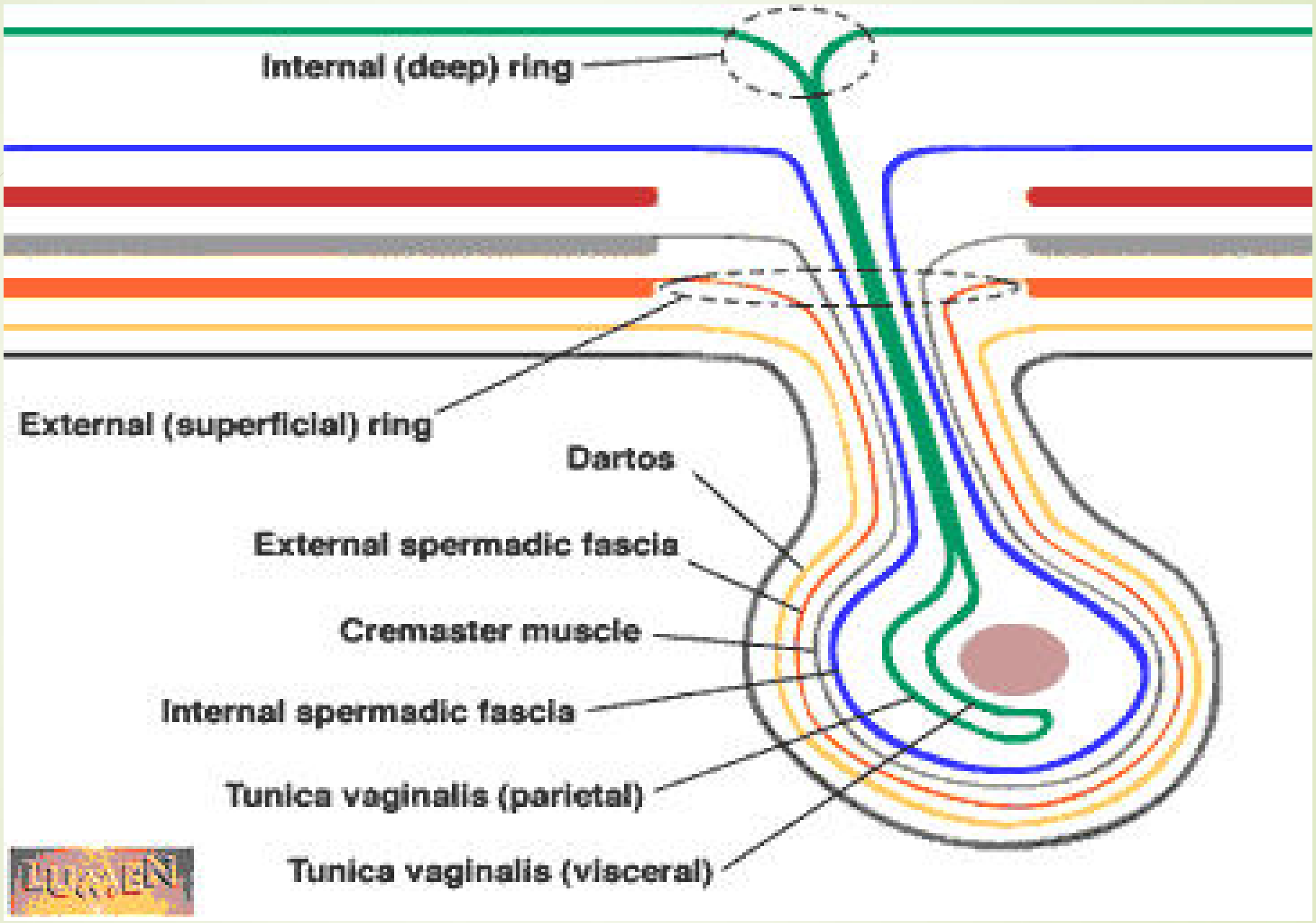
HYDROCELE

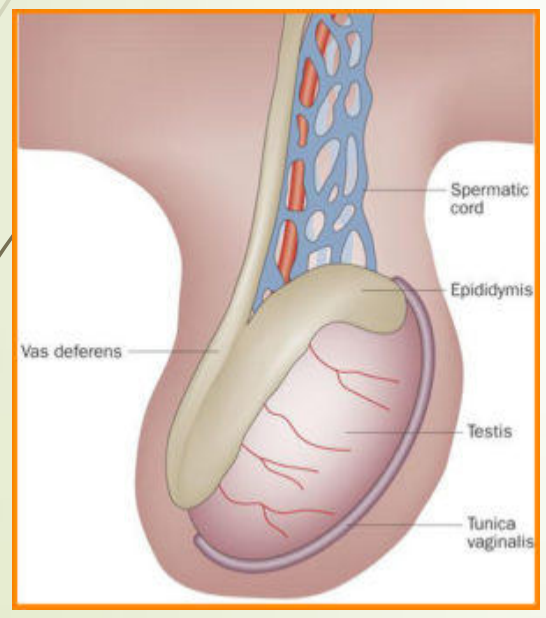
LAYERS OF SCROTUM

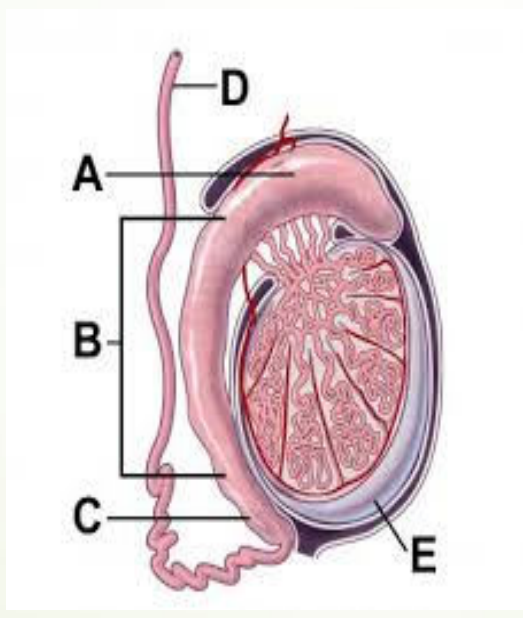
1. Skin
2. Dartos
3. External spermatic fascia <- External oblique
4. Cremastic fascia <- Internal oblique
5. Internal spermatic fascia <- Fascia transversalis
6. Tunica Vaginalis

