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Umbilical catheters

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Disclosures

- No funding related to this presentation



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Objectives

Indications for Umbilical catheters

Normal fetal circulation

Ideal positioning

Complications



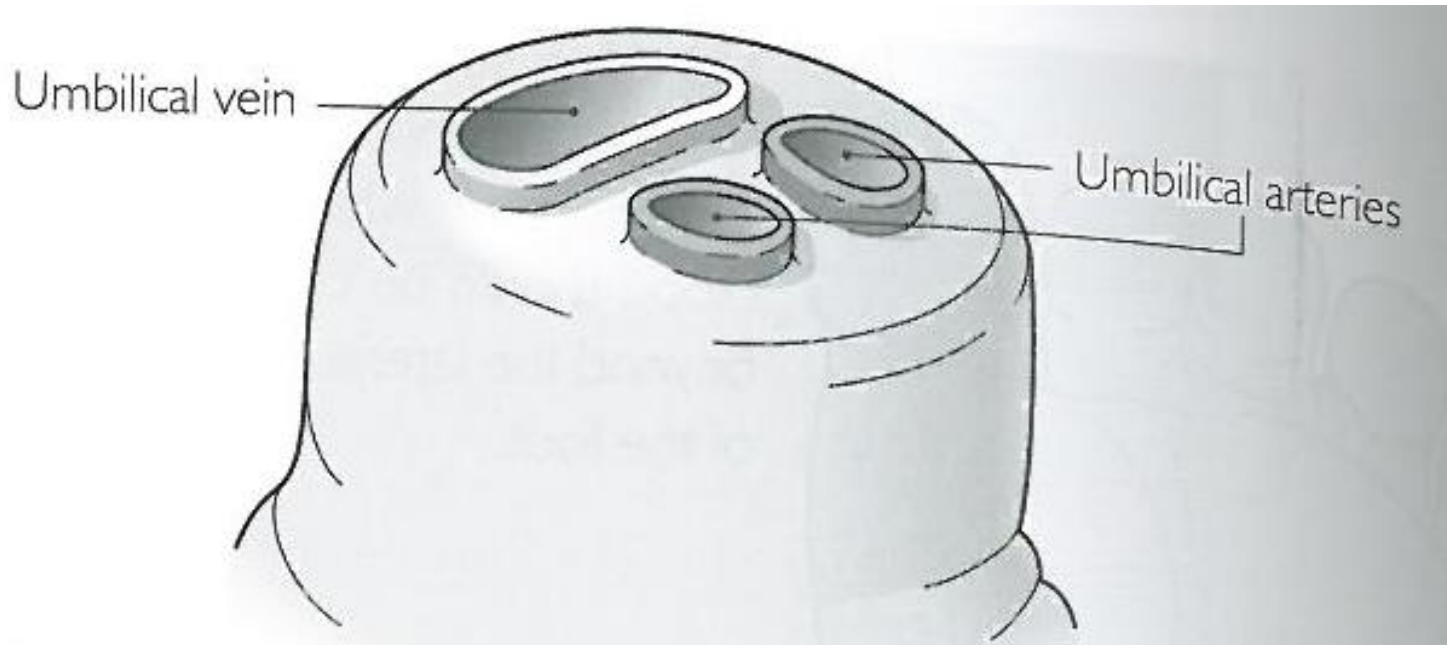
Indications for Umbilical catheters

Newborn <14 days of birth, not doing well, often premature babies

- Draw blood samples
- Give fluids or medication
- Monitor blood pressure



