

Scrotal pain or swelling in children and adolescents



PER

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Our case



- **Name: Chen x x**
- **Sex: boy**
- **Age: 13 y/o, 62 Kg**
- **Chief complaint: Scrotal pain and swelling since 0229**
- **Vital signs: BP:130/56 mmHg, TPR: 36/89/19**
- **Physical examinations: Swelling, tenderness, and erythematous change over scrotum**

Lab data



DATE	TIME	ALB	TP	BIL,T	BIL,D	ALKP	AST	ALT	LDH
970303	1135							80	

DATE	WBC	RBC	HGB	HCT	MCV	PLT	NEUT	LYM	MON	EOS	BAS
970303	9400	4.65	13.9	40.7	87.6	280	72.4	18.8	7.8	0.6	0.4

DATE	TIME	NA	K	CL	CA	BUN	CREAT	CRP	LIPASE
970303	1135	141	3.9				0.7	5.1	

DATE	TIME	GLUCOSE	PT-P	PT-C	APTT-P	APTT-C	TRO-T
970303	1135	93		10.0	10.5	32.6	29.0

DATE	SPGR	PH	PROT	GLU	KETO	BIL	UROB	OB	NIT	RBC	WBC	EPCEL
970303	1.005	7	-	-	-	-	0.1	-	-	-2	-2	-1

Scrotal image



PER course



- **Arrange scrotal image: A photopenic defect in the left scrotum on the dynamic and static image**
Torsion of the left testis should be considered
- **Arrange sonography: no perform**
- **Consult PEDS Dr. for suspected torsion of testis**
- **Emergent surgery (orchiectomy) on 0303**
- **Surgical pathology: Testis, left, orchiectomy --- Hemorrhagic infarct, involved testis and epididymis. The cut end of spermatic cord shows congestion**

