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PHARMACOLOGY

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Urine is a liquid by-product of metabolism in humans and in many other animals. Urine flows from the kidneys through the ureters to the urinary bladder. Urination results in urine being excreted from the body through the urethra.Cellular metabolism generates many by-products that are rich in nitrogen and must be cleared from the bloodstream, such as urea, uric acid, and creatinine. These by-products are expelled from the body during urination, which is the primary method for excreting water-soluble chemicals from the body. A urinalysis can detect nitrogenous wastes of the mammalian body.

Most animals have excretory systems for elimination of soluble toxic wastes. In humans, soluble wastes are excreted primarily by the urinary system and, to a lesser extent in terms of urea, removed by perspiration.[1] The urinary system consists of the kidneys, ureters, urinary bladder, and urethra. The system produces urine by a process of filtration, reabsorption, and tubular secretion. The kidneys extract the soluble wastes from the bloodstream, as well as excess water, sugars, and a variety of other compounds. The resulting urine contains high concentrations of urea and other substances, including toxins. Urine flows from the kidneys through the ureter, bladder, and finally the urethra before passing from the body.Average urine production in adult humans is around 1.4 L of urine per person per day with a normal range of 0.6 to 2.6 L per person per day, produced in around 6 to 8 urinations per day depending on state of hydration, activity level, environmental factors, weight, and the individual's health.[3] Producing too much or too little urine needs medical attention. Polyuria is a condition of excessive production of urine (> 2.5 L/day), oliguria when < 400 mL are produced, and anuria being < 100 mL per day.