filtrate into the blood by active or passive transport

tubular secretion The passage of substances from the blood in the peritubular capillaries to the tubular filtrate

tubulointerstitial disease Renal disease affecting both the renal tubules and renal interstitium

turnaround-time Time from ordering a test through analysis in the laboratory to the charting of the report

tyrosinuria The presence of tyrosine in the urine

Universal Precautions Guideline stating that all patients are capable of transmitting blood-borne disease

urinary meatus The external urinary opening

urinometry An imprecise method for measuring urine specific gravity using a weighted float

urobilin The oxidized form of urobilinogen that provides the brown color to feces

urobilinogen A compound formed in the intestines by the bacterial reduction of bilirubin

urochrome Yellow pigment produced by endogenous metabolism that imparts the yellow color to urine

uroerythrin Pink pigment in urine derived from melanin metabolism that attaches to urates in the sediment

vasa recta A network of capillaries surrounding the loop of Henle

vasectomy Surgical removal of all or part of the vas deferens for the purpose of male sterilization

vasopressin Antidiuretic hormone that regulates reabsorption of water by the collecting ducts

vasovasostomy Repair of a severed vas deferens to restore fertility

visceral membrane The serous membrane covering the organs contained within a cavity

viscosity The amount of resistance to flow in a liquid

visicoureteral reflux Urine in the bladder passing back into the uterers

xanthochromia Yellowish discoloration of the cerebrospinal fluid

