Kidney & its Relations

KIDNEYS (GENERAL)

- 11x6x4cm, 120g each, 1200ml blood/minute
- Retroperitoneal, move 2-3cm on respiration
- Pelvis faces medially/anterior
- 1 million nephrons/kidney
- Lymphatics to para-aortics
- Sympathetic from T12-L1 for vasoconstriction & pain
- Parasympathetics from vagus. Function unknown
- Polar & capsular vessels give minimal collateral supply
HILUM OF KIDNEY

Occasional arrangement with left renal vein passing posterior to aorta

“V - A - U”
A = Left adrenal vein
B = Left gonadal vein
SMA = Superior mesenteric artery

ANTERIOR VIEW
POSTERIOR VIEW
Upper
Apical
Middle
Posterior
Lower
Segmental blood supply
KIDNEY (RELATIONS)

Cross (axial) section of left side looking up

- Peritoneum
- Pancreas
- Spleen
- Fibrous capsule
- Perinephric fascia (Gerota's)
- Perinephric fat
- Lumbar fascia
- Quadratus lumborum
- IVC
- Aorta
- PSOs
- L3
- Erector spinae
- Posterior

Note: The perinephric fascia is attached around the renal pelvis but is open inferiorly so that pus or extravasated urine can track down alongside the ureter.

Kidneys move 3-4cm on respiration

ANTERIOR RELATIONS OF KIDNEYS

- Suprarenal glands
- Spleen & its vessels
- Stomach
- Pancreas
- Small bowel
- Splenic flexure
- 2nd part duodenum
- Hepatic flexure
- IVC

= peritoneal covering
POSTERIOR RENAL RELATIONS (BOTH SIDES)

- Diaphragm & costodiaphragmatic recess
- Rib 12, subcostal neurovascular bundle - vein, artery, nerve
- Iliohypogastric, ilio-inguinal nerves
- Quadratus lumborum

TPP = Transpyloric plane (L1)

Kidney lies obliquely along line of psoas