



Nonacute scrotal conditions in adults

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INTRODUCTION

The spectrum of conditions that affect the scrotum and its contents ranges from incidental findings that require patient reassurance to acute pathologic events that necessitate expeditious diagnosis and treatment.

This topic reviews the conditions that a clinician is likely to encounter on routine physical examination. The most common nonacute scrotal conditions include varicocele, hydrocele, epididymal cyst and spermatocele, testicular cancer, chronic epididymitis, and cryptorchidism.

Acute scrotal pain in adults and scrotal disorders in children are discussed separately. (See ["Acute scrotal pain in adults"](#) and ["Evaluation of nontraumatic scrotal pain or swelling in children and adolescents"](#).)

NORMAL ANATOMY

The testis, tunica vaginalis, epididymis, spermatic cord, appendix testis, and appendix epididymis are anatomic structures that may be involved in nonacute scrotal conditions ([figure 1](#)):

- The testis (testicle) is the male gonad responsible for production of sperm and androgens (primarily testosterone). The normal testis is ovoid, about 3 to 5 cm in length, and firm with smooth surfaces. One testis may be slightly larger than the other, and one testis (usually the left) may hang slightly lower.

- The tunica vaginalis is a fascial layer which encapsulates a potential space encompassing the anterior two-thirds of the testis. Different types of fluid may accumulate within the tunica vaginalis (eg, peritoneal fluid with a hydrocele, blood with a hematocele, pus with a pyocele).
- The epididymis is a tightly coiled tubular structure located on the posterior aspect of the testis running from its superior to inferior poles. Sperm travels from the tubules of the rete testis into the epididymis, which joins the vas deferens distally. The function of the epididymis is to aid in the storage and transport of sperm cells that are produced in the testes, as well as to facilitate sperm maturation.
- The spermatic cord, which consists of the testicular blood vessels, ilioinguinal nerve branches, cremasteric muscle fibers, fat, and the vas deferens is connected to the superior pole of the testis and epididymis and traverses cephalad into the retropubic space.
- The appendix testis is a small vestigial structure on the anterosuperior aspect of the testis, representing an embryologic remnant of the Müllerian duct system ([figure 2](#)). It measures approximately 0.3 cm in length and is predisposed to torsion (twisting), particularly during childhood, because of its pedunculated shape. The appendix epididymis is a Wolffian duct vestigial structure found at the superior aspect of the epididymis.

PALPABLE ABNORMALITIES

Evaluation — Abnormal scrotal findings are generally asymptomatic and may be identified by the patient on self-examination. The specific diagnosis is often based on characteristic physical findings.

- Scrotal fullness, which is variable in size and has the feel of a “bag of worms,” is suggestive of a varicocele. It may be asymptomatic or associated with dull, aching scrotal pain. Varicoceles generally occur on the left side. (See '[Varicocele](#)' below.)
- Unilateral or bilateral diffuse scrotal swelling, which has a uniform consistency, is suggestive of a hydrocele. A small hydrocele is often asymptomatic, whereas a large one may be associated with significant pain, particularly if there has been rapid accumulation of fluid. (See '[Hydrocele](#)' below.)
- Localized fullness in the head of the epididymis is suggestive of an epididymal cyst or spermatocele (epididymal cyst >2 cm). It is usually asymptomatic. (See '[Epididymal](#)

[cyst/spermatocele](#)' below.)

- A firm, nontender nodule or mass on a testis is suggestive of testicular cancer. It is usually asymptomatic but may be associated with gynecomastia. (See '[Testicular cancer](#)' below.)

Transillumination of the scrotum may be helpful in identifying a hydrocele. It is performed by holding a light behind the scrotum: A hydrocele will permit the light to shine through, while solid lesions will block the light. However, it is important to emphasize that acute inflammatory conditions of the scrotal contents (epididymitis, torsion, appendiceal torsion) and testicular cancer may occasionally cause a reactive hydrocele.

If the specific diagnosis is not evident on physical examination, a scrotal ultrasound should be performed. It is a reliable means of distinguishing between these scrotal conditions, with >95 percent sensitivity and specificity for intratesticular lesions [1]. The main role of ultrasound is to distinguish between intratesticular and extratesticular lesions: Most extratesticular lesions are benign, and intratesticular lesions are more likely to be malignant. Referral to a urologist is advised if there is still uncertainty after the ultrasound results, if testicular cancer is a possibility, or if surgery for a varicocele or hydrocele is a consideration. (See '[Management](#)' below and '[Hydrocele](#)' below.)

