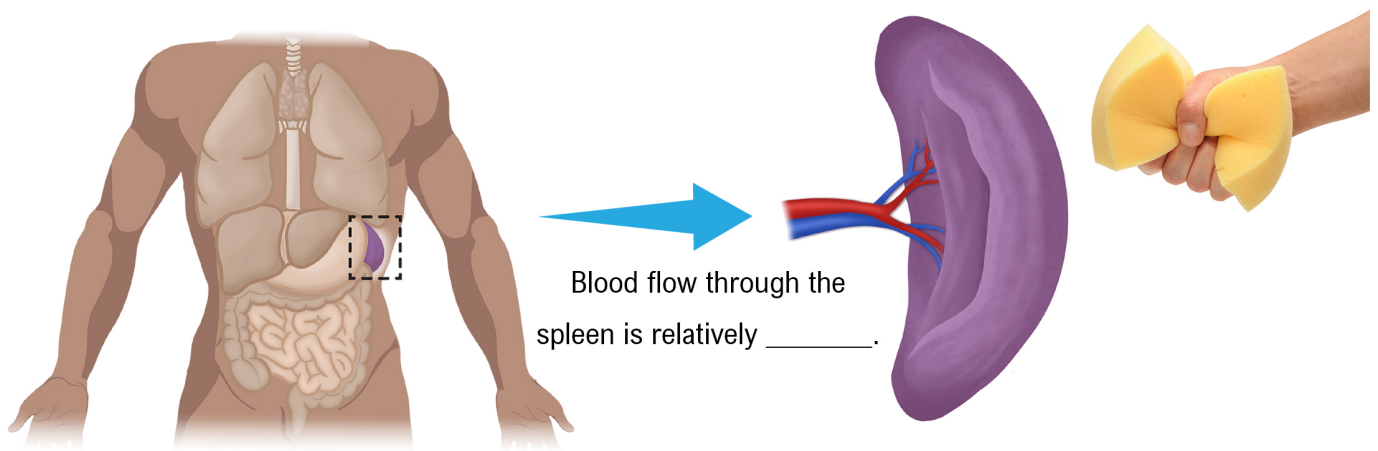


TOPIC: SECONDARY LYMPHOID ORGANS: THE SPLEEN

Function of the Spleen

- ◆ **Spleen:** the _____ lymphoid organ; located on _____ side of abdomen.
- ◆ Functionally *similar* to lymph nodes EXCEPT the spleen *filters* _____, NOT lymph.
 - _____ and/or *recycles* abnormal erythrocytes, platelets, debris, & pathogens from blood.
 - Provides a site for lymphocyte proliferation & _____ to generate immune responses.
 - _____ erythrocytes, platelets & monocytes to be released in the bloodstream in emergencies.
 - Under certain conditions, the spleen can serve as a site for *hematopoiesis* (_____ of blood cells).



Note: Splenectomy = surgical removal of spleen. Liver & bone marrow can help take over most its functions.

EXAMPLE

During which of the following emergency situations would the spleen be able to assist the body?

- a) A sudden increase in blood glucose concentration in a diabetic person.
- b) A sudden decrease in the number of erythrocytes & platelets in circulation.
- c) A sudden decrease in blood glucose concentration in a diabetic person.
- d) An inability to secrete functional digestive enzymes.

