

# GU Emergencies

Priapism  
And  
Varicocele

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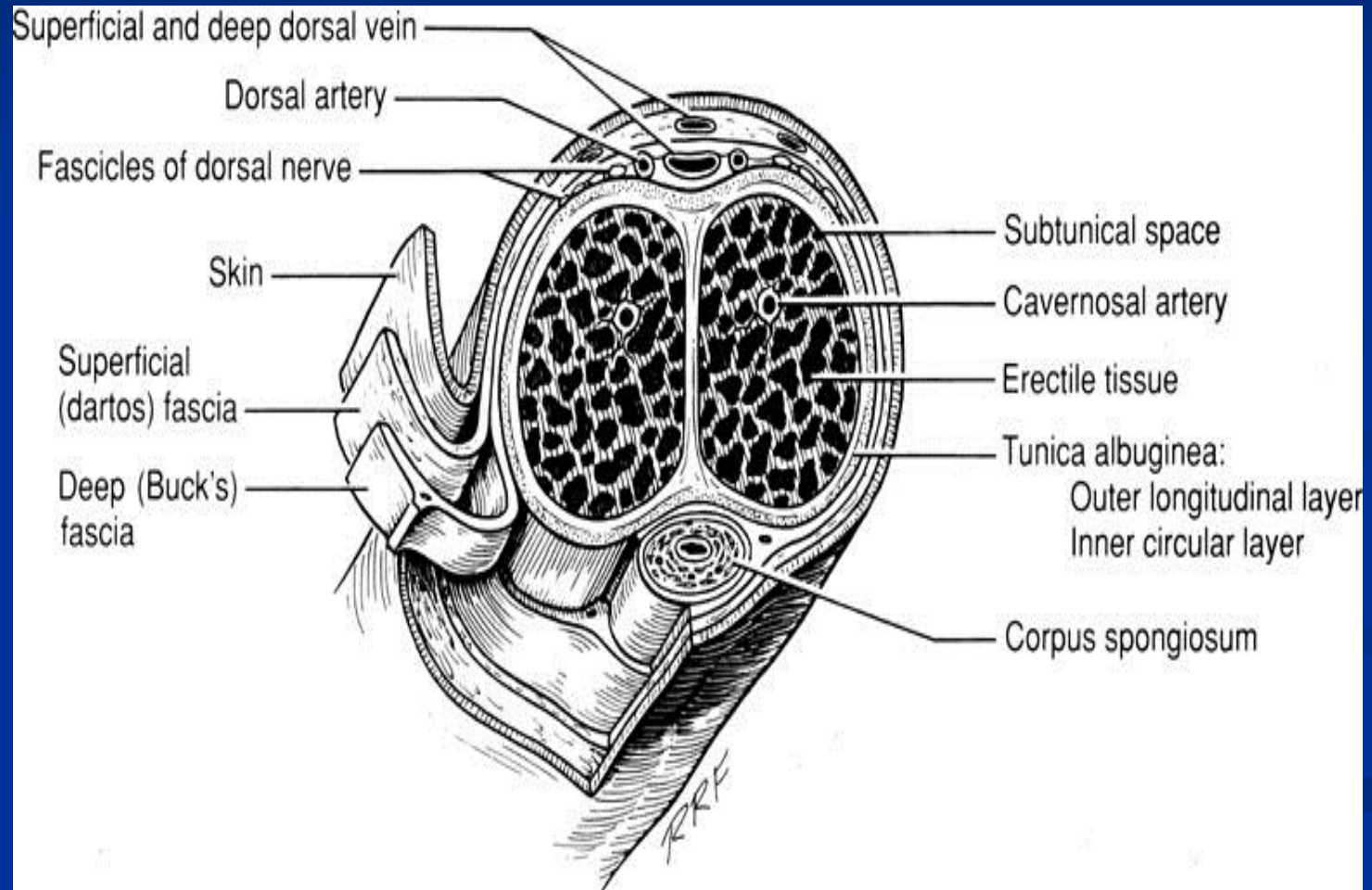
# Priapism

- Anatomy
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- Treatment
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Priapo. Pompei, casa dei Vettii . Photo © Maicar Förlag - GML

# Anatomy



# Definition

- Priapism is a persistent, usually painful, erection that lasts for more than four hours and occurs without sexual stimulation.
- The condition develops when blood in the penis becomes trapped and unable to drain. If the condition is not treated immediately, it can lead to scarring and permanent erectile dysfunction.
- It can occur in all age groups, including newborns. However, it usually affects men between the ages of 5 to 10 years and 20 to 50 years.

