What Are Venous Drainage Pathways?

Worksheet

Venous drainage generally follows capillaries venules veins (superficial and deep, linked by perforators) larger tributaries the superior vena cava, inferior vena cava, or (for abdominal viscera) the portal vein, all of which funnel blood back to the right atrium.

Questions

1. Perforator veins normally direct blood flow:

A) Deep to superficial
B) Superficial to deep
C) Randomly in both directions
D) Directly into the portal vein

2. Blood from the intestines reaches the systemic circulation only after passing through the:

A) Kidneys
B) Liver (via the portal vein)
C) Spleen
D) Lungs first

3. Which vessel returns blood from the lower limbs and abdomen to the heart?

A) Superior vena cava
B) Inferior vena cava
C) Pulmonary vein
D) Portal vein

4. A DVT is most dangerous when located in the:

A) Superficial saphenous vein
B) Deep femoral/iliac veins
C) Perforator veins only
D) Portal vein

5. A patient has varicose veins in the leg due to incompetent perforator valves. What happens to blood flow?

6. Blood from the stomach, intestines, spleen, and pancreas drains where before reaching the systemic circulation?

7. Why does a deep vein thrombosis (DVT) in the femoral vein pose a higher pulmonary embolism risk than superficial thrombophlebitis?

8. Define: What is the typical venous drainage route?

9. Define: What connects superficial and deep veins?

10. Define: Where does portal venous blood go before the heart?

Answer Key

1. B) Superficial to deep - One-way valves in perforators normally push blood from superficial into deep veins.

2. B) Liver (via the portal vein) - Portal blood is filtered by the liver before draining via hepatic veins into the IVC.

3. B) Inferior vena cava - The IVC collects venous blood from the lower body and abdomen.

4. B) Deep femoral/iliac veins - Deep veins carry high-volume flow directly toward the heart and lungs, raising embolism risk.

5. Normally perforator veins let blood flow one-way, superficial deep Incompetent valves allow reflux, deep superficial, under muscle-pump pressure This raises pressure in superficial veins, causing dilation and varicosities

6. These organs drain into the portal venous system (splenic + superior mesenteric veins form the portal vein) The portal vein carries this blood to the liver for filtering and processing Hepatic veins then carry blood from the liver into the inferior vena cava

7. The deep venous system carries the majority (~90%) of venous return and connects directly to the iliac veins IVC right heart pulmonary arteries A clot dislodged from a deep vein has a direct, high-volume path to the lungs Superficial veins connect to the deep system only via perforators, so clots there are less likely to embolize centrally

8. Capillaries venules veins (superficial/deep) larger veins vena cava right atrium.

9. Perforator veins, which have one-way valves directing flow from superficial to deep.

10. It passes through the liver via the portal vein, then leaves via hepatic veins into the inferior vena cava.