Discussions

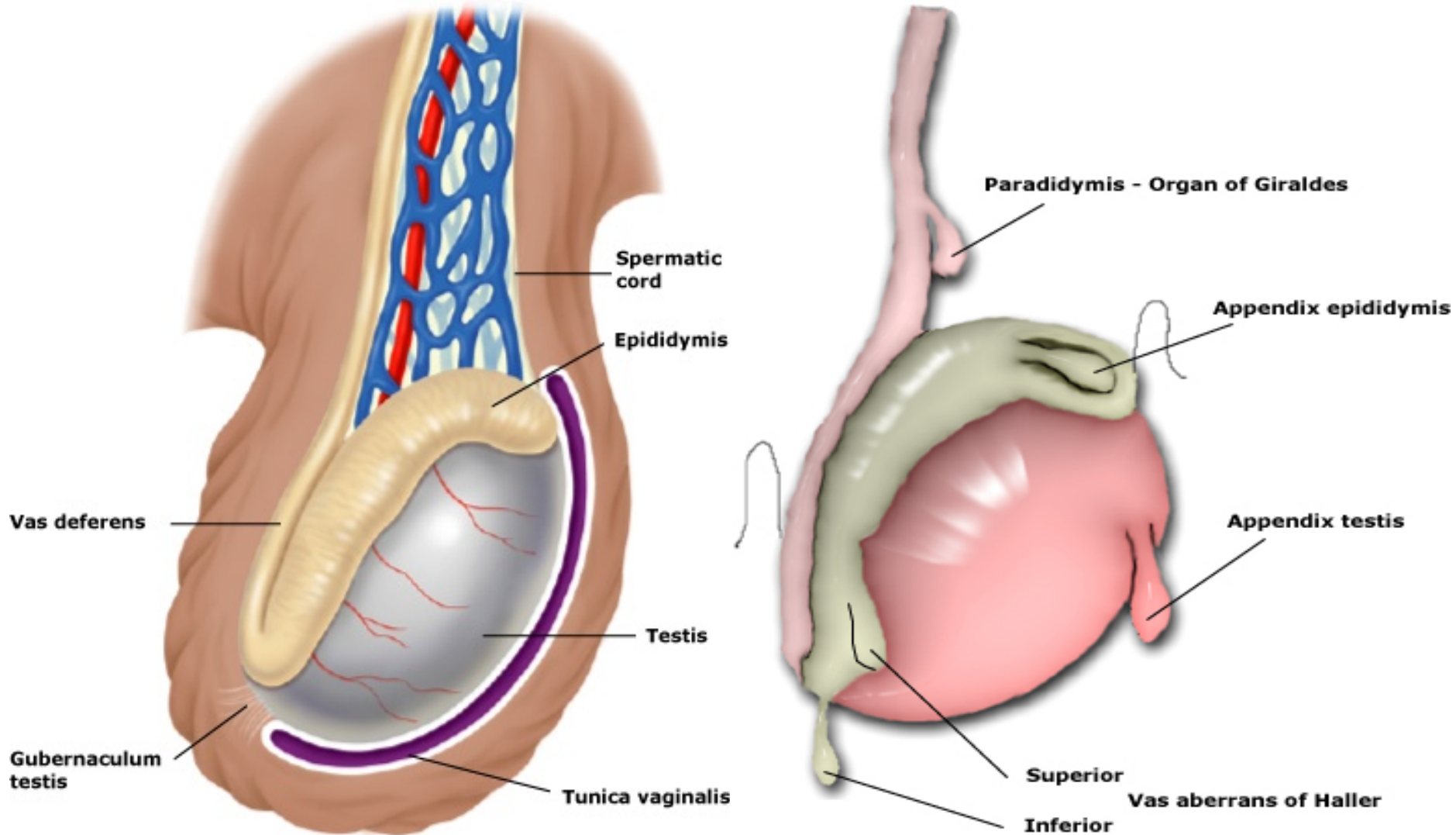


ACUTE SCROTUM

Scrotal anatomy

Posterior portion

Anterior portion



Evaluation of scrotal pain or swelling



- A focused history, a complete examination with particular attention on the abdomen, inguinal region, and genitalia including the testes, epididymis, spermatic cord, scrotal skin, penis, and cremasteric reflex
- A complete blood count, urinalysis and urine culture, doppler ultrasonography or scintigraphy to assess testicular perfusion, scrotal exploration

History



- Pain: onset and severity, testicular torsion, torsion of testicular or epididymal appendage, and epididymitis
- Trauma history
- Change in testicular or scrotal size: communicating hydrocele or varicocele
- Sexually active: epididymitis
- Difficulty voiding: intraabdominal, pelvic or rectal mass, urinary tract infection, or neurologic problem
- Flank pain or hematuria: renal stone (referred pain)

Examinations



- **Inspection: left testicle lower than right testicle**
- **Palpation: testicle >> epididymis >> spermatic cord, swelling >> transillumination (cystic or solid)**
- **Cremasteric reflex: stroking the upper thigh while observing the ipsilateral testis >> elevation of the testis, always absent in patient with testicular torsion**
- **Prehn sign: elevation of the scrotal contents relieves the pain in patient with epididymitis and aggravates in patient with testicular torsion, not a reliable sign**

DDx of scrotal pain

Historical features	Testicular torsion	Torsion of appendage	Acute epididymitis
Peak incidence	Perinatal and puberty	Prepubertal	<2 years and postpubertal
Onset of pain	Sudden	Sudden	Gradual
Duration of pain	<12 hours	>12 hours	>24 hours
Previous episodes	Typical	Unusual	If previous episode
Nausea and vomiting	Common	Uncommon	Umcommon
Fever	Unusual	Unusual	Common
History of trauma	Occasional	Unusual	Unusual
Dysuria or discharge	Rare	Rare	common