Causes

Varicocele — A varicocele, which is present in 15 to 20 percent of post-pubertal males, is caused by dilatation of the pampiniform plexus of spermatic veins ([figure 3](#)). It is generally left-sided, may first appear at puberty, and may become larger over time [2].

The left internal spermatic (gonadal) vein is one of the longest veins in the body, entering the left renal vein at a perpendicular angle. The intravascular pressure in the left renal vein is higher than on the right because it is compressed between the aorta and the superior mesenteric artery coming off the aorta above the renal vein, thereby producing a "nutcracker effect." This phenomenon causes increased pressure in the left gonadal vein, which can dilate and cause incompetence of the valve leaflets, leading to retrograde flow of blood toward the testis, resulting in dilation of the scrotal venous complex.

Clinical features and diagnosis — Varicocele is diagnosed by its characteristic physical findings, which range from minimal left-sided scrotal fullness on Valsalva maneuver to a large, soft, left-sided scrotal mass ("bag of worms") that decompresses and disappears in the recumbent position. Varicoceles are graded I, II, or III according to size ([table 1](#)). If there is uncertainty, a scrotal ultrasound can be performed for confirmation.

Varicocele may be asymptomatic or present with any or all of the following:

- Dull, aching, usually left-sided scrotal pain, typically noticeable when standing and relieved by recumbency
- Atrophy of the left testicle, believed to be secondary to loss of germ cell mass by induction of apoptosis (programmed cell death) initiated by slightly increased scrotal temperature
- Decreased fertility

Varicoceles usually occur in the left hemiscrotum. Bilateral varicoceles occur in 33 percent of patients. Unilateral right varicoceles that are apparent on clinical examination are uncommon and should alert the clinician to possible underlying pathology causing inferior vena cava (IVC) obstruction (renal cell carcinoma with IVC thrombus, right renal vein thrombosis with clot propagation down the IVC, venous abnormalities) since the right gonadal vein directly empties into the IVC. If patients are undergoing a scrotal ultrasound to evaluate the varicocele, it would be appropriate to include the abdomen in the examination. If patients with a unilateral right varicocele are at high risk for retroperitoneal pathology, evaluation with a computed tomography (CT) scan of the abdomen with contrast would be indicated. Varicoceles on either side that do not decompress in the recumbent position (non-diminishing) also raise concern for obstruction (from thrombus or extrinsic masses) and should be evaluated by CT scan of the abdomen as well. There is no standardized technique for evaluating varicoceles by ultrasound, although it is generally recommended to study the patient in the recumbent and standing positions, as well as at rest and while performing the Valsalva maneuver. A venous diameter of 3 mm or more in any spermatic vein is considered diagnostic. Testicular volume should also be measured. Normal volumes range from 20 to 24 mL, and volumes below 20 mL have been associated with subfertility [3].

Varicoceles are often identified in infertile men. Forty percent of men with primary infertility are found to have a varicocele, and that number rises to 75 to 81 percent of men with secondary infertility [4]. However, 75 percent of men with a varicocele are fertile and 80 percent have normal semen parameters [5]. In a World Health Organization (WHO) study of over 9000 men who were partners in an infertile couple, a varicocele was much more common in men with abnormal semen (25.4 versus 11.7 percent with normal semen) [6].

Many different mechanisms have been proposed to explain the link between varicoceles and impaired spermatogenesis. A multifactorial etiology is likely, involving increased testicular temperature from reflux of blood, oxidative stresses, adrenal catecholamine reflux, and androgen deprivation [7,8]. (See "[Causes of primary hypogonadism in males](#)", section on '[Varicocele](#)'.)

Management — Most varicoceles do not require intervention. Adolescents and young men who have a varicocele and objective evidence of reduced ipsilateral testicular size may be offered varicocele repair [9]. Treatment options include surgical ligation or percutaneous venous embolization. Low microsurgical approaches have lower recurrence and complication rates than high non-microsurgical approaches. Although data are limited and of low quality, some studies have shown improvement in semen parameters (over three to six months) and fertility after repair of varicocele [10-13].

Our approach to management is outlined in the algorithm ([algorithm 1](#)).

- Painful varicoceles are treated with surgical ligation. Typical varicocele pain consists of dull, aching left testicular pain when standing that disappears when recumbent.
- **Young men (21 years old or younger)** – Young men with a varicocele should be evaluated for testicular hypotrophy on physical examination, and those who are post-pubertal should undergo a semen analysis if acceptable to the patient. Further management depends on those results:
 - **If there is evidence of testicular hypotrophy or abnormal semen parameters** – We suggest surgical ligation or percutaneous venous embolization. There are data to suggest that catch-up growth of the hypotrophic testis is possible in some cases after surgery and that return of testicular size directly correlates with normal fertility potential [14]. (See "[Treatments for male infertility](#)".)
 - In patients with bilateral varicoceles, both testicles will be smaller than normal; in adolescents, this may manifest as lack of growth over time.

