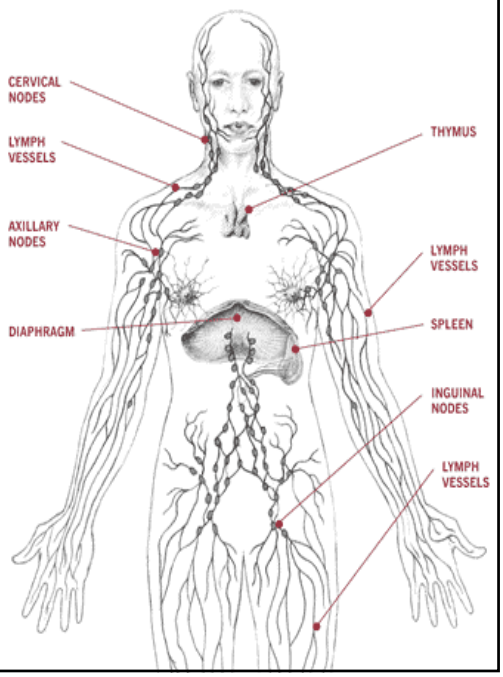
Lymphatic System

1

Functions

- Fluid & nutrient transport
  - Excess interstitial fluid
  - Dietary lipid
- Lymphocyte development
- Immune response
  - T-lymphocytes
  - B-lympocytes
  - Marcophages



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Lymph Organs

- Main organs: thymus, lymph nodes & spleen.
- Thymus
  - T-lymphocytes development
- Lymph nodes
  - Axillary (breast, axilla & upper limb)
  - Inguinal (lower limb & pelvis)
  - Cervical (head & neck)
  - Filter antigens from lymph
  - Initiate immune system response
- Spleen
  - Initiate immune system response
  - Reservoir for erythrocytes & platelets

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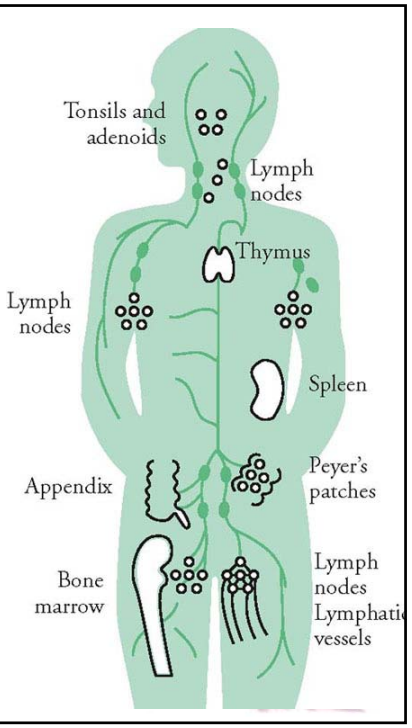
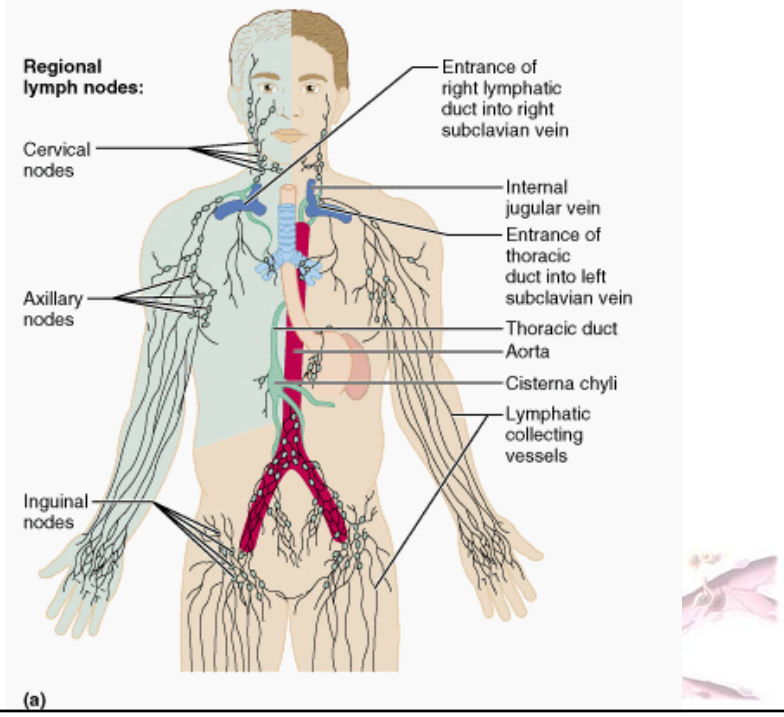
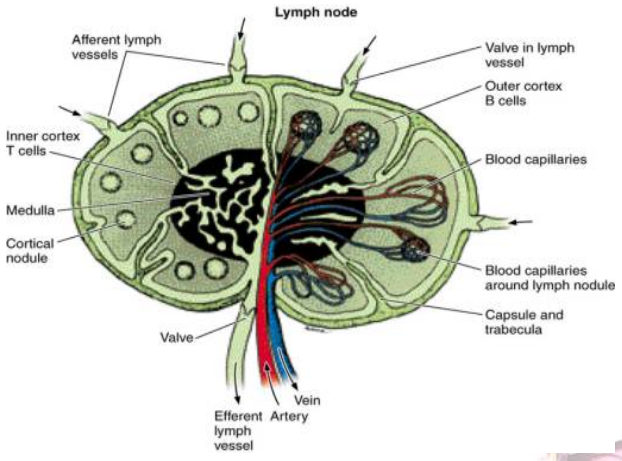




