HUMAN EXCRETION

Human Metabolic Wastes

METABOLIC PROCESS	METABOLIC WASTE
Aerobic Respiration	Carbon Dioxide and Water Vapor
Anaerobic Respiration (muscle cells)	Lactic Acid and Carbon Dioxide
Dehydration Synthesis	Water
Protein Metabolism	Nitrogenous Wastes (mostly urea)
Other Metabolic Processes	Mineral Salts

HUMAN EXCRETORY ORGANS

LUNGS

- Excrete carbon dioxide and water – the metabolic wastes of aerobic respiration

LIVER

- recycles worn out red blood cells
- ***DEAMINATION*** – removes the amino group from amino acids, changes it into UREA and puts it back into the bloodstream to be taken to the kidneys for removal

SKIN

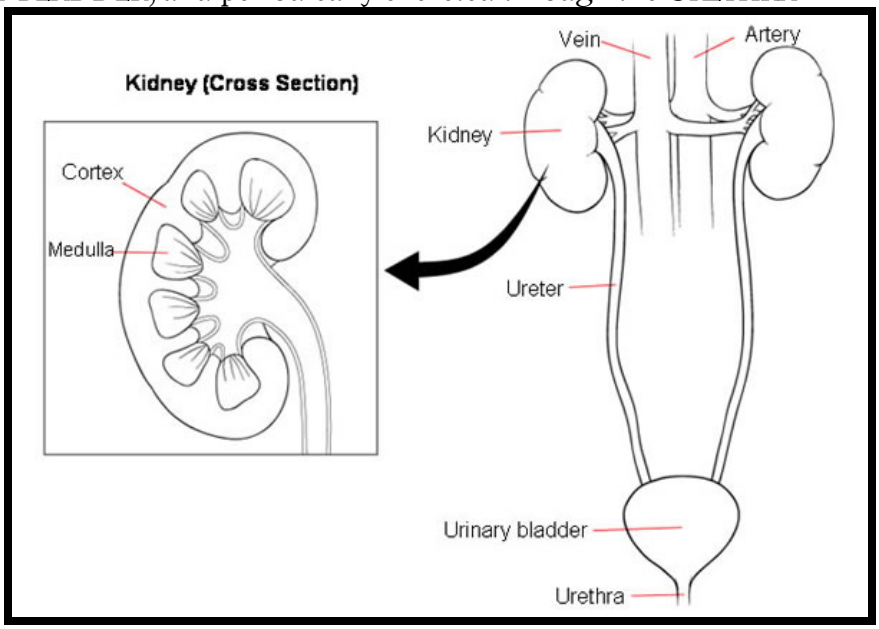
- **PERSPIRATION**
  --the main function of sweat is to cool down the body temperature
  -- **another function is excretory – sweat is 98% water, and 2% UREA and MINERAL SALTS**

KIDNEYS

--basic unit of structure & function is the **NEPHRON;** there are about 1 million nephrons in each kidney
--filters the blood of wastes including UREA and forms urine
--controls the concentration of most of the body fluids

HUMAN URINARY SYSTEM

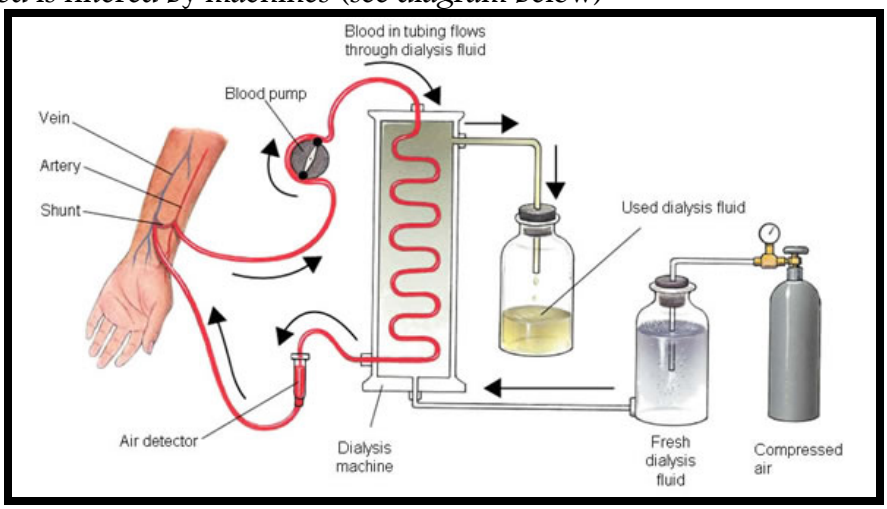
- Made up of the kidneys, ureters, urinary bladder, and urethra
- After the kidneys make urine, the urine is sent from the kidneys down the **URETERS** to be stored in the **URINARY BLADDER**, and periodically excreted through the **URETHRA**



DISORDERS OF THE EXCRETORY SYSTEM

KIDNEY DISEASES

- general term that describes any condition which results in the malfunctioning of the kidney or nephron
- can be caused by physical trauma, chronic high blood pressure, or by high protein diets that result in high amounts of urea
- if the kidneys' cannot properly filter the blood of wastes, a person may have to have **DIALYSIS** where the blood is filtered by machines (see diagram below)



GOUT

- **URIC ACID** crystals (a non-toxic form of nitrogenous wastes) are produced in excess and are deposited in the joints (where two bones meet)
- leads to an inflammation of the joints, causing severe pain & stiffness in the joints
- most often occurs in the lower extremities, particularly the feet/toes