

# Scrotal Swellings

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# Introduction

This tutorial has been designed to take you through some of the commoner conditions which can cause a swelling in the scrotum

The most important thing to remember about a swelling arising from either the scrotum or its contents is that:

On examination it is possible to get **above** the swelling

If you can't get above the swelling then that suggests that the pathology has originated from the groin. So before we get started write down as many causes as you can think of for a swelling in the groin or scrotum which you **cannot** get above.

The answers are on the next slide.



# Common Causes of a Lump in the Groin / Scrotum Which You **Cannot** Get Above

# Common Causes of a Lump in the Groin / Scrotum Which You **Cannot** Get Above

Inguinal Hernia

Femoral Hernia

Enlarged Inguinal Lymph Nodes

Saphena Varix

Femoral Artery Aneurysm

Lipoma



Now let's move on to scrotal swellings. Again, write down as many causes of a scrotal swelling which you **can** get above and then review the list on the next slide.



# Common Causes of Scrotal Swellings

## Which You **Can** Get Above

Hydrocele

Epididymal Cyst

Varicocoele

Epididymo-orchitis

Testicular Tumour



We are now going to go through each of the conditions on the list.

The tutorial will ask you a series of questions in each case and you can then review the answers on the slides which follow.



# Hydrocele

- 1 Define a hydrocele
- 2 What is the underlying pathology?
- 3 How might you classify the causes?
- 4 What might a patient with a hydrocele complain of?
- 5 What are the important findings to elicit on examination?
- 6 Name 3 methods of treatment