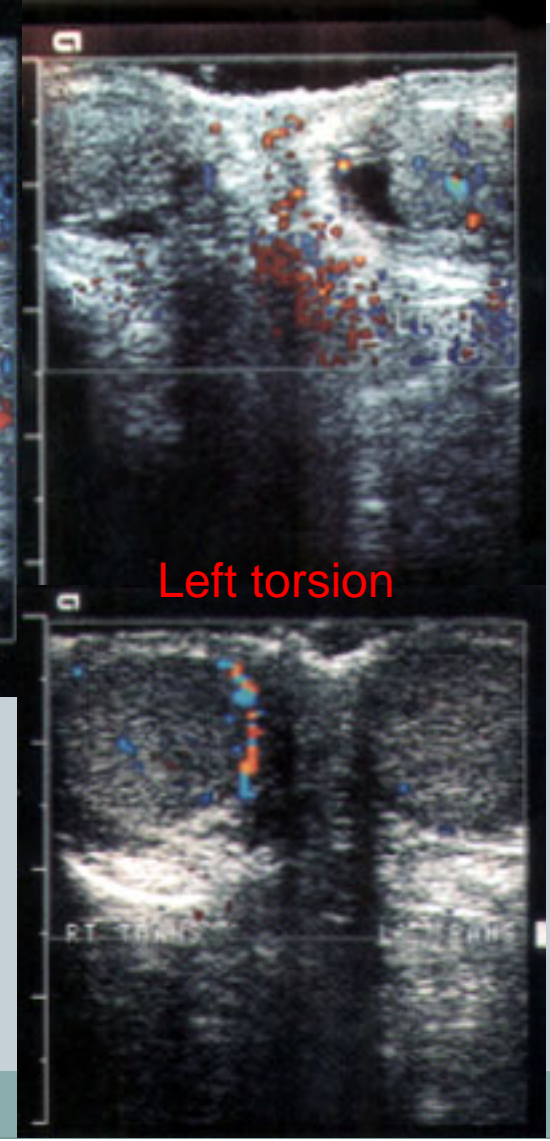
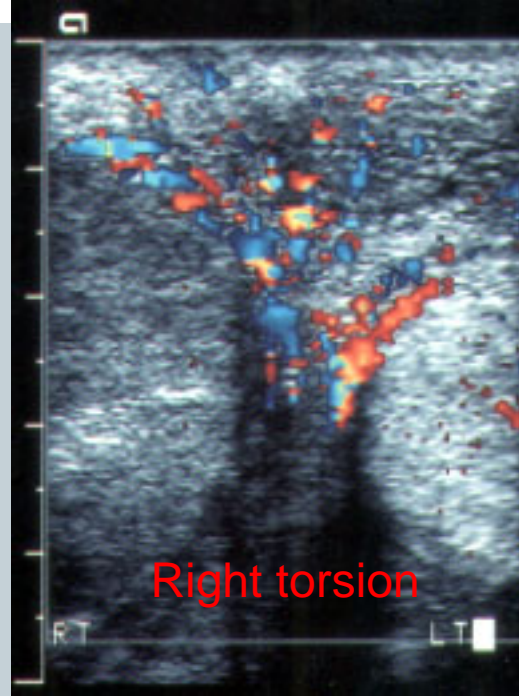
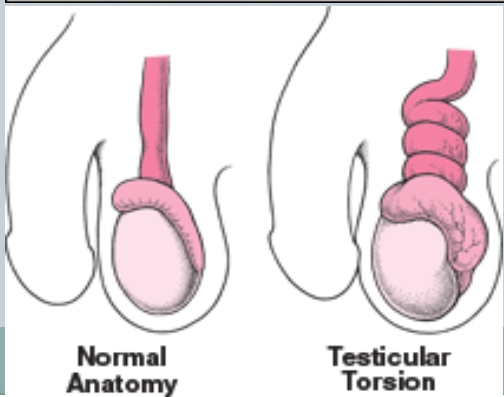
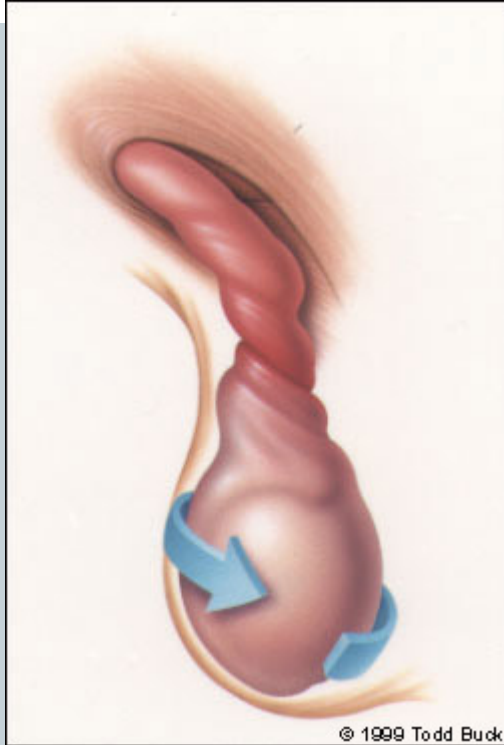
From Up to Date 2008