# Categories

## ■ High Flow Priapism

- Results from traumatic injuries to the cavernous arterial system
- Development of arterial-sinusoidal fistula
- May take several days to develop
- Not ischemic
- Treatment observation followed by embolization
  - Non permanent materials preferred (clot, gels)

# Categories

## ■ Low Flow Priapism

- Decreased venous outflow

- Etiologies

- Idiopathic-30-50% of cases

- Sickle cell disease

- Sickling of blood cells and sludging of blood within the corporal sinusoids

- Sludging leads to hypoxia, acidosis, impaired smooth muscle function

- Tarry et al (1987)-10% of sickle cell patients develop priapism





# Cont.

## ■ Other Etiologies

- Leukemia-sludging of WBC's in corpora
- Heparin-abnormal platelet aggregation
- TPN-related to lipid infusion with increased coagulability, distorted erythrocytes, increased RBC aggregation
- Intracavernosal Therapy-most common cause in many ER's, 1% incidence with alprostadil

# Cont.

## ■ Other Etiologies

### ■ Prescription Drugs

- Trazadone, SSRI's, hydralazine, guanethidine, alpha blockers, testosterone, sildenafil, FK506

### ■ Illegal Drugs

- Cocaine, marijuana

### ■ Malignancy

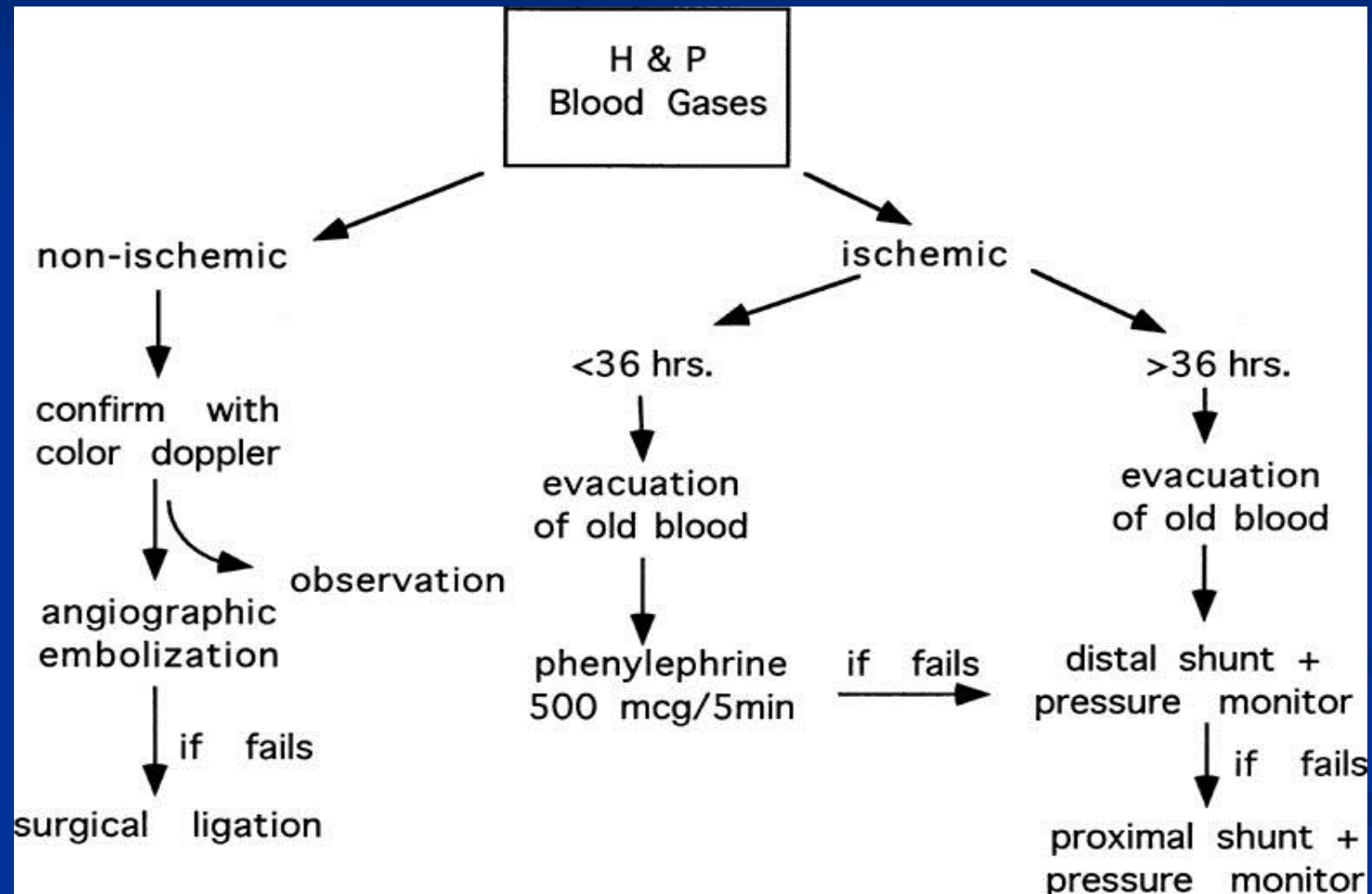
- Bladder, prostate, renal, rectal, penile cancers