Vascular access, newborn <14 days





Indications

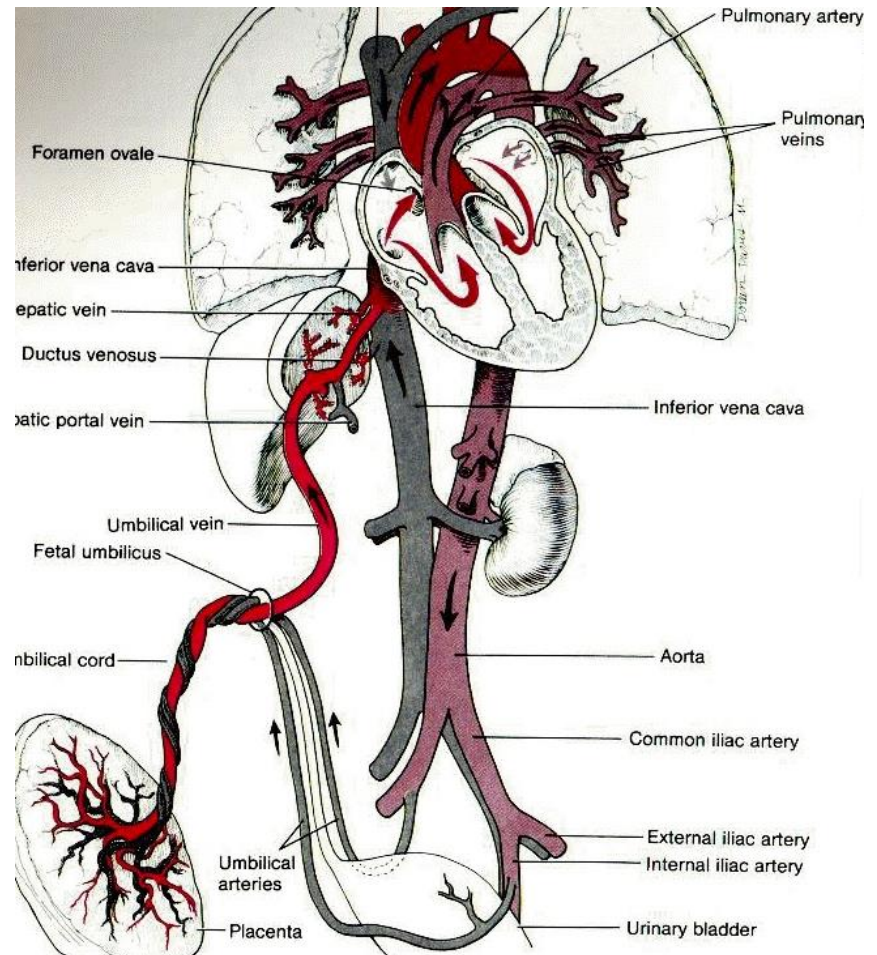
- Umbilical artery catheter (UAC)
 - Blood samples
 - Monitor BP
- Umbilical venous catheter (UVC)
 - Medication
 - Fluids



Fetal circulation

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- Placenta
- Umbilical vein
- Left portal vein
- Ductus venosus
- IVC
- Right atrium
- Foramen ovale
- Left atrium
- Left ventricle
- Aorta
- Systemic circulation
- Umbilical arteries
- Placenta





Umbilical venous catheters

- Medication, fluids
- Draw blood samples
- May remain for 14 days
 - (maximum 28 days)