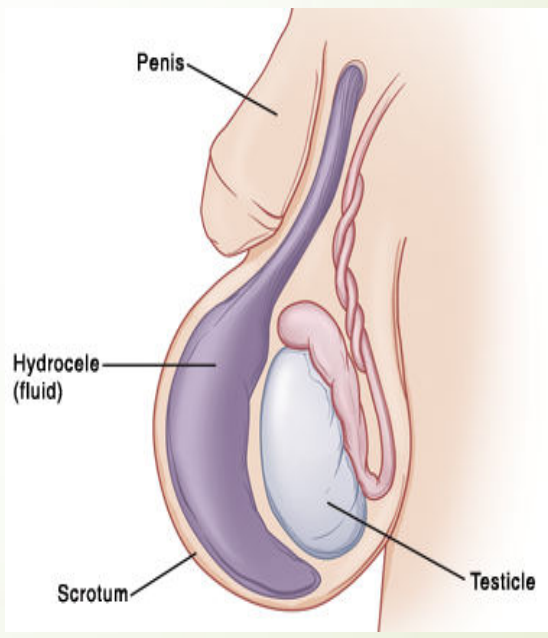


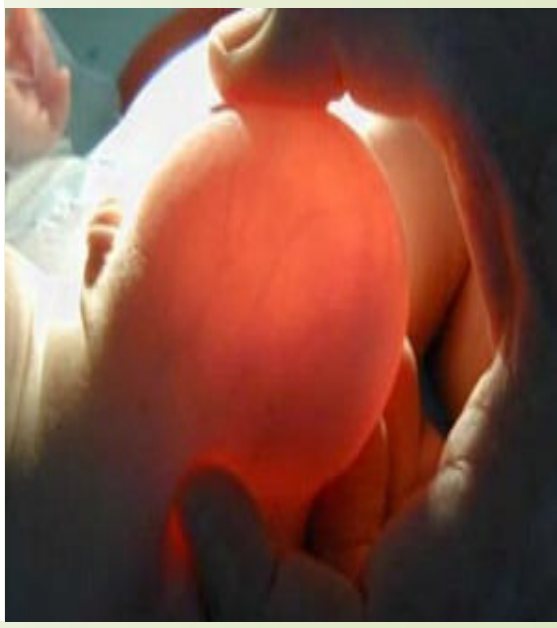
HYDROCELE

- Defined as a collection of fluid within the tunica vaginalis of the testis.









- Premature - 44%
- Full term – 4-5%
- Disturbed Balance between produced and absorbed fluid
- Heaviness, fullness, dragging sensation , cosmetic problem, radiating pain to back

