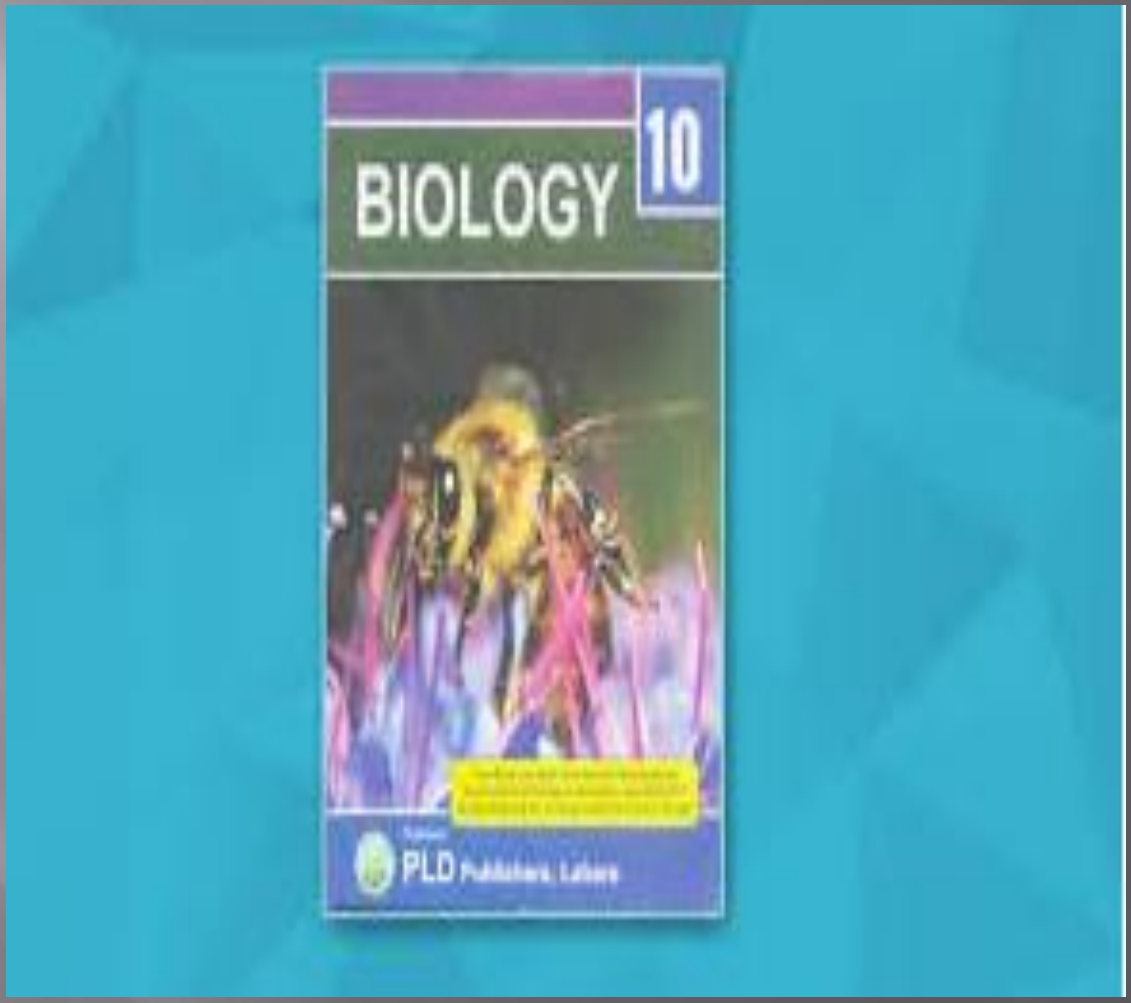

Pakistan School
Kingdom of Bahrain
WELCOME!
THANKS FOR JOINING US!

BIOLOGY LESSON BY


BIOLOGY
10
PLD Publishers, Lahore

Ch. 2. Homeostasis

- Topic. **Homeostasis in Humans**

(Pages.21,22,23)

Introduction

Like other complex animals, humans have highly developed systems for homeostasis. The following are the main organs which work for homeostasis

Major organs involved in homeostasis in human body:

i. **Lungs:**

Lungs remove excess carbon dioxide and keep it in balance

ii. **Skin:**

Skin performs role in the maintenance of body temperature and also removes excess water and salts

iii. **Kidney:**

The kidney filters excess water, salts, urea, uric acid etc. from the blood and forms urine.

