



SNS COLLEGE OF NURSING

SARAVANAMPATTI, COIMBATORE-35

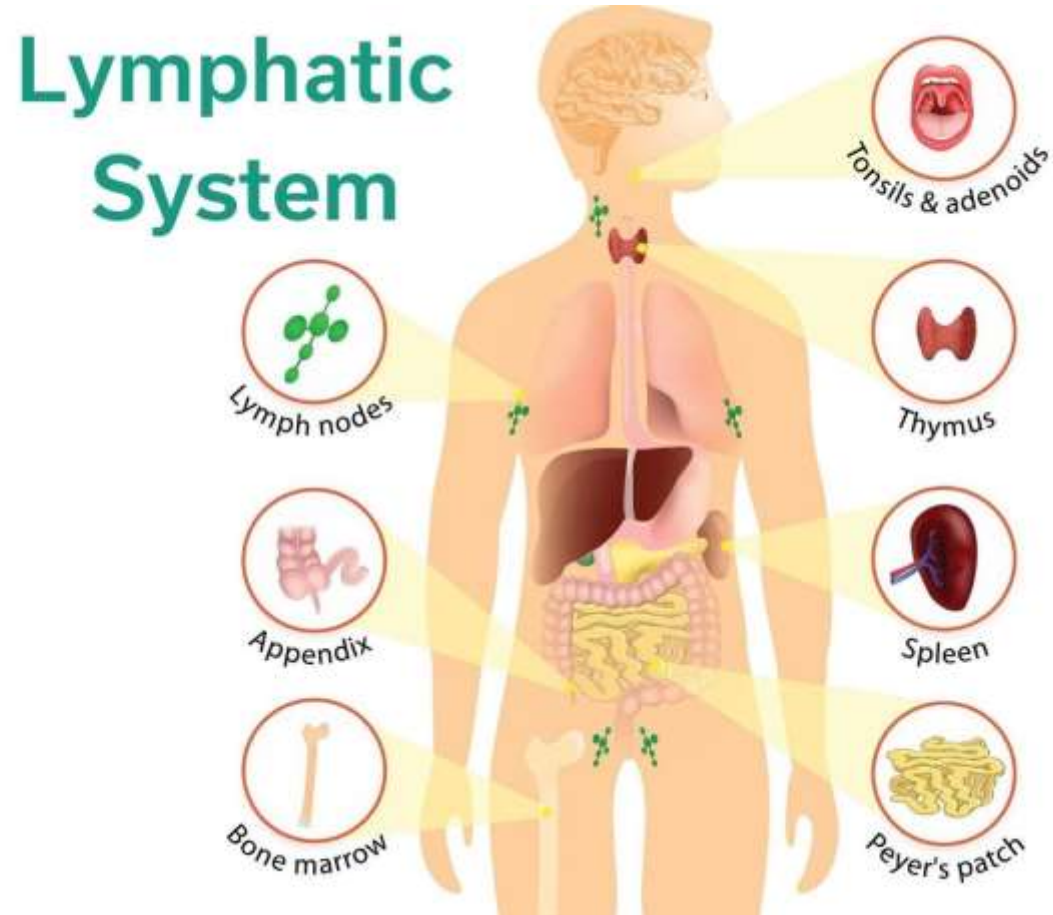
DEPARTMENT OF NURSING

COURSE NAME : BSC (NURSING) I YEAR

SUBJECT : ANATOMY AND PHYSIOLOGY

UNIT II: LYMPHATIC SYSTEM

THE LYMPHATIC SYSTEM





LYMPHATIC SYSTEM IMMUNITY



- The ability to resist infection and disease through the activation of specific defenses
- These defenses can be found in the lymphatic system



LYMPHATIC SYSTEM ORGANIZATION



- Lymphatic System Definitions
- Pathogens—Organisms that cause disease
- Lymphatic System—Cells, tissues, and organs that play a central role in the body's defenses against pathogens
- Lymphatic system consists of vessels (lymphatics) filled with lymph connected to lymphatic organs

