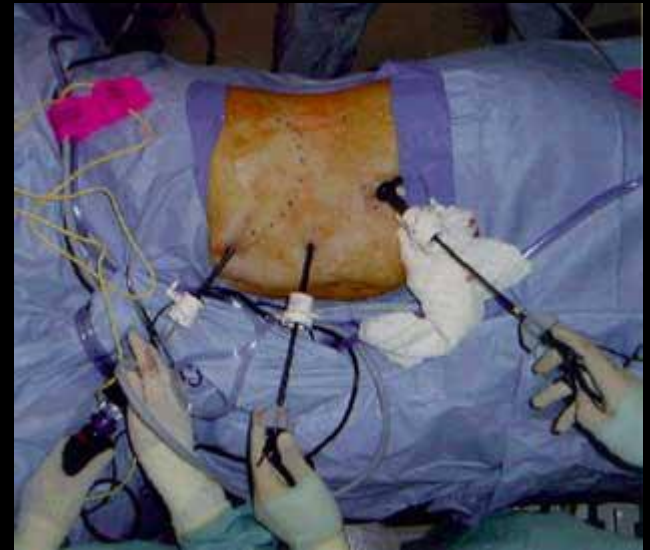



Retroperitoneoscopy



R. K. Mishra



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History

- Bartel in 1969 first reported endoscopic visualization of the pelvic retroperitoneum
- 1974 Wittmoser performed a retroperitoneal endoscopic lumbar sympathectomy
- The technique called 'lumboscopy' was extensively used and popularized by Sommerkamp (1974) for exposing the kidney for renal biopsy
- Retroperitoneal laparoscopy, using a laparoscope and pneumoinsufflation, was only started in 1979 by Wickham, for performing a ureterolithotomy.



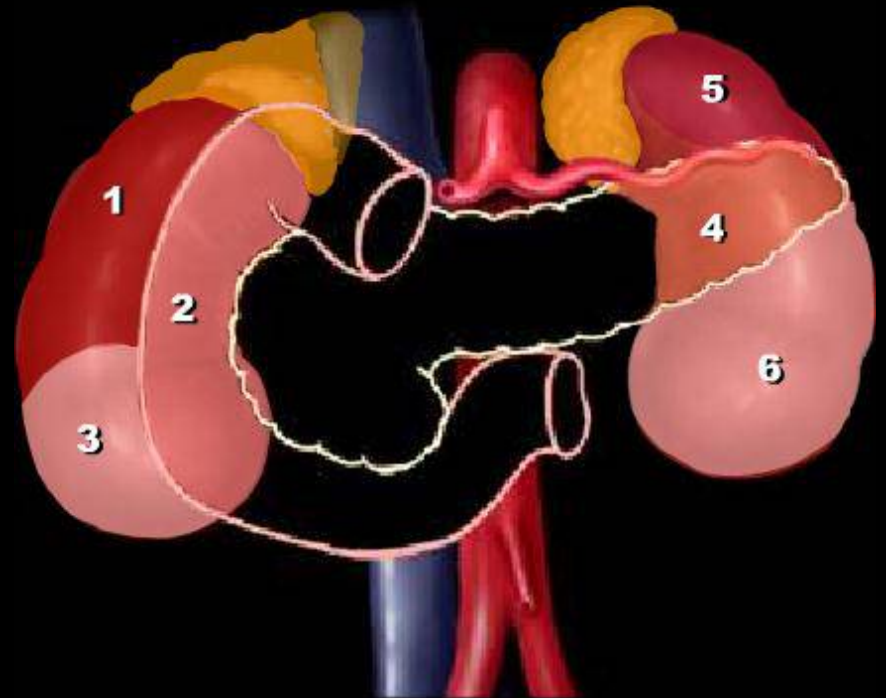
Anatomy

- right kidney:

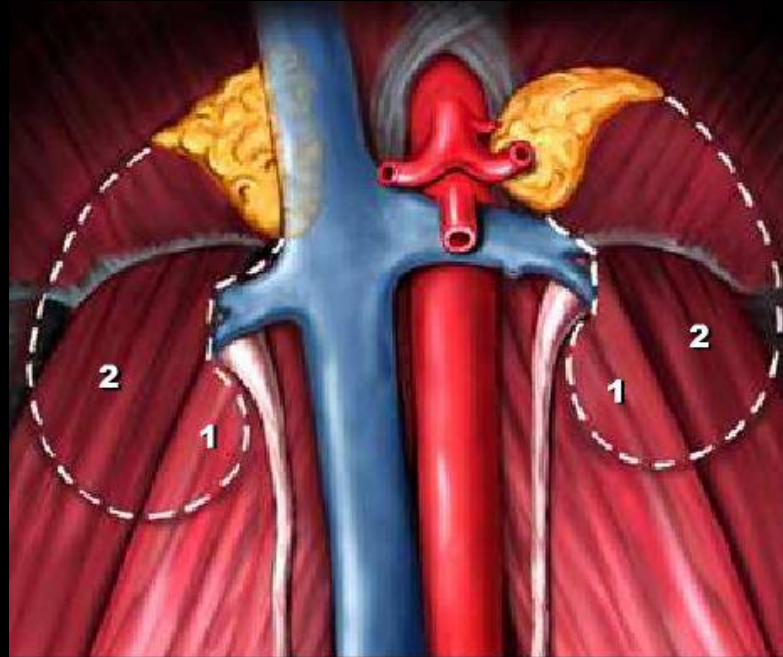
1. Inferior surface of liver
2. Second portion of duodenum
3. Hepatic flexure of colon

- left kidney:

4. Tail of pancreas
5. Inferior surface of spleen
6. Splenic flexure of colon



Anatomy



1. Psoas muscle

2. Quadratus lumborum muscle

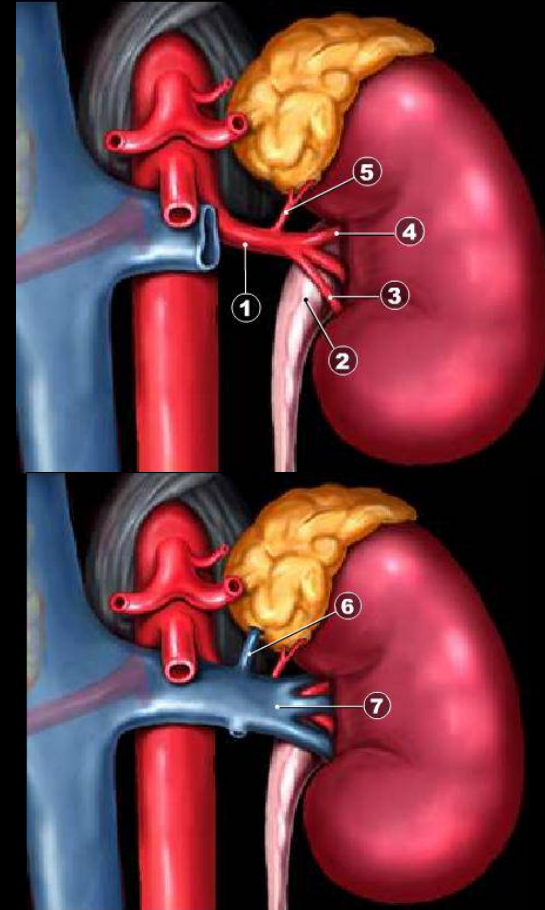
The posterior surface of the kidneys lies on a muscular plane comprised of the psoas muscle medially and the quadratus lumborum muscle laterally.



Vascular Structures

1. Left renal artery (arises from aorta at vertebral level L1/L2)
2. Left renal pelvis
3. Left lower pole artery
4. Left upper pole artery
5. Left inferior adrenal artery
6. Left adrenal vein
7. Left renal vein

The renal pedicle is comprised of the renal artery and its branches, the renal vein, and the lymphatic vessels surrounding the initial portion of the renal pelvis.