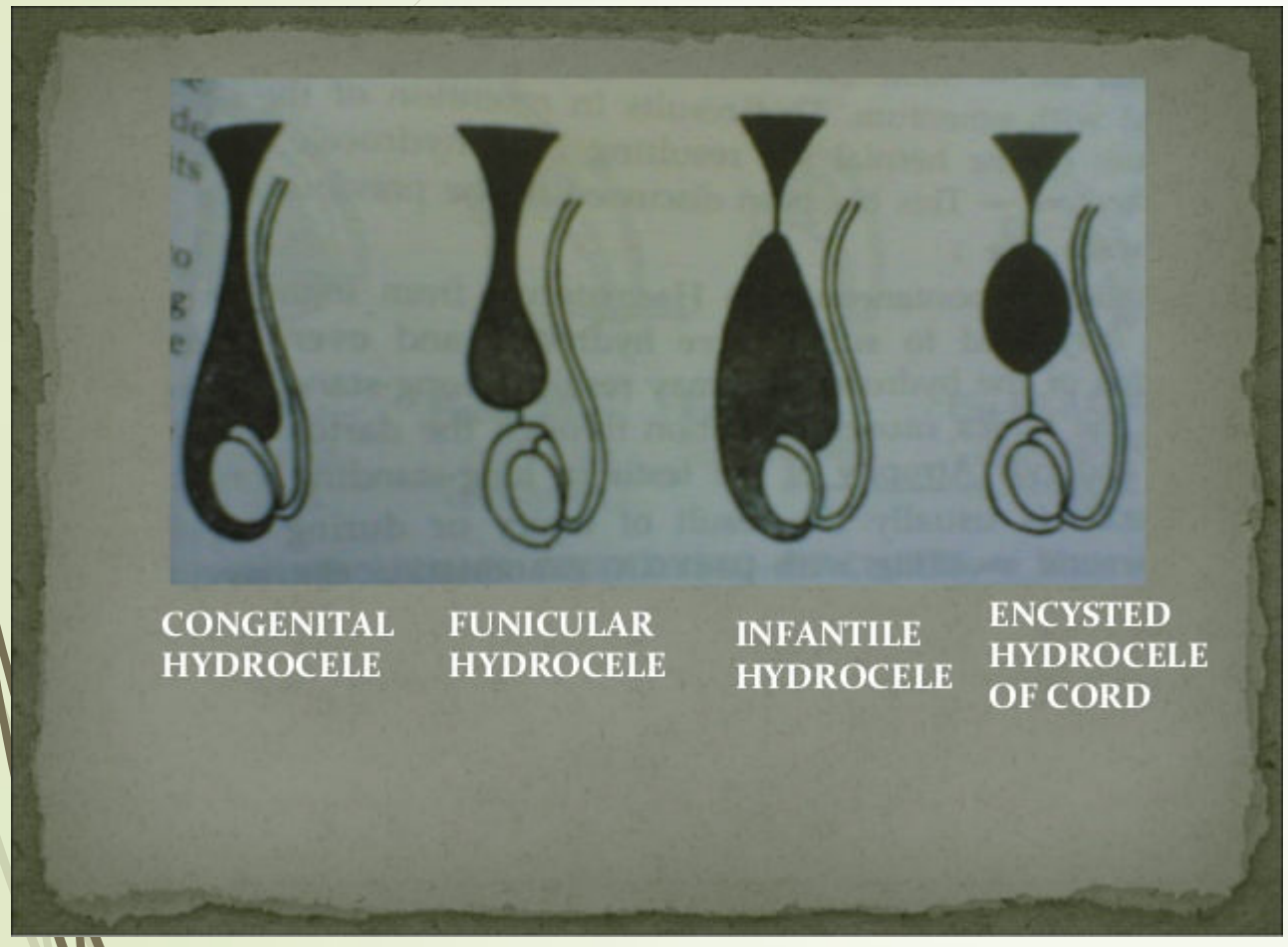
Pathophysiology

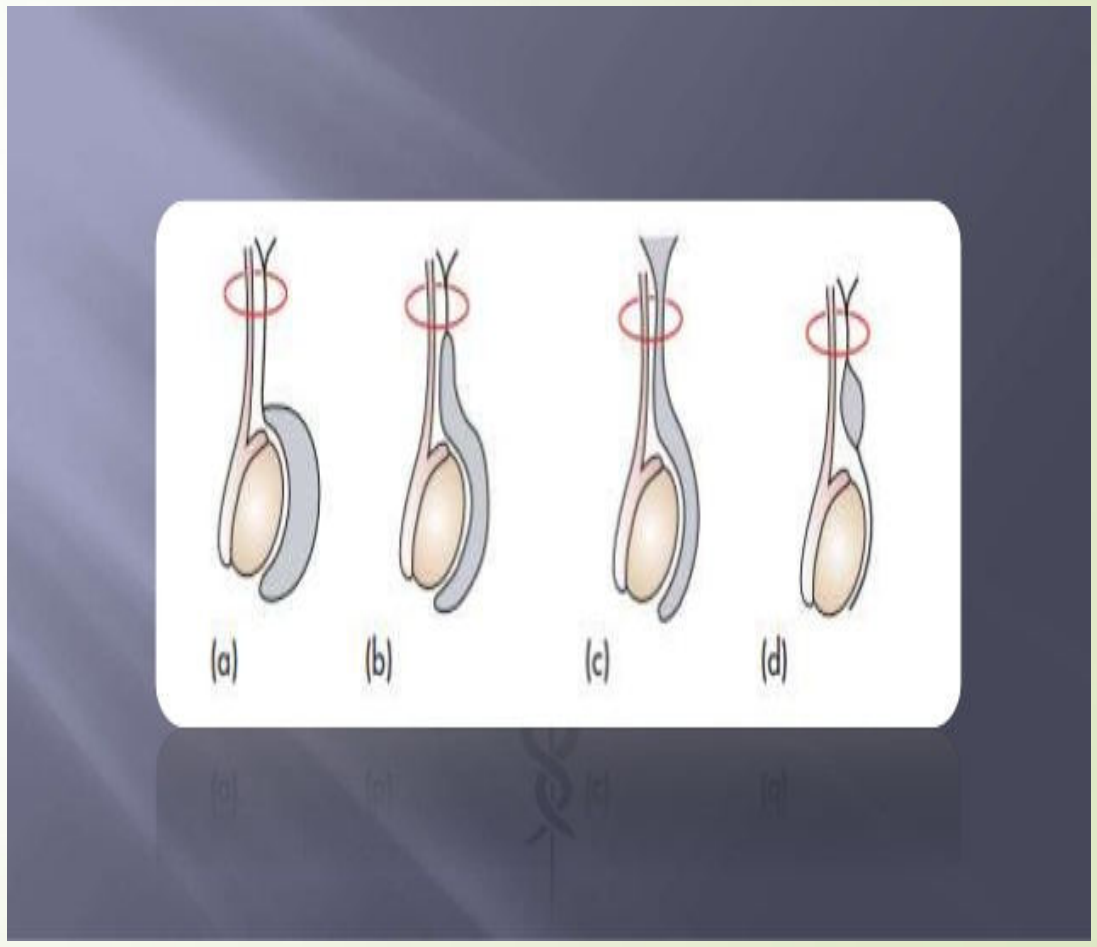
- Excessive production of fluid within sac
- Defective absorption of fluid
- Interference with lymphatic drainage
- Connection with peritoneal cavity via patent processus vaginalis

Imbalance between the fluid secretion and absorption of the tunica vaginalis

PRIMARY HYDROCELE ?

- Congenital
- Vaginal
- Infantile
- Hydrocele of the cord





CONGENITAL HYDROCELE:

PV COMMUNICATES WITH PERITONEAL CAVITY

INFANTILE HYDROCELE:

TUNICA &PV DISTENDED UPTO INTERNAL RING BUT SAC HAS NO CONNECTION WITH PERITONEAL CAVITY

ENCYSTED HYDROCELE OF CORD:

SMOOTH,OVAL SWELLING ASSOCIATED WITH SPERMATIC CORD.