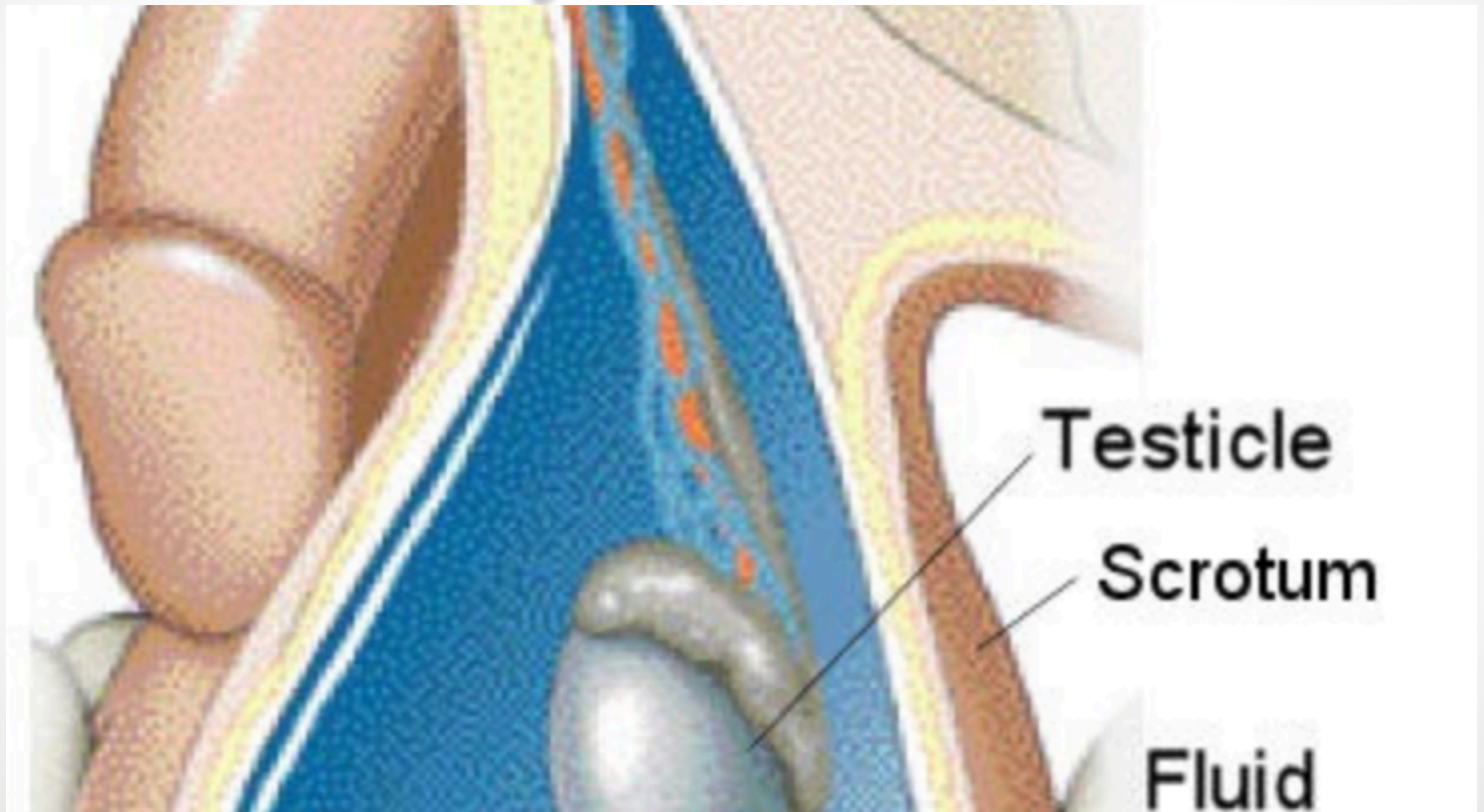
# Hydrocele 2

Definition:

“A hydrocele is a collection of fluid within the tunica vaginalis”

You should read up on the embryology of testicular descent to appreciate how the tunica vaginalis is formed

# Hydrocele 2



# Pathogenesis of Hydrocele

The fluid collects because of an imbalance between production and absorption.

The tunica vaginalis normally produces around 0.5ml of fluid a day.

# Common Causes of Hydrocele

Congenital

Patent processus vaginalis (PPV)

Acquired

Idiopathic

Tumour

Trauma

Infection

5 marks

# Hydrocele History & Examination

History: A painless swelling in the scrotum.  
Onset may be gradual or sudden.

Examination: A scrotal swelling which you can get above  
The testis cannot be palpated separate to the  
swelling  
The lump transilluminates

# Hydrocele Investigation

Because one of the causes of a hydrocele is testicular tumour, it is important to arrange a scrotal ultrasound to rule out this as an underlying pathology



# Hydrocele Treatments Include:

- Conservative management if the hydrocele is small and causing little in the way of symptoms
- Aspiration +/- injection of a sclerosing agent
- Surgery:     Ligation of PPV in children  
                  Jaboulay  
                  Lords

Both the Jaboulay and the Lords procedure involve incising the tunica vaginalis to allow the hydrocele fluid to be absorbed by the scrotal lymphatics. Read up the procedures in a surgical textbook to understand the techniques.

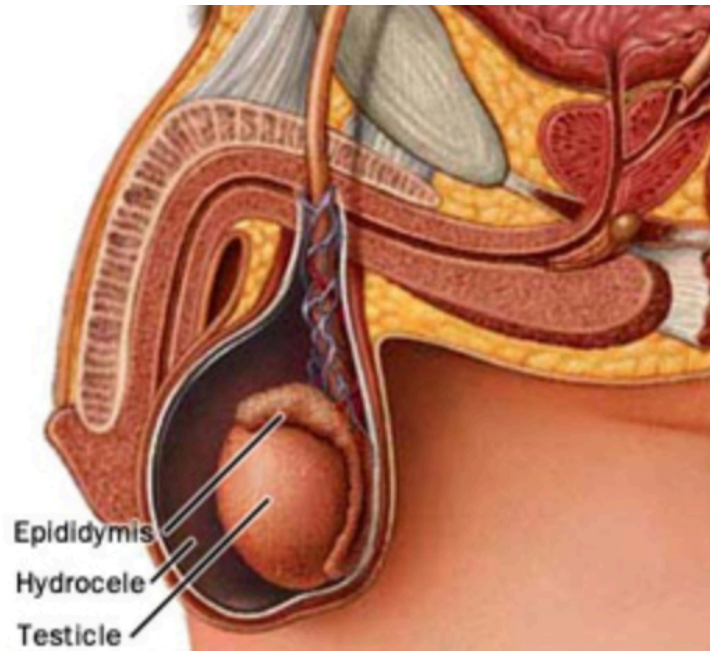
# Epididymal Cyst

- 1 What is an epididymal cyst?
- 2 What might the patient complain of?
- 3 List three important findings on examination.
- 4 How are epididymal cysts treated?



