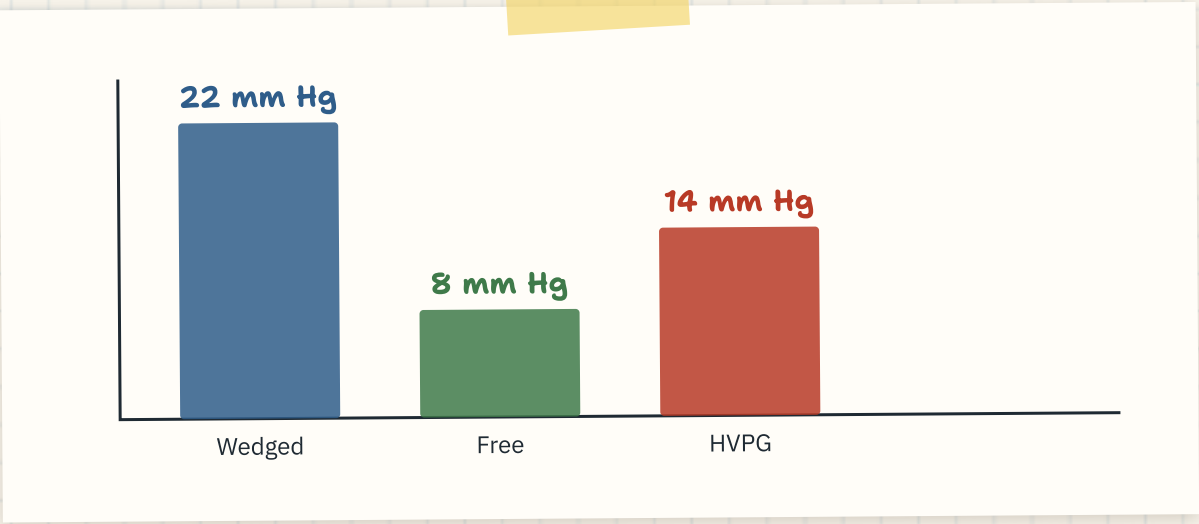
Portal hypertension in 3 steps

Find the block, name the collateral, read the gradient



Step by step

1. Find the block: before, in or after the liver
2. Cirrhosis is the commonest cause (sinusoid)
3. Budd-Chiari and right heart failure are posthepatic
4. Name the collateral: one portal vein, one systemic vein
5. Read the HVPG: wedged minus free

HVPG

HVPG = wedged − free hepatic venous pressure

10 mm Hg or more: clinically significant. Above 12 mm Hg: bleeding risk rises sharply.

Site	Portal / systemic	Result
Lower oesophagus	Left gastric / azygos	Oesophageal varices
Rectum	Superior rectal / middle and inferior rectal	Rectal varices
Umbilicus	Paraumbilical / superficial epigastric	Caput medusae
Retroperitoneum	Splenic / left renal	Splenorenal shunt

Portosystemic anastomoses

Rule of thumb

Each anastomosis pairs one portal vein with one systemic vein.

Hepatic vein to inferior vena cava is normal outflow, not a collateral.

Exam traps

- HVPG can read falsely normal when the block is before the sinusoid, as in portal vein thrombosis.
- Rectal varices must be told apart from haemorrhoids.
- Hepatic vein to inferior vena cava is not a portosystemic collateral.

Portal hypertension and portosystemic anastomoses

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/gi-physiology-pathology/portal-hypertension-portosystemic-anastomoses

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