

Spleen

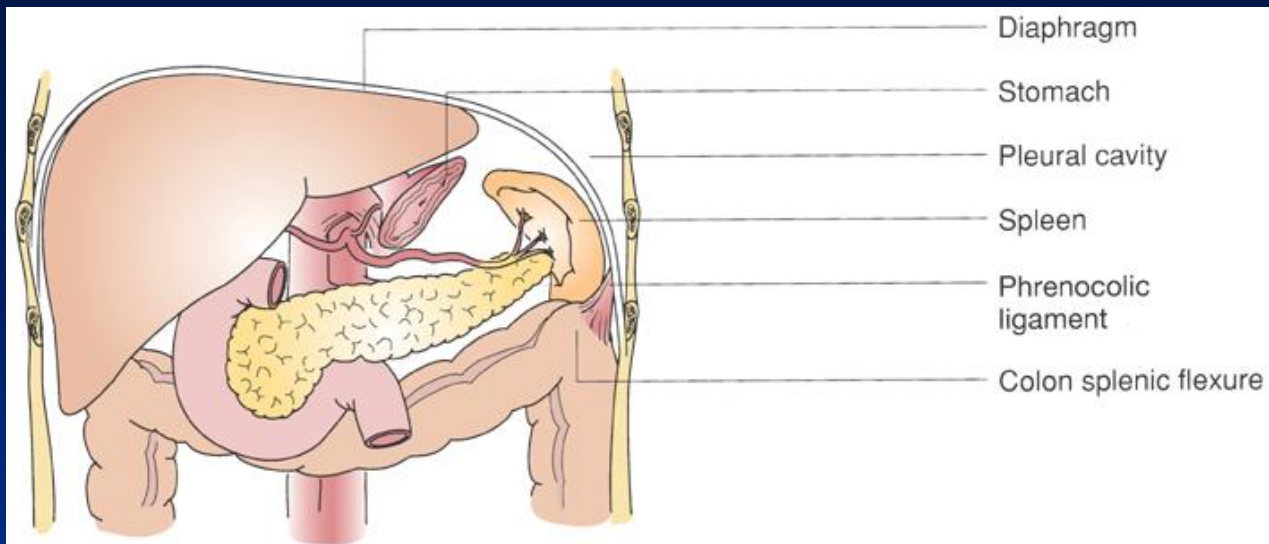
Fundamentals of Surgery
UTMCK Department of Surgery



Anatomy

- Palm sized organ in the Left upper quadrant
- Splenorenal, gastrosplenic, splenocolic and splenophrenic ligaments hold in place
- Vascular organ (5% CO)
- Dual blood supply – splenic and short gastrics





Visceral surface of spleen

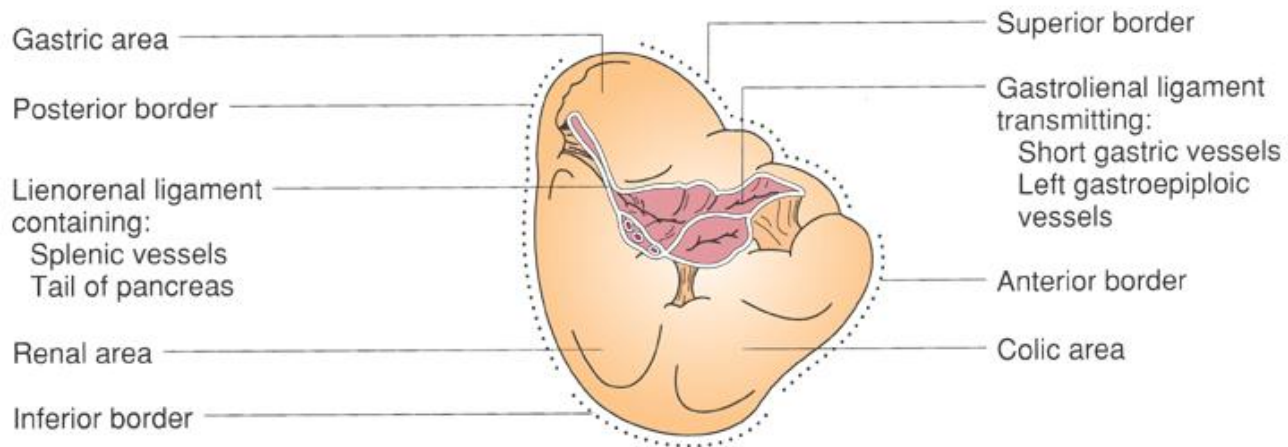


FIGURE 75.1 Anatomic relation of the spleen to the liver, diaphragm, pancreas, colon, and kidney. The stomach is sectioned to illustrate the anatomic relation *in situ*.

Anatomy

- Multiple spleens in up to 30%
- Histology
 - White Pulp
 - T- lymphocytes
 - Macrophages
 - Process Antigens
 - Red Pulp
 - No endothelium
 - Macrophage “filtering”



Function

- Hematopoiesis
 - Fetal or extramedullary
- Filtering
 - Removes aged cells
- Immune Modulation
 - Immunoglobulin M production
 - Opsinin production – properdin, tuftsin, fibronectin
 - Clearance of opsinized objects



Exam/Imaging

- Palpated only when enlarged
- Ultrasound
- CT
- Nuclear Medicine
- Angiography
 - Diagnostic
 - Therapeutic



FIGURE 75.7 A contrast computed tomography scan of a patient with splenic rupture near the hilum. There is considerable blood in the perisplenic fossa as well as free blood in the peritoneal cavity around the liver. (Courtesy of Dr. C. William Schwab.)

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Trauma

- Most frequently injured organ in blunt mechanisms
- Intra-operative injury
- Hypotension = splenectomy
- Normotensive = splenic salvage
 - Non-operative therapy
 - Splenorrhaphy
 - Embolization



Hypersplenism

- Hemolytic anemias:
 - Hemoglobinopathies
 - Spherocytosis, Thalassemis
- ITP:
 - Normal production, no toxicity
 - Failed medical mangement
- Splenomegaly
- Cytopenia from size
 - Benign – Felty's, Gaucher's
 - Malignant –leukemia, lymphoma

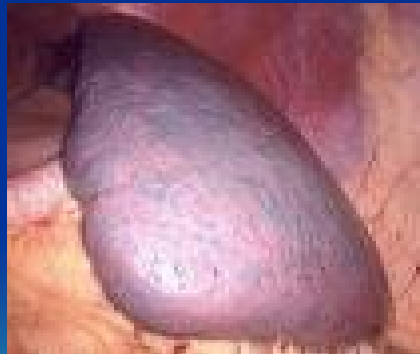


Treatment

- Embolization
- Splenectomy
 - Open
 - Trauma
 - Massively Enlarged
 - Laparoscopic
 - “Elective”

NO PLATELETS UNTIL ATERY CLAMPED!





Post Splenectomy

- Leading Cause for asplenic state is surgeons
 - Sickle cell
- Overwhelming post-splenectomy sepsis
 - Encapsulated organisms
 - Prophylaxis
- Blood smear changes
 - Howell –Jolly, Pappenheimer, Heinz, target, acanthocytes
- Thrombocytosis
 - Platelet inhibitors