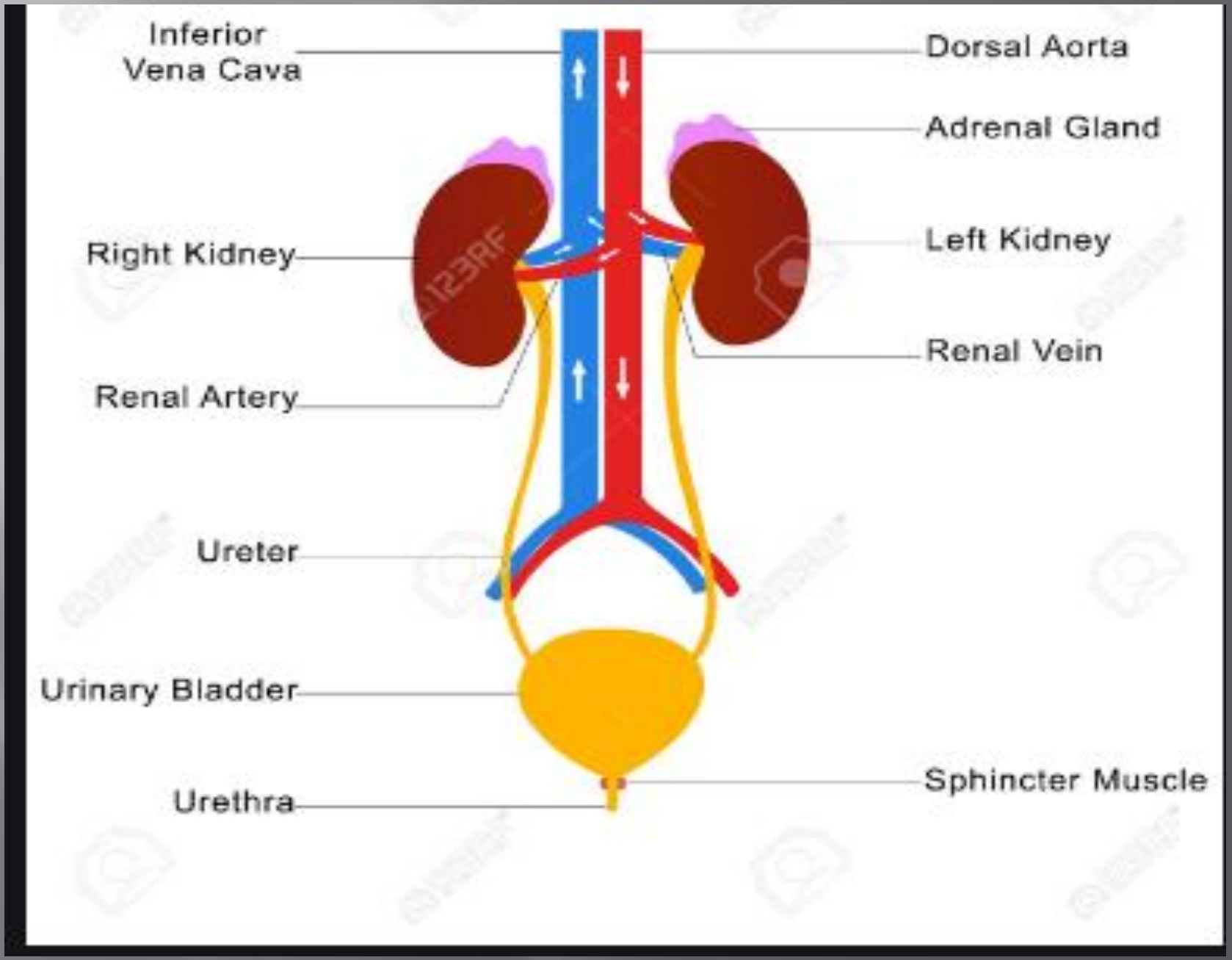
Objectives of the Lesson

- At the end of this lesson students will be able to

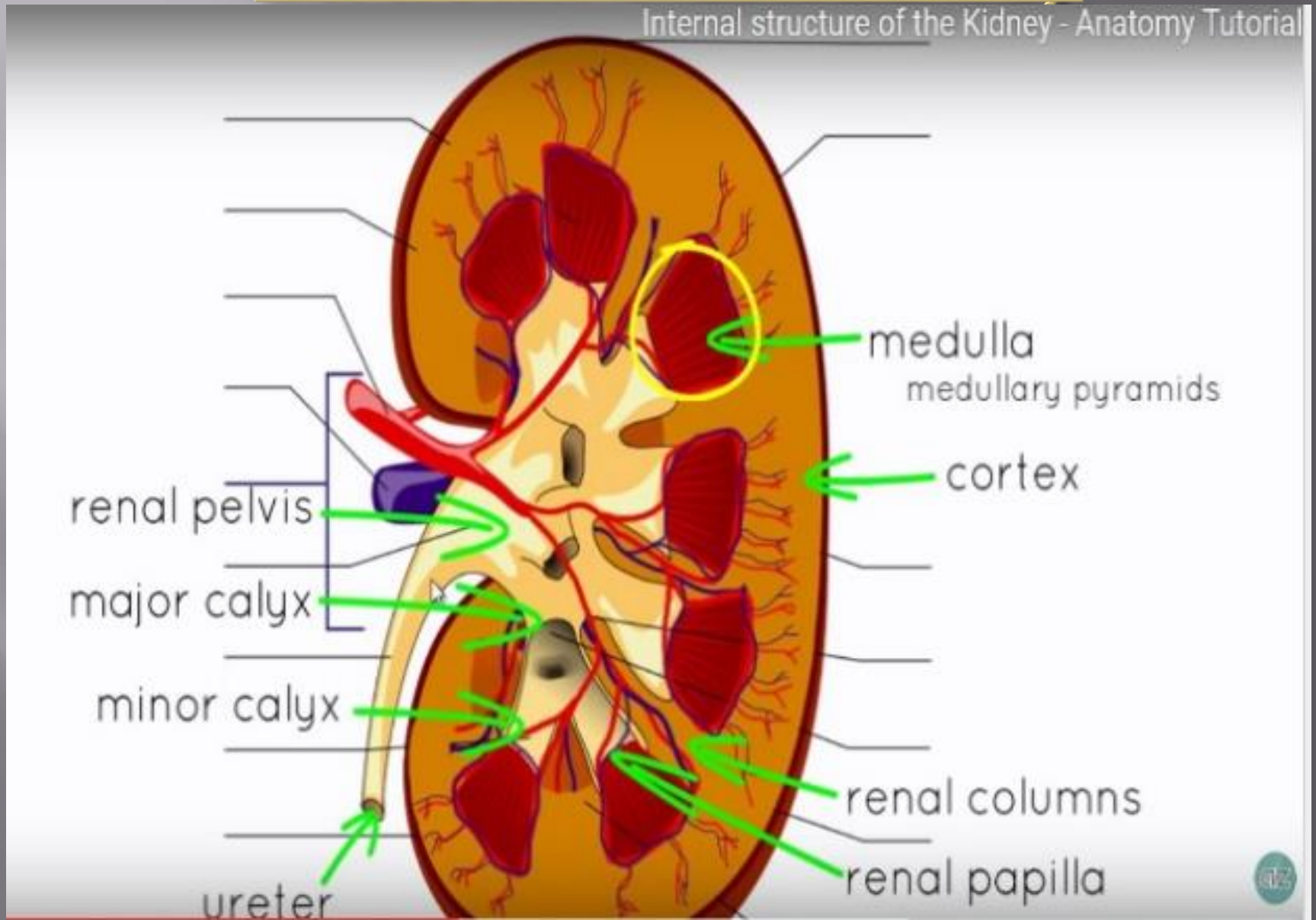
- State the main parts of human urinary system & describe the structure of a kidney.

The urinary System of Humans

The excretory system of humans is also called the urinary system. It is formed of one pair of kidneys, a pair of ureters, a urinary bladder and a urethra Kidneys filter blood to produce urine and the ureters carry urine from kidneys to urinary bladder. The bladder temporarily stores urine until it is released from body Urethra is the tube that carries urine from urinary bladder to the outside of body.


Inferior
Vena Cava
Dorsal Aorta
Adrenal Gland
Right Kidney
Left Kidney
Renal Vein
Renal Artery
Ureter
Urinary Bladder
Sphincter Muscle
Urethra

Structure of Kidney



Study different parts of a Kidney

Colour, shape, size and weight of kidney:

Kidneys are dark-red bean shaped organs Each kidney is 10 cm long, 5 cm wide and 4 cm thick and weighs about 27 grams.

Location of kidneys:

Kidneys are placed against the back wall of abdominal cavity just below diaphragm one on either side of vertebral column They are protected by the last 2 ribs. The left kidney is a little higher than then right.