DDx of scrotal pain



PE/Lab Perfusion	Testicular torsion	Torsion of appendage	Acute epididymitis
Suggestive findings	Bell-clapper	Blue-dot	None
Cremasteric reflex	Absent	Present	Present
Tenderness	Testicular initially, then diffuse	Appendage initially, then testis	Epididymis initially, then diffuse
Erythema or edema	Common >12 hours	Common >12 hours	Common >12 hours
Pyuria	Unusual	Unusual	Common
Positive culture	No	No	Often
Leukocytosis	Common	Uncommon	Common
Color doppler	Decreased	Normal or increased	Normal or increased
Radionuclide	Decreased	Normal or increased	Normal or increased
Treatments	Surgical exploration	Bed rest and scrotal elevation	Antibiotics

Testicular torsion



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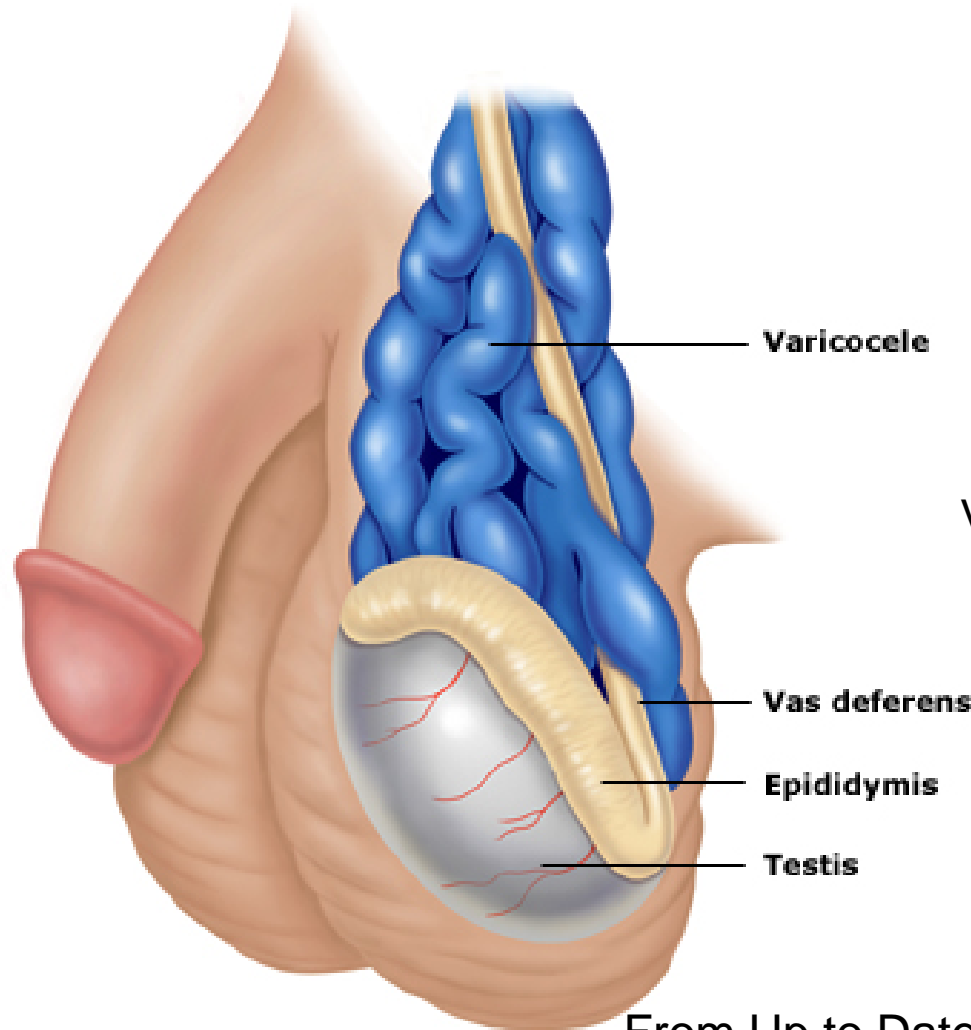
DDx of painless scrotal mass



Mass	Palpation	Transilluminates	Increases with Valsalva maneuver
Tumor	Firm	No	No
Varicocele	Fluid-filled	No	Yes
Noncommunicating hydrocele	Fluid-filled	Yes	No
Spermatocele	Fluid-filled	Yes (superior to testis)	No