- TRACTION TEST

BILOCULAR HYDROCELE

2 INTERCOMMUNICATING SACS ABOVE & BELOW NECK OF SCROTUM

HYDROCELE OF CANAL OF NUCK:

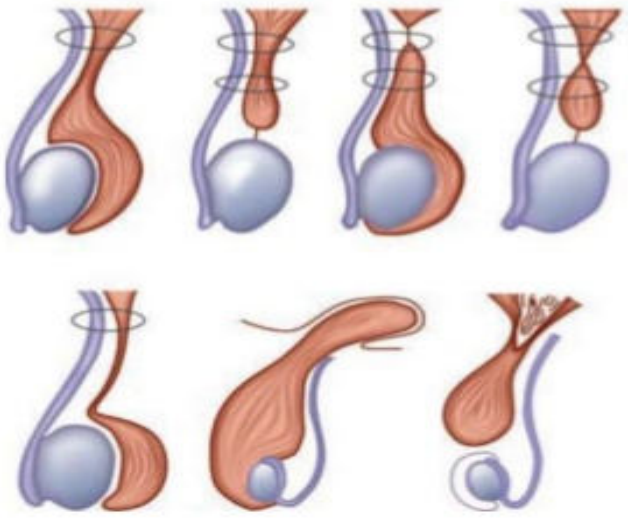
OCCURS IN FEMALES IN RELATION ROUND LIGAMENT ALWAYS IN THE INGUINAL CANAL

HYDROCELE OF HERNIAL SAC:

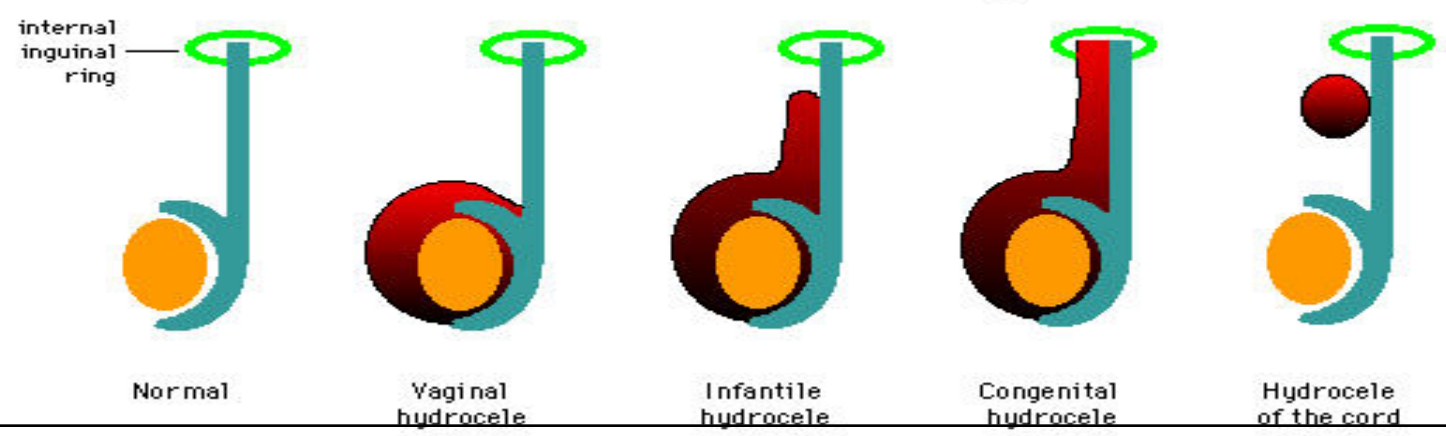
DUE TO ADHESIONS IN HERNIAL SAC

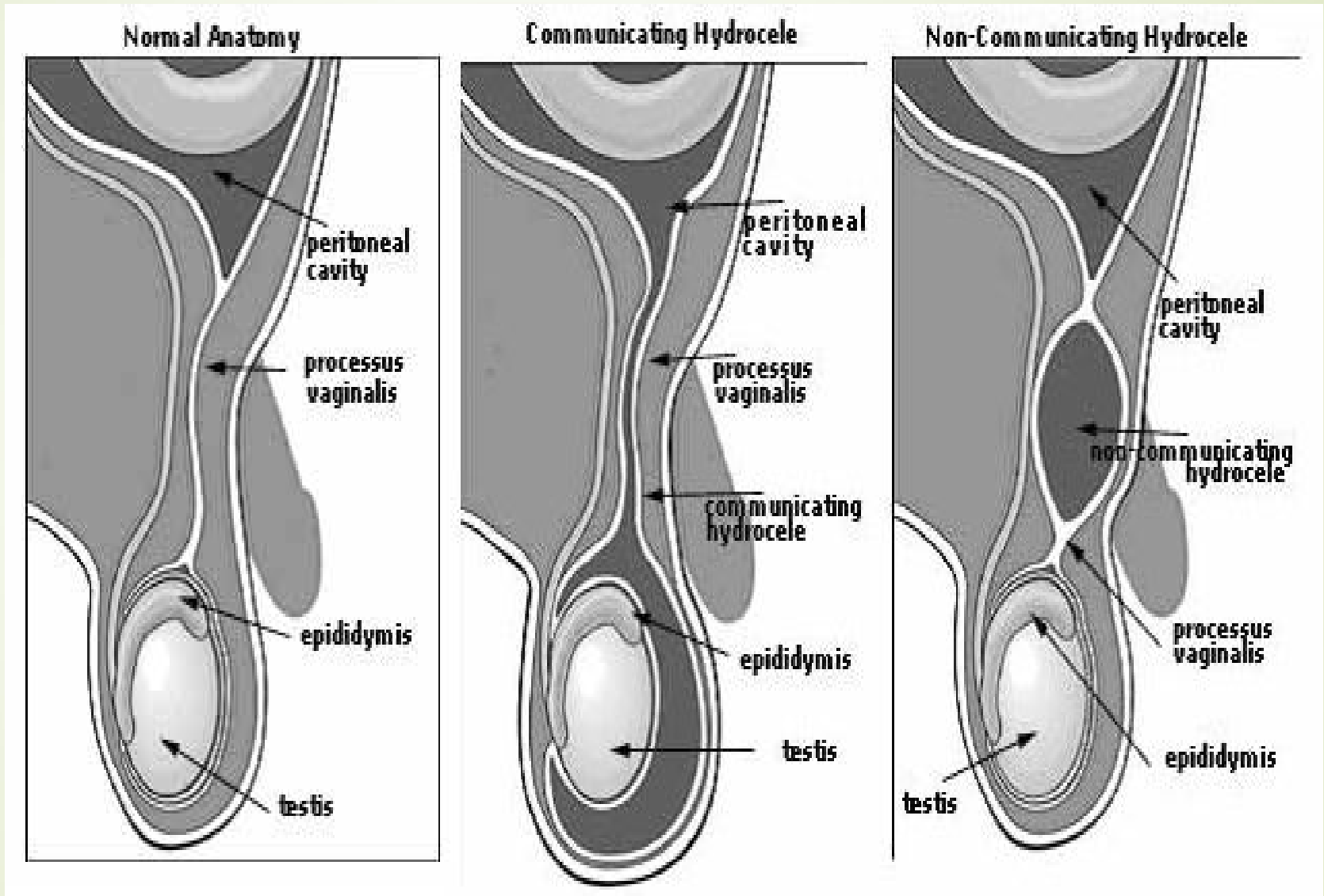
Primary Hydrocele - Types

1. Congenital hydrocele
2. Funicular hydrocele
3. Infantile hydrocele
4. Encysted hydrocele of the cord
5. Vaginal hydrocele- commonest type
6. Bilocular hydrocele/-en-bisac
7. Hydrocele of the hernial sac



Anatomical classification of hydroceles





Conditions in which hydrocele presents as inguinoscrotal swelling ?

- Congenital hydrocele
- Infantile hydrocele

Hydrocele in females ?

- Hydrocele of the canal of nuck.

SECONDARY HYDROCELE:

- INFECTIONS:
  - FILARIASIS
  - TUBERCULOSIS OF EPIDIDYMIS
  - SYPHILIS
- INJURY
  - POST HERNIORRHAPHY HYDROCELE
  - TRAUMA
- TUMOUR
  - MALIGNANCY

DISEASE and PARTS involved

- FILARIASIS – Epididymorchitis
- TUBERCULOSIS – Epididymitis
- SYPHILIS - Orchitis

Characterstics of secondary hydrocele ?

1. Lax
2. Moderate size
3. Testis palpable

CHARACTERSTICS OF HYDROCELE FLUID ?

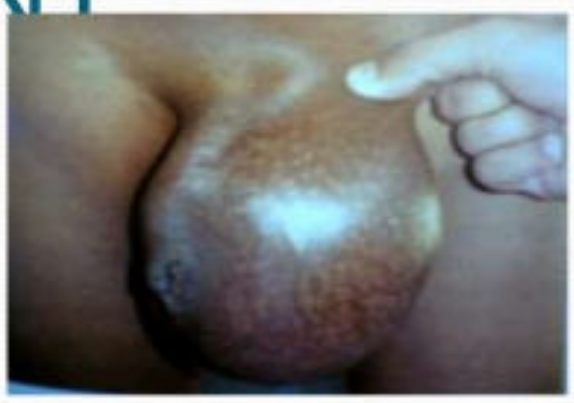
- Amber colour
- Specific gravity – 1.022 – 1.024
- Water, salts , Albumin, Fibrinogen
- Cholesterol and tyrosine crystals

Why is it Hydrocele ?

- Can get above the swelling
- Fluctuation present
- Transillumination present
- Testis not palpable
- Non reducible swelling
- Impulse on coughing absent

PHYSICAL ASSESSMENT

- Smooth, cystic mass completely surrounding the testis and not involving the spermatic cord(Possible to get above the swelling) is characteristic of a hydrocele.
- The consistency of hydroceles can vary with position. Sometimes a hydrocele can become smaller and softer on lying down and become larger and tenser after prolonged standing.



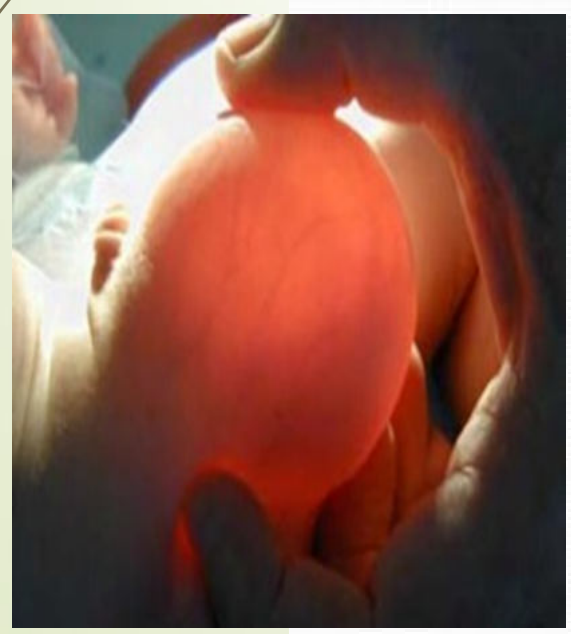
Getting above the Swelling

Conditions in which we cant get above the swelling ?

