

ACUTE SCROTUM

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DEFINITION

- Pain
 - Swelling
 - Erythema
 - Acute onset
-
- **ALLWAYS AN EMERGENCY!**



WHY EMERGENCY?

- Potential for testicular loss
- Infertility
- Legal action against hospital and physicians
- Accurate diagnosis limited by similarity of presentation and physical findings of different causes
- Radiologic techniques helpful, but may delay treatment
- Operation may be needed for Dx and Tx purposes

**“WHEN IN DOUBT,
OPERATE”**

PAINLESS SWELLING

- Hernias
- Hydroceles
- Testicular masses
- Lymphedema
- Post-surgical scrotal wall edema
- Testicular tumors

AGE FACTOR

- **Can occur in any age group!**
- Extravaginal torsion in neonates
- Childhood and preadolescence, intravaginal testicular torsion, torsion of appendix testis
- Epididymitis in the sexually active patient

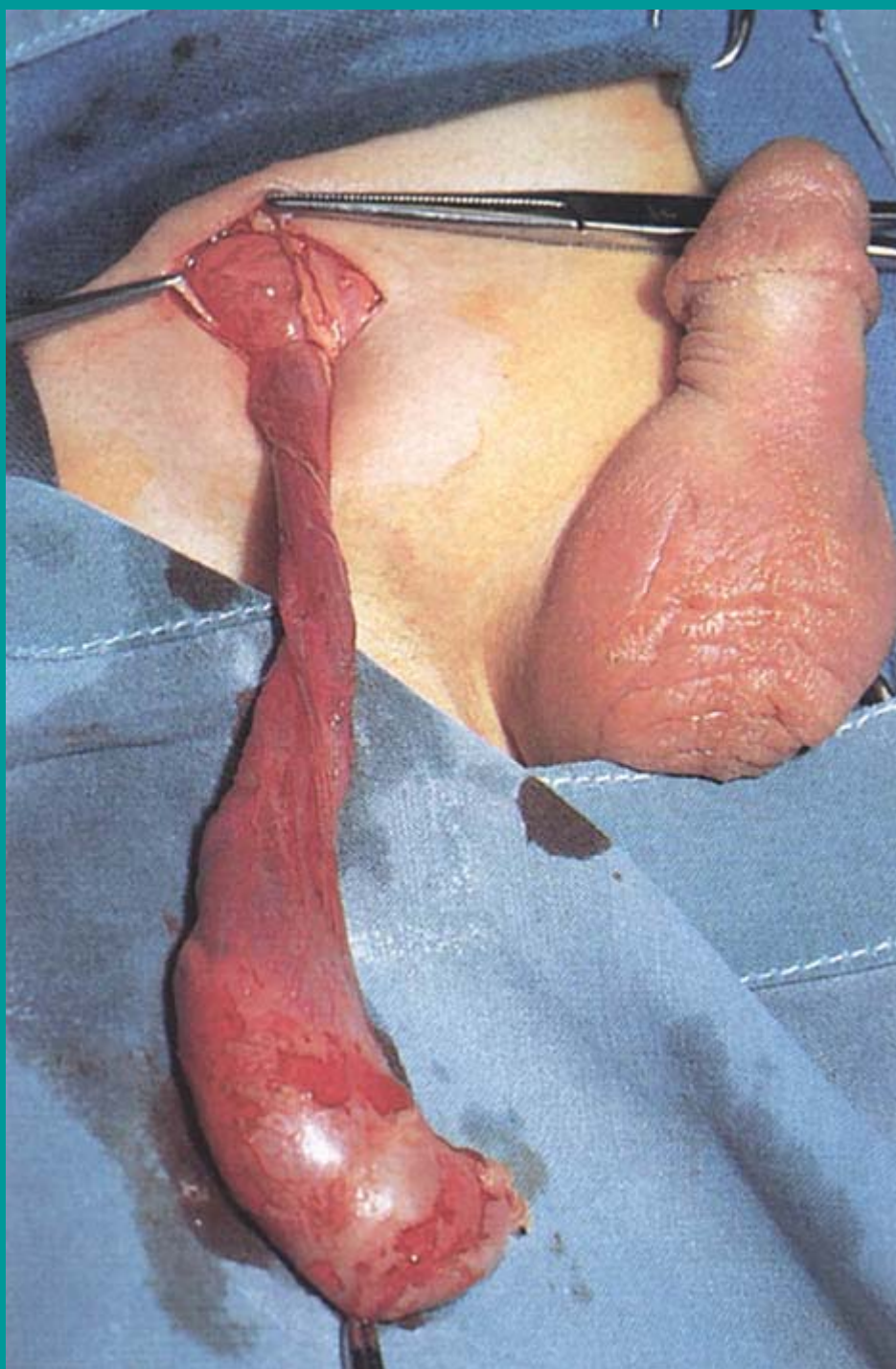
A PUBERTAL, NON-SEXUALLY ACTIVE BOY WITH AN ACUTE SCROTAL CONDITION HAS TESTICULAR TORSION UNTIL PROVEN OTHERWISE.