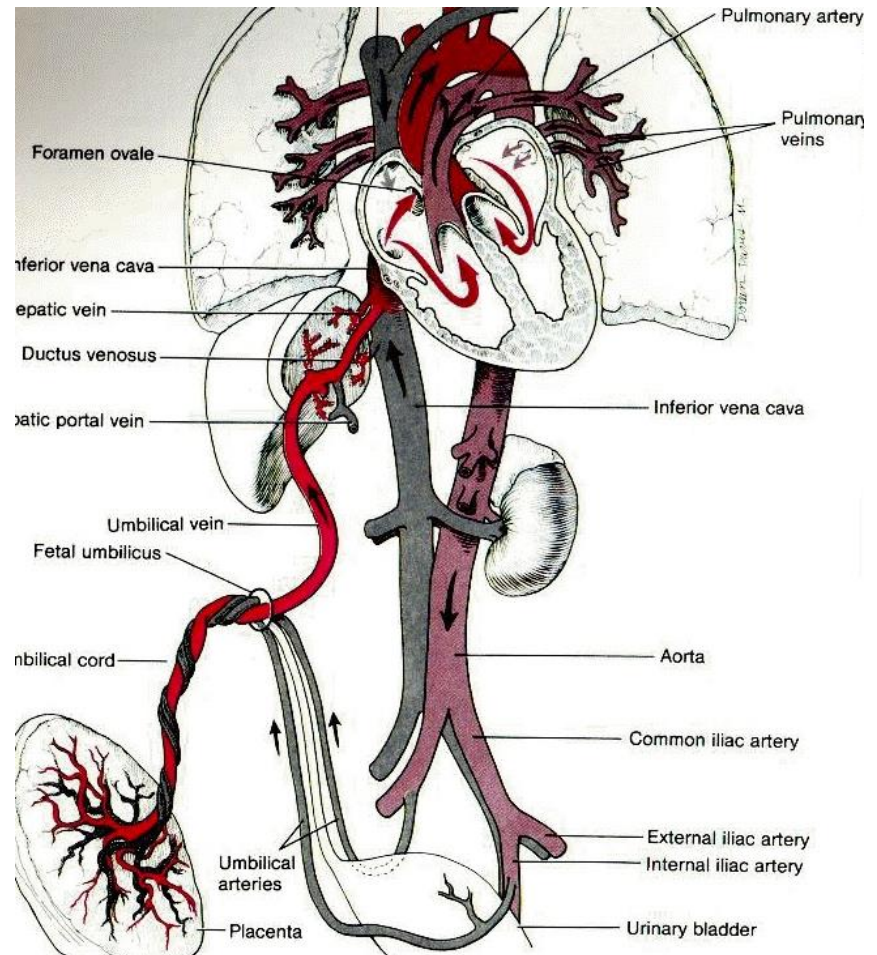
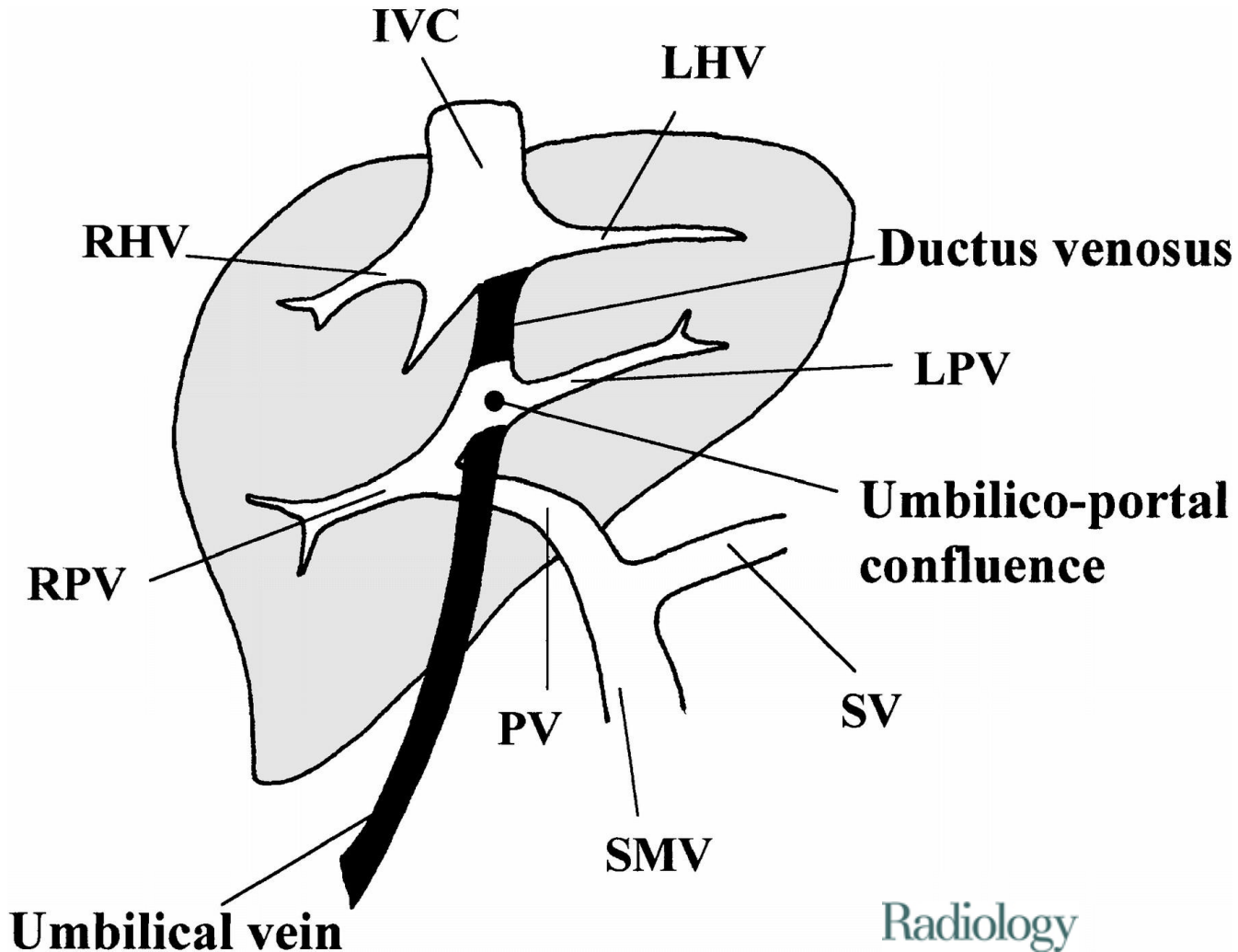