- Congenital hydrocele
- Infantile hydrocele

TRANSLLUMINATION

- When the fluid in the hydrocele is clear, Transillumination is positive.
- Transillumination may be negative in filarial hydrocele due to prescence of chyle, calcification or in complicated hematocele/pyocele



SWELLING WHICH ARE BRILLIANTLY TRANSILLUMINANT ?

- Vaginal Hydrocele
- Epididymal cyst
- Cysto hygroma
- Ranula
- Meningocele

ABSENT TRANSILLUMINATION ?

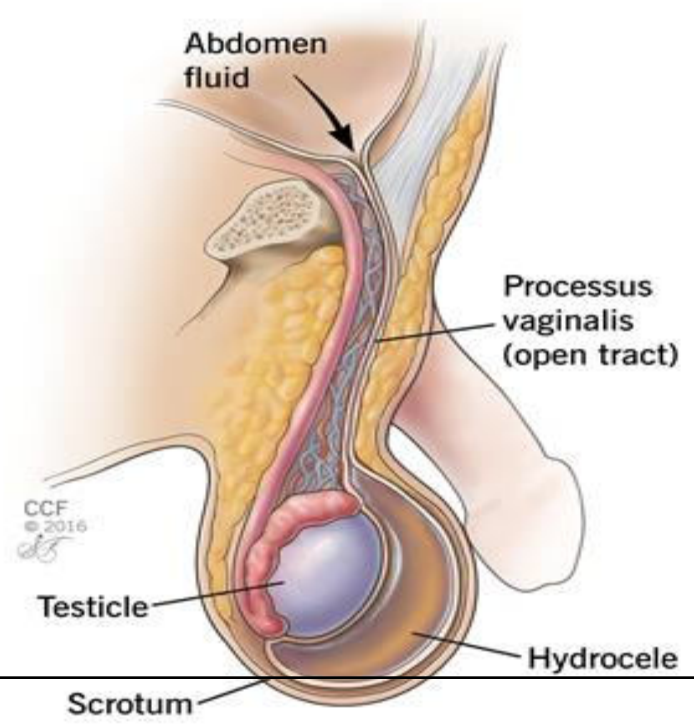
- Pyocele
- Hematocele
- Spermatocele
- Chronic hydrocele

SWELLING WHICH REDUCE ON LYING DOWN ?

- Reducible Hernia
- Varicocele
- Lymph varix
- Congenital hydrocele

INTERMITTENT HYDROCELE ?

- Congenital hydrocele



Can hydrocele present as purely inguinal swelling ?

YES

Encysted hydrocele of the cord.

How will you differentiate between inguinal hernia and encysted hydrocele of the cord ?

- Traction test
- Reducibility
- Impulse on coughing

DIFFERENTIAL DIAGNOSIS: SCROTAL CYSTIC MASSES

- Indirect inguinal hernia
- Epididymis cyst
- Hydrocele
- Varicocele
- Spermatocele
- Pyocoele
- Hematocele

DIFFERENTIATION

	HYDROCELE	INGUINAL HERNIA
Palpate cord above mass	YES	NO
Transillumination	YES	NO
Fluctuate	YES	NO
Fluid thrill	YES	NO

DIFFERENTIATION

	HYDROCELE	INGUINAL HERNIA
Testis palpable	NO	YES
Cough impulse	NO	YES
Reducible	NO	YES
Bowl sounds	NO	YES

Surgical intervention

Indications for surgery –

- Scrotal discomfort or pain
- Cosmetic - disfigurement due to the sheer size of the hydrocele.

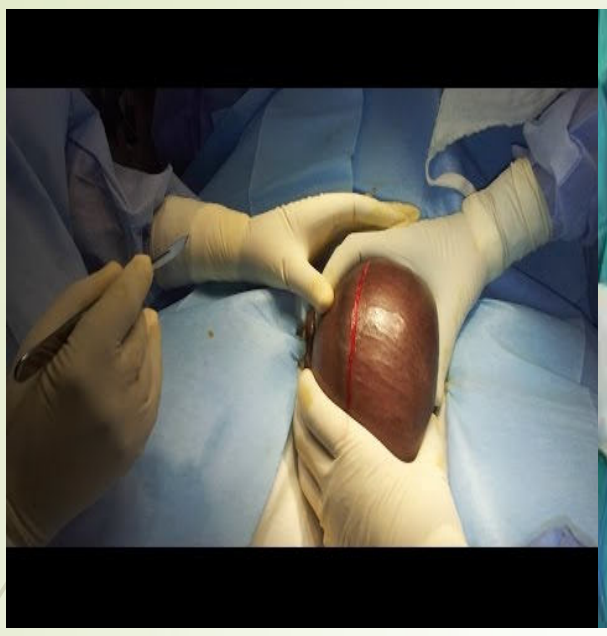
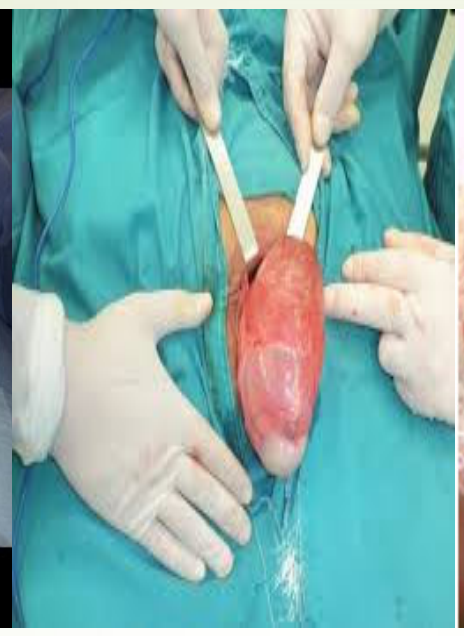
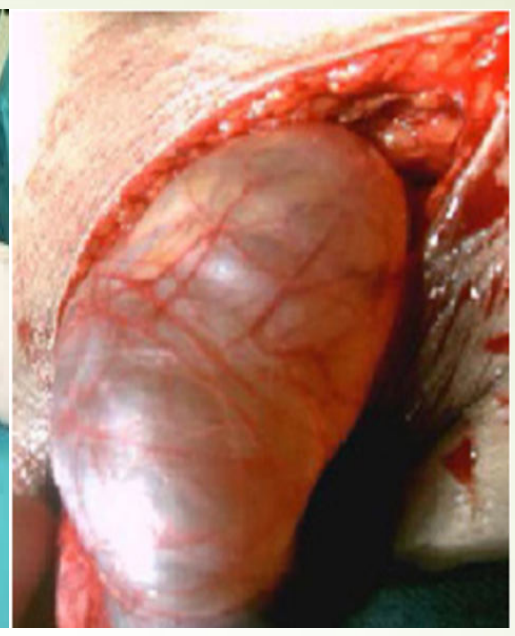
TREATMENT