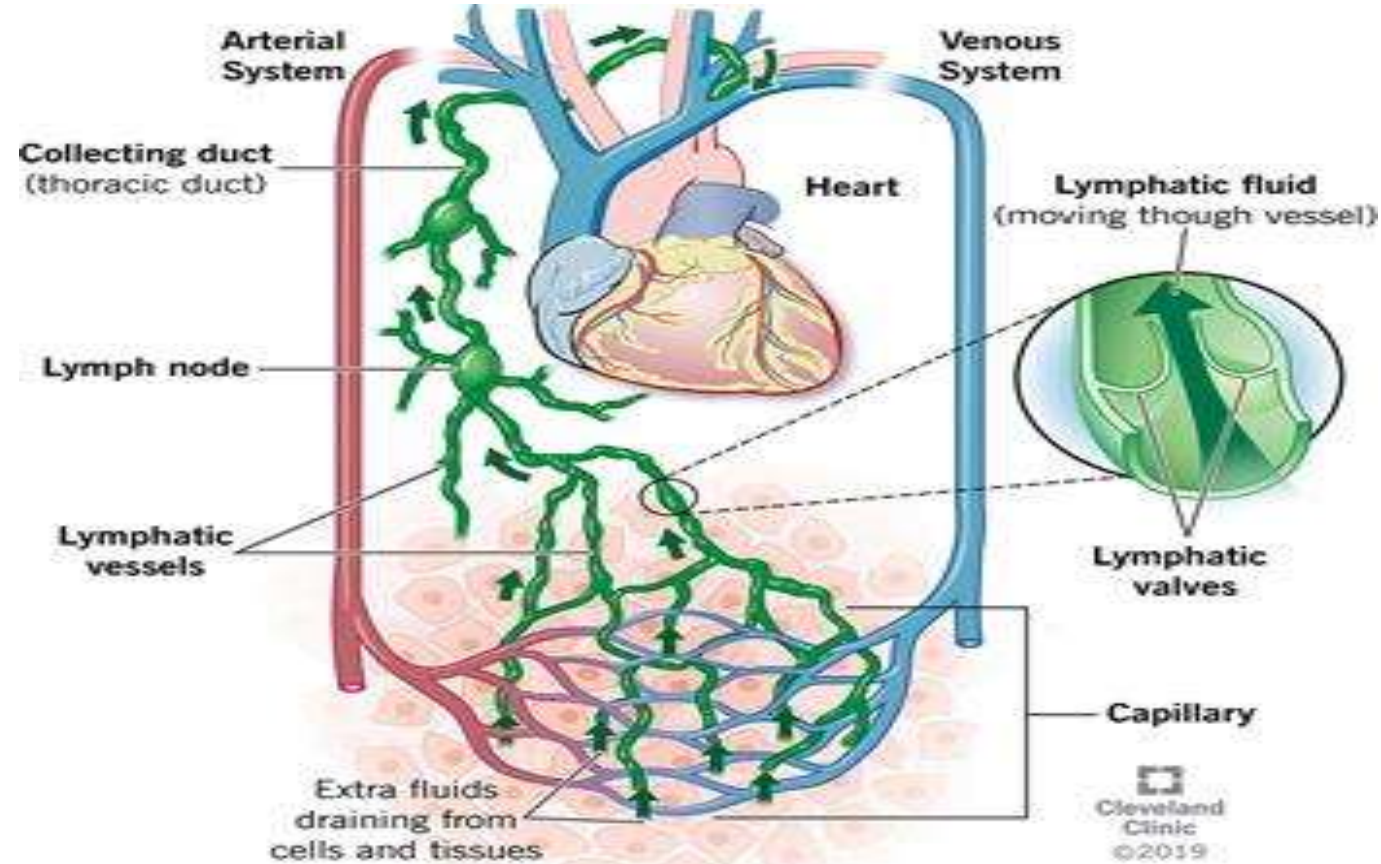


LYMPHATIC SYSTEM ORGANS



- Lymphatic Fluid
- Lymphatic Vessels
- Lymphocytes
- Lymphatic organs

LYMPHATIC CIRCULATION





Functions of the Lymphatic System



- Produce, maintain, distribute lymphocytes
 - Lymphocytes attack invading organisms, abnormal cells, foreign proteins
- Maintain blood volume
- Help eliminate local variations in interstitial fluid concentration
- Lymphatic fluid – Lymph (lymph=clear water) fluid flow through lymphatic vessels Similar in its makeup to Plasma found in blood