Subclinical varicoceles are defined as those that are discovered on Doppler ultrasonography but are not palpable on physical examination. Surgery or venous embolization is not recommended in this setting [15] as studies have not shown statistically significant improvement in semen parameters or pregnancy rates.

- **If semen parameters are normal** – We suggest monitoring with semen analysis every one to two years.

Management of children and adolescents with a varicocele is discussed separately, although it is appropriate to state here that any child under the age of nine years with the acute onset of a varicocele, a large-size varicocele, or one that fails to decompress in the supine position should be studied with an abdominal ultrasound to rule out an occult

retroperitoneal mass [3]. (See "[Causes of painless scrotal swelling in children and adolescents](#)", section on 'Varicocele'.)

- **Older men** – We suggest monitoring older patients who desire continued fertility with a semen analysis every two years. For those in whom fertility is no longer a priority, conservative management of minor scrotal discomfort with scrotal support and nonsteroidal antiinflammatory drugs (NSAIDs) may suffice.

Surgery, which is the preferred treatment option for varicoceles, involves ligating the gonadal vein branches so that retrograde blood flow can no longer reach the plexus of veins in the scrotum. This procedure can be performed with inguinal, subinguinal, or retroperitoneal approaches. Some urologists favor laparoscopy or microsurgery, which may have a lower recurrence rate. Treatment with percutaneous gonadal vein embolization, with or without sclerotherapy, is an alternative to surgery, but there have been reports of embolization coils migrating to the lungs and other organs and higher overall recurrence rates [16]. It is usually performed by accessing the left renal and then gonadal vein via the right common iliac vein [17].

Hydrocele — A hydrocele is a collection of peritoneal fluid between the parietal and visceral layers of the tunica vaginalis, which directly surrounds the testis and spermatic cord ([figure 4](#)). Hydroceles are believed to arise from an imbalance of secretion and reabsorption of fluid from the tunica vaginalis.

Idiopathic hydrocele, the most common type, generally arises over a long period of time. Inflammatory conditions of the scrotal contents (epididymitis, torsion, appendiceal torsion) can produce an acute reactive hydrocele, which often resolves with treatment of the underlying condition.

Hydroceles range in size from small, soft collections that still allow palpation of the scrotal contents to massive, tense collections of several liters that make examination impossible. Pain and disability generally correlate with the size. Hydrocele fluid in the scrotal sac transilluminates well, which differentiates the process from a possible hematocele, hernia, or solid mass. A scrotal ultrasound should be considered if the diagnosis is uncertain since a reactive hydrocele can occur in the presence of a testicular neoplasm or with acute inflammatory scrotal conditions (orchitis, epididymitis).

Most hydroceles do not require intervention. Treatment is only indicated in patients who are symptomatic with pain or a pressure sensation or when the scrotal skin integrity is compromised from chronic irritation. For asymptomatic patients with hydroceles, there is no need for routine follow-up.

The most common surgical procedure is excision of the hydrocele sac. Simple aspiration is generally unsuccessful because of the rapid reaccumulation of fluid but may be effective if combined with instillation of a sclerosing agent ([tetracycline](#), alcohol) into the sac. The potential risks of this approach are a low incidence of reactive orchitis/epididymitis and a higher rate of recurrence, which may then make open surgery more difficult because of the development of adhesions between the hydrocele sac and the scrotal contents.

Epididymal cyst/spermatocele — An epididymal cyst is generally asymptomatic and palpated as a soft round mass in the head of the epididymis or rete testis ([figure 1](#)). An epididymal cyst that is larger than 2 cm is called a spermatocele. Epididymal cysts occur with increased frequency in male offspring of mothers who used diethylstilbestrol during pregnancy. They do not generally require treatment, but spermatoceles may rarely necessitate surgical excision because of chronic pain.

The main differential diagnosis of an epididymal cyst is epididymal cystadenoma or, rarely, cystadenocarcinoma. Cystadenomas typically present on examination as a “cluster of grapes” because of their multiple septations and occasionally large size. Cystadenocarcinomas may have palpably firmer areas. Whenever more complex scrotal masses are encountered, an ultrasound should be performed. More worrisome lesions will typically have areas of nodularity noted on ultrasound. Cystadenomas are often bilateral and are seen in more than one-half of patients with Von Hippel-Lindau disease [18]. (See "[Clinical features, diagnosis, and management of von Hippel-Lindau disease](#)", section on 'Papillary cystadenomas of the epididymis and broad ligament'.)

