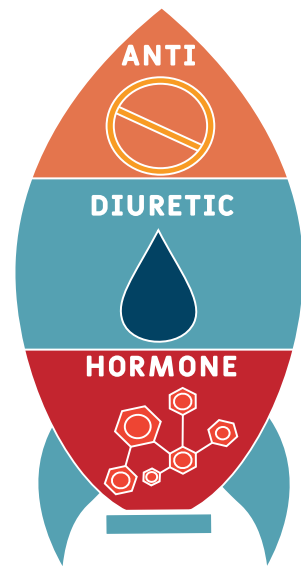


## DISORDER OF EXCRETORY SYSTEM

- **Glomerulonephritis** → inflammation of glomerulus
- **Renal failure** → kidney failure.
- **Uremia** → accumulation of urea in blood: hemodialysis is done

## MICTURITION

Process of expulsion of urine from bladder

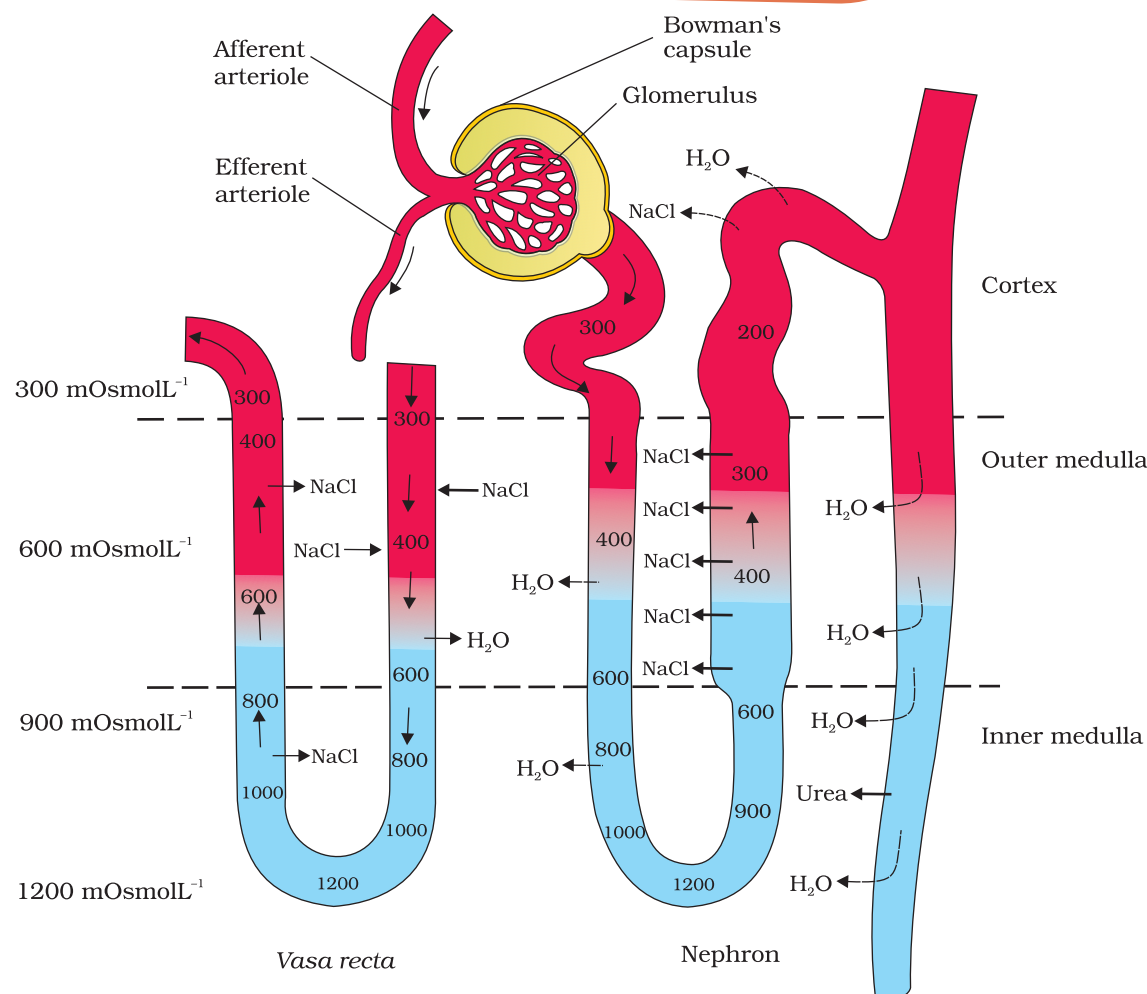


## REGULATION OF KIDNEY

- BY ADH (Vasopressin): ADH prevents diuresis
- BY JGA (Juxtaglomerular Apparatus) : RAAS mechanism
- BY ANF (Atrial Natriuretic factor)

## CONCENTRATION OF URINE

- 1) Counter - current mechanism
- 2) Henle's loop and Vasa recta play a crucial role in concentration of urine
- 3) Osmolarity increases from 300- 1200 mOsmol<sup>-1</sup>
- 4) NaCl and urea are responsible for this

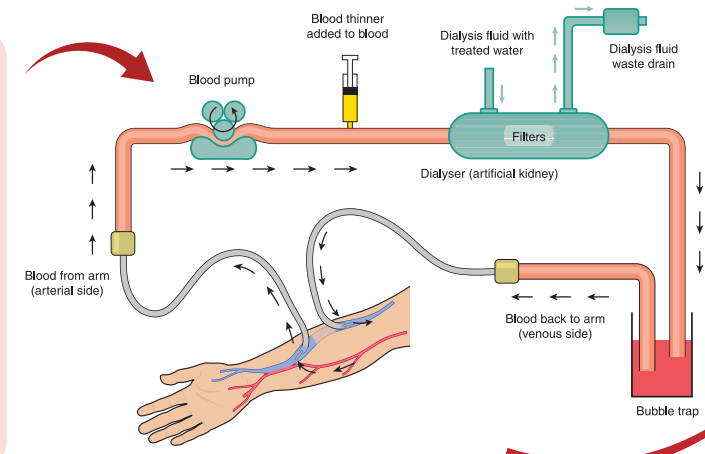


# EXCRETORY PRODUCTS AND THEIR ELIMINATION

## MODES OF EXCRETION

- **Ureotelism** → excretory product is urea : mammals
- **Ammonotelism** → excretory product is ammonia : bony fishes, aquatic amphibians.
- **Uricotelism** → excretory product is uric acid : Birds

## HAEMODIALYSIS



Renal Pelvis

Renal Artery

Renal Vein

Ureter

Calyces

Medulla

Cortex

BOWMAN'S CAPSULE

VEIN

LOOP OF HENLE

