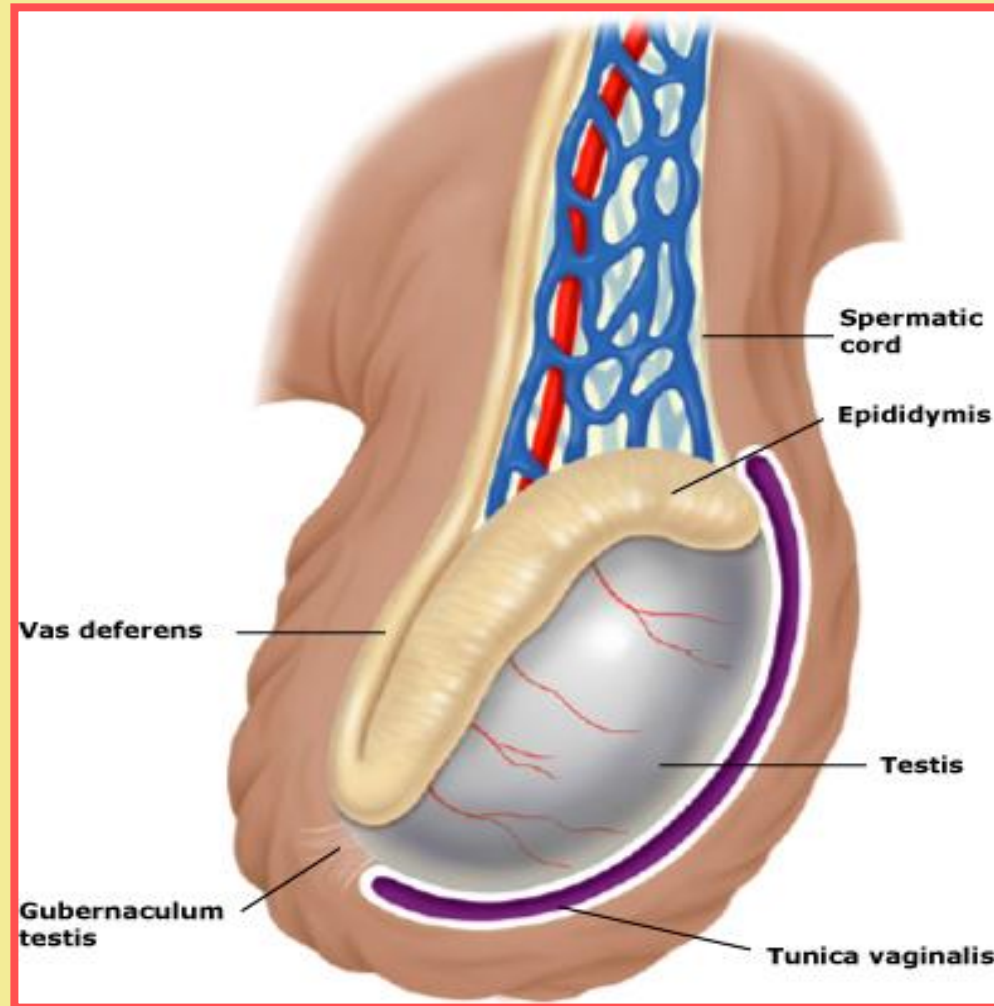


AM Report: Scrotal Swelling

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Normal testicular anatomy



The testicle is vertical and its anterior portion is surrounded by the tunica vaginalis.