DIFFERENTIAL DIAGNOSIS

- Testicular torsion
 - Intravaginal
 - Extravaginal
- Torsion of testicular appendage
- Acute epididymitis/orchitis
- Trauma
- Idiopathic scrotal edema
- Insect bites
- Henoch/Schonlein purpura

SPERMATIC CORD TORSION

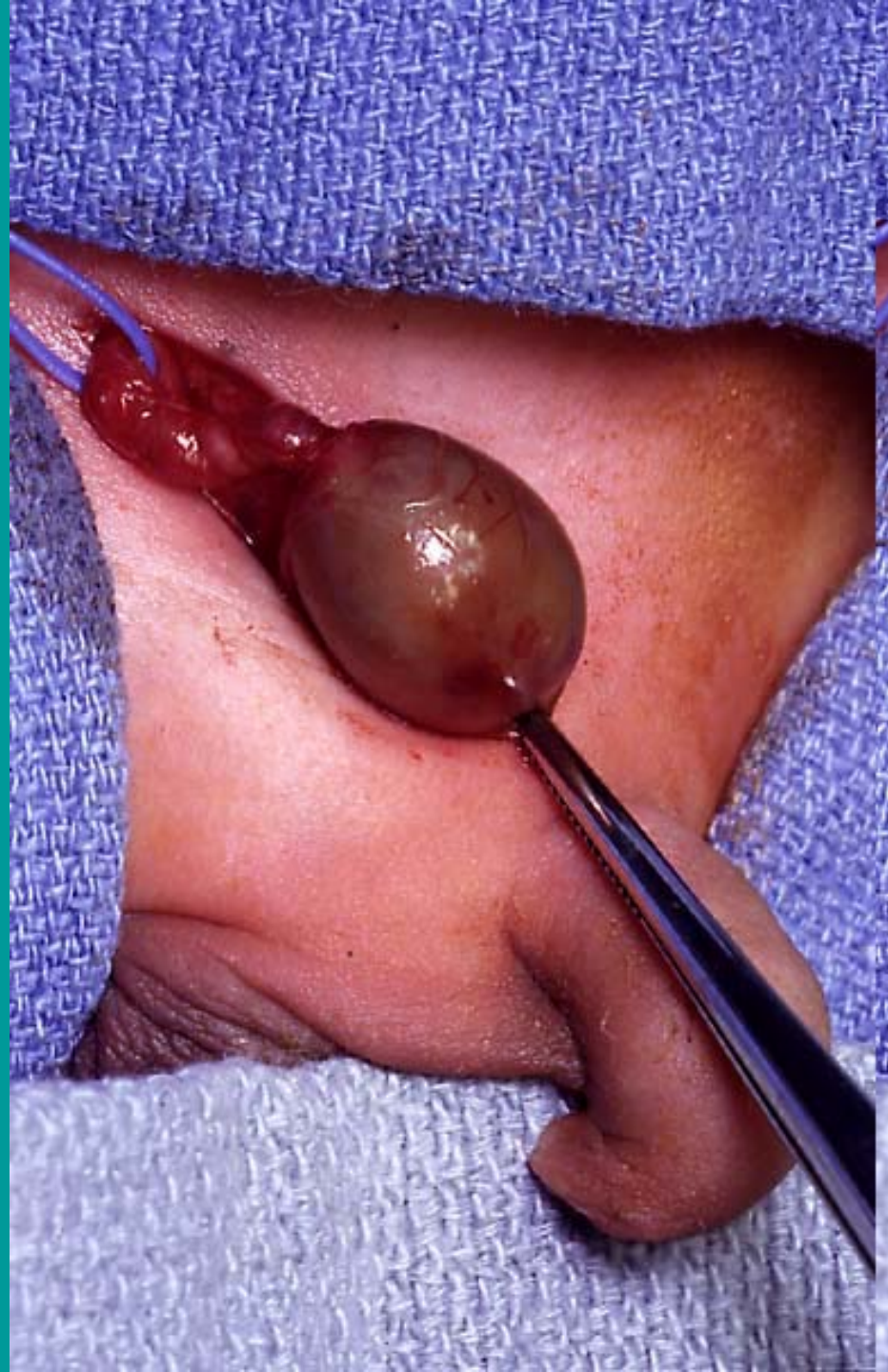
- **Extravaginal** torsions:
 - Involve all the elements of the cord
 - More common in neonates
 - Due to poor attachments of the tunica vaginalis to the dartos muscle
 - Events occur prenatally
 - Invariably results in testicular loss