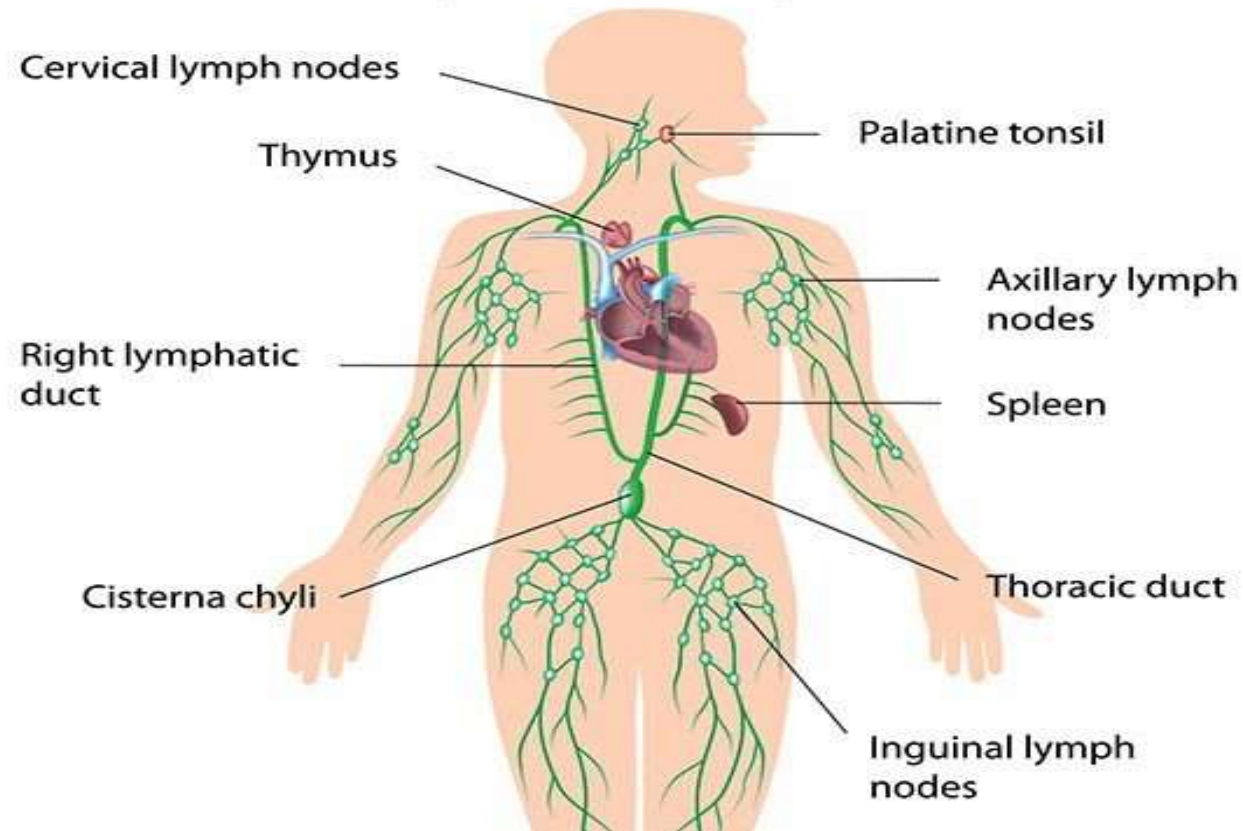
Functions of the Lymphatic System



- Lymph collected by capillaries are collected into two ducts
- Left Thoracic duct - collects from left side head, neck, and chest, left upper extremity, and entire body below ribs
- Right Lymphatic duct – collects from upper right side of body

