



- **Developing from:** the dorsal mesogastrium.

- **Characteristics:**

- large, mobile lymphoid organ (oval shape).
- Size of a pinched fist (12cm long, 7cm width) weighing 150g.
- Intraperitoneal except at the hilum.
- Attached to the greater curvature of the stomach by gastrosplenic ligament and to the left kidney by splenorenal ligament.
- **Phrenocolic ligament:** prevents the spleen from ascending superiorly when it is enlarged (splenomegaly) ---> it will be directed obliquely toward the umbilicus and may even reach the right iliac fossa.
- Ribs are posterior to the spleen and separated from it by the diaphragm and the costodiaphragmatic recess.

- **Vasculature:**

- **Splenic artery:** it is the largest branch from the celiac trunk. This artery has a tortuous course along the superior border of the pancreas, behind the stomach and omental bursa and anterior to the left kidney. It can be injured by a ruptured gastric ulcer.
- **Splenic vein:** the IMV opens in it and then it will merge with the SMV behind the neck of the pancreas to form the portal vein which will go to the liver.

- **Lymphatic:**

- Going to the pancreaticosplenic lymph nodes and eventually to the celiac lymph nodes.

- **Innervation:**

- From the celiac plexus.

- **Surface anatomy:**

- From 9th to 11th ribs (axis is the 10th rib on the midaxillary line).

- **Clinical correlations:**

- Normally, the spleen is not palpable. If severe splenomegaly occurs, the spleen must be removed (splenectomy) because if it ruptures this might result in death due to the severe hemorrhage. The spleen can be removed because it is not an essential organ for life.
- When a needle biopsy is taken, be sure not to injure the lungs or the pleura.
- Functions of the spleen: it acts as a blood filter; it controls the amount of red blood cells and blood storage in the body, and helps to fight infection. If the spleen detects potentially dangerous bacteria, viruses, or other microorganisms in the blood, it -along with the lymph nodes- creates white blood cells called lymphocytes, which act as defenders against invaders. The lymphocytes produce antibodies to kill the foreign microorganisms and stop infections from spreading. In fetal life, the spleen produces RBCs while in adult life it destroys them.

- **Histology:**

- The spleen is surrounded by a capsule which is sending trabeculae extensions with trabecular arteries and veins.
- **White pulp:** is represented by the numerous lymphatic nodules which have germinal centers and characterized by the presence of central arteries in their periphery. T-lymphocytes occur in the sheath around these central arteries while B-lymphocytes are found in the marginal zone and the nodule itself.
- **Red pulp:** formed by splenic cords and splenic sinuses.