Testicular cancer — Testicular cancer, while relatively rare, is the most common solid tumor in men between the ages of 18 and 40 (see "[Clinical manifestations, diagnosis, and staging of testicular germ cell tumors](#)"). It usually presents as a painless mass discovered by the patient or clinician, although rapidly growing germ cell tumors may cause scrotal pain from hemorrhage and infarction. On physical examination, testicular cancer is usually a firm, nontender nodule or mass that does not transilluminate (although a reactive hydrocele may occasionally be evident). Some patients with germ cell tumors may have associated gynecomastia, typically associated with elevated levels of beta-hCG.

Scrotal ultrasound is the diagnostic test of choice to evaluate a testicular nodule or mass. However, several conditions may mimic neoplasia on ultrasound, including inflammation, hematoma, infarct, fibrosis, and tubular ectasia. In cases in which the ultrasound is inconclusive, magnetic resonance imaging (MRI) may help differentiate benign from malignant lesions. In a study of 622 patients who underwent scrotal ultrasound to evaluate a variety of scrotal diseases, of whom 17 had a lesion suspicious for cancer but an inconclusive ultrasound, no

lesion defined as benign by MRI proved to be malignant (negative predictive value 100 percent), while two benign inflammatory lesions were mistakenly thought to be malignant (positive predictive value 71 percent) [19]. These findings suggest that ultrasound is sufficient in the vast majority of patients with suspected malignancy but that MRI is a useful adjunct when ultrasound is equivocal or shows microcalcifications within the testis but no obvious mass. Small benign calcifications on the surface of the testis are relatively common and do not require further evaluation.

Any patient suspected of having testicular cancer should also have blood levels of alpha fetoprotein (AFP) and the beta-subunit of human chorionic gonadotropin (beta-hCG) measured. However, normal serum values do not exclude testicular cancer. (See "[Clinical manifestations, diagnosis, and staging of testicular germ cell tumors](#)".)

Management of testicular cancer is described separately. (See "[Overview of the treatment of testicular germ cell tumors](#)".)

CHRONIC EPIDIDYMITIS

Chronic epididymitis may be infectious or noninfectious in origin.

- **Chronic infectious epididymitis** – Although rare, chronic infectious epididymitis presents with localized tenderness and swelling in the epididymis, distinct from any tenderness or abnormality in the testis (usually without lower urinary tract symptoms) and may occur in healthy adolescents and men. Several factors, including sexual activity, heavy physical exertion, and bicycle or motorcycle riding may predispose to it. Patients who present with chronic or recurrent epididymitis should be evaluated for a structural abnormality of the urinary tract by CT scan with contrast and possibly prostate ultrasonography [20,21]. Physical examination shows subtle epididymal induration and tenderness with or without swelling. In all suspected cases, a urinalysis, urine culture, and urine nucleic acid amplification tests for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* should be performed. Management is identical to that of acute infectious epididymitis but may rarely extend to surgical management. (See "[Acute scrotal pain in adults](#)", section on '[Management](#)'.)
- **Chronic noninfectious epididymitis** – Chronic noninfectious epididymitis can be precipitated by trauma, autoimmune disease, or vasculitis, but no etiology is identified in most cases. Idiopathic noninfectious epididymitis is thought to be the result of reflux of urine through the ejaculatory ducts and vas deferens into the epididymis, producing a

“chemical” inflammation with resultant swelling and ductal obstruction. It can occur, however, even in men who have had a previous vasectomy. Typical inciting factors include prolonged periods of sitting (long plane or car travel, sedentary desk jobs) or vigorous exercise (heavy lifting). Unlike acute infectious epididymitis, patients tend to have less tenderness and swelling on physical examination. The diagnosis is made by performing a careful history and physical examination. Often patients will present with a history of not improving on prior antibiotic therapy. Management includes scrotal elevation, nonsteroidal antiinflammatory drugs (NSAIDs), and avoidance of activities that precipitate symptoms. Men in sedentary jobs or who sit in planes or cars for prolonged periods of time should be advised to get up and walk around for a minute or two every hour if possible.