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Varicocele



Bag of worms

Transilluminates(-)

Valsalva maneuver(+)

Varicocele

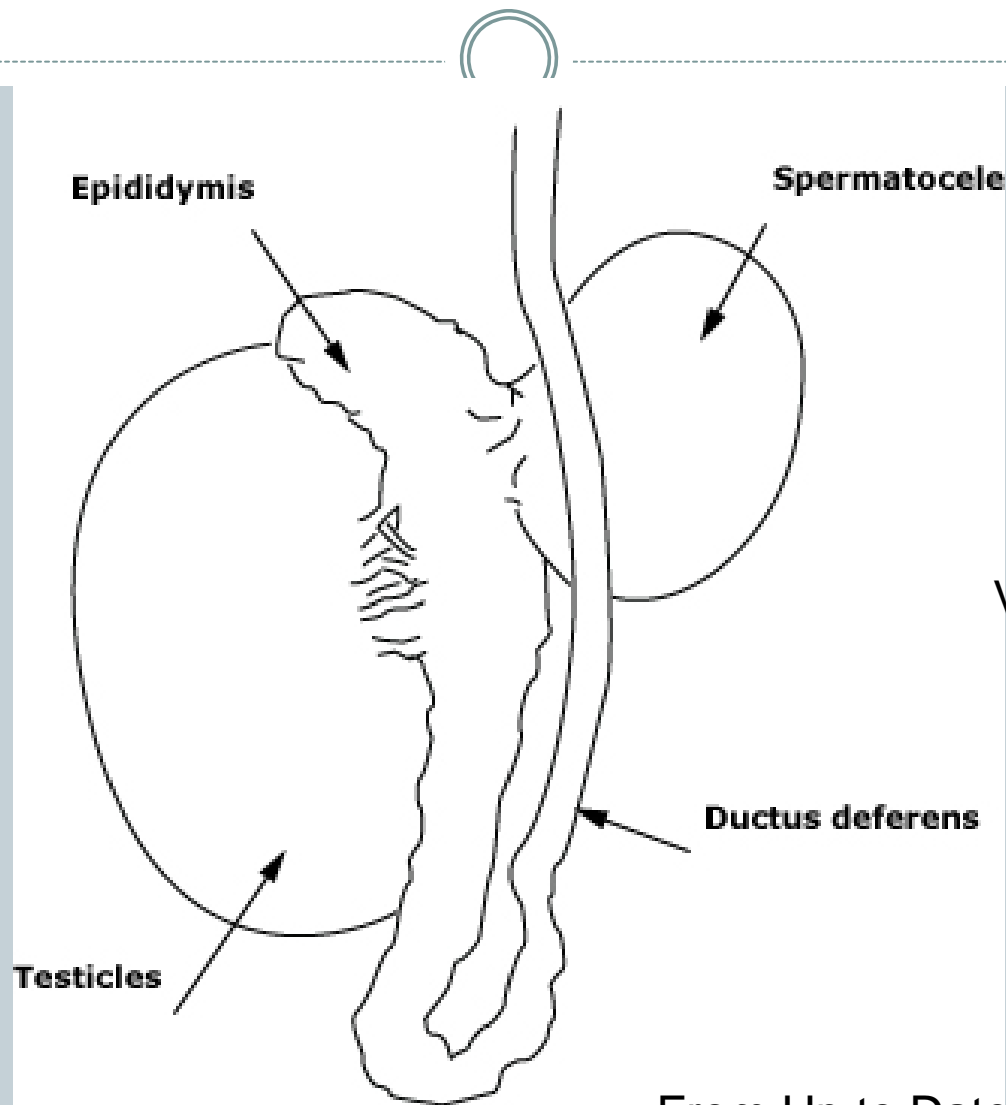
Vas deferens

Epididymis

Testis

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Spermatocele (epididymal cyst)



Fluid-filled, painless

Transilluminates(+)

Valsalva maneuver(-)

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Protocol for acute scrotum



History, physical examination and urinalysis

Short duration of symptoms and negative urinalysis: high probability of torsion

Surgical exploration

Long duration of symptoms and positive urinalysis: low probability of torsion

Color Doppler ultrasonography

Decreased or absent blood flow or equivocal results

Surgical exploration

Increased or normal blood flow

Nonoperative management or observation

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