LYMPHATIC NETWORK

The Lymphatic System





LYMPHOCYTES



- Cells of lymphatic system
- Provide defense against specific pathogens or toxins
- Live months, even decades
- Produced in bone marrow and lymphatic tissues
- Found in blood and tissues



THREE CLASSES OF LYMPHOCYTES



- T cells -Thymus dependent
- B cells - Bone marrow derived
- NK cells - Natural killer



TYPES OF LYMPHOCYTES



- T-Cells- directly attack foreign cells or body cells infected by viruses Majority circulating lymphocytes are T-Cells
- B-Cells – produce antibodies which react with antigens (pathogens i.e. bacteria) Antibodies join with antigens begin destruction of target
- NK cells – natural killer cells Attack foreign cells, normal cells infected with viruses, cancer cells



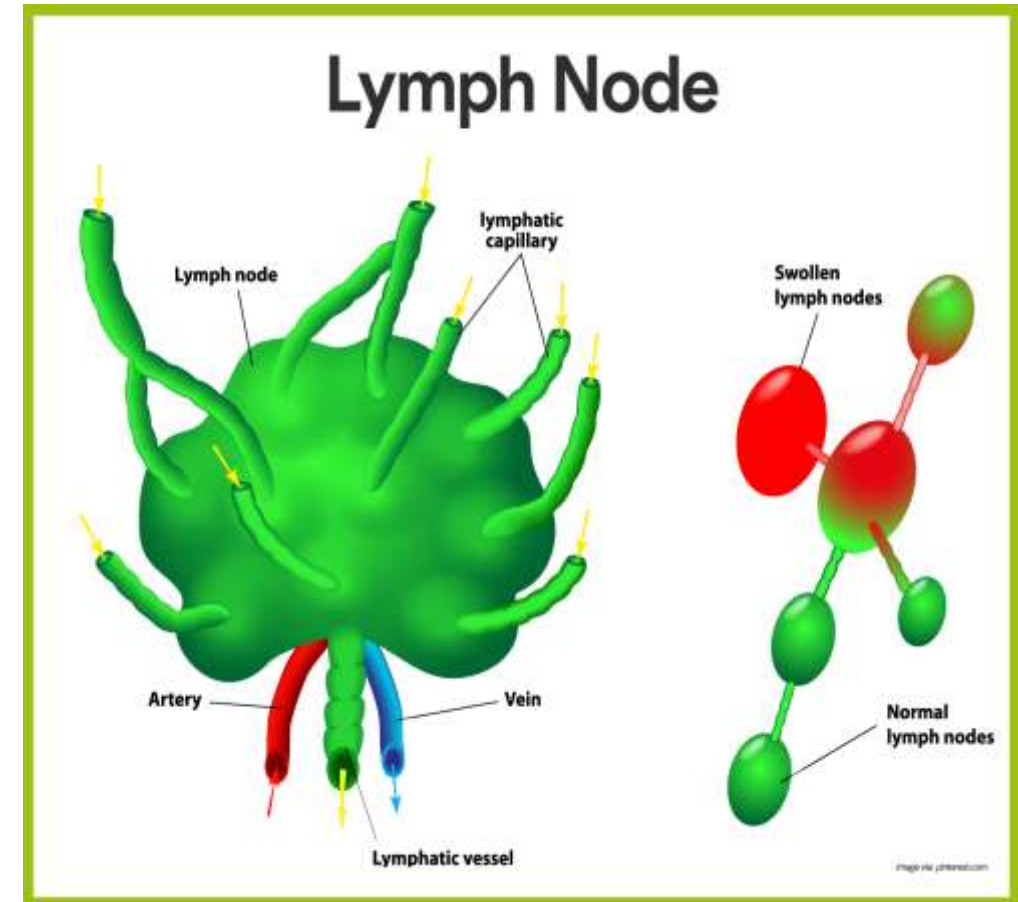
LYMPHOID ORGANS



- Important lymphoid organs include:
- Lymph nodes
- Thymus
- Spleen
- Located in areas that are vulnerable to pathogens

