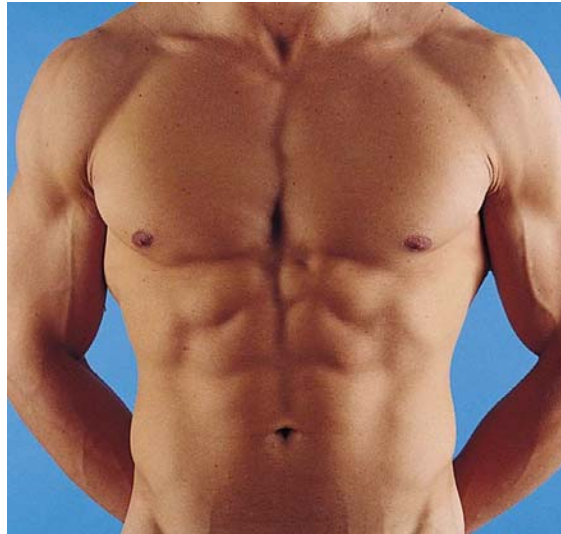


## **Anterior Abdominal Wall**



### **Objectives:**

- **List layers of abdominal wall**
- **Muscles of abdominal wall**
- **Vasculature and innervation**
- **Define and describe inguinal region**
- **Coverings spermatic cord**
- **Hernias**