# Diagnosis

- CBC
- Reticulocyte count
- Hemoglobin electrophoresis
- Psychoactive med screening
- Urine drug screen
- Blood gas
- Duplex ultrasound
- Arteriography

# Treatment



# Treatment

- The goal of all treatment is to make the erection go away and preserve future erectile function.
- If a person receives treatment within four to six hours, the erection can almost always be reduced with medication.
- If the erection has lasted less than four hours, decongestant medications, which may act to decrease blood flow to the penis, may be very helpful.

# Other treatment options include:

- **Ice packs:** Ice applied to the penis and perineum may reduce swelling.
- **Surgical ligation:** Used in cases where an artery has been ruptured, the doctor will ligate (tie off) the artery that is causing the priapism in order to restore normal blood flow.
- **Intracavernous injection:** Used for low-flow priapism, during this treatment drugs as alpha-agonists(phenylephrine) are injected into the penis that cause the veins to narrow reducing blood flow to the penis causing the swelling to subside.



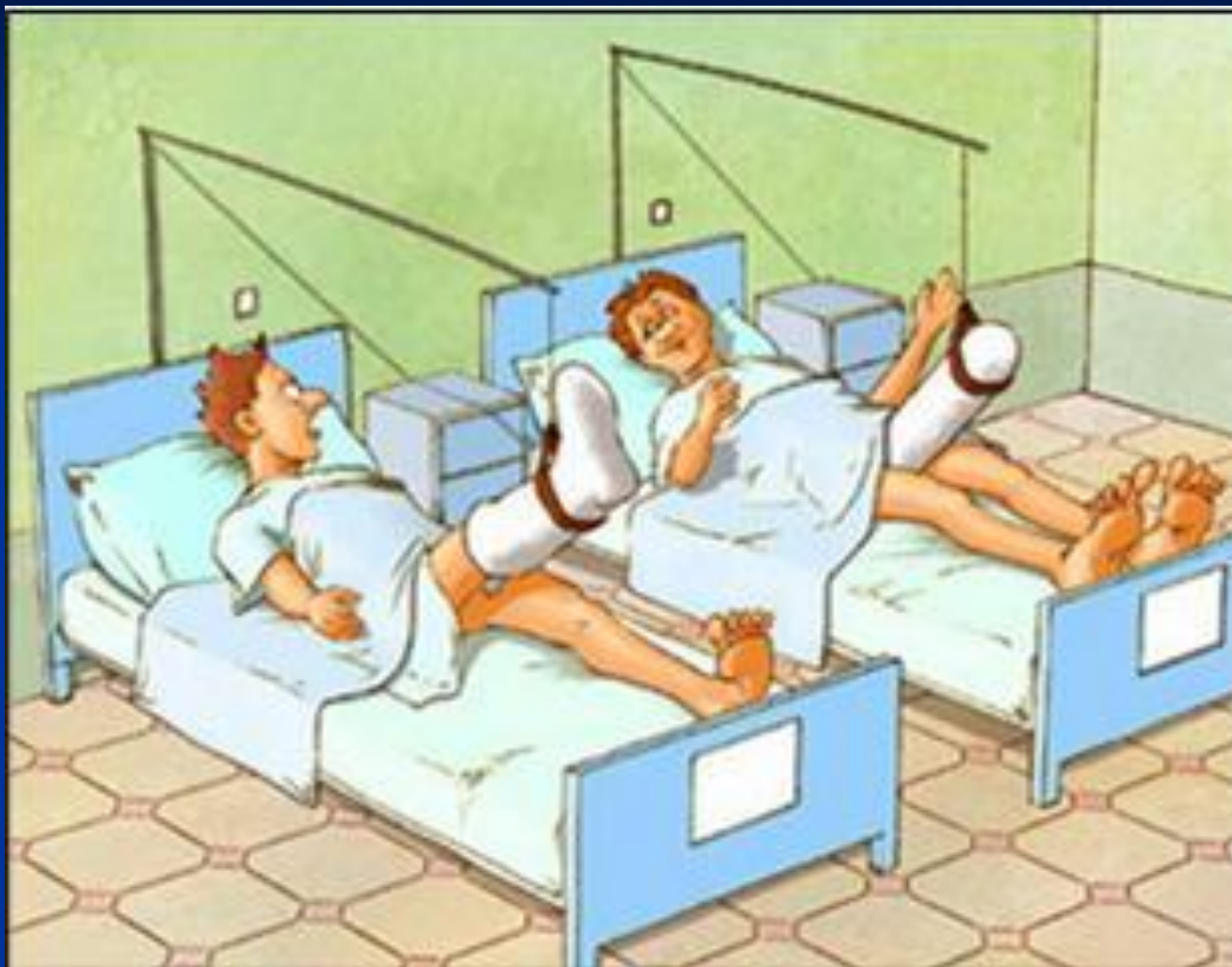
- **Surgical shunt:** Also used for low-flow priapism, a shunt is a passageway that is surgically inserted into the penis to divert the blood flow and allow circulation to return to normal.
- **Aspiration:** After numbing the penis, doctors will insert a needle and drain blood from the penis to reduce pressure and swelling.
- **Embolization of high-flow priapism:** Treatment focuses on identification and obliteration of secondary fistulas. Penile duplex ultrasonography with angiographic confirmation helps to identify the location of general fistulae; this can be followed by selective arterial embolization, using autologous blood clot, gelatin sponge, microcoils, or chemicals.[6, 7, 8]
- **Surgical** intervention may be necessary.