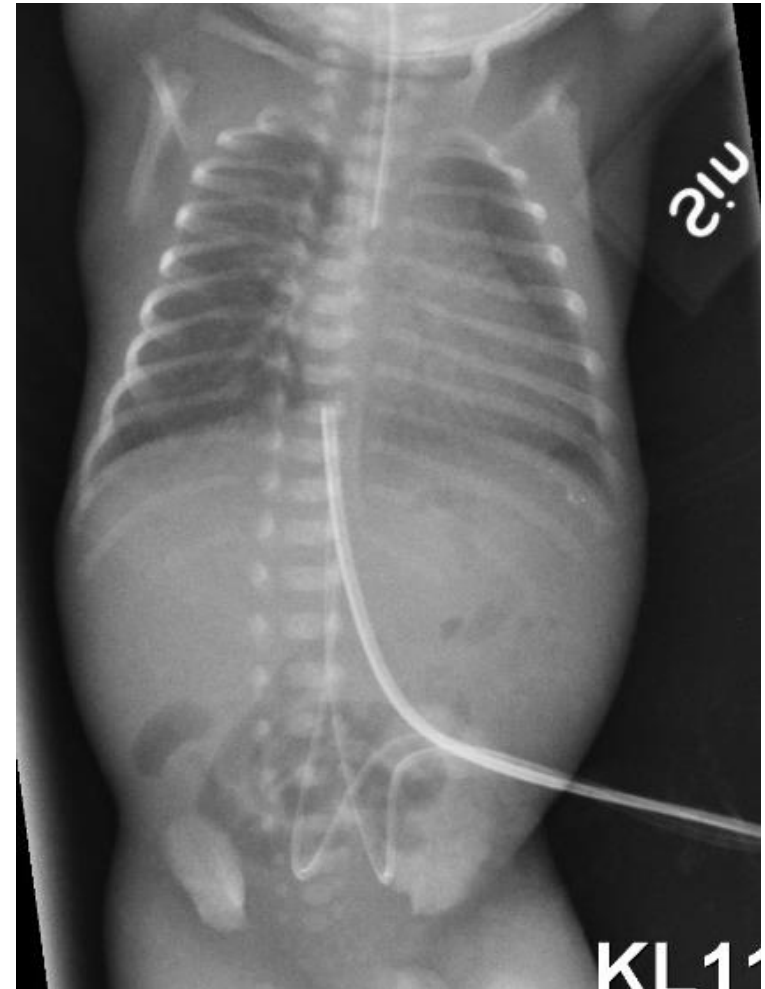
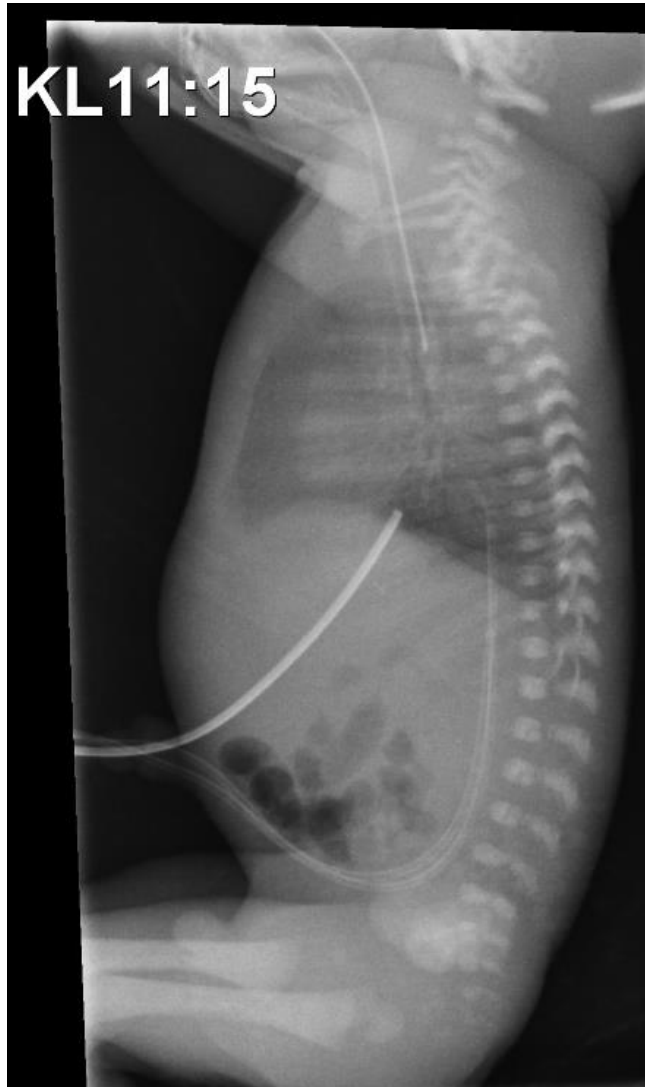
Diagram of the neonatal umbilical and portal venous system