EXTRAVAGINAL TORSION

- **Presentation:**
- Depends on timing of torsion
- Edematous discolored, bruised and fixed scrotal skin with indurated scrotal mass
- Marble-like testis without associated skin changes
- Vanished testis
- Torsion occurring in the immediate postnatal period is extremely rare

EXTRAVAGINAL TORSION

Differential Dx:

Incarcerated hernia

Tense hydrocele

Neonatal testicular tumor

Labs not useful

Sonography useful- flow? , echotexture.

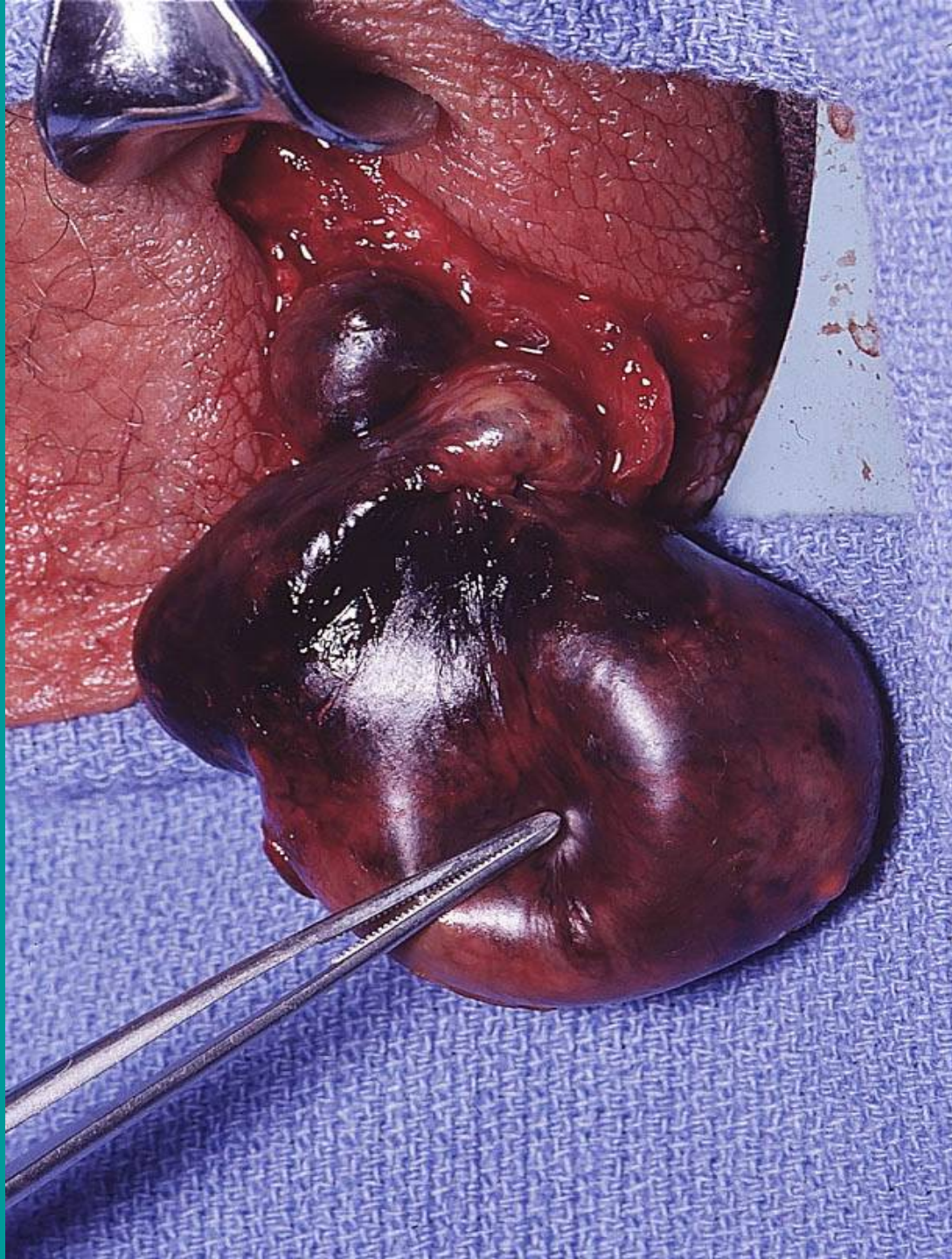
EXTRAVAGINAL TORSION

- **Operative management:**
- Not done to save testicle
- Asynchronous testicular torsion has been reported
- Affected testis is removed
- Operation to prophylactically pex the contralateral testicle