# Complications

- Erectile dysfunction
- Impotence
- Ischemia/gangrene
- infection



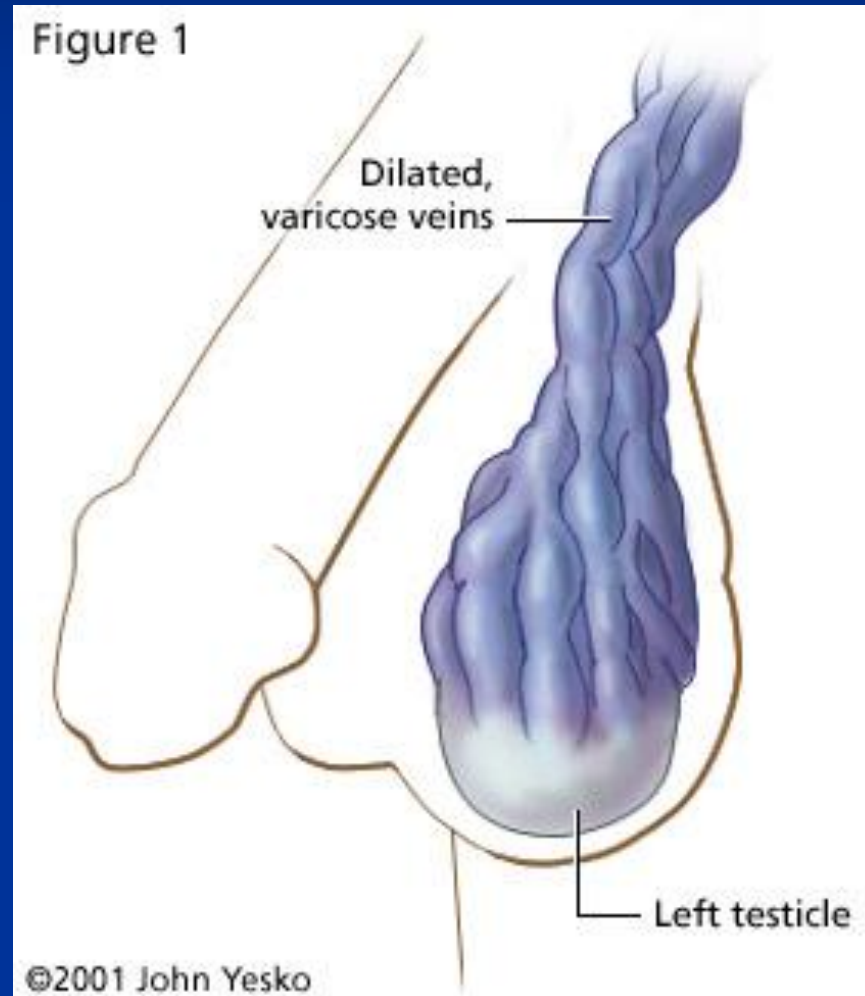






# Varicocele

A varicocele is a widening of the veins along the cord that holds up a man's testicles.

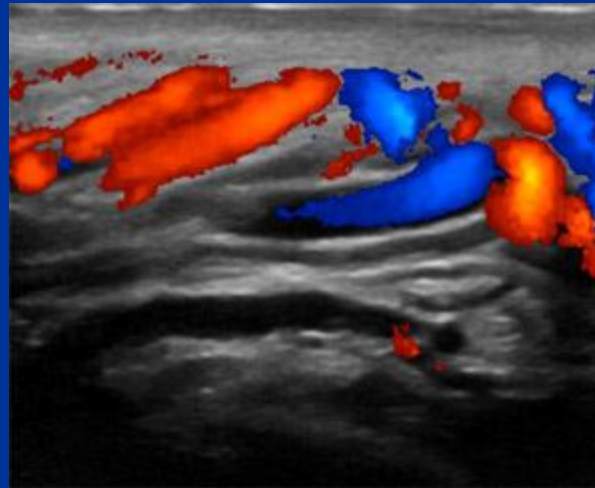


## Causes, incidence, and risk factors

- A varicocele forms when valves inside the veins along the spermatic cord prevent blood from flowing properly. This causes the blood to back up, leading to swelling and widening of the veins.
- Varicoceles usually develop slowly. They are more common in men ages 15 - 25 and are most often seen on the left side of the scrotum. Varicoceles are often the cause of infertility in men.
- The sudden appearance of a varicocele in an older man may be caused by a kidney tumor, which can block blood flow to a vein. This is more common on the left side than the right.

# ■ Symptoms

- Enlarged, twisted veins in the scrotum
- Infertility
- Painless testicle lump, scrotal swelling, or bulge within the scrotum
- There may not be symptoms.