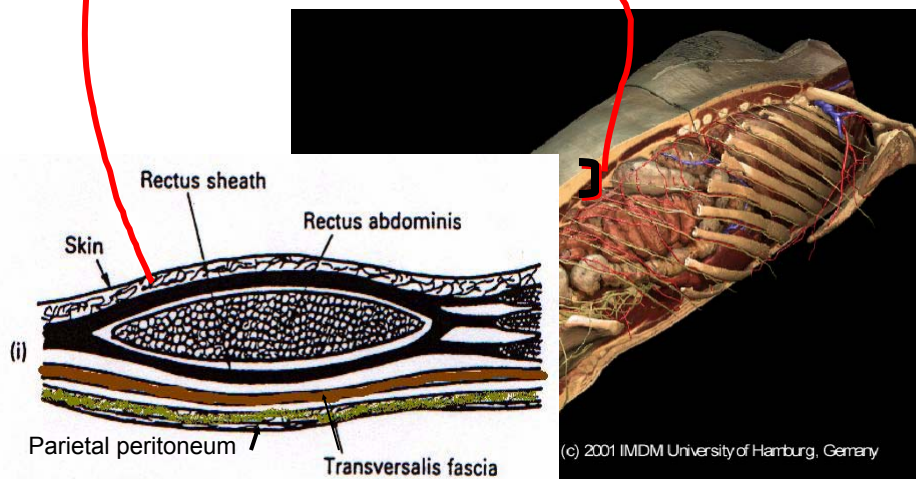
# Surface Features of the Anterior Wall

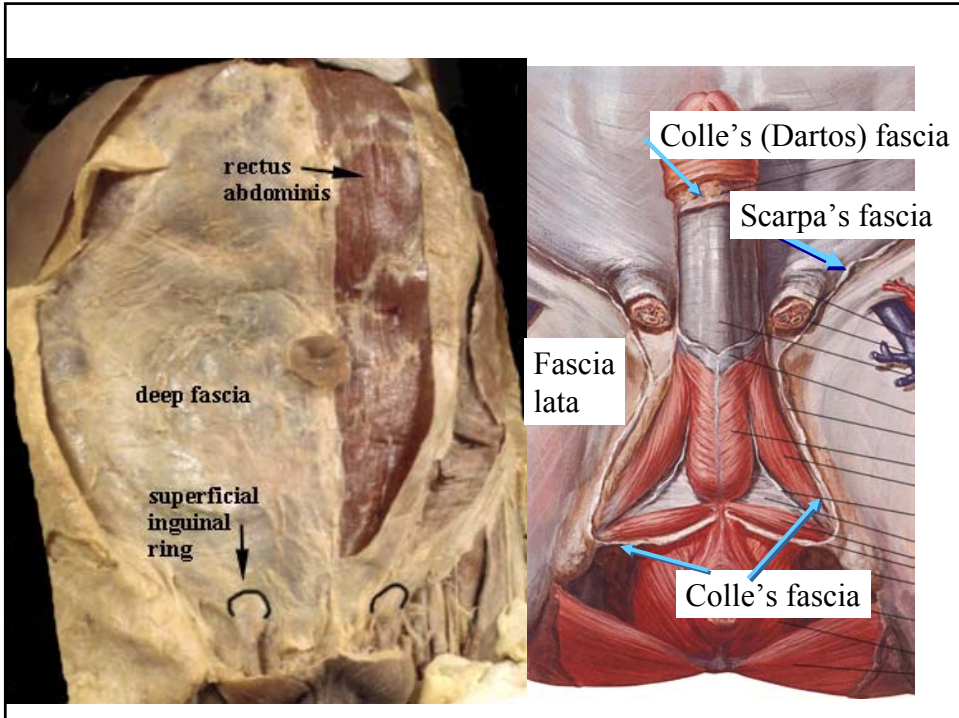


- linea alba
- linea semilunaris
- costal margin
- tendinous intersections
- umbilicus L3

# Superficial Fascia

- Camper's - fatty
- Scarpa's - membranous

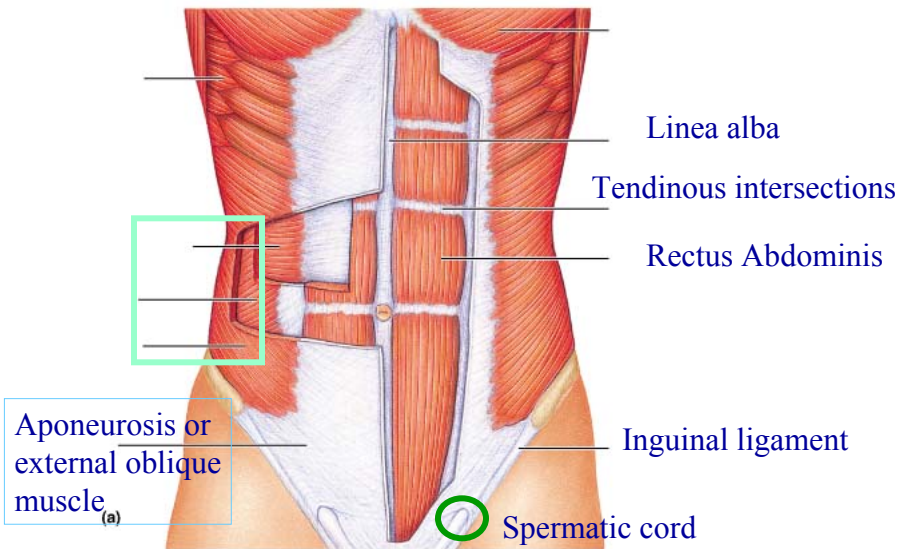




## Musculature of the Anterio-lateral abdominal wall

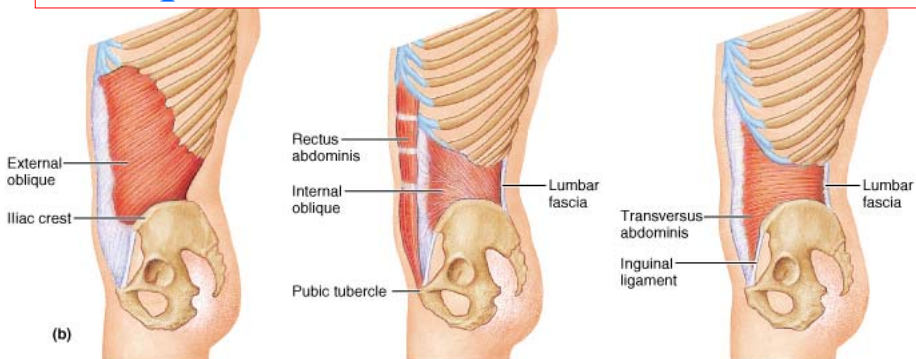


# RECTUS ABDOMINIS



Copyright © 2001 Benjamin Cummings, an imprint of Addison Wesley Longman, Inc.

