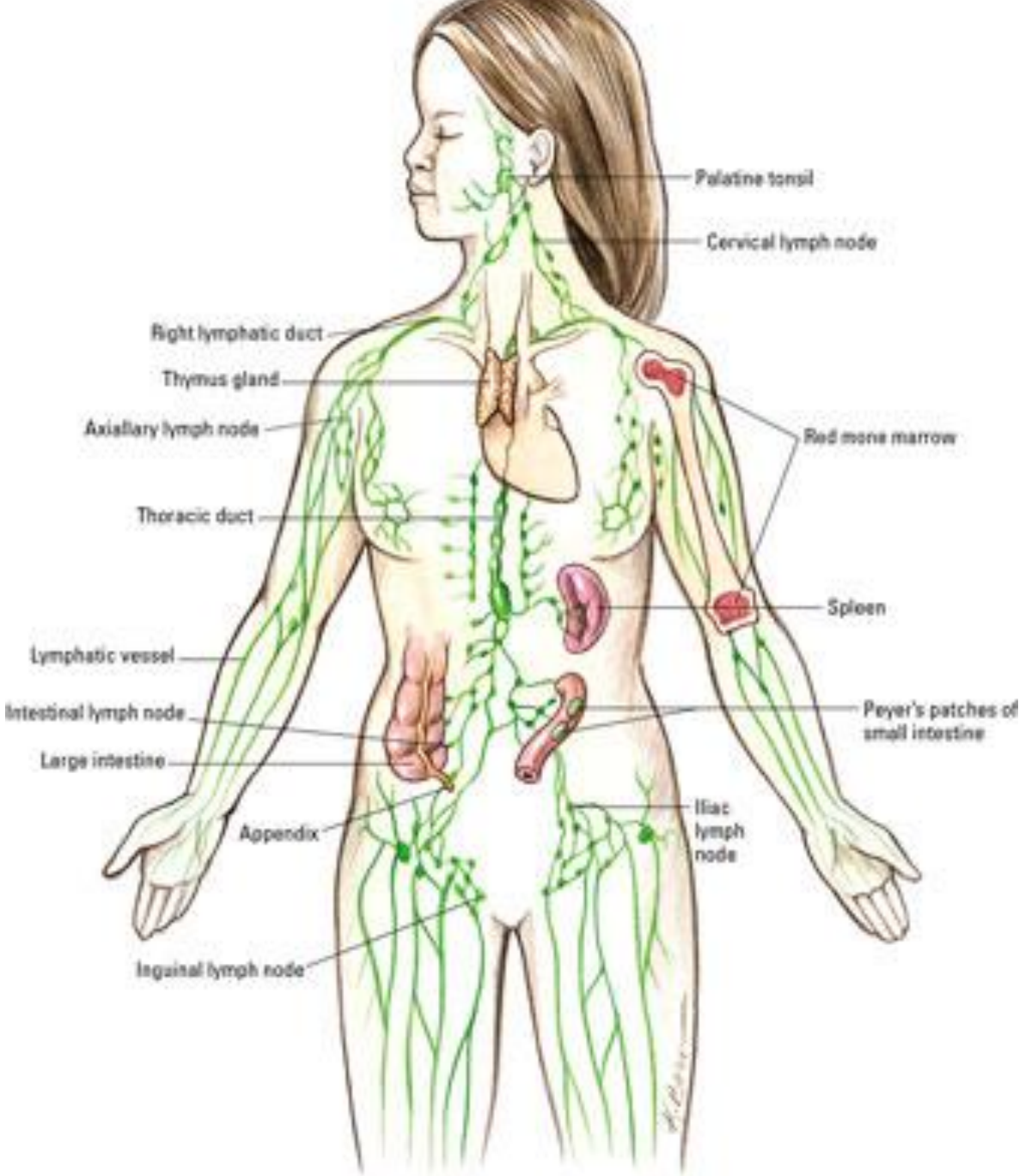
Lymph collection in the body

The lymphatic system includes a

- system of lymphatic capillaries,
- vessels,
- nodes,
- ducts that collects and transports lymph, which is a clear to slightly yellowish fluid, similar to the plasma in blood.

The lymphatic system is important for maintaining body's fluid balance, and it helps transport some fats. It also works along with the rest of the immune system (namely, the leukocytes) to fight infections.