INTRAVAGINAL TORSION

- Bell-clapper deformity
 - High, narrow attachment of the testis within the tunica vaginalis
 - Testis can swing within the tunical space
- More common in pre-pubertal or pubertal male due to rapid growth of testicle
- Torsions are lateral to medial and may be 180-720 degrees.
- Vascular compromise and ischemic changes in the testicle

**YOU HAVE 6-8
HOURS TO
PREVENT
TESTICULAR LOSS!**



INTRAVAGINAL TORSION

- Symptoms:
- Intense, immediate pain
- Pain may or not be related to physical activity
- Vomiting
- Lower quadrant abdominal pain
- Sometimes patient is awakened by pain

INTRAVAGINAL TORSION

- **Signs:**
- Diffusely tender testicle
- High-riding testis
- Abnormal orientation of the testis with transverse lie in the scrotal sac
- Anterior presentation of the epididymus
- Absence of cremasteric reflex
- Later presentation clouded by associated hydrocele and scrotal edema



INTRAVAGINAL TORSION

- **Manual detorsion:**
- “Opening the book approach”
- Testis untwisted medially to laterally
- May buy time if surgeon not immediately available
- If successful , immediate relief of symptoms
- Torsions can also occur in the opposite direction

INTRAVAGINAL TORSION

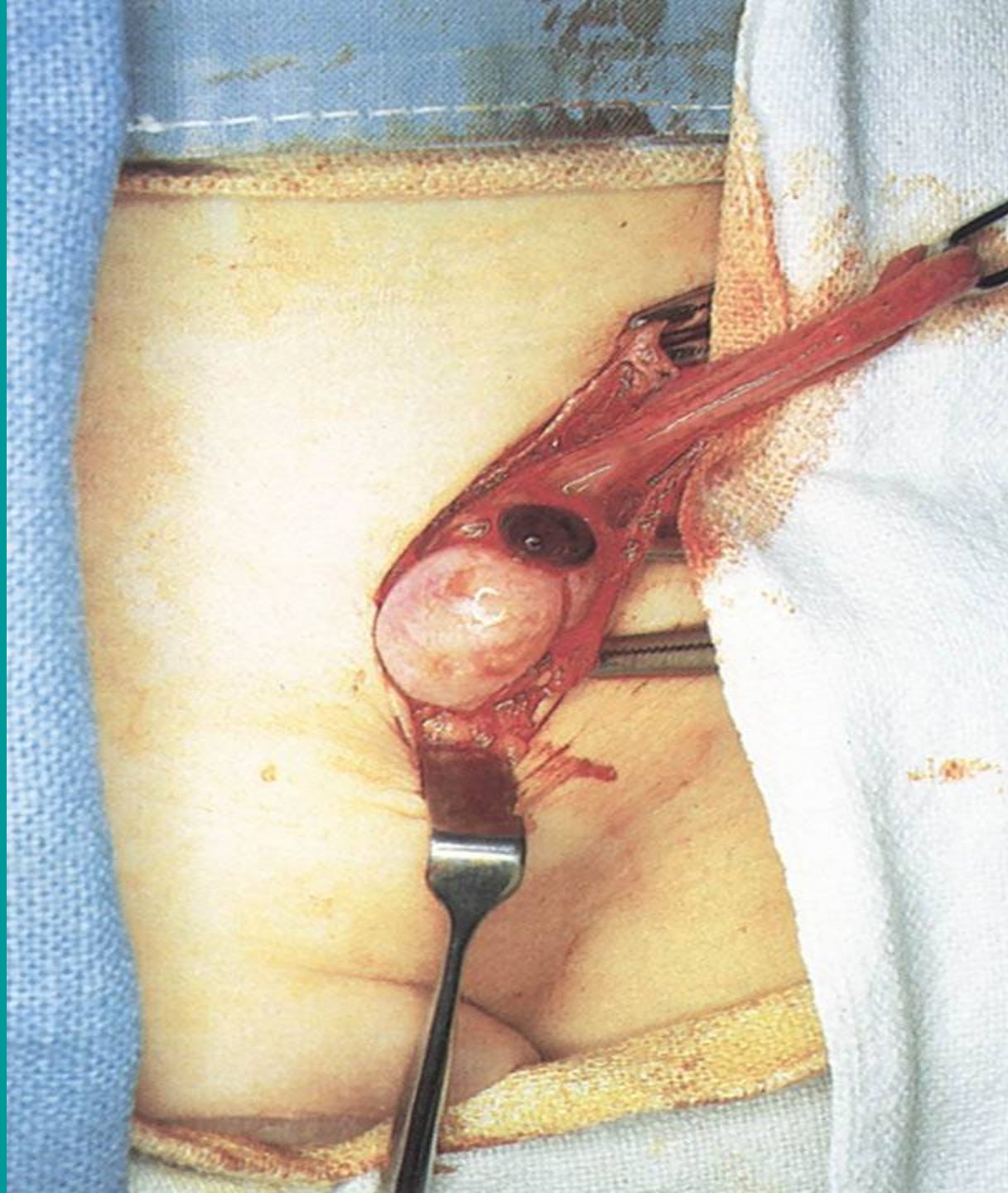
- **Management:**
- Immediate exploration
- Detorsion, if viable, bilateral orchidopexy, if not, ipsilateral orchiectomy, contralateral orchidopexy
- Doppler ultrasound should not delay exploration if patient presents within 6 hour window of onset of symptoms
- **Race against time!**