Hilus:

The concave side of kidney faces vertebral column. There is a depression called hilus, near the center of the concave area of kidney This is the area of kidney through which ureter leaves kidney and other structures including blood vessels, lymphatic vessels and nerves enter and leave kidney.

Study different parts of a kidney

Longitudinal section of the kidney:

The longitudinal section of the kidney shows two regions.

Renal Cortex:

Renal cortex is the outer part of kidney and it is dark red in colour.

Renal medulla:

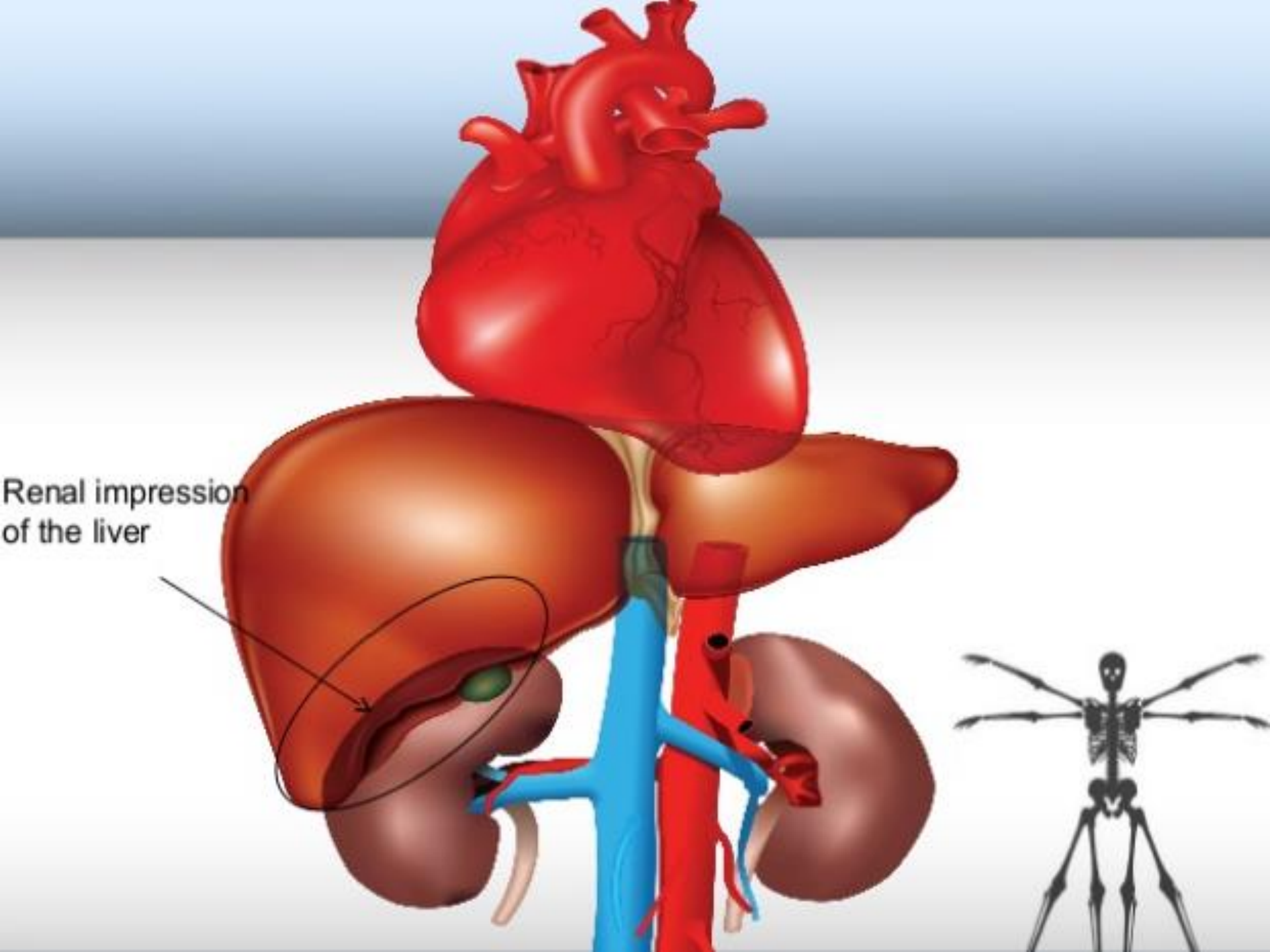
Renal medulla is the inner part of kidney and is pale red in colour.