The lymphoid organs assist the lymphatic system. They include the thymus, spleen, tonsils, and appendix, along with some special tissue in the gut:


Palatine tonsil
Cervical lymph node
Right lymphatic duct
Thymus gland
Axillary lymph node
Red bone marrow
Thoracic duct
Spleen
Lymphatic vessel
Intestinal lymph node
Peyer's patches of small intestine
Large intestine
Appendix
Iliac lymph node
Inguinal lymph node

thymus

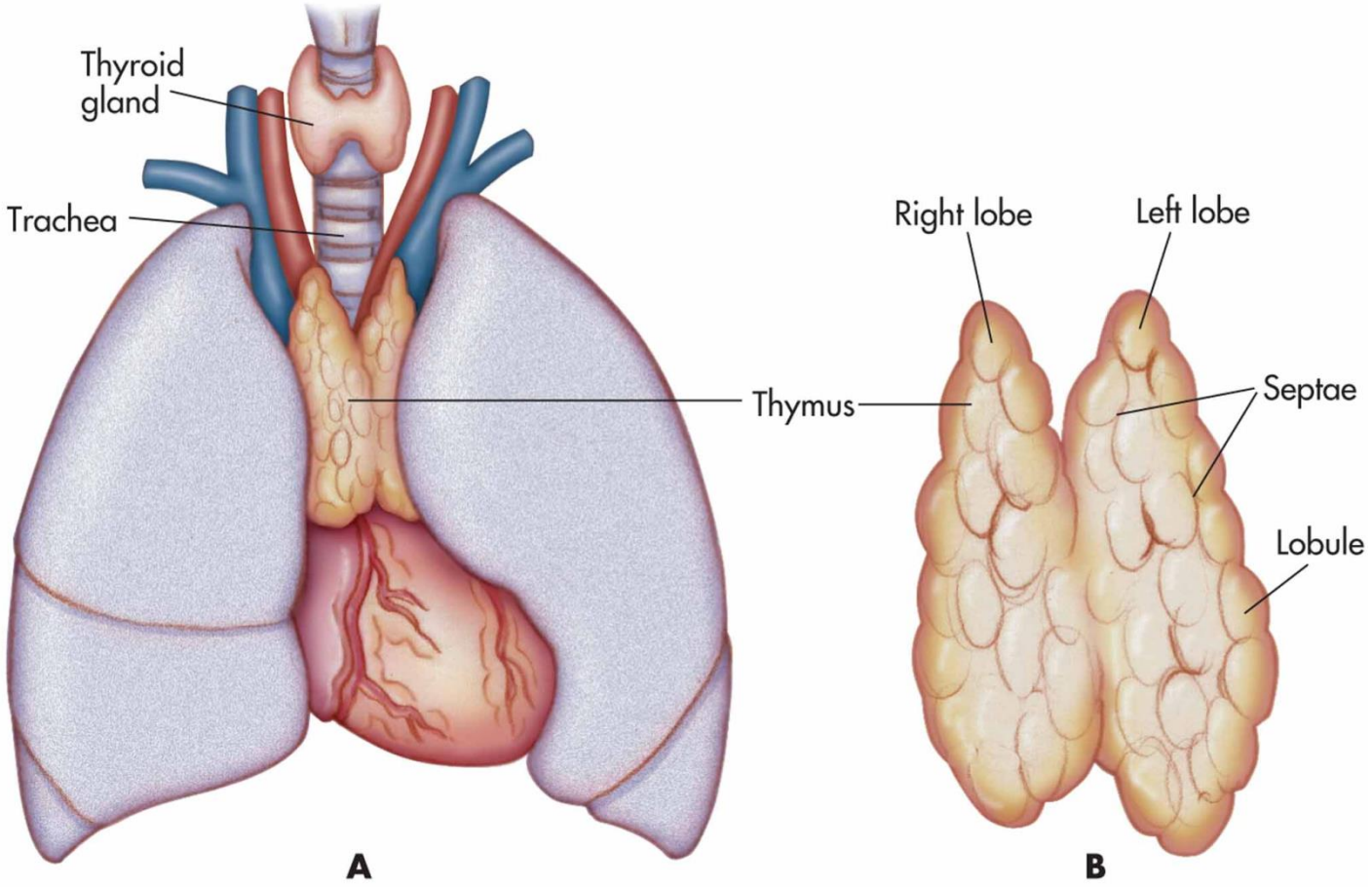
- The thymus gland, despite containing glandular tissue and producing several hormones, is much more closely associated with the immune system than with the endocrine system.
- The thymus serves a vital role in the training and development of T-lymphocytes or T cells, an extremely important type of white blood cell.
- T cells defend the body from potentially deadly pathogens such as bacteria, viruses, and fungi.