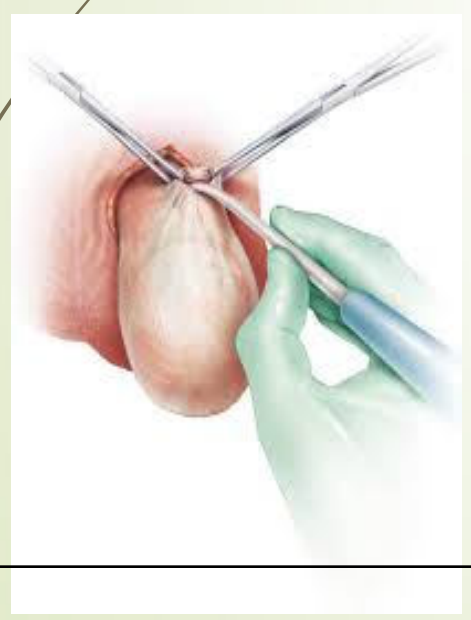
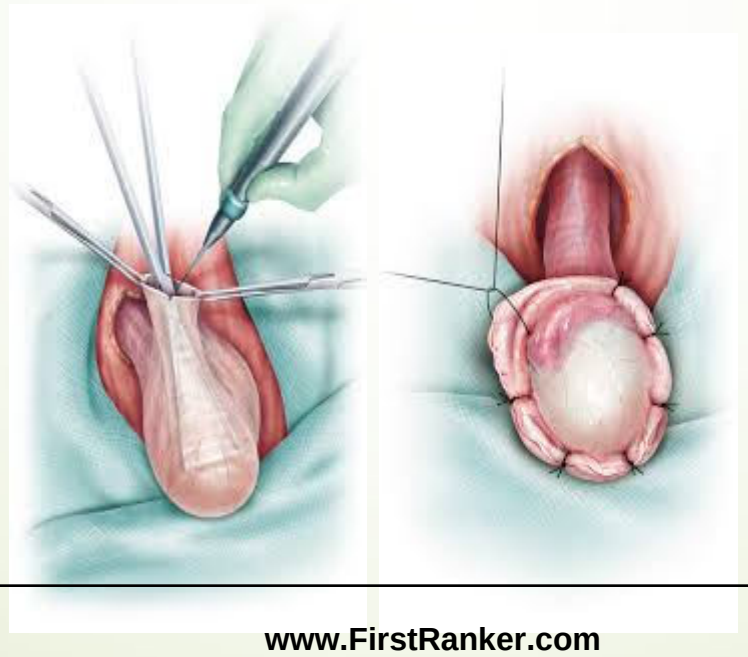
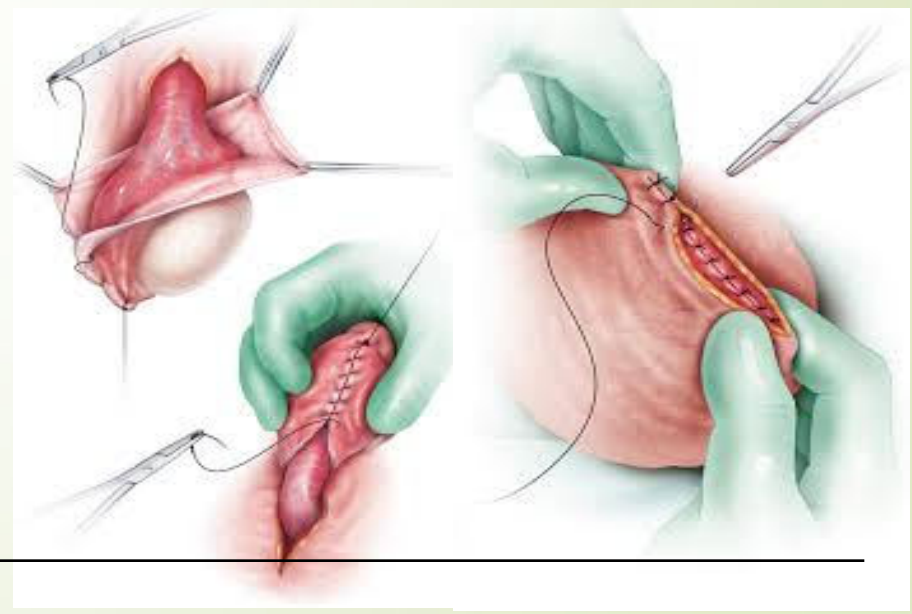
- Communicating
  - Tying off the patent processus vaginalis
- Primary
  - Hydrocelectomy
  - Aspiration + injection of sclerosing agent
- Secondary
  - Treat underlying pathology

Treatment ?