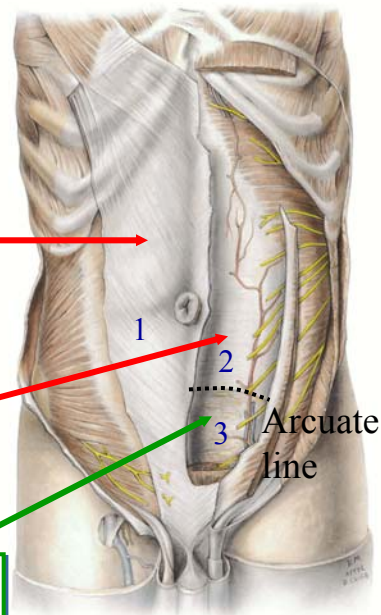
# Obliques and Transversus Abdominis



- three sheets of muscle whose orientation differs (arranged like the layering in plywood)
- gives support to the internal viscera
- contraction will increase the intraabdominal pressure

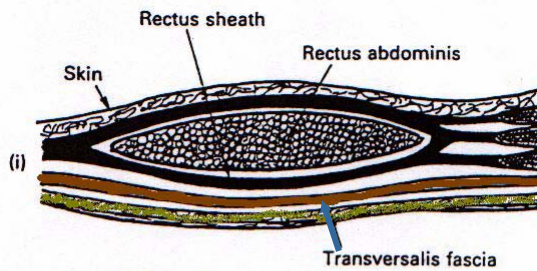
# Rectus Sheath

- 1 •Anterior - external oblique  
Internal oblique
- 2 •Posterior - internal oblique  
Transversus abd.
- 3 Transversalis fascia