## ■ Signs and tests

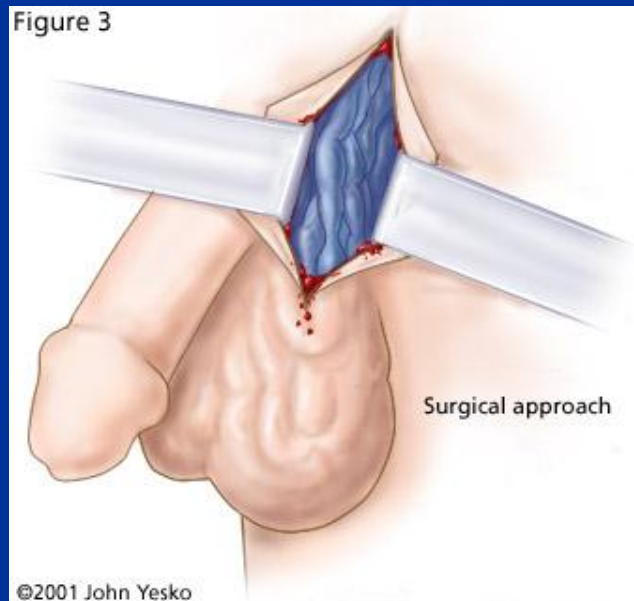
- Examine the groin area, including the scrotum and testicles. You may be able to feel a nontender, twisted mass along the spermatic cord. (It feels like a bag of worms.)
- However, the mass may not be able to be seen or felt, especially when lying down.
- The testicle on the side of the varicocele may be smaller than the one on the other side.

## ■ Treatment

- Varicocele treatment has traditionally involved open surgery, usually performed by a urologic surgeon, or urologist.
- In recent years, however, a safe and effective nonsurgical alternative called **varicocele embolization** is becoming the treatment of choice for many patients and their physicians.

