EPIDIDYMITIS

An inflammation of epididymis.

♂ Diagnosis  ♂ Male

Related Diagnoses:
Ejaculatory disorders | Obstructive azoospermia | Orchitis | Testicular torsion | Idiopathic male infertility | Hydrocele testis

About Epididymitis

Epididymitis is a medical condition characterized by discomfort or pain of the epididymis (a curved structure at the back of the testicle in which sperm matures and is stored) caused by the bacterial or non-bacterial inflammation.

Epididymitis is usually characterized as either acute or chronic. Acute epididymitis typically presents with symptoms of epididymal swelling, induration (physically hardened), and exquisite tenderness to palpation and may also be accompanied by fever, chills, or dysuria (painful urination).

Chronic epididymitis is epididymitis that ensues for more than 3 months. Chronic epididymitis is characterized by inflammation even when there is no infection present. Chronic epididymitis is most commonly associated with lower back pain, and the onset of pain often co-occurs with activity that stresses the low back (i.e., heavy lifting, long periods of car driving, poor posture while sitting, or any other activity that interferes with the normal curve of the lumbar region).

In either form, testicular pain in one or both testes can vary from mild to severe, and one or both epididymides may noticeably swell (inflame) and/or harden. The pain is often cyclical and may last from less than an hour to several days.

Epididymitis usually has a gradual onset. Typical findings are redness, warmth and swelling of the scrotum, with tenderness behind the testicle, away from the middle (this is the normal position of the epididymis relative to the testicle).

Though urinary tract infections in men are rare, bacterial infection is the most common cause of acute epididymitis. The most common pathogens responsible for epididymitis vary with patient age.

Men younger than 35 are more commonly infected with sexually acquired organisms, including C. trachomatis or N. gonorrhoeae. Men over 35 typically demonstrate infection with enteric Gram-negative rods. Recent instrumentation with cystoscopy or transrectal ultrasound- (TRUS-) guided prostate biopsy also increases the likelihood of infection with Gram-negative rods.

Non-infectious causes are also possible. Reflux of sterile urine (urine without bacteria) through the ejaculatory ducts may cause inflammation with obstruction.

Any form of epididymitis can be caused by genito-urinary surgery, including prostatectomy and urinary catheterization. Congenital epididymitis is a long-term complication of vasectomy.

Before the advent of sophisticated medical imaging techniques, surgical exploration was the standard of care. Today, Doppler ultrasound is a common test: it can demonstrate areas of blood flow and can distinguish clearly between epididymitis and torsion (occurs when the spermatic cord twists, cutting off the testicle’s blood supply).
Additional tests may be necessary to identify underlying causes. In younger children, a urinary tract anomaly is frequently found. In sexually active men, tests for sexually transmitted diseases may be done. These may include microscopy and culture of a first void urine sample, Gram stain and culture of fluid or a swab from the urethra, nucleic acid amplification tests (to amplify and detect microbial DNA or other nucleic acids) or tests for syphilis and HIV.

Untreated epididymitis may progress to involve the testis, spermatic cord, or prostate. If the inflammation spreads to the testicle, the condition may be reclassified as epididymo-orchitis or orchiepididymitis.

**Associated diseases**
- gonorrhea
- syphilis
- HIV
- tuberculosis (Pic. 1)

**Complications**

Untreated, acute epididymitis’s major complications are abscess formation and testicular infarction. Chronic epididymitis can lead to permanent damage or even destruction of the epididymis and testicle (resulting in infertility and/or hypogonadism), and infection may spread to any other organ or system of the body. Chronic pain is also an associated complication for untreated chronic epididymitis.

As a further complication, the nerves in the scrotal area are closely connected to those of the abdomen, sometimes causing abdominal pain similar to a hernia.

**Risk factors**
- unprotected sex
- trauma
- history of prostate or urinary tract infection
- an uncircumcised penis
- anatomical abnormality of the urinary tract
- prostate enlargement

**Impact on fertility**

Chlamydia infection is responsible for 40–80% of epididymitis. These men can subsequently develop orchitis (testicular inflammation) and prostatitis (prostate inflammation), which can lead to canalicular system damage, testicular atrophy, and obstructive azoospermia (OA, the medical condition of a man whose semen contains no sperm because of a physical obstruction of the genital tract). In addition to the obstructive component, the epididymis plays a crucial role in sperm functional maturation, and C. trachomatis infection may negatively impact sperm function.

Recent evidence suggests that prostatitis caused by Chlamydia, as opposed to more common pathogens, had lowered sperm concentration, motility, and morphology. Coinfection in these patients may further impair semen parameters.

**Prevention**

Sexually active men should be aware of sexually transmitted diseases and to protect themself they should wear a condom.

**Symptoms**
- low-grade fever
- chills
• enlarged lymph nodes in the groin
• abnormal penile discharge
• pain during sexual intercourse and ejaculation
• pressure in the testicles
• pain and tenderness in the testicles
• redness and warmth in the scrotum
• pain during urination or bowel movements
• urgent and frequent urination
• blood in the semen
• pain in the pelvic area

Therapies

Self therapy

Household remedies such as elevation of the scrotum and cold compresses applied regularly to the scrotum may relieve the pain in acute cases.