CRYPTORCHIDISM

Cryptorchidism is failure of descent of the testes into the scrotum during fetal development. This defect may result in the testes being located within the abdomen or inguinal canal or in another ectopic location. Both unilateral and bilateral cryptorchidism may be associated with impaired spermatogenesis, a higher risk of torsion/inguinal hernia, and an increased risk of testicular cancer, the reasons for which are poorly understood. It may have to do with dysregulation of growth factor expression that alters the balance between spermatogonial stem cell self-renewal and differentiation, which shifts them towards neoplastic proliferation [22]. (See "[Undescended testes \(cryptorchidism\) in children: Management](#)", section on 'Testicular cancer'.)

Although approximately 30 percent of premature and 5 percent of full-term males will have an undescended testicle noted during the first year of life, most will subsequently descend such that only 1 percent of one-year old boys have cryptorchidism. Cryptorchidism in children and adolescents is discussed in detail separately. (See "[Undescended testes \(cryptorchidism\) in children: Clinical features and evaluation](#)" and "[Undescended testes \(cryptorchidism\) in children: Management](#)".)

Cryptorchid testes cannot be manipulated manually to a scrotal position; testes that can be manipulated manually into the scrotum are called retractile. Physical examination of adults with a suspected undescended testicle should be performed in both the standing and supine positions with adequate cremasteric relaxation to differentiate undescended testicle or ectopic testes from retractile testes. A true undescended testicle may sometimes be felt along the spermatic cord in the supine position.

The vast majority of cryptorchid testes are addressed during childhood, and their management is discussed elsewhere (see "[Undescended testes \(cryptorchidism\) in children: Management](#)", section on '[Management of undescended testes](#)'). If an undescended testis is detected in men <50 years of age, we suggest surgical excision to prevent the development of testicular cancer [23].

INFORMATION FOR PATIENTS

UpToDate offers two types of patient education materials, "The Basics" and "Beyond the Basics." The Basics patient education pieces are written in plain language, at the 5th to 6th grade reading level, and they answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials. Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are written at the 10th to 12th grade reading level and are best for patients who want in-depth information and are comfortable with some medical jargon.

Here are the patient education articles that are relevant to this topic. We encourage you to print or e-mail these topics to your patients. (You can also locate patient education articles on a variety of subjects by searching on "patient info" and the keyword(s) of interest.)

- Basics topics (see "[Patient education: Hydrocele \(The Basics\)](#)" and "[Patient education: Varicocele \(The Basics\)](#)")

SUMMARY AND RECOMMENDATIONS

- **Common conditions and initial evaluation** – The most common nonacute scrotal conditions include varicocele, hydrocele, epididymal cyst and spermatocele, testicular cancer, chronic epididymitis, and cryptorchidism. If the specific diagnosis is not evident on physical examination, a scrotal ultrasound should be performed. Referral to a urologist is advised if there is still uncertainty after the ultrasound results, if testicular cancer is a possibility, or if surgery for a varicocele or hydrocele is a consideration. (See '[Evaluation](#)' above.)
- **Varicocele** – Varicoceles present with left-sided scrotal fullness, which is variable in size and has the feel of a “bag of worms.” They may be asymptomatic or associated with dull, aching scrotal pain. Unilateral right varicoceles are uncommon and should alert the clinician to possible underlying pathology. We evaluate unilateral right varicoceles with a

computed tomography (CT) scan of the abdomen. Varicoceles on either side that do not decompress in the recumbent position (non-diminishing) also raise concern for obstruction and should be evaluated by CT scan as well. (See ['Clinical features and diagnosis'](#) above.)

- **Treatment** – Painful varicoceles are treated with surgical ligation. Most non-painful varicoceles do not require intervention. We suggest surgical ligation or percutaneous venous embolization in men ≤ 21 years old if the varicocele is associated with testicular atrophy or decreased sperm quality (**Grade 2C**). In young men with normal semen parameters, we suggest monitoring with semen analysis every one to two years. Older men with varicoceles who have normal semen parameters can be followed with semen analysis every two years for as long as fertility is desired ([algorithm 1](#)). (See ['Management'](#) above.)
- **Hydrocele** – Hydroceles present with unilateral or bilateral diffuse scrotal swelling, which has a uniform consistency. A small hydrocele is often asymptomatic, whereas a large one may be associated with significant pain. Most hydroceles do not require intervention. However, we suggest treatment in patients who are symptomatic with pain or a pressure sensation or when the scrotal skin integrity is compromised from chronic irritation (**Grade 2C**). The most common surgical procedure is excision of the hydrocele sac. Simple aspiration is generally unsuccessful because of the rapid reaccumulation of fluid. (See ['Hydrocele'](#) above.)
- **Epididymal cysts and spermatoceles** – Epididymal cysts and spermatoceles (epididymal cyst > 2 cm) present with localized fullness in the head of the epididymis and are usually asymptomatic. Epididymal cysts do not generally require treatment, but spermatoceles may rarely warrant surgical excision because of chronic pain. (See ['Epididymal cyst/spermatocele'](#) above.)
- **Testicular cancer** – Testicular cancer presents as a firm, nontender nodule on a testis. It is usually asymptomatic but is occasionally associated with gynecomastia. Patients with testicular nodules or masses should undergo scrotal ultrasonography. Magnetic resonance imaging (MRI) is a useful adjunct when ultrasound is equivocal or shows microcalcifications within the testis but no obvious mass. (See ['Evaluation'](#) above and ['Testicular cancer'](#) above and ["Clinical manifestations, diagnosis, and staging of testicular germ cell tumors"](#).)
- **Chronic epididymitis** – Chronic epididymitis may be infectious or noninfectious in origin. It presents with localized tenderness and swelling on the posterior aspect of the testis