- The thymus is a flattened, bilobed structure lying between the sternum and the pericardium in the anterior mediastinum.
- In the newborn infant, it reaches its largest size relative to the size of the body, at which time it may extend up through the superior mediastinum in front of the great vessels into the root of the neck.
- The thymus continues to grow until puberty but thereafter undergoes involution.
- It has a pink, lobulated appearance and is the

site for development of T (thymic) lymphocytes.

The blood supply of the thymus is from the inferior thyroid and internal thoracic arteries

Thymus


Thyroid gland
Trachea
Thymus
A
Right lobe
Left lobe
Septae
Lobule
B

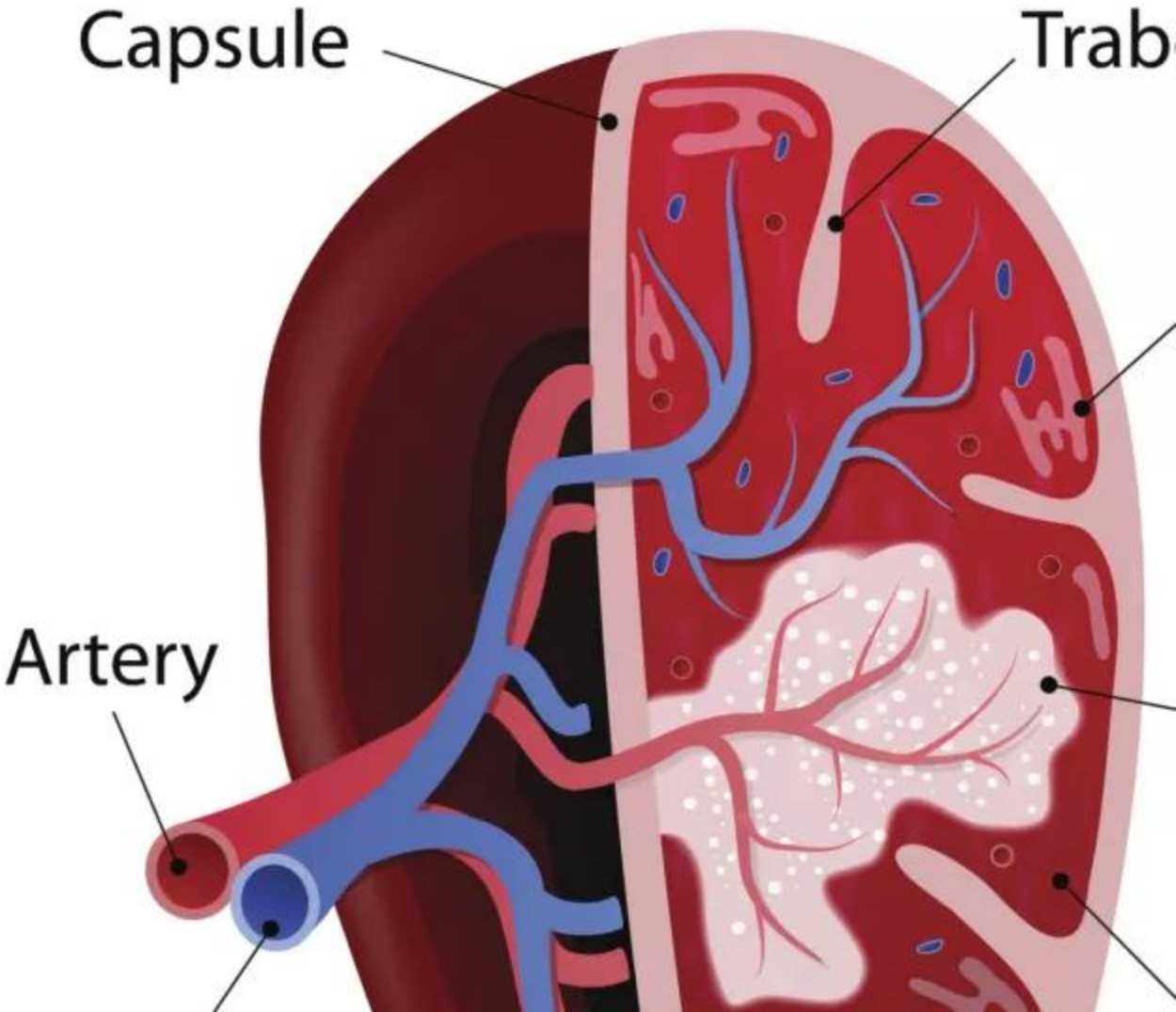
- Unlike most organs that grow until the age of maturity, the thymus enlarges throughout childhood but slowly shrinks from the onset of puberty and throughout adulthood. As the thymus shrinks, its tissues are replaced by adipose tissue. The shrinking is due to the reduced role of the thymus in adulthood – the immune system produces most of its T cells during childhood and requires very few new T cells after puberty.