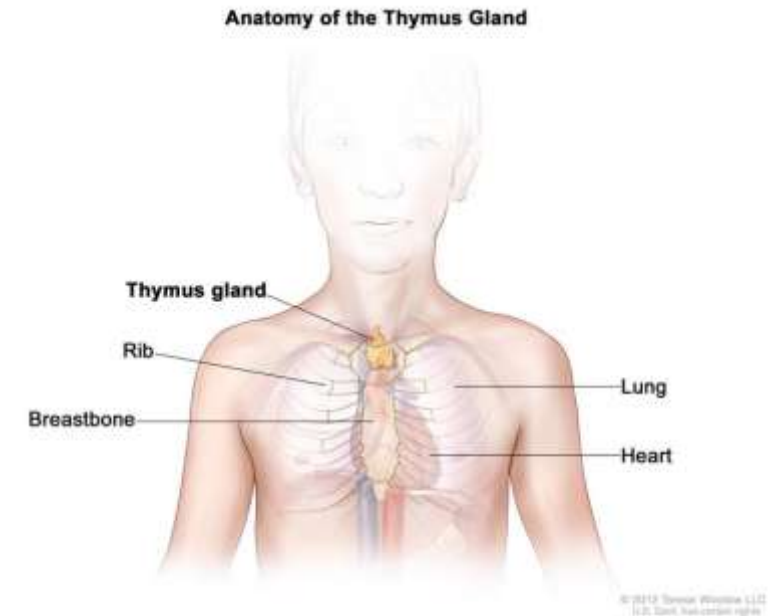
LYMPH NODES

- small, round organs, range from small to big
- Function of lymph nodes
- Filter lymph before returned to blood stream
- 99 percent of pathogens (bacteria, toxins etc.) are removed
- Located in ideal spots to protect vital organs of body



THE THYMUS

- Lies behind sternum
- T cells divide and mature there
- Shrinks after puberty
- Produces thymosins
- Hormones that regulate T cell development