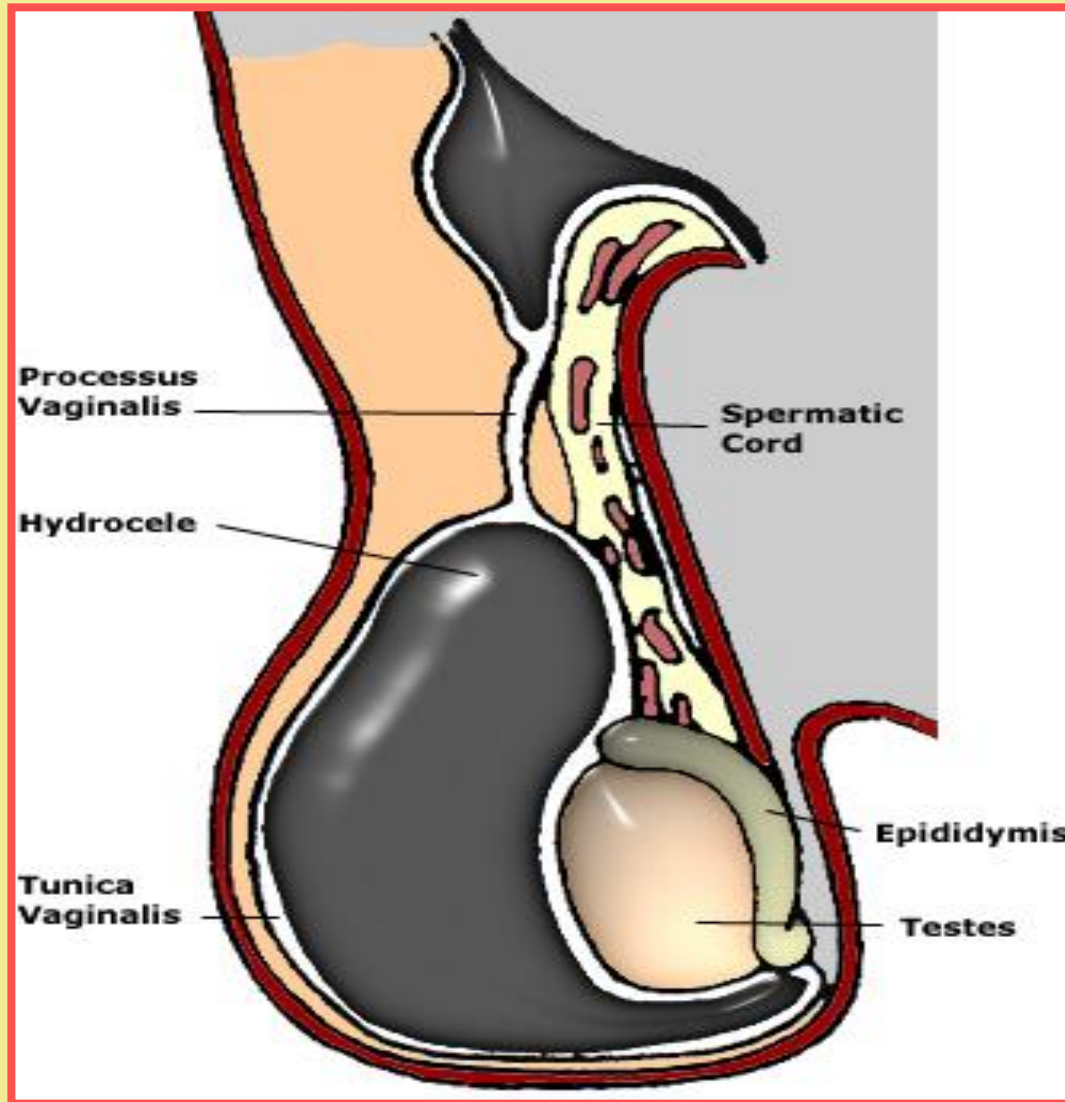
Case 1

A 6 mo old male presents with scrotal swelling. Parents noted the swelling when he was ~1 mo old and had expected it to resolve. They would like to do something about it since it does not seem to be improving. There is no change in the swelling when the baby cries. The patient has had normal growth and development. On exam, the pt has swelling of the R scrotum. B testes are descended with no tenderness on palpation.

Case 1 Questions

- What is the most likely etiology of the swelling?
- What additional findings on physical exam would lead you to this diagnosis?
- What is the anatomic cause of the swelling?
- If there was a history of change in size of the swelling with crying, what other diagnosis would you be concerned about?
- If an older child or adolescent presented with fluid in the scrotal sac, what would be the top 2 things on ddx?
- What would you tell this family regarding management?
What situations would require surgical intervention?

Hydrocele



A hydrocele is a fluid accumulation between the parietal and visceral layers of the tunica vaginalis.