GLOMERULUS

ARTERY

CONDUCTING DUCT

Right Kidney

Right renal artery

Right renal vein

Ureter

Left renal vein

Left renal artery

Left Kidney

## KIDNEY

- 1) Reddish-brown, bean-shaped
- 2) Location → between last thoracic & third lumbar vertebra
- 3) Two zones →  
Outer : Cortex  
Inner : Medulla
- 4) Kidney has nephrons (in millions)

## STRUCTURAL & FUNCTIONAL UNIT OF KIDNEY.

- Two parts → Glomerules & Renal Tubule.
- Glomerulus → tuft of capillaries enclosed by Bowman's capsule.
- Renal tubule begins with Bowman's capsule. Proceed as PCT, Henle's loop and DCT.
- DCT'S open into a collecting duct
- Vasa recta is a minute network of blood vessels parallel to Henle's loop.

## OTHER ORGANS IN EXCRETION

- 1) Liver
- 2) Lungs
- 3) Skin

## URINE FORMATION STEPS

- 1) Glomerular filtration
- 2) Reabsorption
- 3) Secretion

## FUNCTIONS OF THE TUBULES

- PCT → 70-80% of electrolytes & water are reabsorbed.
- Henle's loop → help to maintain high osmolarity of interstitial fluid.
- DCT → Reabsorption of sodium ions & water
- Collecting Duct → large amount of water is reabsorbed leads to concentrated urine

Bowman's Capsule

BOWMAN'S CAPSULE

+

GLOMERULUS

=

MALPHIGIAN BODY