- Congenital hydrocele –
  Herniotomy

- Acquired - VAGINAL HYDROCELE –
  1. Small size – Lord's Operation
  2. Moderate size – Jaboulay's Operation
  3. Large size – Excision of sac + Jaboulay's operation
  4. Very Large size – Scrotoplasty + Excision of sac + Jaboulay's operation

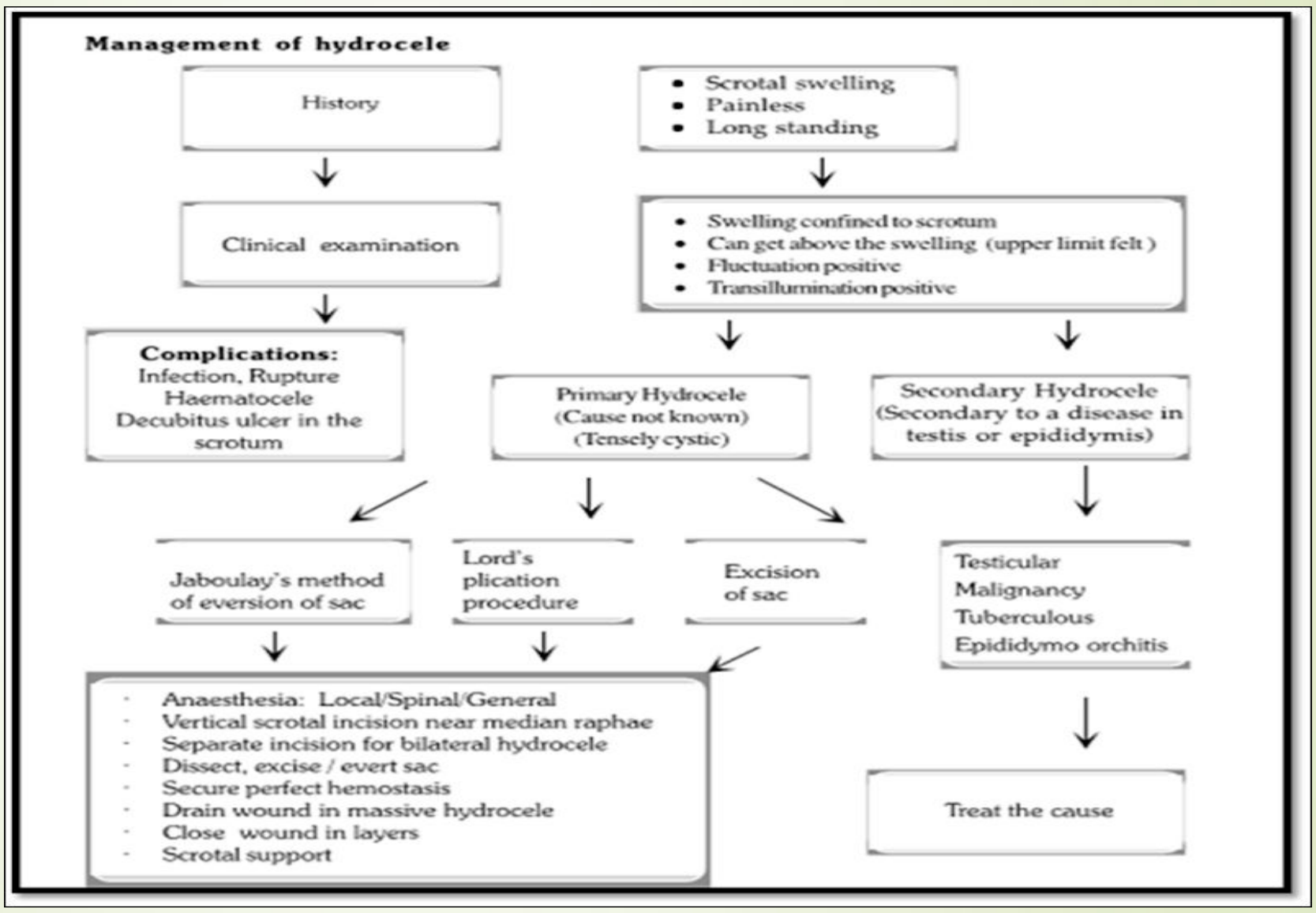





COMPLICATIONS OF SURGERY

- INJURY TO VAS DEFERENS
- INJURY TO URETHRA
- INJURY TO TESTIS/EPIDIDYMIS
- REACTIONARY HAEMORRHAGE
- INFECTION
- SINUS FORMATION
- RECURRENT HYDROCELE

COMPLICATIONS OF HYDROCELE

1. INFECTION
2. PYOCELE,HEMATOCELE/CLOTTED HEMATOCELE
3. CALCIFICATION OF SAC (D/D FOR TESTICULAR TUMOUR)
4. INFERTILITY
5. ATROPHY OF TESTIS
6. HERNIATION OF HYDROCELE SAC (rare)
7. RUPTURE (rare)



Q 1. In reaching hydrocele sac which of the following layer is not incised ?

1. Dartos muscle and superficial fascia
2. Tunica Albugenia
3. Internal spermatic fascia
4. Cremastic fascia

Q 2. Which one of them is not a recommended procedure for hydrocele ?

1. Lord's procedure
2. Jaboulay's procedure
3. Herniotomy
4. Tapping / Aspiration