INTERMITTENT TORSION

- Intermittent episodes of severe testicular pain
- Resolve spontaneously within a short time
- Mostly in young pubertal boys
- Physical findings are similar when witnessed
- **Management:**
 - Elective surgical fixation as soon as possible
- Some patients may be experiencing orchalgia unrelated to torsion

TORSION OF TESTICULAR APPENDAGES

- Vestigial remnants of wolffian duct-appendix epididymus
- Vestigial remnants of mullerian duct-appendix testis
- Both located near the head of the epididymus, cause identical symptoms
- No risk to testicular viability



TORSION OF TESTICULAR APPENDAGES

- Typically pre-pubertal kids
- Pain appears acutely or subacutely and may be mild or severe
- “Blue dot” sign(early) is pathognomonic
- Patients can pinpoint the area of pain
- With time edema, hydrocele, thickening of tunica vaginalis and reactive epididymitis appear making the diagnosis more difficult

TORSION OF TESTICULAR APPENDAGES

- Sonography may be helpful, do not confuse with epididymitis (rare with normal UA)
- Exploration may be required for diagnostic uncertainty
- Management is expectant (antiinflammatories, scrotal support)
- Operation is reserved for chronic pain

EPIDIDYMITIS

- Rare in childhood
- Occurs in association with urinary tract infection
- Evaluate for possible urogenital anomaly (ectopic ureter)
- In the absence of UTI's, epididymitis has been known to occur in boys with severe voiding dysfunction

EPIDIDYMITIS

- Usually adolescent, sexually active male
- Symptoms are gradual
- Associated pyuria, dysuria, flank pain, fever
- Sonography is helpful in making the diagnosis
- **Causes:** *Chlamydia trachomatis*, *Ureoplasma urealyticum*, *Neisseria gonorrhoea*

EPIDIDYMITIS

- **Treatment:**
- Report to health department
- Treat partners
- 1g ceftriaxone IM followed by 100 doxycycline bid for one week
- Counseling on risks of unprotected sexual intercourse

TRAUMA

- **Infrequent**
- **History of direct hit to scrotal area**
- **May range from normal exam to to diffusely enlarged scrotum with echymoses and loss of anatomic landmarks**
- **Many patients present with torsion after acute trauma**
- **Testicular rupture requires immediate exploration**
- **Hematomas are managed expectantly**

CLINICAL PRESENTATION OF THE ACUTE SCROTUM

- **Torsion of the testis:**
- **Acute onset**
- **Gastrointestinal and abdominal symptoms**
- **Focal testicular tenderness**
- **Systemic toxicity**
- **Previous episodes**
- **Torsion of appendicular structures:**
- **Gradual onset**
- **Absence of toxicity**
- **“Blue dot” sign**
- **Epididymitis:**
- **Voiding symptoms**
- **Fever**
- **Pyuria**

WORK-UP

- CBC
- UA
- USG

- **YOU MAY WAKE UP NOW**
- **DON'T FORGET TO CALL YOUR FRIENDLY NEIGHBOURHOOD SURGEON**