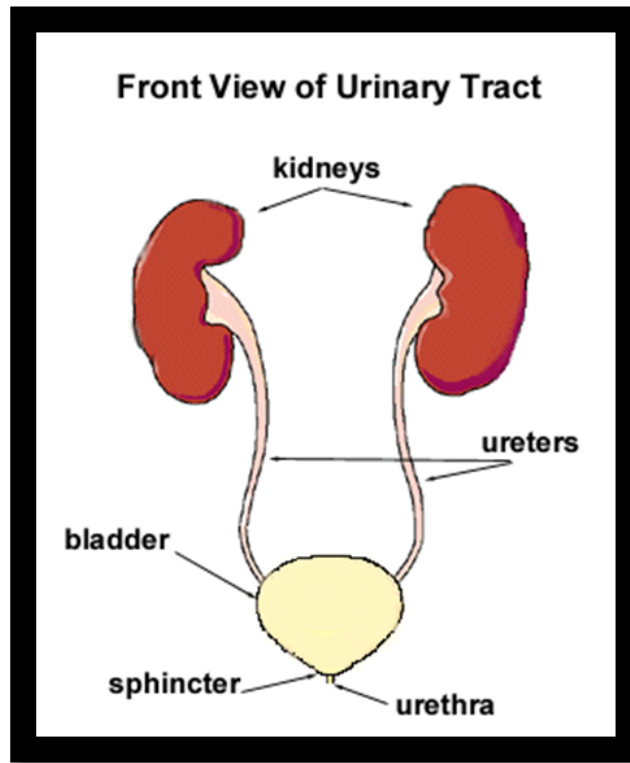


## Anatomy and Function of the Urinary System



**Note:** Other terms used to refer to the "**Urinary System**" include the "**Renal System**" and the "**Genito-urinary System**".

Each part of the urinary system performs important functions - both for the efficient operation of the urinary system itself, and also therefore, for the body as a whole.

### How does the urinary system work?

The body takes nutrients from food and converts them to energy. After the body has taken the food that it needs, waste products are left behind in the bowel and in the blood.

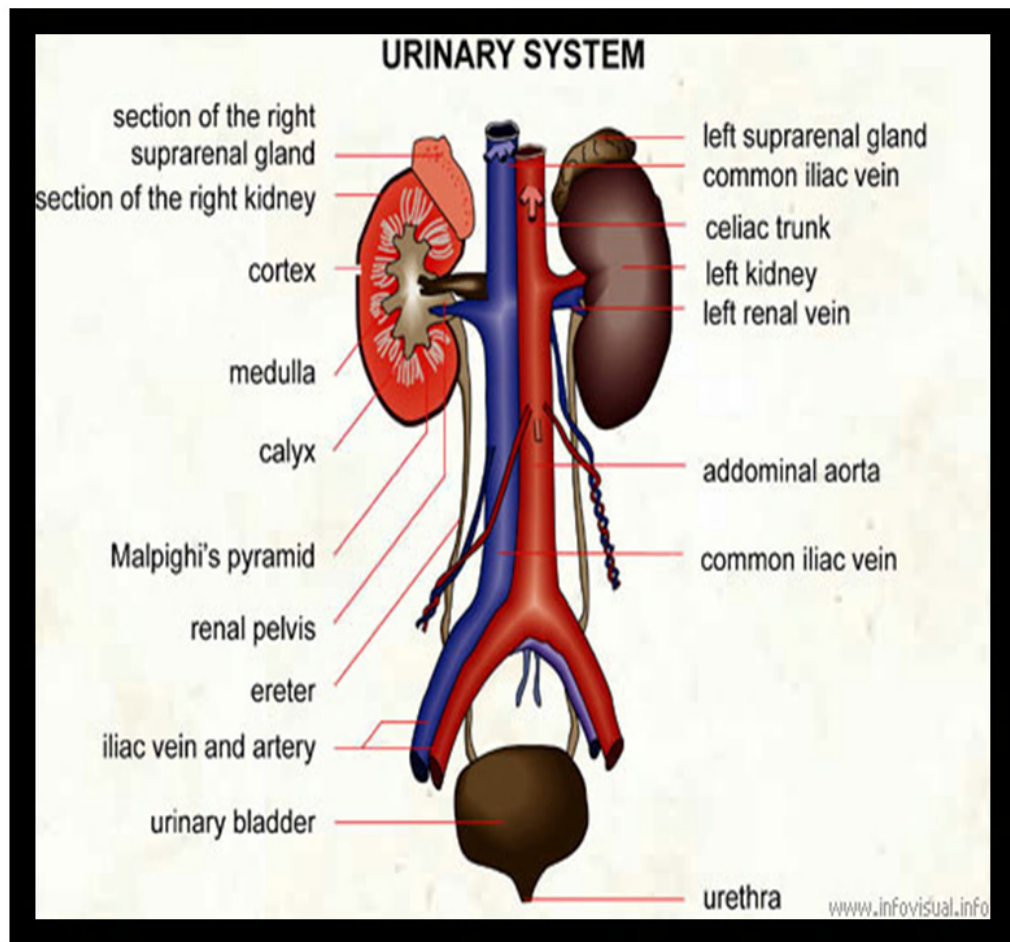
The urinary system keeps the chemicals and water in balance by removing a type of waste called urea from the blood. Urea is produced when proteins, found in meat products, are broken down in the body.

## Urinary system parts and their functions:

- **Two kidneys** - a pair of purplish-brown organs located below the ribs toward the middle of the back. Their function is to:
  - Remove liquid waste from the blood in the form of urine.
  - Keep a stable balance of salts and other substances in the blood.
  - Produce erythropoietin, a hormone that aids the formation of red blood cells.

The kidneys remove urea from the blood through tiny filtering units called nephrons. Each nephron consists of a ball formed of small blood capillaries, called a glomerulus and a small tube called a renal tubule. Urea, together with water and other waste substances, forms the urine as it passes through the nephrons and down the renal tubules of the kidney.

- **Two ureters** - narrow tubes that carry urine from the kidneys to the bladder. Muscles in the ureter walls continually tighten and relax forcing urine downward, away from the kidneys. If urine backs up, or is allowed to stand still, a kidney infection can develop. About every 10 to 15 seconds, small amounts of urine are emptied into the bladder from the ureters.
- **Bladder** - a triangle-shaped, hollow organ located in the lower abdomen. It is held in place by ligaments that are attached to other organs and the pelvic bones. The bladder's walls relax and expand to store urine and contract and flatten to empty urine through the urethra.
- **Two sphincter muscles** - circular muscles that help keep urine from leaking by closing tightly like a rubber band around the opening of the bladder.
- **Nerves in the bladder** - alert a person when it is time to urinate, or empty the bladder.
- **Urethra** - the tube that allows urine to pass outside the body. The brain signals the bladder muscles to tighten, which squeezes urine out of the bladder. At the same time, the brain signals the sphincter muscles to relax to let urine exit the bladder through the urethra. When all the signals occur in the correct order, normal urination occurs.



Reference:

<http://www.chw.org>

<http://www.alldiseasestreatment.com>

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