(usually without lower urinary tract symptoms). Management of chronic infectious epididymitis is identical to that of acute infectious epididymitis. For the management of chronic noninfectious epididymitis, we suggest scrotal elevation, nonsteroidal antiinflammatory drugs (NSAIDs), and avoidance of activities that precipitate symptoms (**Grade 2C**). (See "Acute scrotal pain in adults" and 'Chronic epididymitis' above.)

- **Cryptorchidism** – Cryptorchidism is failure of descent of the testes into the scrotum during fetal development. Both unilateral and bilateral cryptorchidism are associated with impaired spermatogenesis and an increased risk of testicular cancer. The vast majority of cryptorchid testes are addressed during childhood. If an undescended testis is detected in men <50, we suggest surgical excision to prevent the development of testicular cancer (**Grade 2C**). (See 'Cryptorchidism' above.)

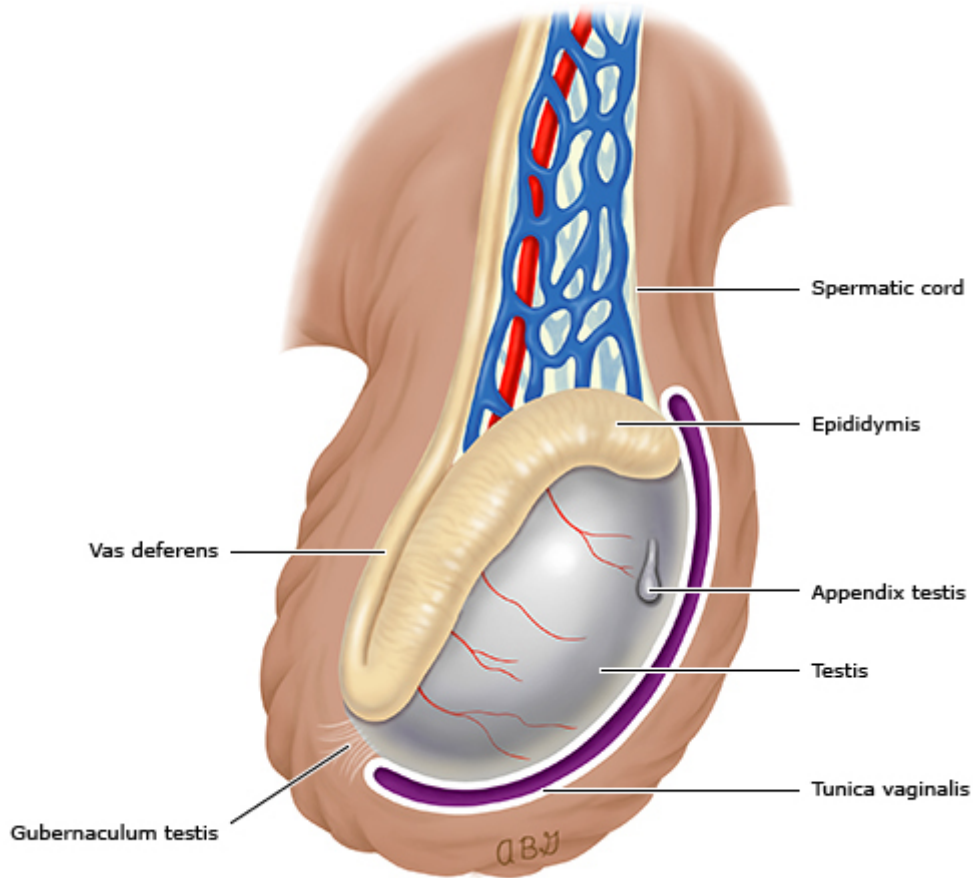
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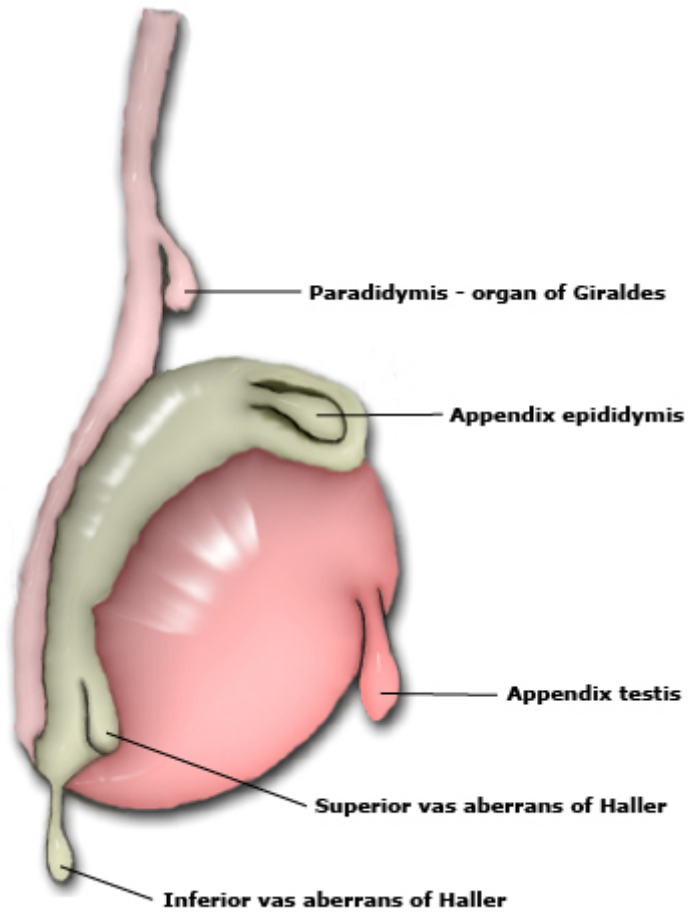
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GRAPHICS**Normal testicular anatomy**