Lymph Nodes



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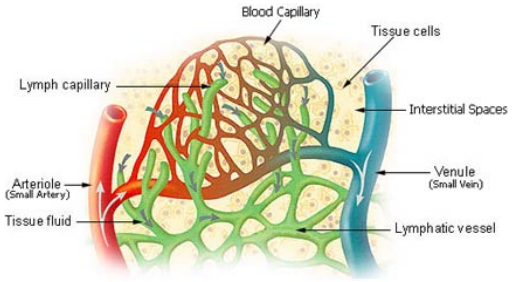
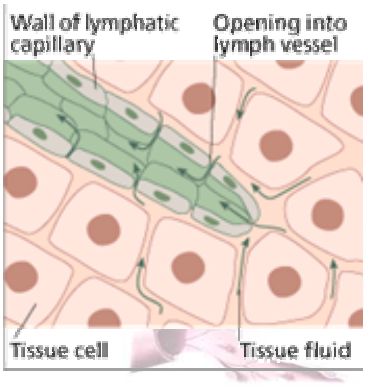
Lymph Capillaries & Vessels

- Closed-ended tubes that found among most capillary networks.



- Afferent = bring lymph to lymph nodes
- Efferent = The lymph exits the lymph node



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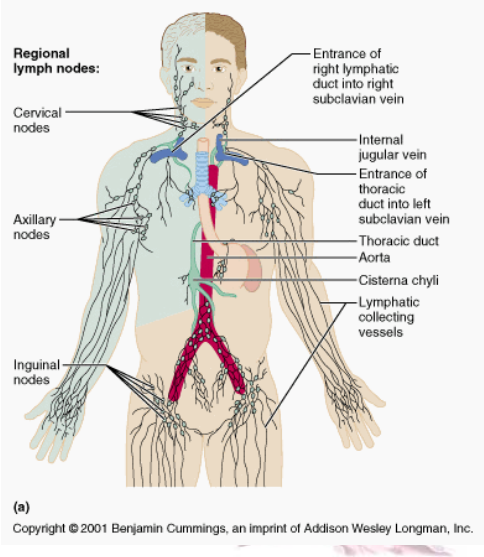
Lymphatic Trunks

- **Jugular**: drain lymph from head & neck.
- **Subclavian**: receive lymph from upper limbs, breast & superficial thoracic wall.
- **Bornchomediastinal**: drain deep thoracic structures.
- **Intestinal**: drain most abdominal structures.
- **Lumbar**: drain the lower limbs, abdominoplevic wall & pelvic organ.