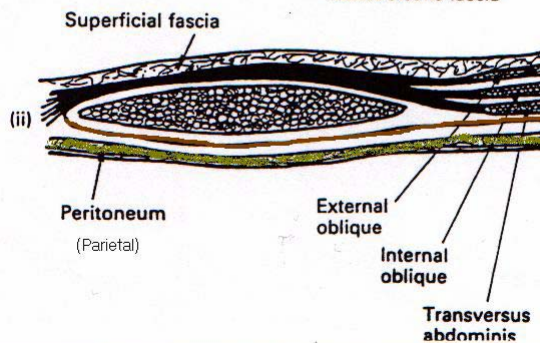


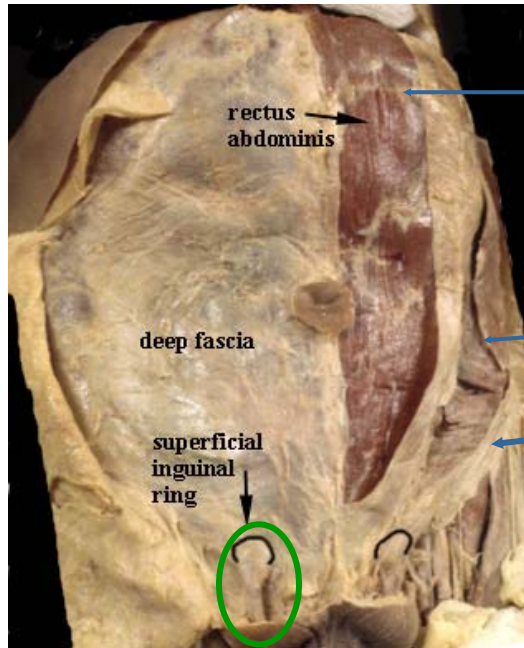
# Transverse section of rectus sheath

Above  
arcuate  
line



Below  
arcuate  
line





rectus abdominis

deep fascia

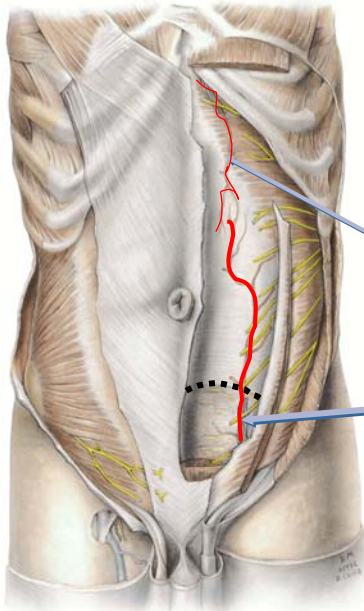
superficial inguinal ring

Tendinous intersections

Obliques muscles

Inguinal ligament

## Blood Supply



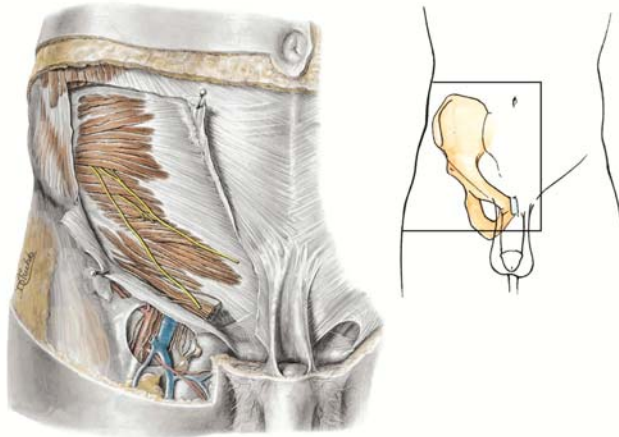
Superior Epigastric  
(from internal thoracic)

Inferior Epigastric  
(from external iliac)

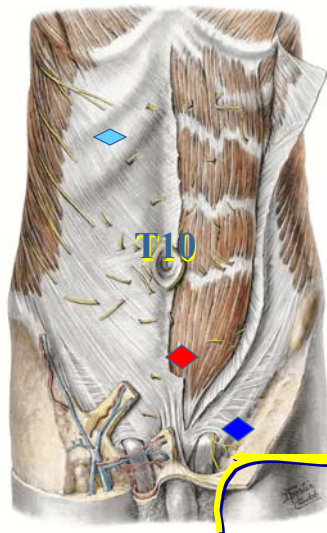
- musculophrenic
- intercostal, subcostal
- lumbar

## Neurovascular Plane

Between the  
internal oblique  
and transversus  
abdominis



## Nerves of Abdominal Wall

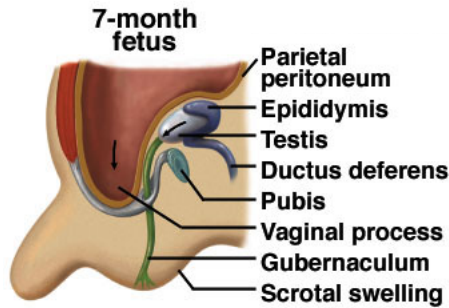


Thoracoabdominal T7-9  