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

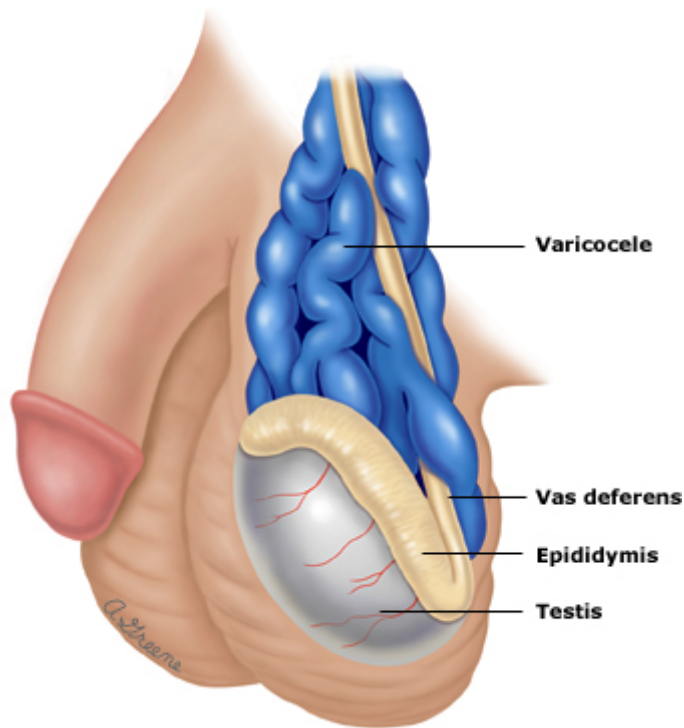
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Anatomy of the testicular appendages



Graphic 67439 Version 3.0

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.

