

## THE FUNCTION OF A KIDNEY

The kidneys are essential to the regulation of the body's fluid balance. A kidney contains about 1 million nephrons, each of which consists of a glomerulus and a tubule that drain urine into the ureter. Arterioles feed each glomerulus, and a network of capillaries surrounds each tubule.

### CALYCES

### ARTERIOLES

Small blood vessels that carry blood to and from each glomerulus.

### TUBULE

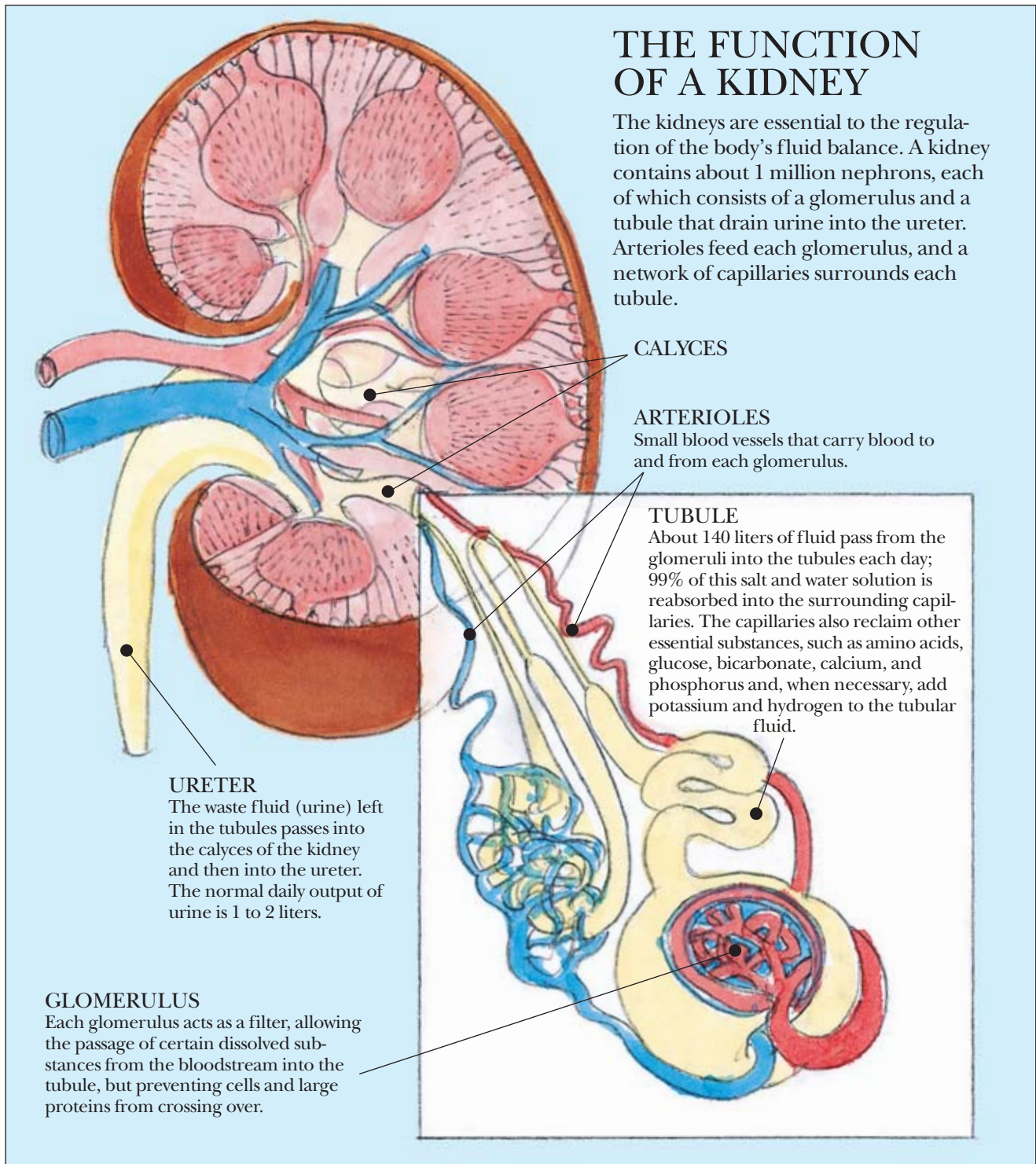
About 140 liters of fluid pass from the glomeruli into the tubules each day; 99% of this salt and water solution is reabsorbed into the surrounding capillaries. The capillaries also reclaim other essential substances, such as amino acids, glucose, bicarbonate, calcium, and phosphorus and, when necessary, add potassium and hydrogen to the tubular fluid.

### URETER

The waste fluid (urine) left in the tubules passes into the calyces of the kidney and then into the ureter. The normal daily output of urine is 1 to 2 liters.

### GLOMERULUS

Each glomerulus acts as a filter, allowing the passage of certain dissolved substances from the bloodstream into the tubule, but preventing cells and large proteins from crossing over.



*Diabetes Self-Management*, "Protecting Your Kidneys" by Robert S. Dinsmoor

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