# Varicocele Surgery

- Varicocele surgery is usually performed under general anesthesia in an outpatient setting. Occasionally, the surgery is performed with a local anesthetic.
- In this type of varicocele treatment, the surgeon makes an incision above the scrotum (or higher in the flank area) and cuts through the layers of tissue to expose the veins.



## Varicocele Surgery cont.

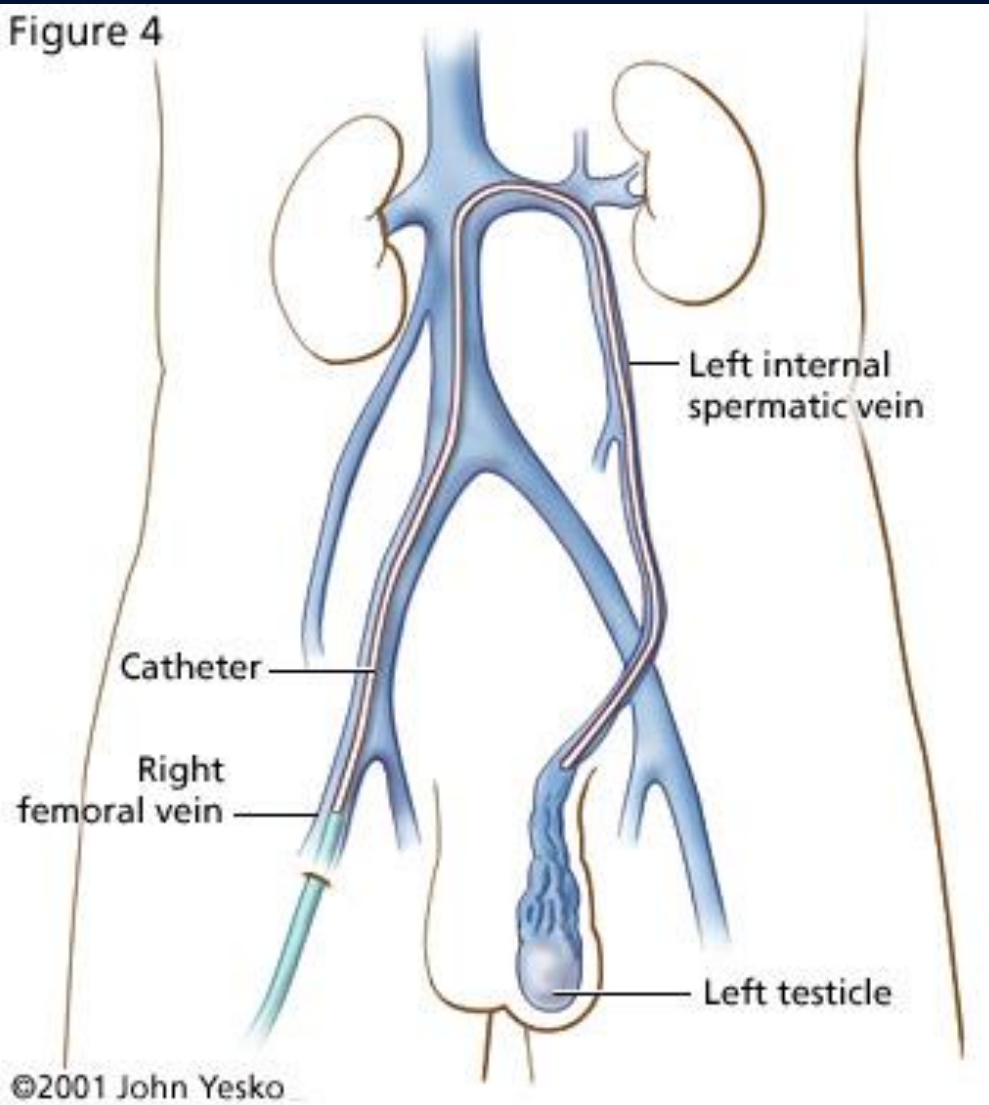
- The affected veins are ligated, or tied off, to detour the flow of blood into normal veins.
- Sometimes a laparoscope (a cylindrical metal scope inserted into the abdomen) is used to perform the surgery.
- Recovery time depends on the type of surgery, but most patients require up to six weeks before heavy lifting and other strenuous activities can be performed. Light activities may be resumed more quickly.



