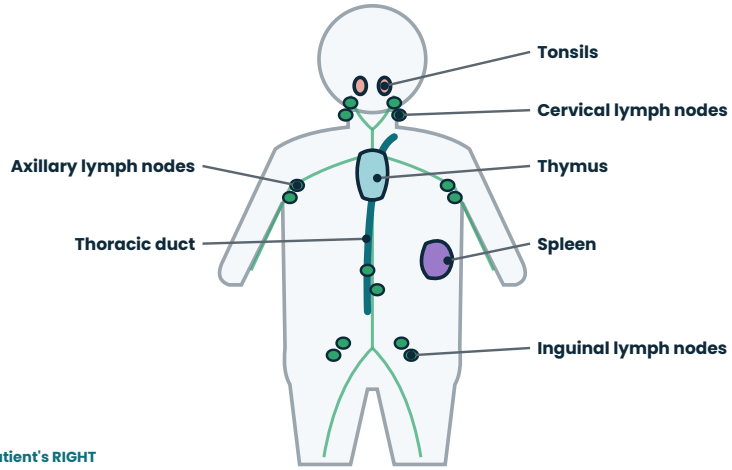
Lymphatic and Immune System

Study Sheet · Learn It with Prof. Melanie

1 Lymphatic Anatomy



2 Key Facts

- Returns tissue fluid to blood at the **subclavian veins**
- No pump: muscles, breathing, valves
- **Spleen:** filters blood, old RBCs
- **Thymus:** T cells mature
- **Bone marrow:** B cells mature
- **Lacteals:** absorb fats

3 Types of Immunity

	NATURAL	ARTIFICIAL
ACTIVE	**Natural active** — Body makes antibodies after having an illness	**Artificial active** — Body makes antibodies after a vaccine
PASSIVE	**Natural passive** — Mother's antibodies reach the baby	**Artificial passive** — Ready-made antibodies are injected

4 Defenses

- **Innate:** skin, mucous membranes, inflammation, fever, phagocytes
- **Adaptive:** B and T cells; specific; memory
- **Active** lasts; **passive** is fast but fades

5 Cells and Antibodies

B → plasma cells	Antibodies	**IgG**	Most common; crosses placenta
Helper T (CD4)	Coordinate; HIV target	**IgM**	First made
Cytotoxic T (CD8)	Kill infected cells	**IgA**	Secretions, breast milk
Phagocytes	Engulf germs	**IgE**	Allergies, histamine

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6 Disorders

Disorder	Key facts	Disorder	Key facts
Anaphylaxis	Severe allergy; epinephrine	**HIV/AIDS**	Destroys CD4 cells
Urticaria	Hives	**Hodgkin lymphoma**	Reed-Sternberg cells
Lupus (SLE)	Butterfly rash; autoimmune	**Lymphedema**	Blocked or removed nodes
Rheumatoid arthritis	Joints; autoimmune	**Mononucleosis**	EBV; spleen may enlarge
Immunodeficiency	Weak defenses	**Splenomegaly**	Enlarged spleen

7 Vaccines

Before	Check order and schedule; screen (allergies, illness, pregnancy, past reactions); give current VIS every dose
Storage	Fridge 2–8 °C (36–46 °F); freezer -50 to -15 °C; log temperatures
Live vaccines	MMR, varicella; usually avoid in pregnancy and severe immunocompromise
After	Observe about 15 min (fainting, allergy); epinephrine for anaphylaxis
Document	Vaccine, date, lot, manufacturer, site, route, dose, VIS edition date and date given, who gave it (name, title, address)
Report	Adverse events to VAERS

8 Word Parts

Part	Meaning	Part	Meaning	Part	Meaning
lymph/o	Lymph	**splen/o**	Spleen	**phag/o**	Eat
lymphaden/o	Lymph node	**thym/o**	Thymus	**auto-**	Self
immun/o	Protection	**tonsill/o**	Tonsils	**-oma**	Tumor

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