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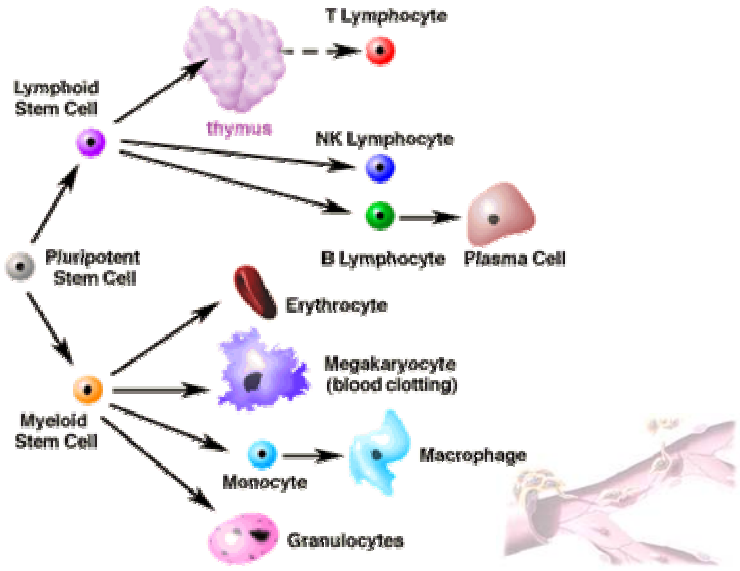
Lymphatic Cells



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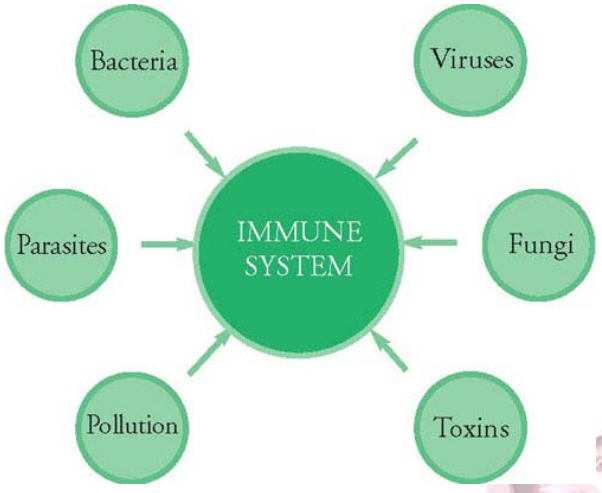
Immune System



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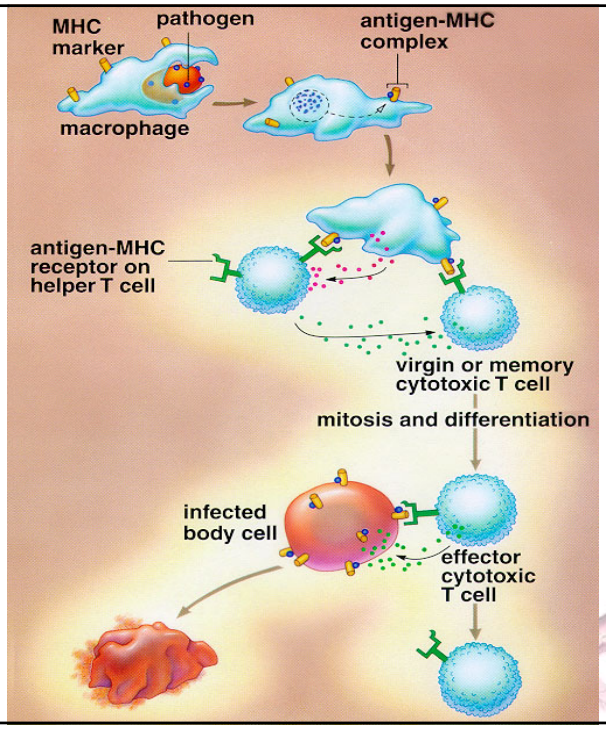

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Aging & Lymphatic System

- New T-lymphocytes can be produced only by replication by pre-existing lymphocytes.
- Reduced number of helper T-Lymphocytes lead to fewer B-lymphocytes & other kinds of lymphocytes
- Helper T-lymphocytes less response to antigens.
- Lymphatic system's ability to provide immunity and fight disease decrease.

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