# Varicocele Embolization

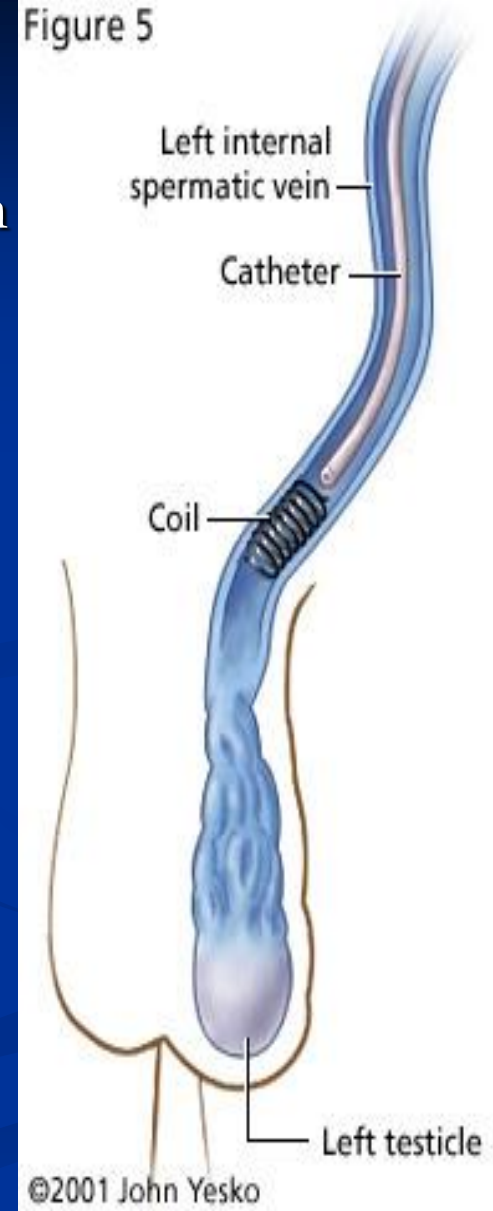
- Varicocele embolization is an outpatient procedure that is performed without general anesthesia using "twilight" sedation.
- In this type of varicocele treatment, a small tube is inserted into the groin through a small nick in the skin (about the size of the lead in a pencil).
- Sometimes the tube is put in through a vein in the right side of the neck. The skin is numbed for this procedure and **it is not painful**.
- Next, a small catheter, or tube, is guided up into the abdomen and into the varicocele vein under the guidance of x-ray imaging