spleen

- The spleen is an organ in the upper and left part of the abdomen, to the left of the stomach. The spleen varies in size and shape between people, but it’s commonly fist-shaped, purple, and about 4 inches long. Because the spleen is protected by the rib cage, it can’t easily feelt unless abnormally enlarged.

- It acts as a filter for blood as part of the immune system. Old red blood cells are recycled in the spleen, and platelets and white blood cells are stored there. The spleen also helps fight certain kinds of bacteria that cause pneumonia and meningitis.

SPLEEN ANATO



- The spleen is a soft, elongated organ that has an outer connective tissue covering called a capsule.
- It is divided internally into many smaller sections called lobules.
- The spleen consists of two types of tissue: red pulp and white pulp. White pulp is lymphatic tissue that mainly consists of lymphocytes called B-lymphocytes and T-lymphocytes that surround arteries.
- Red pulp consists of venous sinuses and splenic cords. Venous sinuses are essentially cavities filled with blood, while splenic cords are connective tissues containing red blood cells and certain white blood cells (including lymphocytes and macrophages).

Location and Description

- It is oval shaped and has a notched anterior border.
- It lies just beneath the left half of the diaphragm close to the 9th, 10th, and 11th ribs.
- Its long axis lies along the shaft of the 10th rib, and its lower pole extends forward only as far as the midaxillary line and cannot be palpated on clinical examination
- The spleen is surrounded by peritoneum which passes from it at the hilum as the gastrosplenic omentum (ligament) to the greater curvature of the stomach (carrying the short gastric and left gastroepiploic vessels).
- The peritoneum also passes to the left kidney as the
- splenicorenal ligament (carrying the splenic vessels and the
- tail of the pancreas).

Relations

- Anteriorly: The stomach, tail of the pancreas, and left colic flexure. The left kidney lies along its medial border
- Posteriorly: The diaphragm; left pleura (left costodiaphragmatic recess); left lung; and 9th, 10th, and 11^{th} ribs

Blood supply

Arteries

The large splenic artery is the largest branch of the celiac artery. It has a tortuous course as it runs along the upper border of the pancreas. The splenic artery then divides into about six branches, which enter the spleen at the hilum.

Veins

The splenic vein leaves the hilum and runs behind the tail and the body of the pancreas. Behind the neck of the pancreas,
the splenic vein joins the superior mesenteric vein to form the portal vein.

Lymph Drainage

The lymph vessels emerge from the hilum and pass through a few lymph nodes along the course of the splenic artery and then drain into the celiac nodes.

Nerve Supply

The nerves accompany the splenic artery and are derived

from the celiac plexus.

Palatine Tonsils

- The palatine tonsils are two masses of lymphoid tissue,each located in the depression on the lateral wall of the oral part of the pharynx between the palatoglossal and palatopharyngeal arches
- Each tonsil is covered by mucous membrane, and its free medial surface projects into the pharynx.

The surface is pitted by numerous small openings that lead into the tonsillar crypts.

- The tonsil is covered on its lateral surface by a fibrous
- capsule .

Blood supply

- The tonsillar branch of the facial artery.
- The veins pierce the superior constrictor muscle and join the external palatine,the pharyngeal, or the facial veins.
- Lymph Drainage of the Tonsil is to the the upper deep cervical lymph nodes