subcostal T12  
• enter rectus sheath

Iliohypogastric (L1)  
• does not enter sheath  
• suprapubic region

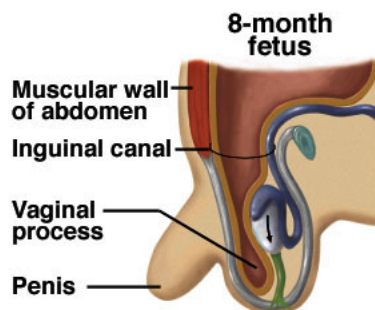
Ilioinguinal (L1)  
• enters superficial  
inguinal ring

## Descent of Testis



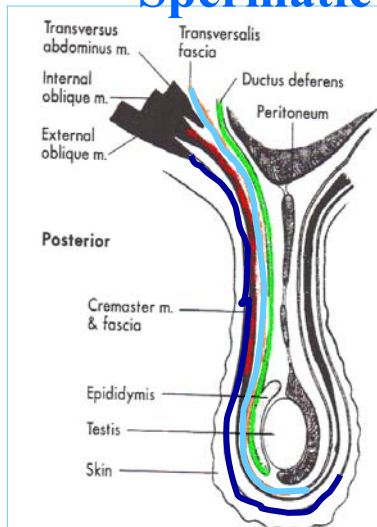
Begin development near the kidney: gubernaculum (cordlike structure containing muscle) extends from the gonad to the abdominopelvic floor

- gubernaculum shortens and guides the testes to the scrotum



- testes passes through abdominal wall via the inguinal canal accompanied by testicular nerve, artery & vein

# Spermatic Fascia and the Spermatic cord



External Oblique  
• external spermatic fascia

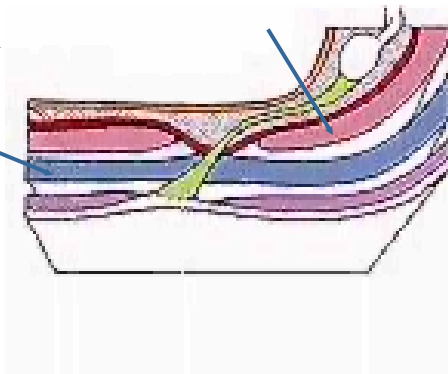
Internal Oblique  
• Cremaster muscle/fascia