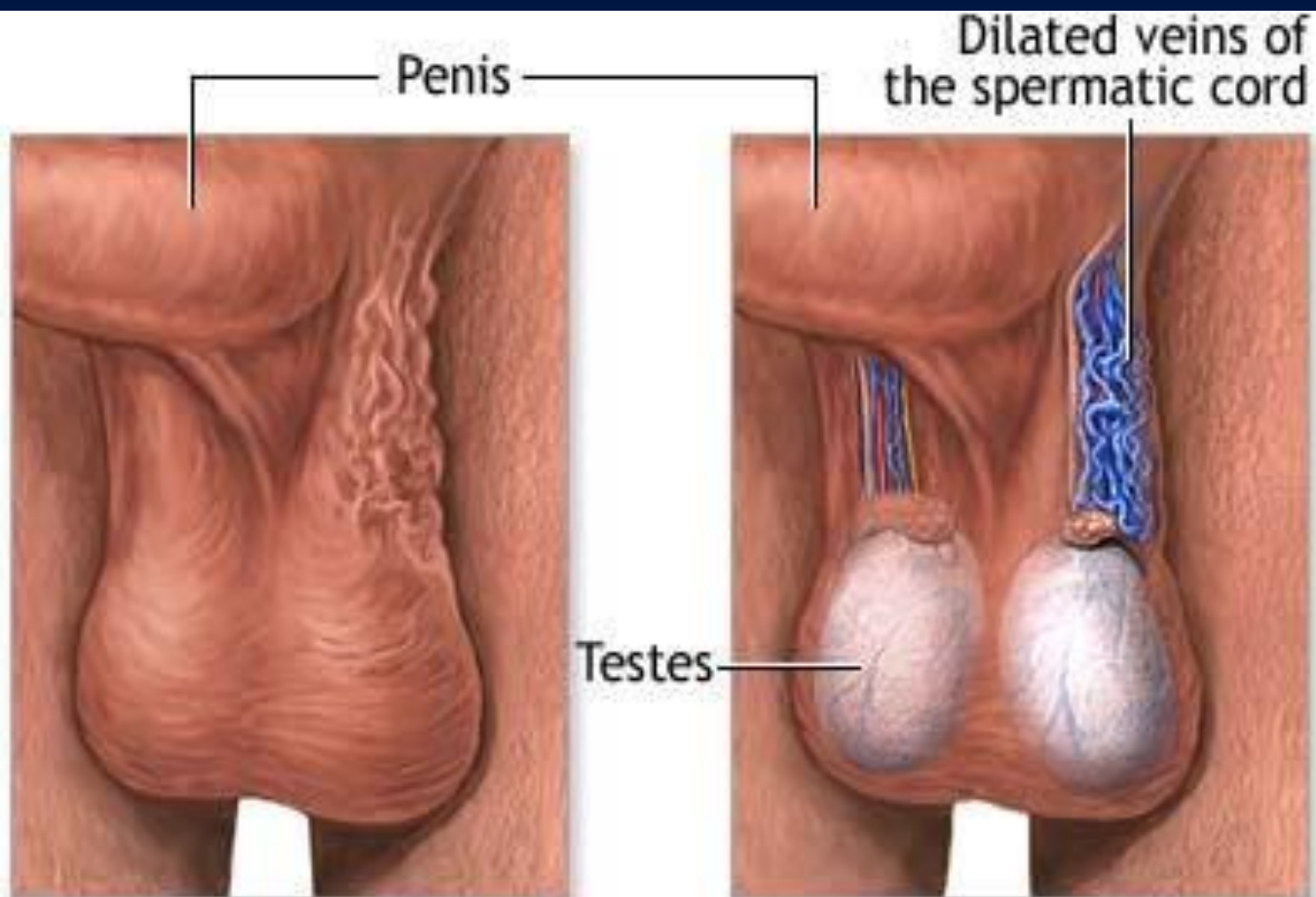
Figure 4



- A dye is injected to create an x-ray map (venogram) of the vein and tiny metal coils or other embolizing substances are inserted through the catheter to block the flow of blood to the vein
- The tube is removed and no stitches are needed. Patients are observed for a few hours and go home the same day.
- Recovery from varicocele embolization typically takes less than 24 hours and patients often return to work the next day.

Figure 5





A varicocele can be felt and sometimes be seen as a tortuous mass on the surface of the scrotum

A varicocele is made up of veins that contain inadequate valves