**Transillumination of the scrotum in bilateral hydroceles.
(Courtesy of The Media Lab at Doernbecher)**

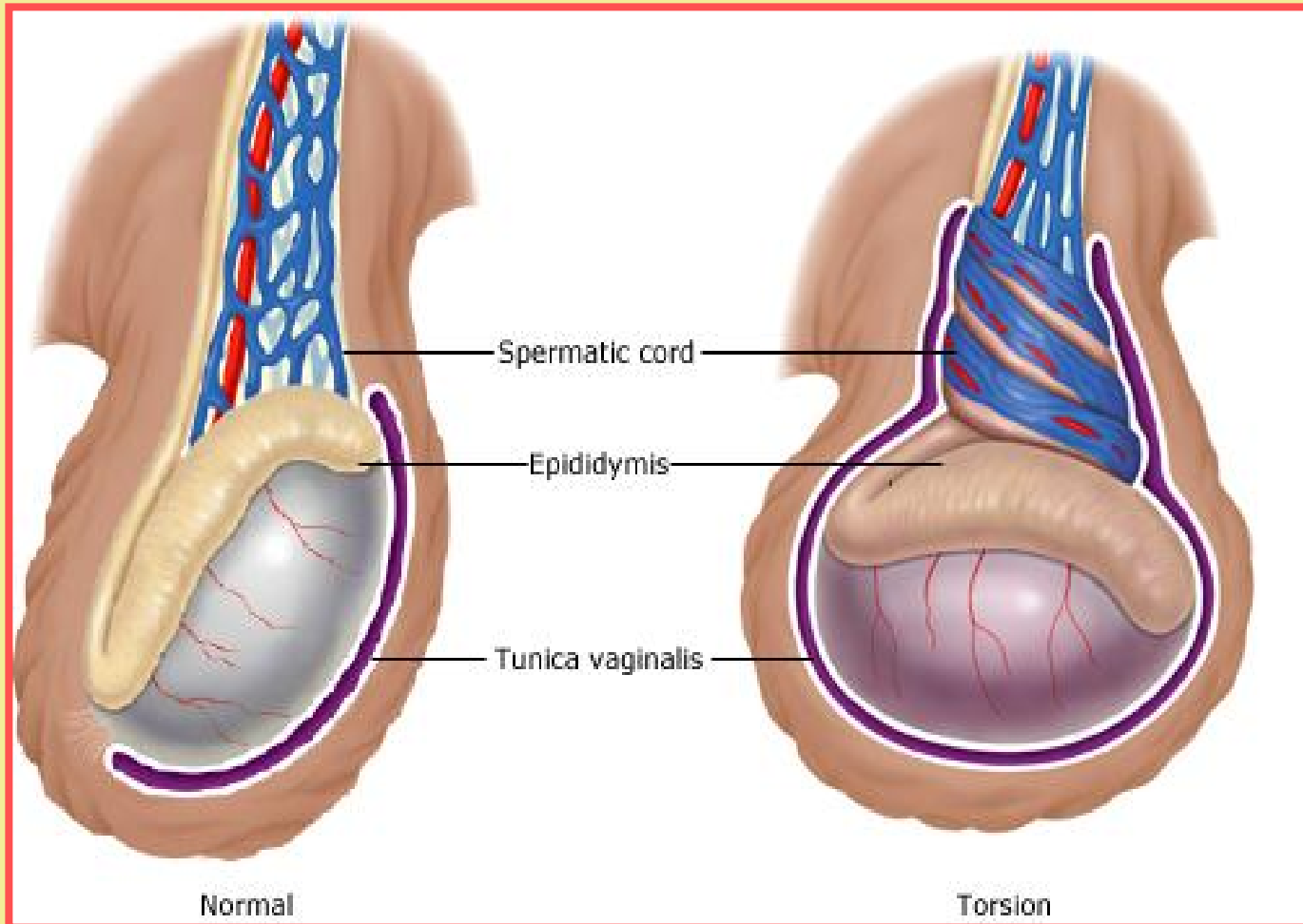
Case 2

A 13 yo male is brought to the ER with acute onset RLQ pain, which has progressed to R scrotal pain. He reports the pain started overnight, at which point he awoke from sleep. He is also c/o N/V and is having difficulty walking to his room. He has been afebrile. He has no prior history of similar pain.