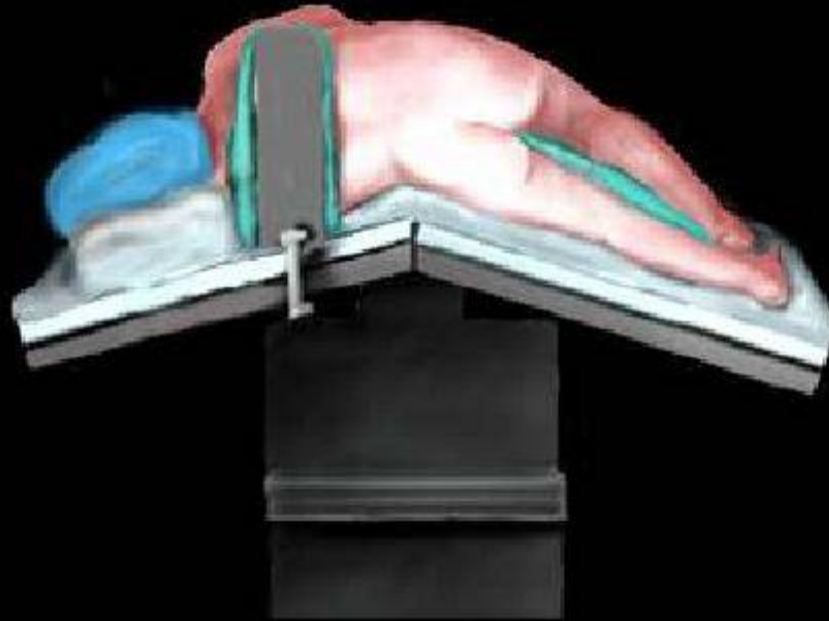
Patient Position

- The patient should be placed in the flank position, with the kidney bridge elevated.
- Operating table bent to widen the space between the 12th rib and the iliac crest

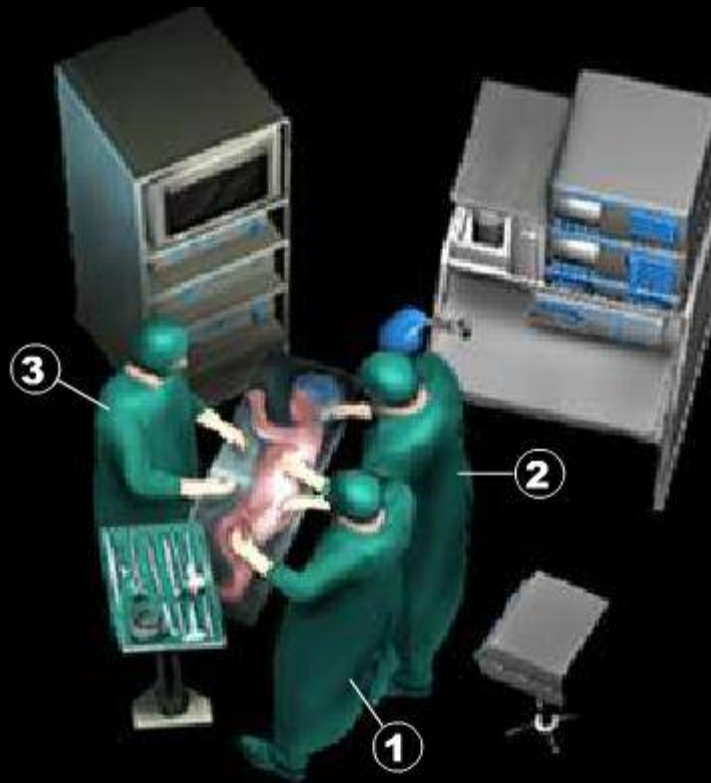




Patient Position



Position of Surgical team





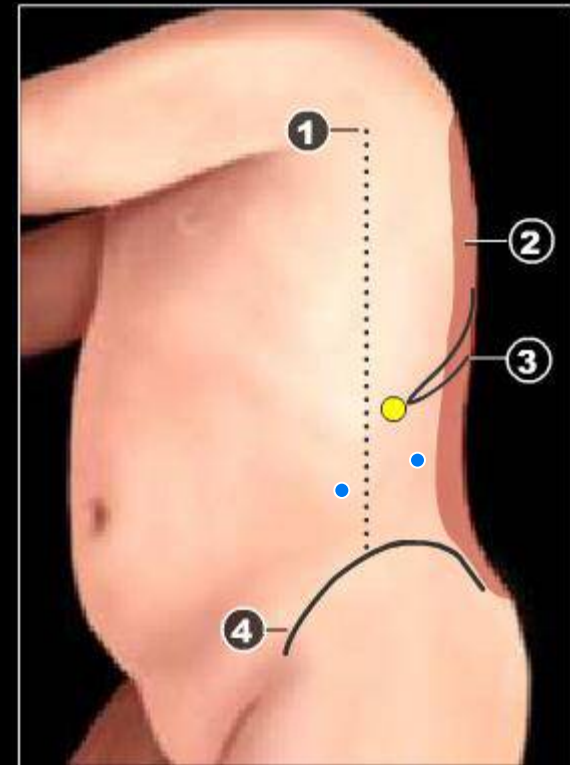
Difficulties

- No preformed space in retroperitoneal area
- Pneumoretroperitoneum merely by insufflation through a Veress needle is impossible.
- Break up the tough fibrous trabeculae & dense areolar & fibro-fatty tissue is necessary to allow creation of a satisfactory pneumoretroperitoneum.