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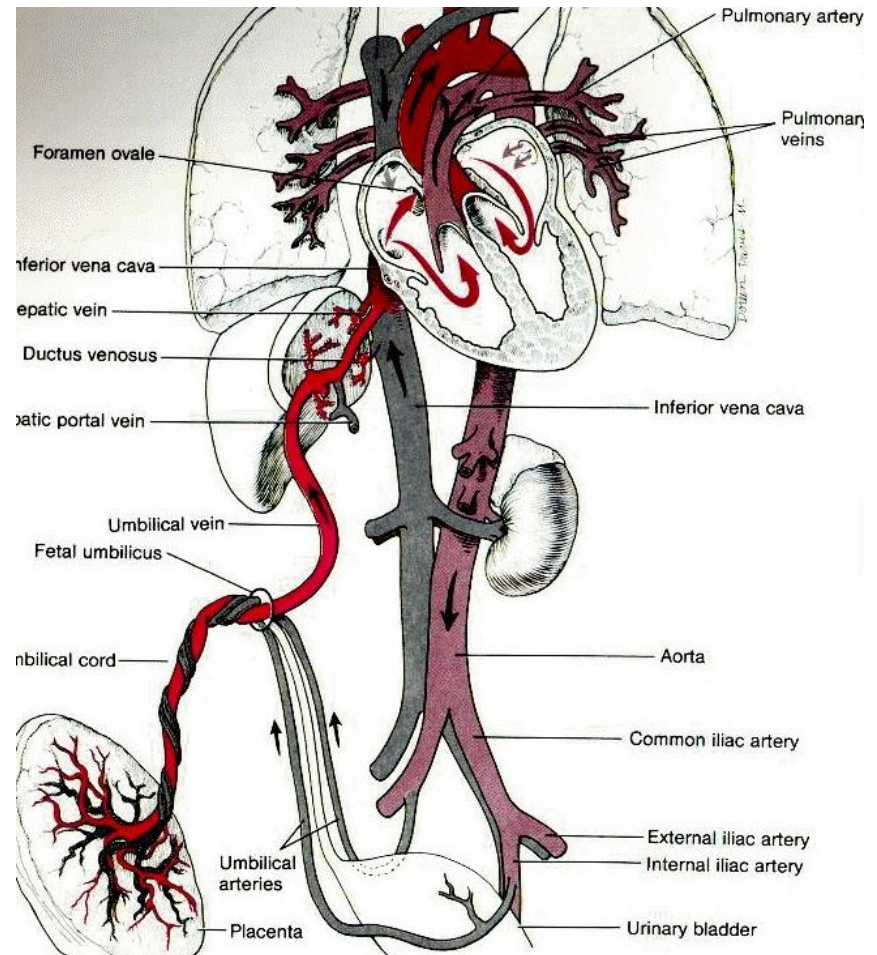
Positioning of catheter in umbilical vein/arteries