Case 2 Questions

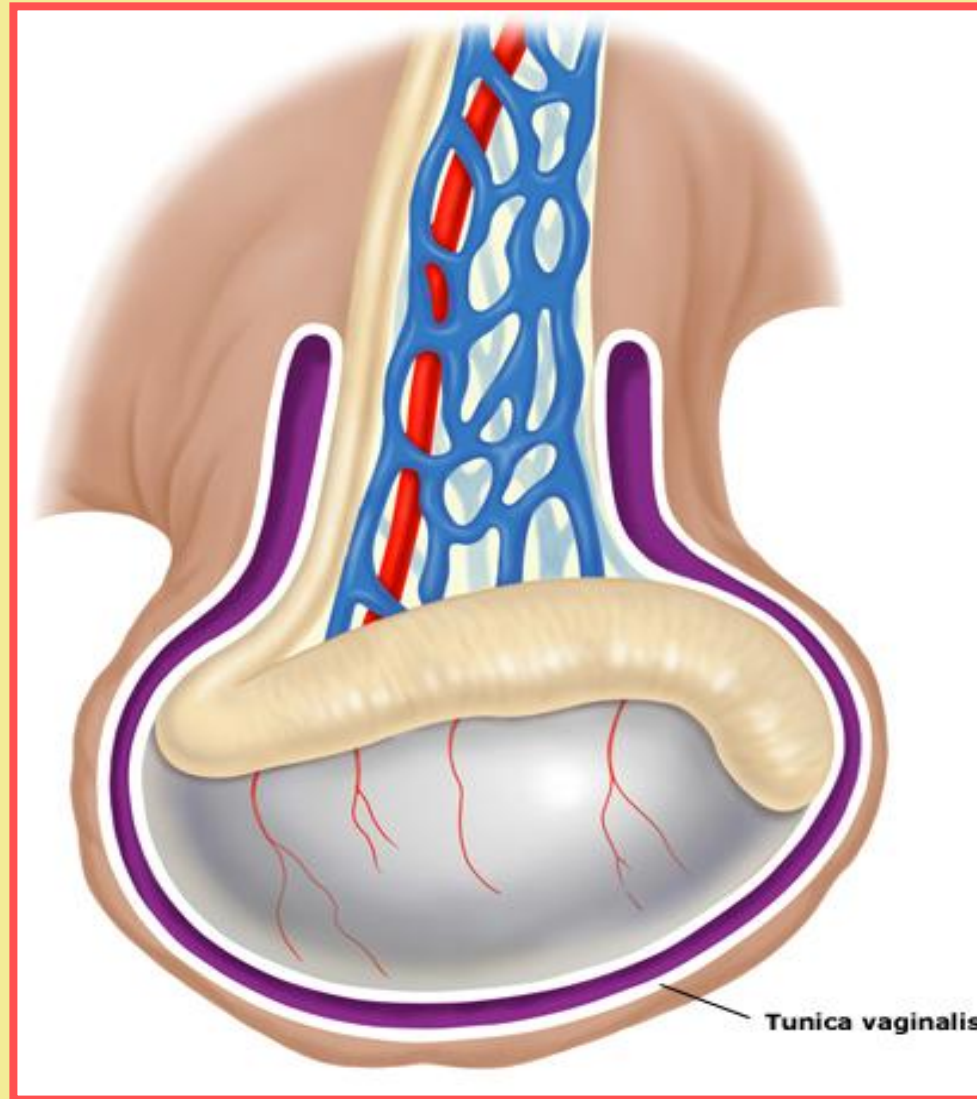
- What additional questions on history would be important in this situation?
- What diagnosis would you be most concerned about in this patient?
- What signs on physical exam would point you towards a diagnosis requiring emergent intervention?
- What is the anatomic cause of the pt's diagnosis?
- In what situation would imaging be appropriate? What imaging options should be considered?
- What congenital deformity predisposes to this diagnosis?
- What are options for repair?