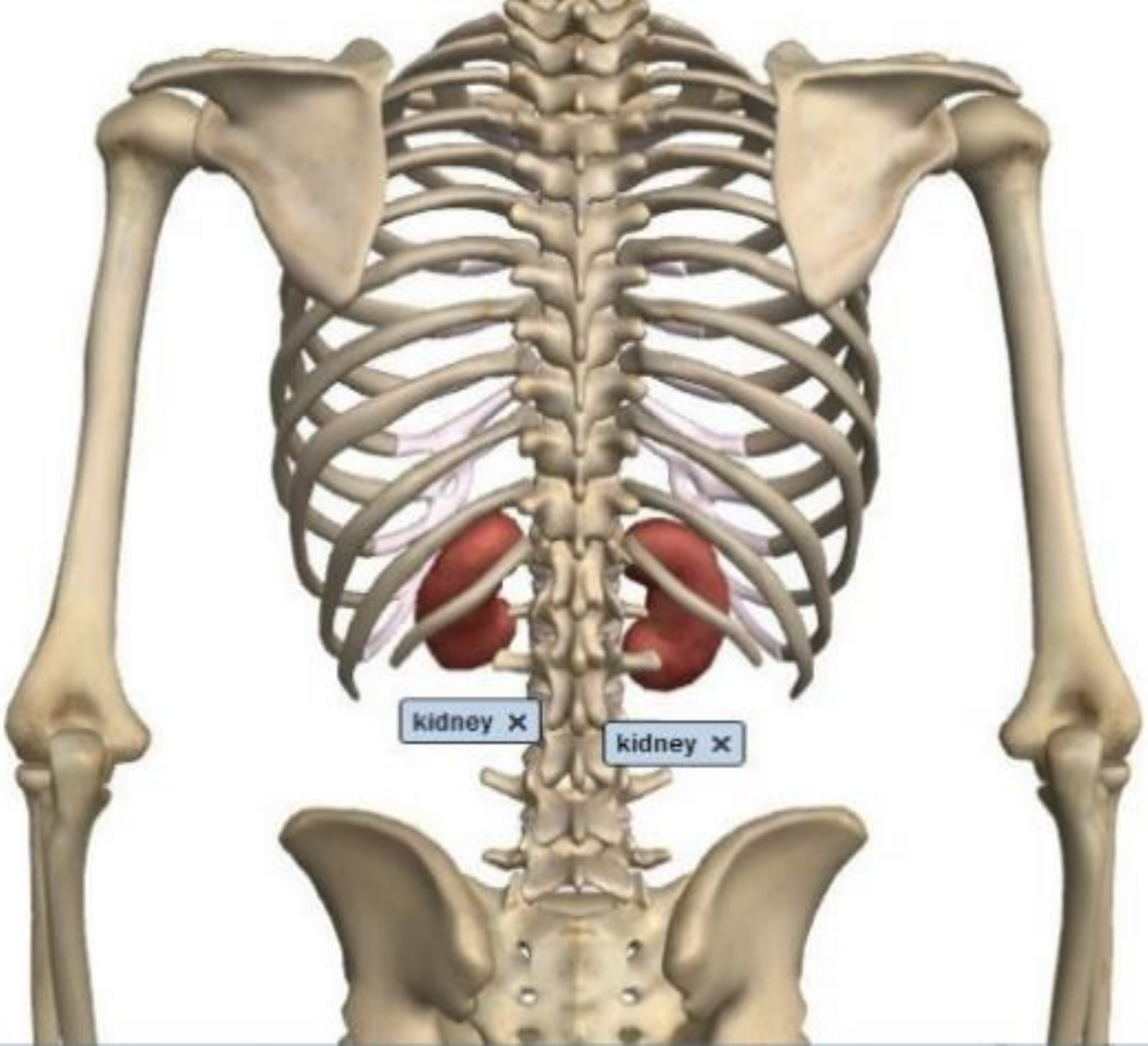
Pyramids:

Renal medulla consists of several cone shaped areas called renal pyramids.

Renal pelvis:

Renal pyramids project into a funnel-shaped cavity called renal pelvis, which is the base of ureter.