Conventional medicine

Antibiotics and painkillers are two main types of drugs, which are used as a treatment of epididymitis. Surgical therapy is necessary only in very severe cases. In one type the testicle is cut to release pus, the second one is used when there is no other option than the removal of testicle and epididymis.

Pharmacotherapy

In both the acute and chronic forms, antibiotics are used if an infection is suspected. In chronic epididymitis, a four- to six-week course of antibiotics may be prescribed to ensure the complete eradication of any possible bacterial cause, especially the various chlamydiae.

Painkillers or anti-inflammatory drugs are often used for treatment of both chronic and acute forms.

Surgical therapy

Surgical removal of the epididymis is rarely necessary, causes sterility, and only gives relief from pain in approximately 50% of cases. However, in acute suppurating epididymitis (acute epididymitis with a discharge of pus), a epididymotomy may be recommended; in refractory cases, a full epididymectomy (a surgery to remove the epididymis) may be required. In cases with unreleenting testicular pain, removal of the entire testicle—orchiectomy—may also be warranted.

Assisted reproduction

Although selected cases of obstructive may be surgically correctable, treatment options for most couples with azoospermia-related infertility will ultimately include assisted reproductive techniques (ART), which is a broad term used to define any procedure that involves handling of both sperm and oocytes outside the body, such as in vitro fertilization (IVF) and its variant, intracytoplasmic sperm injection (ICSI). To this end, several sperm retrieval methods have been developed to collect epididymal and testicular sperm to be used in conjunction with ART for men with azoospermia. Briefly, either percutaneous (PESA) or microsurgical epididymal sperm aspiration (MESA) are used to retrieve sperm from the epididymis in men with obstructive azoospermia, and testicular sperm aspiration (TESE) or testicular sperm extraction (TESE) are used to retrieve sperm from the testes both in men with OA who fail PESA.

Intracytoplasmic sperm injection, which is mainly intended to bypass severe male factor infertility, including azoospermia, has become the most used form of ART treatment. Although these treatments improve the chances that a couple become parents, they also carry risks, including multiple gestations and preterm delivery, which carries an increased risk of short- and long-term post-natal complications. Nevertheless, there has been a large number of babies born after ICSI in cases of severe male infertility,
including azoospermia, and concerns still exist regarding whether the use of spermatozoa from such individuals might affect the health of offspring.

Find more about related issues

**Diagnoses**

**Ejaculatory disorders**  
A class of sexual disorders defined as the subjective lack of normal ejaculation.  
Learn more at: [www.fertilitypedia.org/therapy/diag/ejaculatory-disorders](http://www.fertilitypedia.org/therapy/diag/ejaculatory-disorders)

**Obstructive azoospermia**  
Absence of sperm in the ejaculate despite normal spermatogenesis, caused by an obstruction of the genital tract.  
Learn more at: [www.fertilitypedia.org/therapy/diag/obstructive-azoospermia](http://www.fertilitypedia.org/therapy/diag/obstructive-azoospermia)

**Orchitis**  
An inflammation of the testes, involving swelling and heavy pains.  
Learn more at: [www.fertilitypedia.org/therapy/diag/orchitis](http://www.fertilitypedia.org/therapy/diag/orchitis)

**Testicular torsion**  
Emergency medical condition occurring when the spermatic cord twists and cuts off the testicle's blood supply.  
Learn more at: [www.fertilitypedia.org/therapy/diag/testicular-torsion](http://www.fertilitypedia.org/therapy/diag/testicular-torsion)

**Idiopathic male infertility**  
A condition in which fertility impairment occurs spontaneously or due to an unknown cause.  
Learn more at: [www.fertilitypedia.org/therapy/diag/idiopathic-male-infertility](http://www.fertilitypedia.org/therapy/diag/idiopathic-male-infertility)

**Hydrocele testis**  
An accumulation of clear fluid in the tunica vaginalis, the most internal of membranes containing a testicle.  
Learn more at: [www.fertilitypedia.org/therapy/diag/hydrocele-testis](http://www.fertilitypedia.org/therapy/diag/hydrocele-testis)

**Therapies**

**Egg donation**  
Process by which a woman donates eggs for purposes of assisted reproduction or biomedical research.  
Learn more at: [www.fertilitypedia.org/edu/therapies/egg-decoration](http://www.fertilitypedia.org/edu/therapies/egg-decoration)

**ICSI**  
A micromanipulative fertilization technique in which a single sperm is injected directly into an egg.  
Learn more at: [www.fertilitypedia.org/edu/therapies/icsi](http://www.fertilitypedia.org/edu/therapies/icsi)

**Sperm donation**  
The procedure in which a man (sperm donor) provides his sperm for fertility treatment.  
Learn more at: [www.fertilitypedia.org/edu/therapies/sperm-donation](http://www.fertilitypedia.org/edu/therapies/sperm-donation)

**Standard IVF**  
A process in which an egg is fertilised by sperm outside the body: in vitro. Own or donated gametes may be used.  
Learn more at: [www.fertilitypedia.org/edu/therapies/standard-ivf](http://www.fertilitypedia.org/edu/therapies/standard-ivf)

**Gallery**
Tuberculous epididymitis and orchitis.

Sources

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