PRACTICE

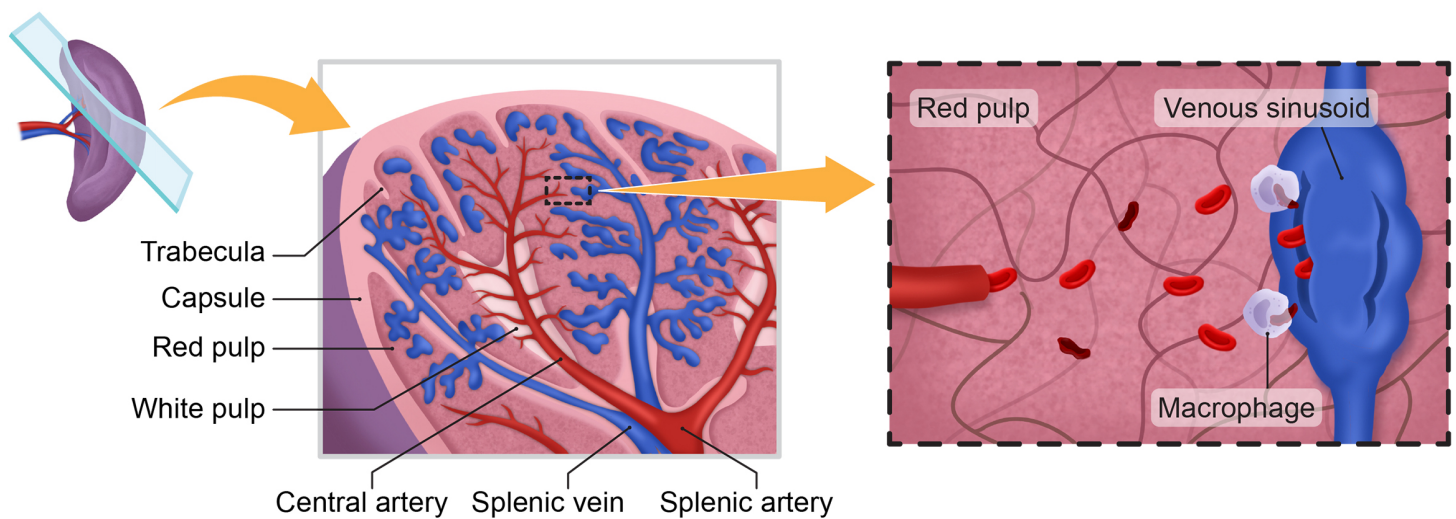
What is a common outcome among people who've had a splenectomy (spleen removal)?

- a) Increased susceptibility to infection.
- b) Increased risk of blood disorders.
- c) Impaired hemostasis.
- d) All of the above.

TOPIC: SECONDARY LYMPHOID ORGANS: THE SPLEEN

Structure of the Spleen

- ◆ Like lymph nodes, the spleen is externally covered by a _____ & has inward extensions (*trabeculae*).
 - ▶ A _____ artery & vein carry blood into & out of the spleen at the _____ (indentation).
- ◆ Internally, the spleen has _____ different types of tissue: 1) White Pulp & 2) Red Pulp.
 - ▶ **White Pulp:** has lots of _____ blood cells & *lymphoid follicles* filtering pathogens from the blood.
 - ▶ **Red Pulp:** has lots of _____ blood cells & macrophages with a reticular fiber framework (*splenic cords*).
 - Venous _____: enlarged, discontinuous, & permeable capillaries in red pulp of spleen.



Slow Blood Flow Through Spleen

Splenic Artery → Central Artery → Smaller Vessels → _____ Pulp → Venous Sinusoids → Splenic Vein
_____ Pulp

EXAMPLE

The spleen's white pulp is composed primarily of _____.

- a) Macrophages.
- b) Platelets.
- c) Splenic sinusoids.
- d) Lymphocytes.

TOPIC: SECONDARY LYMPHOID ORGANS: THE SPLEEN

PRACTICE

What is the primary function of red pulp in the spleen?

- a) Filtering & removing old/defective erythrocytes.
- b) Activating the adaptive immune response when a pathogen is identified.
- c) Producing new leukocytes.
- d) Gas exchange.

PRACTICE

Which of the following statements about the spleen is true?

- a) It is a primary producer of red blood cells.
- b) It plays a role in both blood filtration & immune response.
- c) It only plays a major role in the immune system, but not blood filtration.
- d) It plays a role in the respiratory system.