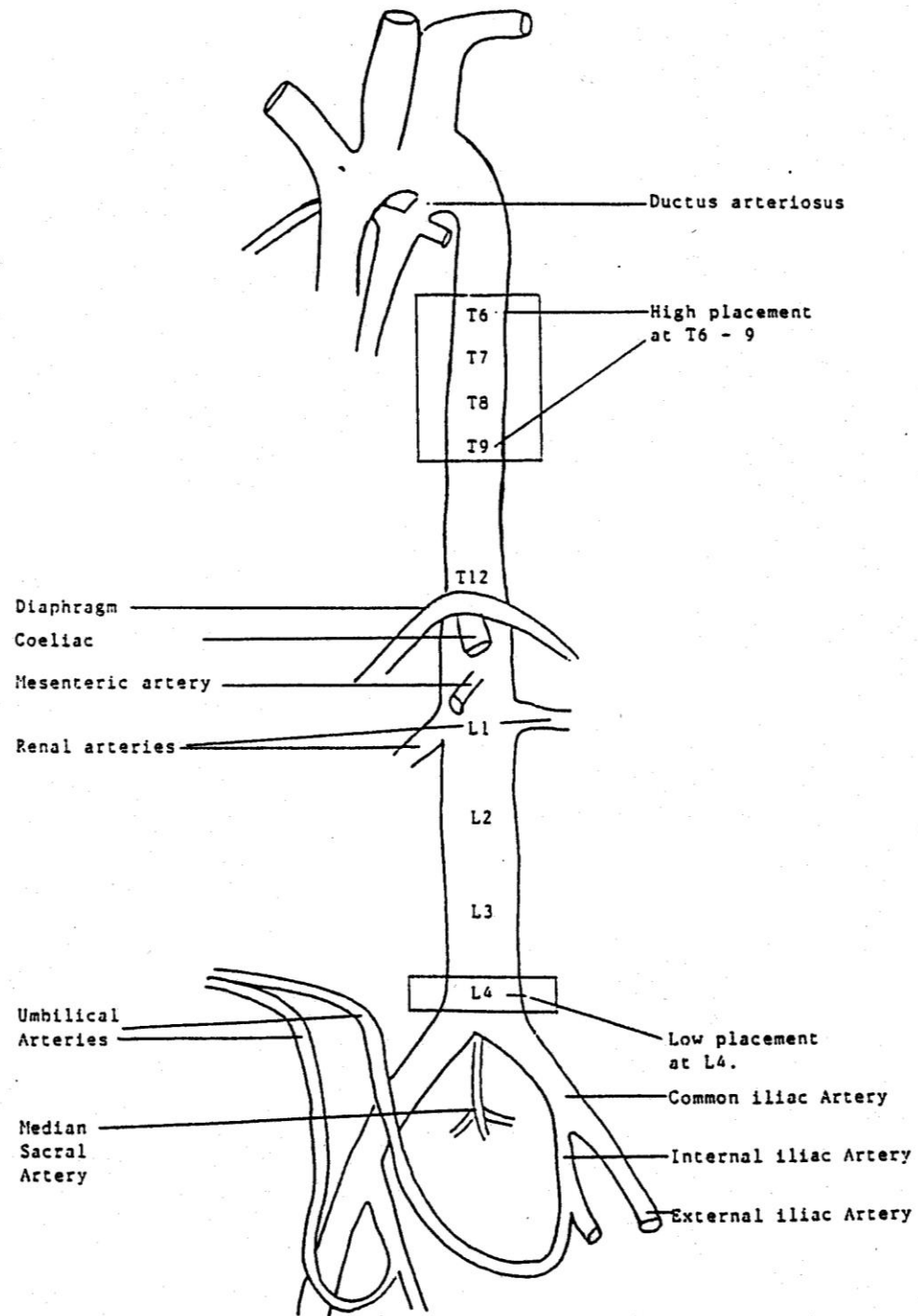
Umbilical artery catheter

- Draw blood samples
- Measure BP



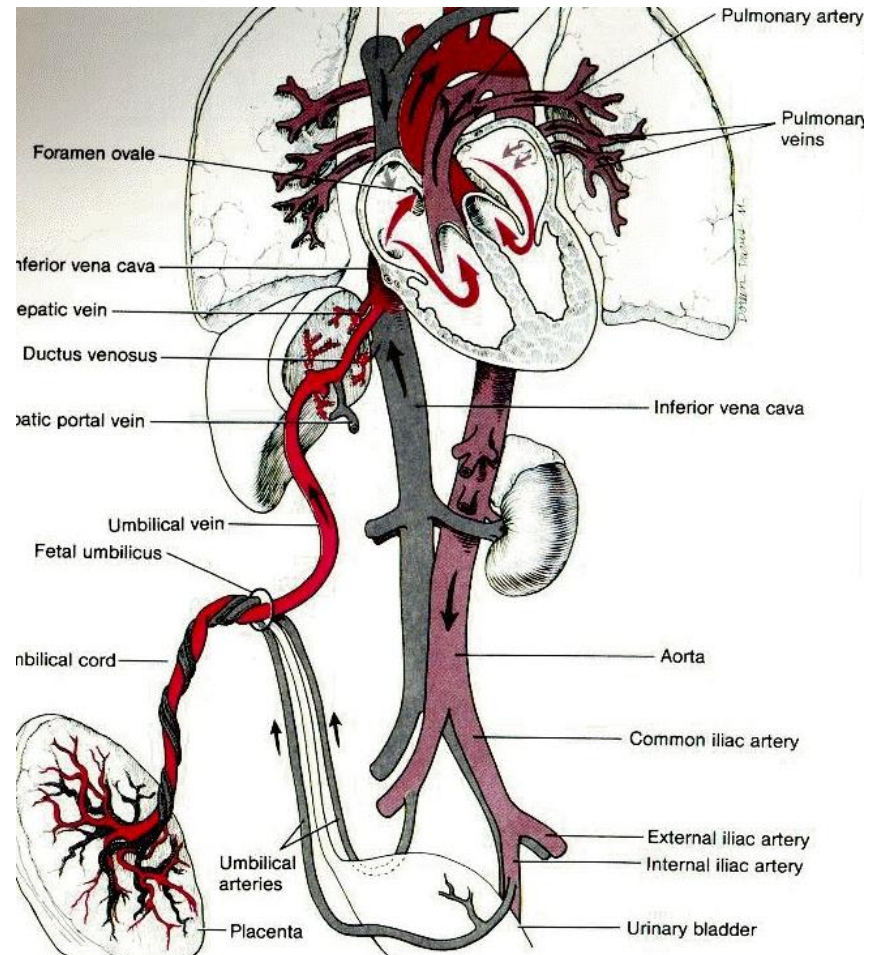


Positioning of catheter in umbilical artery





- Infection, sepsis
- Thrombosis/ischemia
 - Air embolism
 - Portal thrombosis
 - portal hypertension
 - Infarction/necrosis
 - Arterial thrombosis
 - Renal insufficiency
 - Limb ischemia
 - NEC
- Perforation
 - Peritoneal perforation
 - Pericardial tamponade
 - Pulmonary hemorrhage
 - Hemothorax
 - Cardiac arrhythmias
 - Biliary-venous fistula
 - Hepatic hematoma/abscess





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Questions?

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