Transversalis Fascia  
• internal spermatic fascia

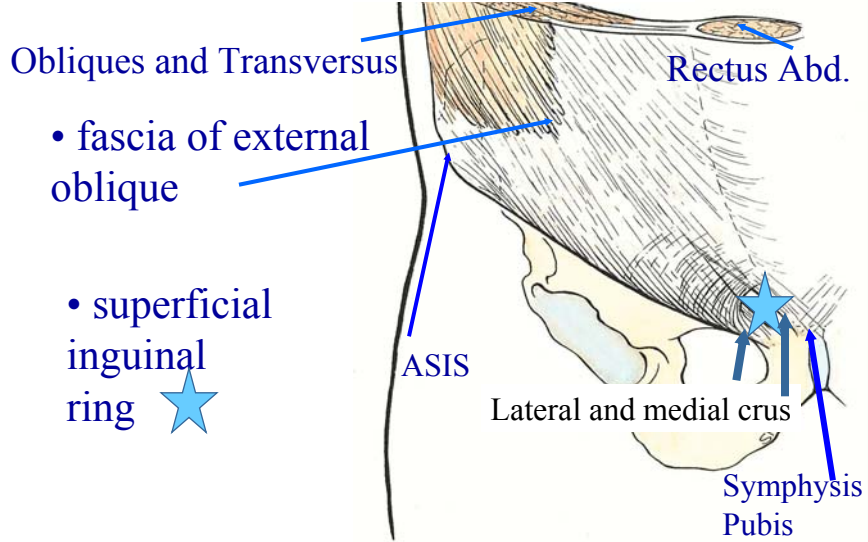
# Descent of Testis

Transversus abdominis

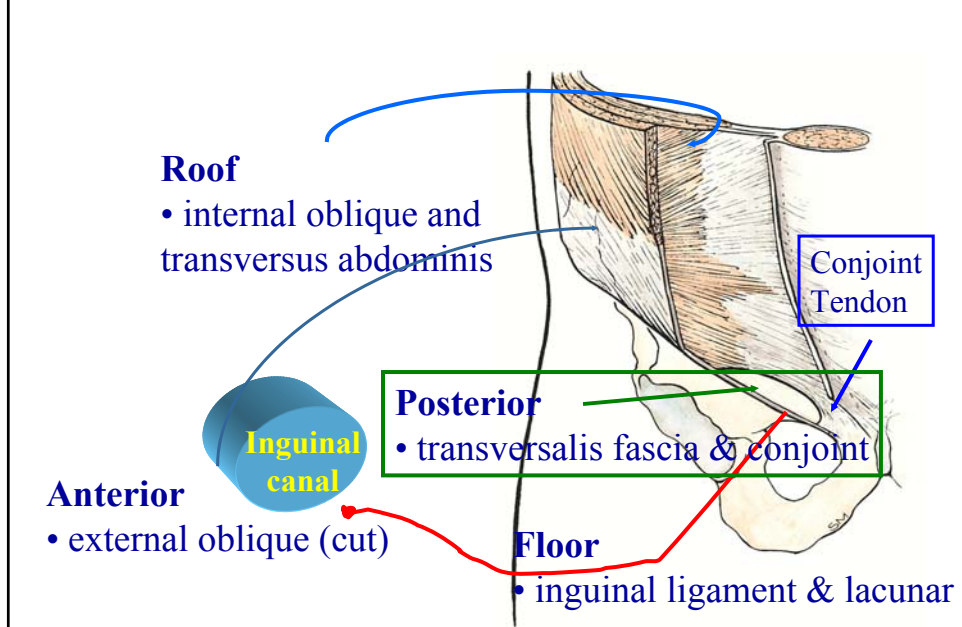
Internal oblique

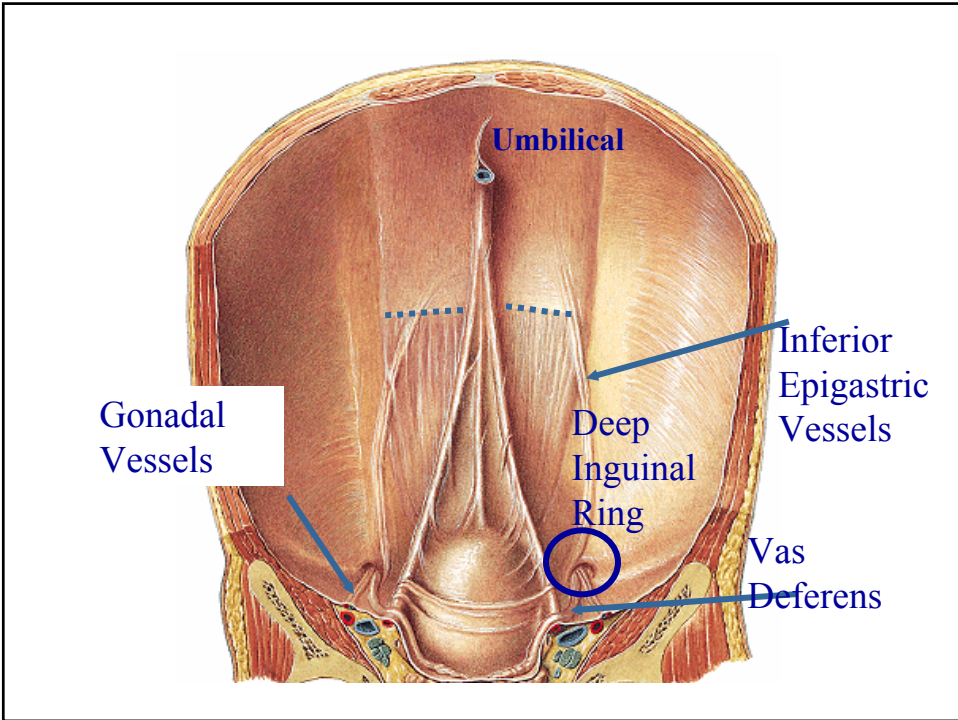


## Aponeuroses of Abdominal Muscles and Inguinal Ligament



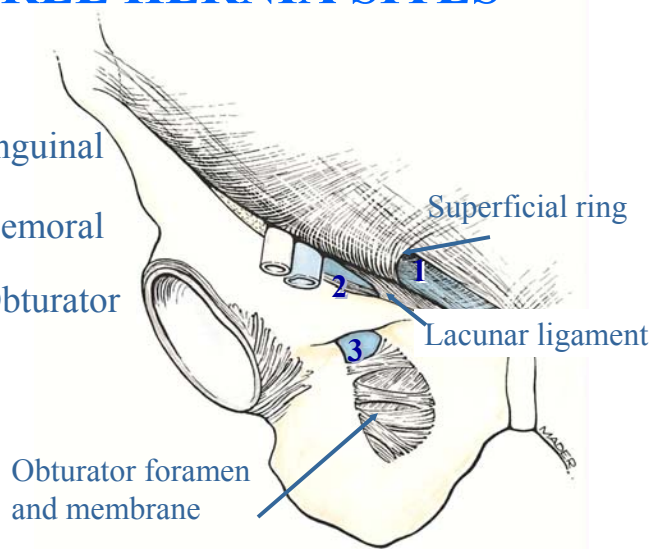
## Inguinal Canal- superficial to deep ring

