

2026-27

D.PHARM 1ST YEAR

**HUMAN ANATOMY &
PHYSIOLOGY**

CHAPTER 7

PART-3

**LYMPHATIC
SYSTEM**



CLICK ON BANNER TO WATCH FULL VIDEO

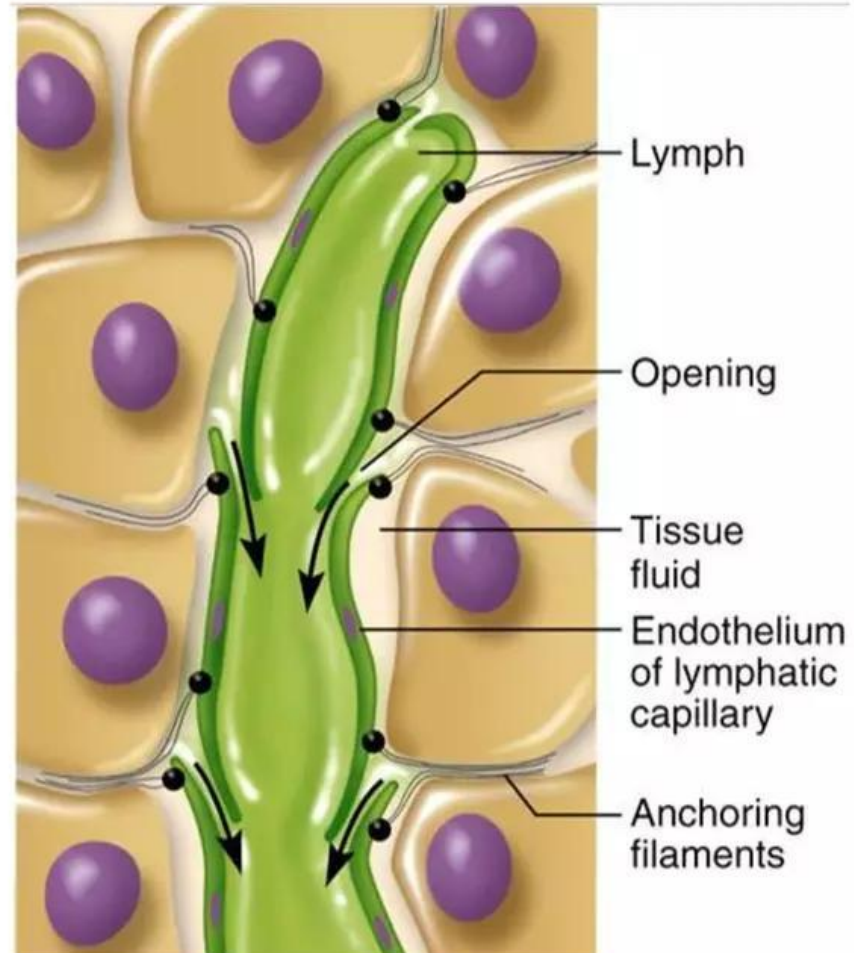
Lymphatic vessels

- **Lymphatic vessels** are thin-walled tubes that form part of the lymphatic system.
- They collect excess fluid (called **lymph**) from body tissues and return it to the bloodstream.

Structure

- Begin as **lymphatic capillaries**, which are blind-ended microscopic vessels in tissues.
- Capillaries merge into **larger lymphatic vessels**.
- Larger vessels contain **one-way valves** that prevent backflow of lymph.
- The largest lymphatic vessels are the **thoracic duct** and the **right lymphatic duct**, which drain lymph into veins near the heart.

Lymphatic Capillary



Type	Structure	Main Function
1. Lymphatic Capillaries	Small, blind-ended, thin-walled vessels; made of a single layer of endothelial cells. Have overlapping cells that act like one-way valves.	Collect excess interstitial (tissue) fluid, proteins, and foreign particles from tissues and convert it into lymph.
2. Collecting Lymphatic Vessels	Larger vessels with thin walls, smooth muscle and numerous valves. Resemble small veins.	Transport lymph from capillaries toward lymph nodes and larger lymphatic trunks.

3. Lymphatic Trunks	Large vessels formed by the union of collecting vessels; drain lymph from major regions of the body.	Carry lymph from large body regions toward the lymphatic ducts.
4. Lymphatic Ducts	Largest lymphatic vessels; have muscular walls and valves. Two main ducts: right lymphatic duct and thoracic duct.	Return lymph to the bloodstream by emptying into the subclavian veins.