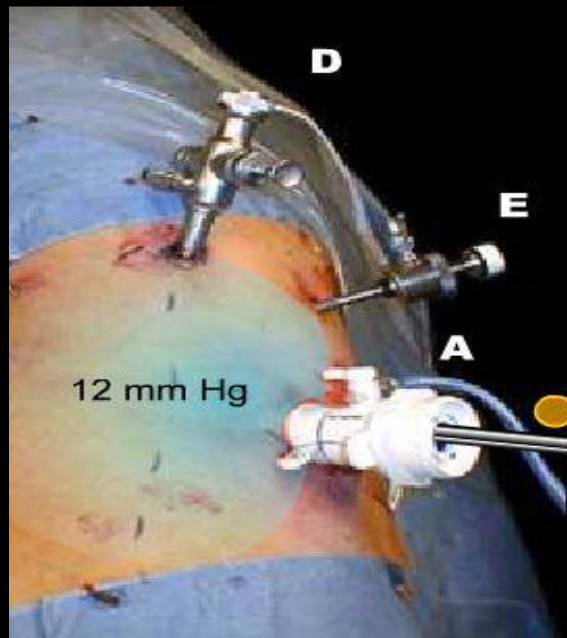


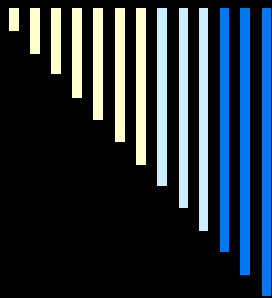
Port Position

- 10 mm incision made between 12th rib & iliac crest over the posterior axillary line
- Two more 5 mm ports inserted anterior and posterior to the camera port under videoscopic guidance.
- A fourth port inserted if necessary just beneath the 12th rib and lateral to the paraspinal muscle.



Port Position







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Port position for nephrectomy

- The flank muscle fibre is bluntly separated
- The Thoracolumbar fascia gently pierced with a fingertip.
- A space is created by gentle finger dissection of the retro peritoneum, anterior to the psoas muscle and posterior to Gerota's fascia.



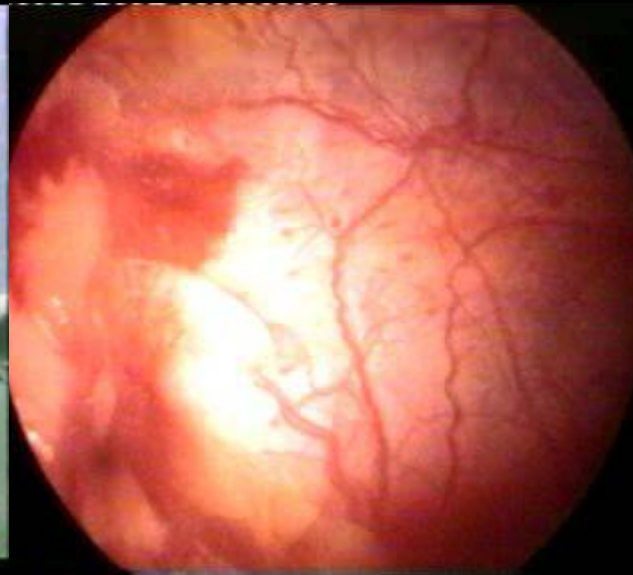
Retroperitoneal space

- Balloon Canula System is necessary to create retroperitoneal space
- Balloon should be inflated with 400ml to 800ml of normal saline
- Pressure of balloon should not be more than 100 cm of water



Access technique

- Separation of Gerota's fascia from psoas muscle by balloon should be under vision
- Filling by balloon should be maintained for 5 minutes to achieve adequate haemostasis



Access Technique

- After removing balloon the port wound size is decreased
- 12 to 20 mm of Hg pressure is required to maintain retroperitoneal working space.
- All the trocar should be ideally fixed with sterile adhesives





Retroperitoneal Laparoscopic Nephrectomy



*RETROPERITONEAL
LAPAROSCOPIC
NEPHRECTOMY
(RLN)*



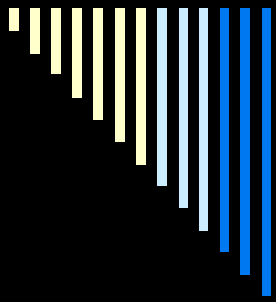


Retroperitoneoscopic Ureterolithotomy



*RETROPERITONEOSCOPIC
URETEROLITHOTOMY*





THANK YOU



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