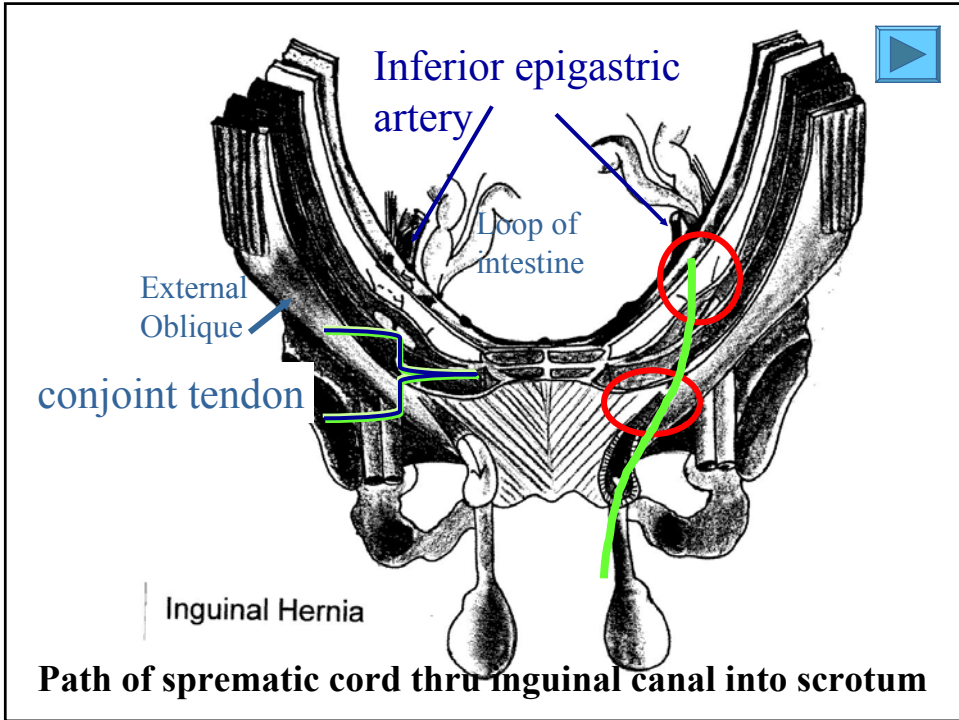




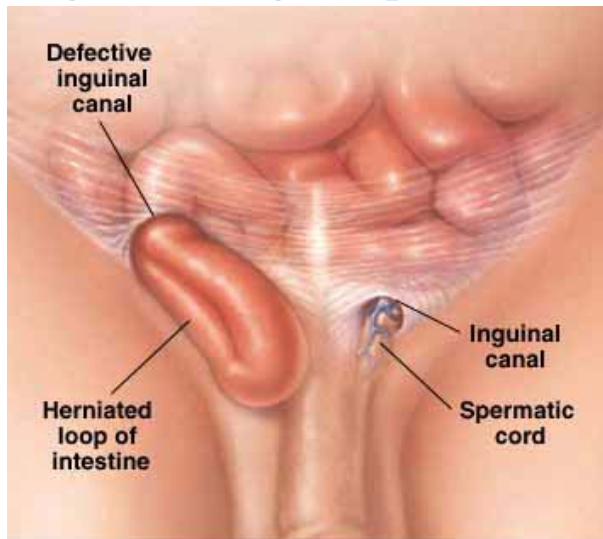
## THREE HERNIA SITES

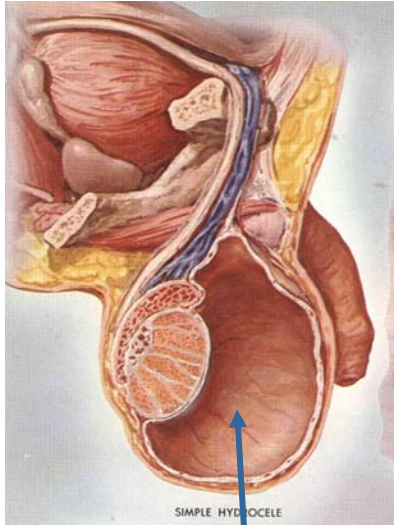
1. Inguinal
2. Femoral
3. Obturator





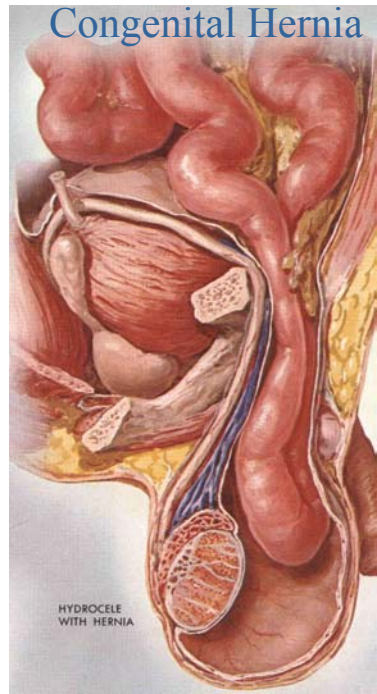
## Loop of intestine herniating through superficial inguinal ring (acquired)





