

HUMAN ANATOMY AND PHYSIOLOGY-I, BP-101(T)

UNIT-III (Body fluids and blood)

CLASS:7

TOPIC – Introduction to Lymphatic System

LYMPHATIC SYSTEM

DEFINITION: Lymph is a thin, watery, clear, modified tissue fluid formed by the passage of substance from the blood capillaries into the tissue space (interstitial space) and enters in to the closed system of lymphatic capillaries to lymphatic vessels and lymphatic sinus known as lymphatic system.

- In short the lymphatic system consists the fluid is known as lymphatic fluid.
- Interstitial fluid and lymphatic fluid are basically same, only the different in their location. When it is located between tissue spaces it is known as interstitial fluid and

when it goes in to lymphatic vessels it known as lymph.

Formation, Composition and Flow of Lymph:

Formation:

The blood consist manly two composition blood plasma and formed elements in which blood plasma freely filter through the capillary walls to interstitial space and known as interstitial fluid.

Most of fluids get reabsorb by the blood capillaries but the excess or remain fluid enter in to the lymphatic vessels known as lymph.

This excess fluid is about 3 litres/day and form lymph

Lymphatic capillaries:

- Lymphatic Capillaries are larger in diameter than blood capillaries.
- It is found throughout the body except in:
 - Avascular Tissue
 - The Central Nervous System
 - Splenic Pulp
 - Bone Marrow.

It consists of specialized valve which permit the fluid flow in one and unique

- direction means that permits interstitial fluid to flow into them but not out.
- Lymphatic capillaries are made up by the endothelial cells.
- At the right angle to the lymphatic capillary are structures called anchoring filaments. These filaments are made up by the fine collagen fibrils and adhere to the lymphatic
- endothelial cell to surrounding tissue.

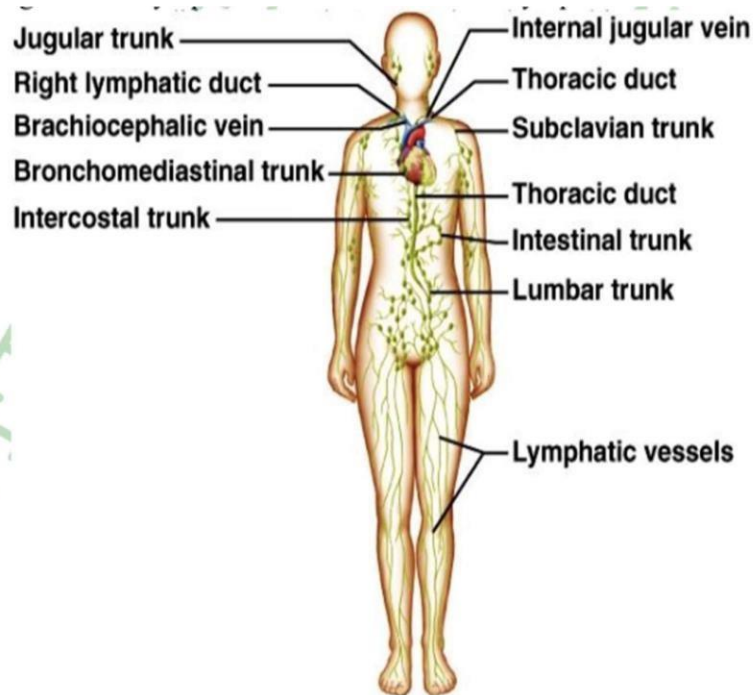
Lymph trunks:

Lymph passes from lymphatic capillaries into lymphatic vessels through lymph nodes.

Then the same group of lymphatic vessels or different groups of lymphatic vessels unite to form lymph trunks.

The principle trunks are:

1. Lumber Trunks: Drains lymph from lower limbs, pelvis, kidneys, adrenal glands, abdominal walls.
2. Intestinal Trunk: Drain lymph from stomach, intestine, pancreas, spleen & part of liver.
3. Broncho-mediastinal: Drain lymph from the thoracic wall, lungs and heart.



Lymph ducts:

- Lymph passes from lymphatic trunks to two main lymphatic ducts;
 - a) thoracic duct (left lymphatic duct)
 - b) right lymphatic duct
- a) **Thoracic duct (left lymphatic duct):**
 - It is 38-45 cm long and begins as dilation part near the limbic region called cisterna chyli.
 - Cisterna chyli receive lymph from:
 - Left and right lumbar trunk
 - Intestinal trunk.
 - In the neck, thoracic duct also receives lymph from:
 - left jugular trunk,
 - left subclavian trunk
 - left bronchio mediastinal trunk.

IMPORTANT QUESTIONS:**2M QUESTIONS:**

1. Define blood.
2. Classify blood groups.
3. What is haemoglobin.
4. Define Artery and Vein.
5. Define: 1. blood Pressure 2. Hematopoiesis 3. Erythropoiesis 4. Anaemia.
6. Explain blood transfusion.
7. Explain reticulo-Endothelial System.
8. Define blood coagulation and enlist its pathways.
9. What is lymph.

5M QUESTIONS:

- 1) Write about coagulation of blood.
- 2) Explain the process of haemoglobin formation in brief.
- 3) Write about composition and functions of blood.
- 4) Write a note on anemia with its types.
- 5) Write an explanatory note on lymphatic system.
- 6) Discuss about ABO blood group system.

10M QUESTIONS:

- 1) Write about coagulation of blood.
- 2) Write about composition and functions of blood.
- 3) Write an explanatory note on lymphatic system.
- 4) Discuss about ABO blood group system.