Torsion of spermatic cord



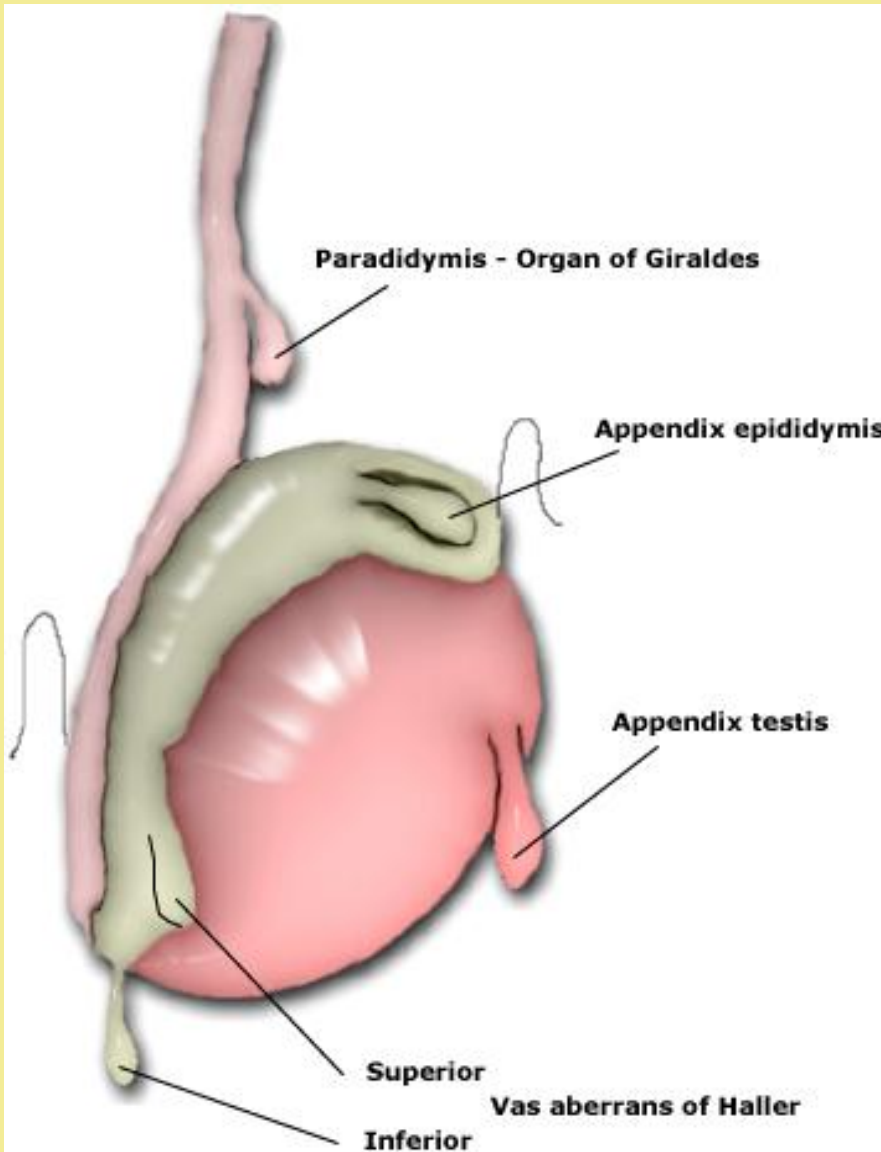
Abnormality of testicular fixation permits torsion of spermatic vessels with subsequent infarction of the gonad.

Bell clapper deformity



In the "bell clapper" deformity, the testis lies horizontally and the tunica vaginalis extends up over the spermatic cord so that the testis is suspended within the tunica vaginalis by the spermatic cord.

Anatomy of the testicular appendages



Torsion of the appendix testis can produce testicular pain that ranges from mild to severe. Infarction and necrosis of the appendix testis can be seen as a "blue dot" sign (arrow).

Case 3

A 17 yo male presents with fullness of his L scrotum. He denies pain. He is sexually active. He denies dysuria, penile discharge, back/flank pain, fevers, chills or wt loss. He denies recent trauma or previous testicular problems. On exam, he is SMR 5 and circumcised. His R scrotum is nontender with no evidence of swelling with a normal testicle. His L scrotum is mildly swollen with a palpable epididymis and a markedly firm testicle. Cremasteric reflex is intact.