SIMPLE HYDROCELE

Simple hydrocele: fluid accumulation in the tunica vaginalis (congenital)

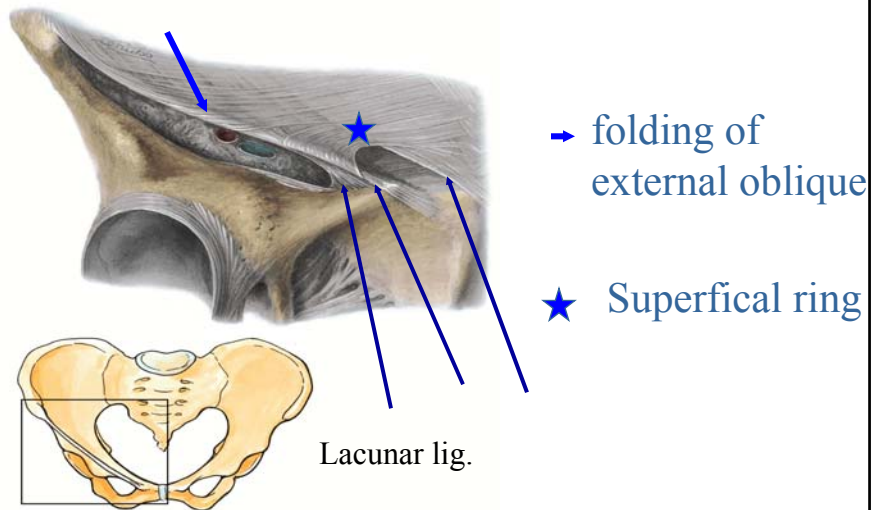


HYDROCELE WITH HERNIA

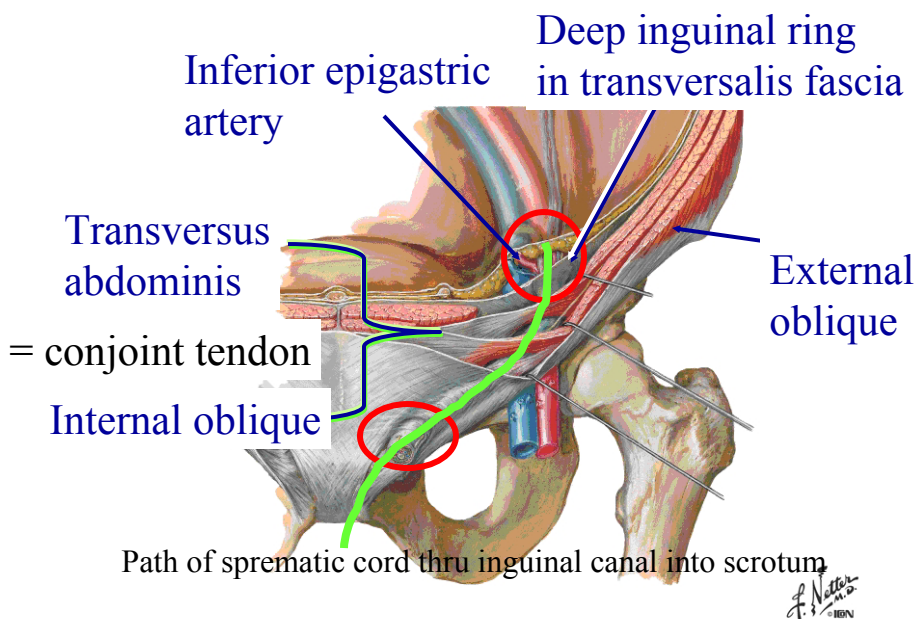
## Congenital Hernia

Extras

## Inguinal Ligament Attachments at Superficial ring



## Inguinal Canal and Spermatic Cord



## The anatomical triangle used to define Inguinal Hernias

- HESSELBACH'S TRIANGLE
- Medial Boundary: **Rectus abdominis**
- Lateral Boundary: **Inferior epigastric vessels**
- Inferior Boundary: **Inguinal ligament**

## Palpating the Inguinal Hernia

- **Place finger tip on scrotum and extend finger into the inguinal canal, this will demonstrate a patent tunnel. Bowel within the canal may be felt.**