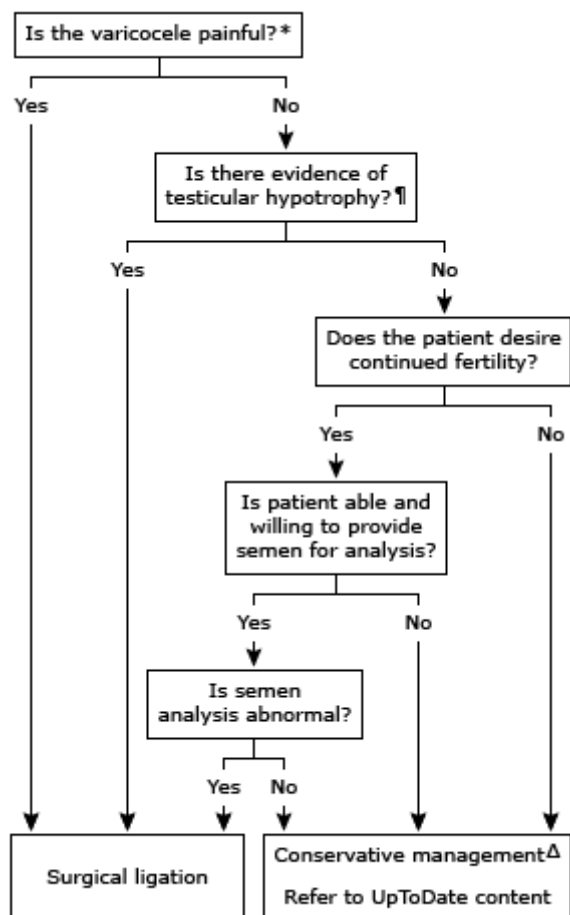
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Varicocele grading

Grade	Size	Clinical description
1	Small	Palpable only with Valsalva maneuver
2	Moderate	Nonvisible on inspection but palpable upon standing
3	Large	Visible on gross inspection

Graphic 51251 Version 3.0

Varicocele management in adults and adolescents



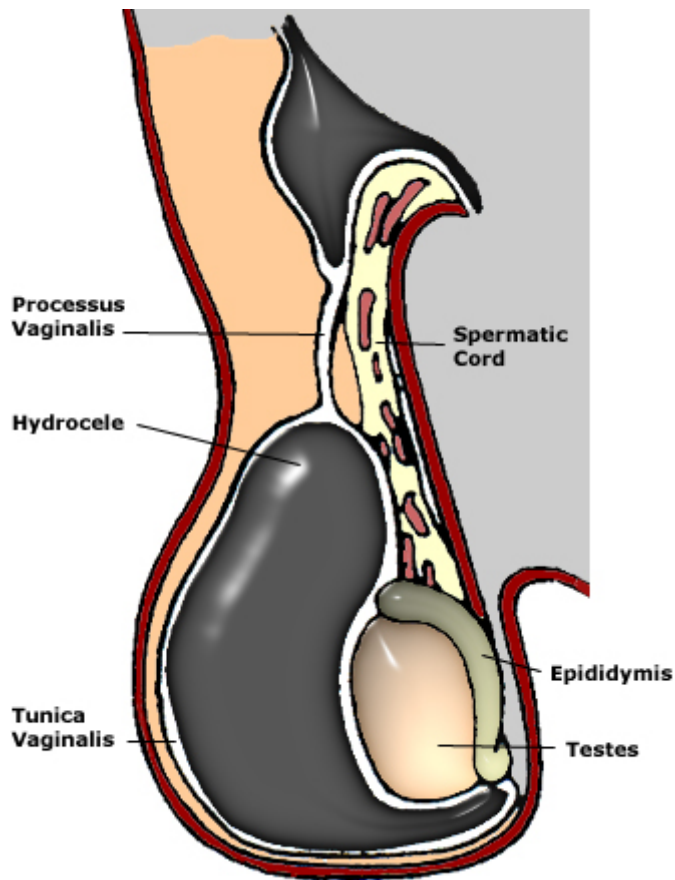
* Typical varicocele pain consists of dull aching left testicular pain when standing that disappears when recumbent.

¶ In patients with bilateral varicoceles, both testicles will be smaller than normal; in adolescents, this may manifest as lack of growth over time.

Δ Repeat semen analysis every 1 to 2 years if continued fertility desired.

Graphic 134175 Version 1.0

Hydrocele



A hydrocele is a fluid accumulation between the parietal and visceral layers of the tunica vaginalis. The hydrocele depicted above is noncommunicating (there is no connection between the hydrocele and the peritoneum; the fluid comes from the mesothelial lining of the tunica vaginalis).

Graphic 58679 Version 2.0

Contributor Disclosures

Robert C Eyre, MD No relevant financial relationship(s) with ineligible companies to disclose. **Michael P O'Leary, MD, MPH** No relevant financial relationship(s) with ineligible companies to disclose. **Jane Givens, MD, MSCE** No relevant financial relationship(s) with ineligible companies to disclose.

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