Flow of Lymph

- Tissue fluid → Lymphatic capillaries → Collecting lymphatic vessels → Lymph nodes → Lymphatic trunks → Lymphatic ducts → Subclavian veins → Blood circulation

Step	Structure	What happens
1	Tissue spaces	Excess interstitial fluid enters lymphatic capillaries.
2	Lymphatic capillaries	The fluid becomes lymph.
3	Collecting vessels	Lymph is transported through vessels containing one-way valves.
4	Lymph nodes	Lymph is filtered and pathogens/foreign particles are removed.
5	Lymphatic trunks	Lymph from different body regions is collected.
6	Lymphatic ducts	Lymph enters either the thoracic duct or right lymphatic duct.
7	Subclavian veins	Lymph is returned to the bloodstream.

Disease/Condition	Cause	Main Features
Lymphedema	Blockage or damage of lymphatic vessels	Swelling of limbs or other body parts due to accumulation of lymph
Lymphadenopathy	Infection, inflammation, or cancer	Enlargement/swelling of lymph nodes
Lymphadenitis	Bacterial or viral infection of lymph nodes	Painful, swollen, and tender lymph nodes
Lymphangitis	Infection of lymphatic vessels, commonly bacterial	Red, painful streaks along lymphatic vessels; fever may occur
Lymphoma	Cancer of lymphocytes/lymphatic tissue	Painless lymph-node enlargement, fever, night sweats, weight loss

Hodgkin Lymphoma	Malignancy of lymphoid tissue; characterized by Reed–Sternberg cells	Painless lymphadenopathy, often in neck; fever and night sweats
Non-Hodgkin Lymphoma	Group of cancers arising from B or T lymphocytes	Enlarged lymph nodes; symptoms vary according to the affected tissue
Filariasis (Elephantiasis)	Parasitic infection, mainly <i>Wuchereria bancrofti</i>	Blockage of lymphatic vessels causing severe, chronic swelling
Tonsillitis	Viral or bacterial infection of tonsils	Sore throat, difficulty swallowing, swollen tonsils
Splenomegaly	Infection, blood disorders, liver disease, etc.	Enlargement of spleen; may cause abdominal discomfort and anemia

THANK

YOU!



Visit – pharmacyindia.co.in



- Get Latest Updates
- Quizzes
- Daily Job Updates
- Previous Year Papers
- Current Affairs
- Subjective Blogs
- College Details

The screenshot shows the homepage of the Pharmacy India website. At the top, there is a logo for 'PHARMACY INDIA' and a banner with the text 'Visit – www.pharmacyindia.co.in Website for Pharma Updates'. Below the banner is a navigation menu with links: HOME, RRB PHARMACIST, DPEE, CGHS PHARMACIST, QUIZ, CURRENT AFFAIRS, JOBS, PAPERS, PHARMACY, and ACCOUNT. The main content area features a list of social media links with 'Join Now' buttons: WhatsApp D. Pharma Group, Telegram D. Pharma Group, Telegram Group Latest Pharma Jobs, Telegram B. Pharma Group, Telegram Medicine Update Group, and WhatsApp B. Pharma/ GPAT Channel. On the right side, there is a 'FOLLOW US' section with icons for Facebook, YouTube, Instagram, LinkedIn, Telegram, and WhatsApp. At the bottom right, there is a 'RECENT POSTS' section and a Windows activation watermark.



STAR BTEUP

1ST YEAR CHAPTER WISE QUESTION
BANK & SOLVED PAPERS



**ORDER
NOW!**



AVAILABLE ON

amazon **Fliptart**



6395596959
8006781759



COD AVAILABLE ON



Flipkart



amazon

meesho

D.Pharma 1st Year

**MISSION
BIEUP**

Bilingual (Hindi+English)

1 BOOK
किताब

2 LANGUAGE
भाषाएँ

5 SUBJECT
विषय

**FULLY
COLOURED
BOOK**

**255
THEORY
QUESTIONS WITH
TIPS & TRICKS**

**1050
ONE MARKS
QUESTIONS**

**FREE
PRACTICE
QUESTIONS**

Subjects Covered

- PHARMACEUTICS (ER20-11T)
- PHARMACEUTICAL (ER20-11T)
- PHARMACOGNOSY (ER20-11T)
- HUMAN ANATOMY & PHYSIOLOGY (ER20-11T)
- SOCIAL PHARMACY (ER20-11T)



Contact for any Query - 6395596959



PHARMACY INDIA
www.pharmacyindia.co.in





DOWNLOAD PHARMACY INDIA
MOBILE APP
FROM PLAY STORE

DAILY UPDATES

जुड़िए PHARMACY INDIA

के साथ.....

WHATSAPP & TELEGRAM SE JUDNE KE
LIYE QR CODE KO SCAN KAREIN