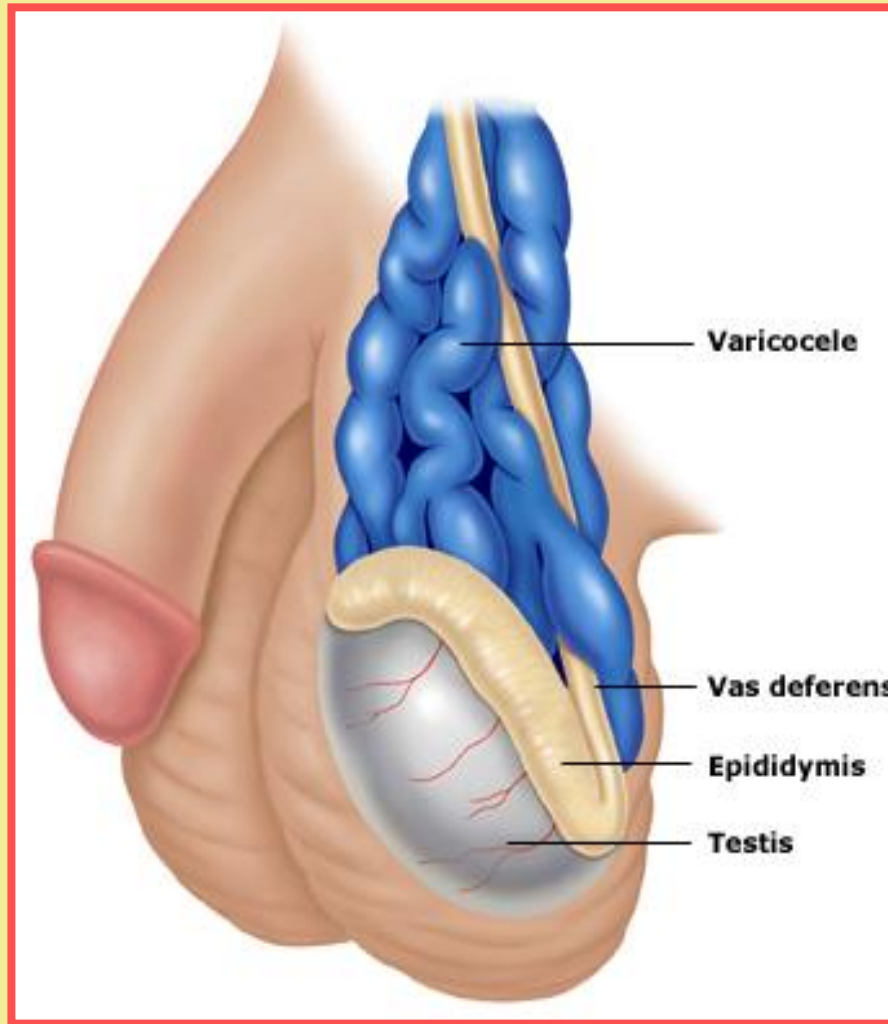
Case 3 Questions

- What are the top 2 diagnoses on your differential and what, on h&p, distinguishes them?
- Other than physical exam, how else could you differentiate between the two?
- What are some risk factors for testicular malignancy?
- What is the most common type of testicular tumor in children? What % of testicular tumors in children are benign?
- What is the pediatrician's role in early recognition of testicular tumors?

TABLE 3. Testicular Tumors in Children

TYPE	FREQUENCY	BEHAVIOR
Yolk sac tumors	62%	Malignant
Teratoma	14%	Benign
Gonadal stromal	8%	
Leydig cell		Benign
Sertoli cell; mixed; etc <1		Benign
Sertoli cell; mixed; etc >1		Malignant
Other	10%	Variable

Varicocele



A varicocele is a collection of dilated and tortuous veins in the pampiniform plexus surrounding the spermatic cord. On physical examination, the spermatic cord has a "bag of worms" appearance that increases with standing or the valsalva maneuver.



A varicocele (arrow) represents a dilation of the pampiniform plexus. (Courtesy of L Kroovand)