THE SPLEEN



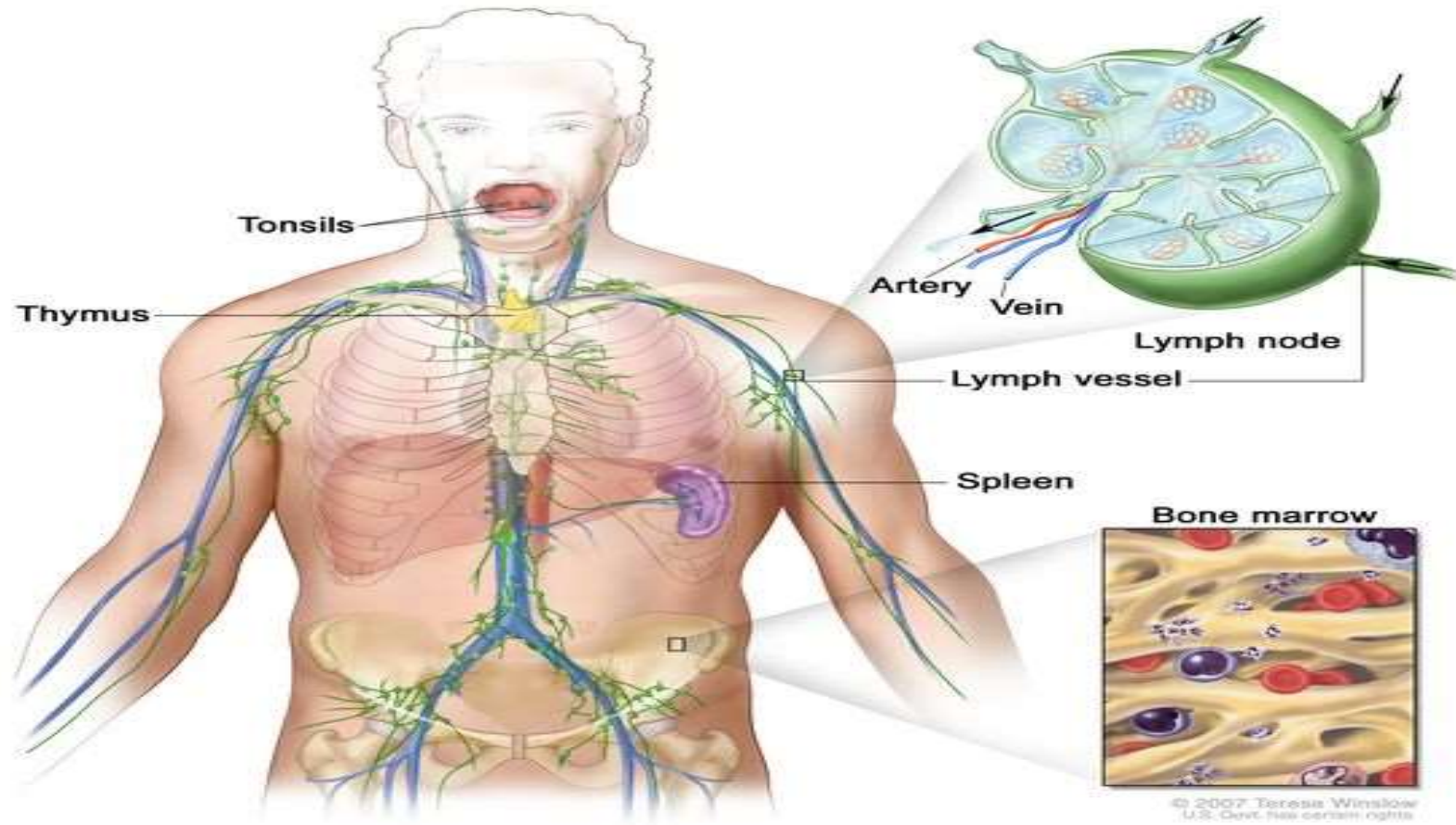
White pulp

- Resembles lymphoid nodules
- Removes antigens
- Initiates immune response

Red pulp

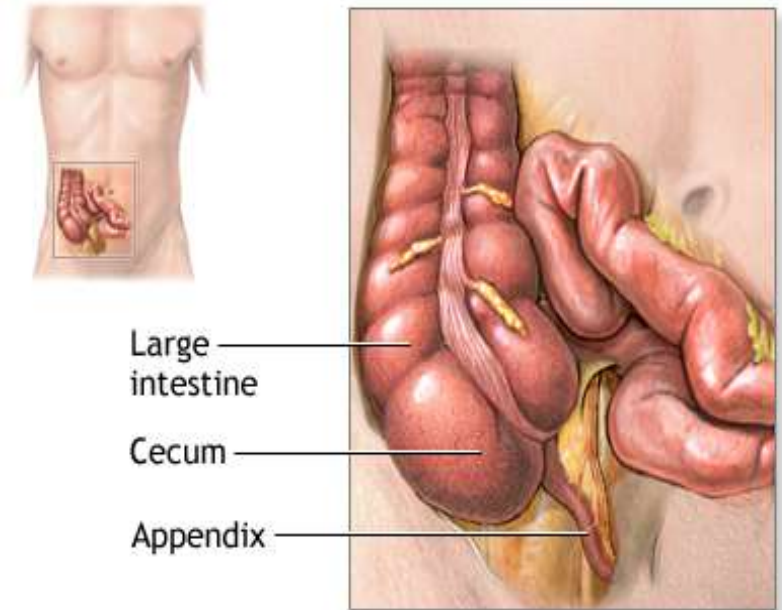
- Contains red blood cells
 - Recycles damaged or out-dated RBCs
- Stores iron from recycled RBCs

THE SPLEEN



THE APPENDIX

- Has an immune function, especially early in life.
- Assists with the maturation of B lymphocytes, and in the production of antibodies known as immunoglobulin A.
- Researchers have also shown that it's involved in the production of molecules that help direct the movement of lymphocytes to various other locations in the body.



ADAM.

Thank
You!

dreamstime