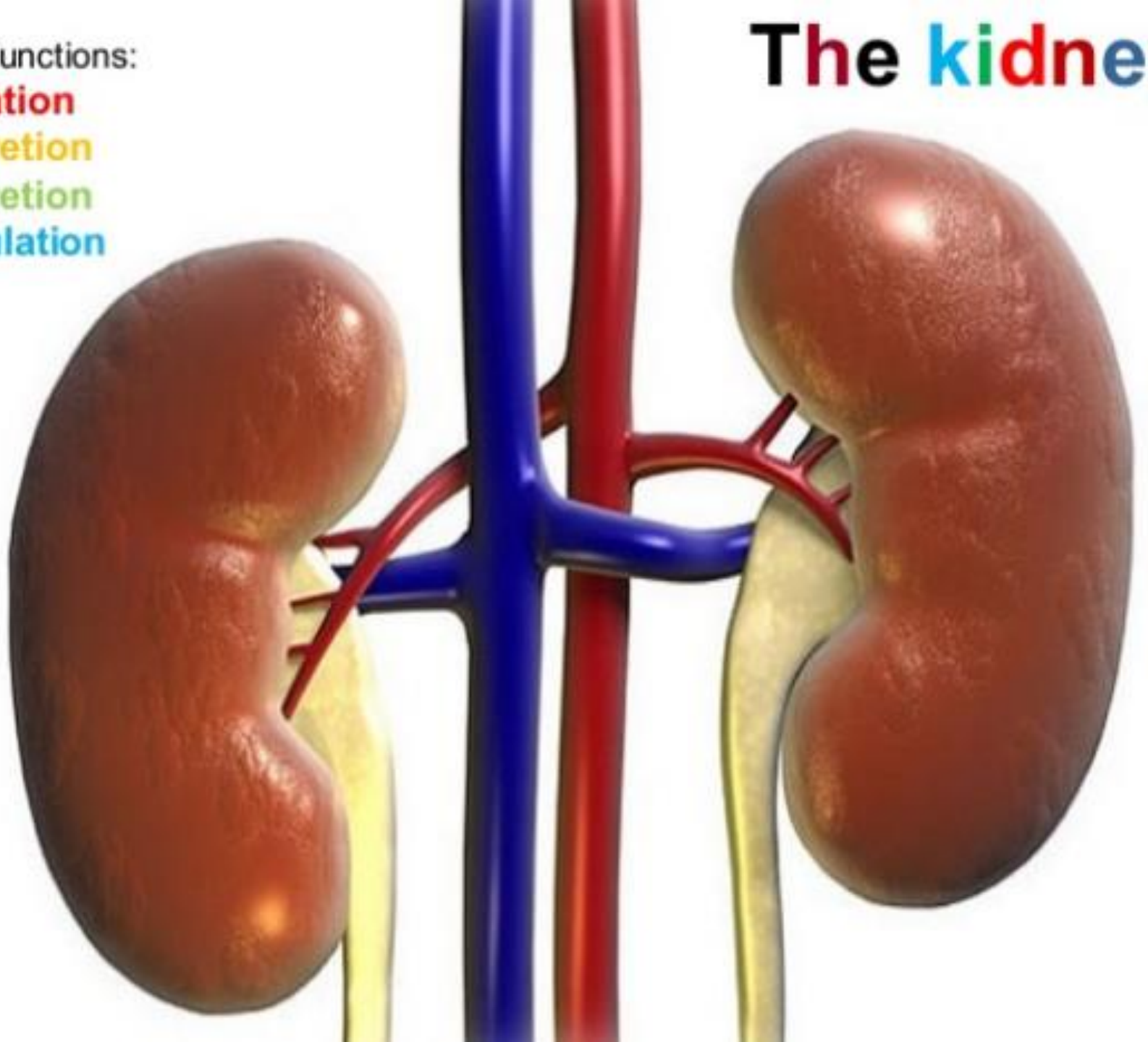

Renal impression
of the liver


kidney
kidney

The kidney

Kidney functions:

- filtration
- excretion
- secretion
- regulation



Activity.1.

- **Answer the following questions.**

i. Name the main organs which work for homeostasis.
ii. State the main parts of human excretory system.
iii. What is the function of urinary bladder?

Activity. 2.

- **Fill in the blanks.**

i. Main function of ureter is to carry----------from kidney.
ii. Lungs remove excess ----------.
iii. The colour of kidneys is----------.
iv. Kidneys filter blood to produce ----------.

Closure

- Today we have discussed the topic----------.
- Human urinary system is also called----------.
- Main function of urine is to----------.

Home Work

- Draw a labeled diagram of a human kidney and state the function of each part.

- Describe the major organs involved in homeostasis in human body. Explain the role of each.


THANK
YOU!


THE END