Etiology of epididymitis

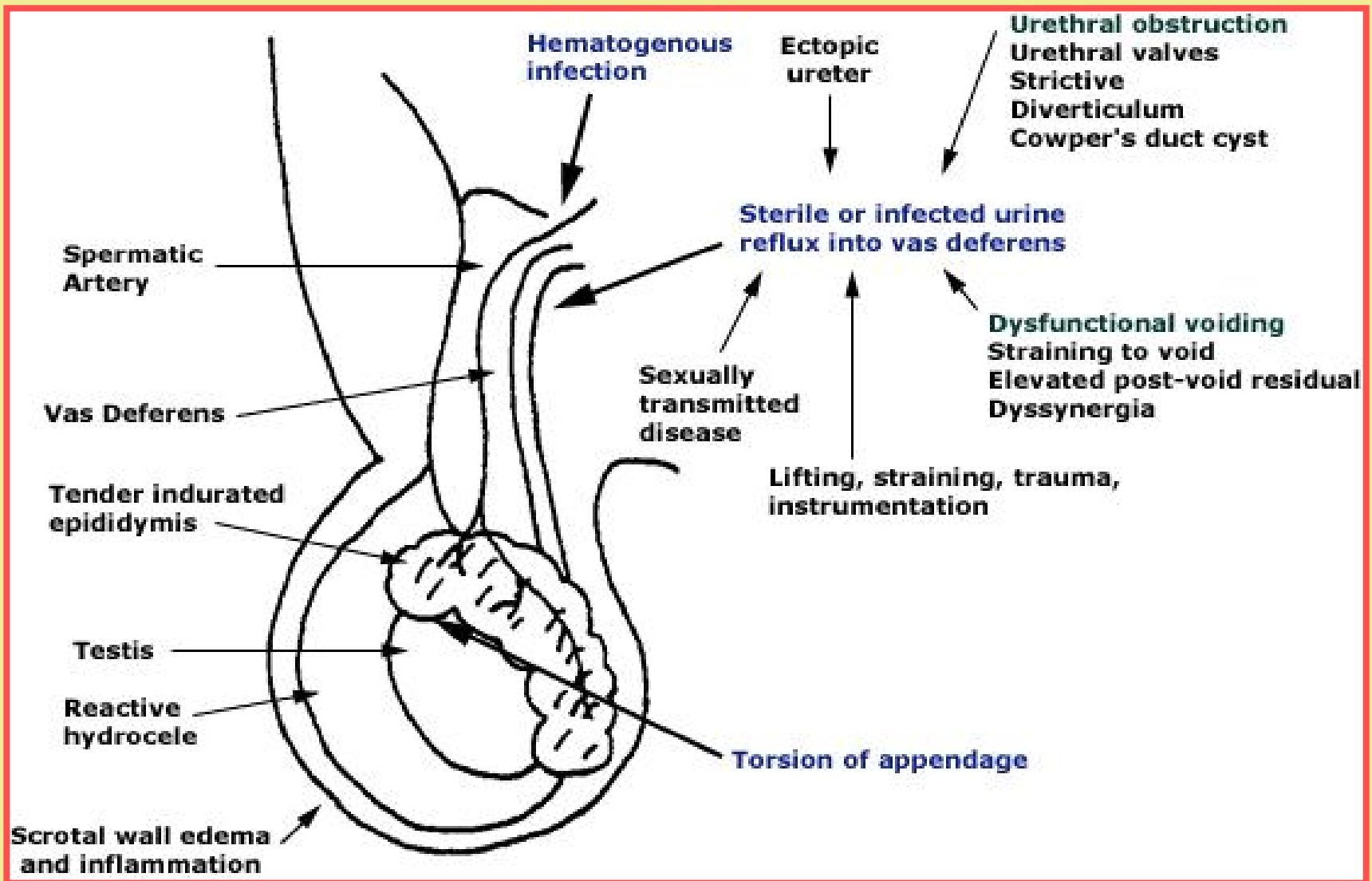


TABLE 1. Physical Findings in Scrotal Swellings

CONDITION	TENDER	RED	BLUE	CREMASTERIC REFLEX	TRANSILLUMINATION
Chronic					
Hydrocele	–	–	+	+	+
Tumor	–	–	–	+	–
Varicocele	–	–	–	+	–
Acute					
Torsion					
Newborn	–	–	+	–	–
Other	+	+	–	–	–
Torsion of appendage	+	+	–	+	–
Epididymitis	+	+	–	+	–
Trauma	+	–	+	±	–

TABLE 2. Management of Scrotal Lesions

CONDITION	MANAGEMENT
Hydrocele <1 y >1 y	None Elective surgical repair
Tumor	Surgical excision
Varicocele With pain or atrophy Without pain or atrophy	Repair Observation
Torsion of the testis Newborn Others	Elective exploration Urgent exploration
Torsion of appendage	Observation, pain control
Epididymitis	Medical management
Trauma	Urgent exploration
Idiopathic scrotal edema	Observation, antihistamines
Henoch-Schönlein purpura	Medical management