# Epididymal Cyst Definition

“A cystic swelling arising from the epididymis”



# Epididymal Cyst History & Examination

History: Painless scrotal swelling  
Onset usually gradual

Examination: Scrotal swelling which you can get above  
Testis palpable separate from the lesion  
The cyst transilluminates

The transilluminated appearance of the cyst is classically described as a “Chinese Lantern”

# Epididymal Cyst Management

Simple surgical excision of the cyst

Aspirating will not work because the cyst is multiloculated

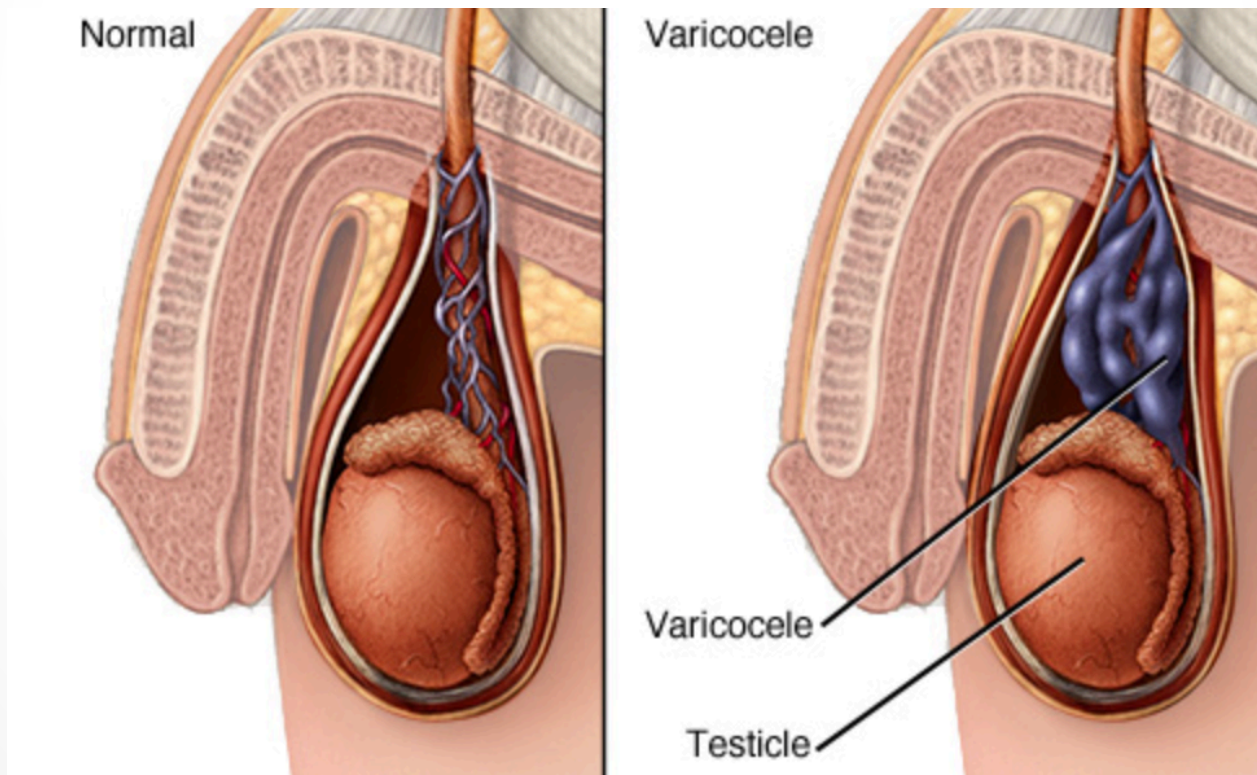
As for hydroceles, conservative management is perfectly reasonable if the patient is asymptomatic

# Varicocoele

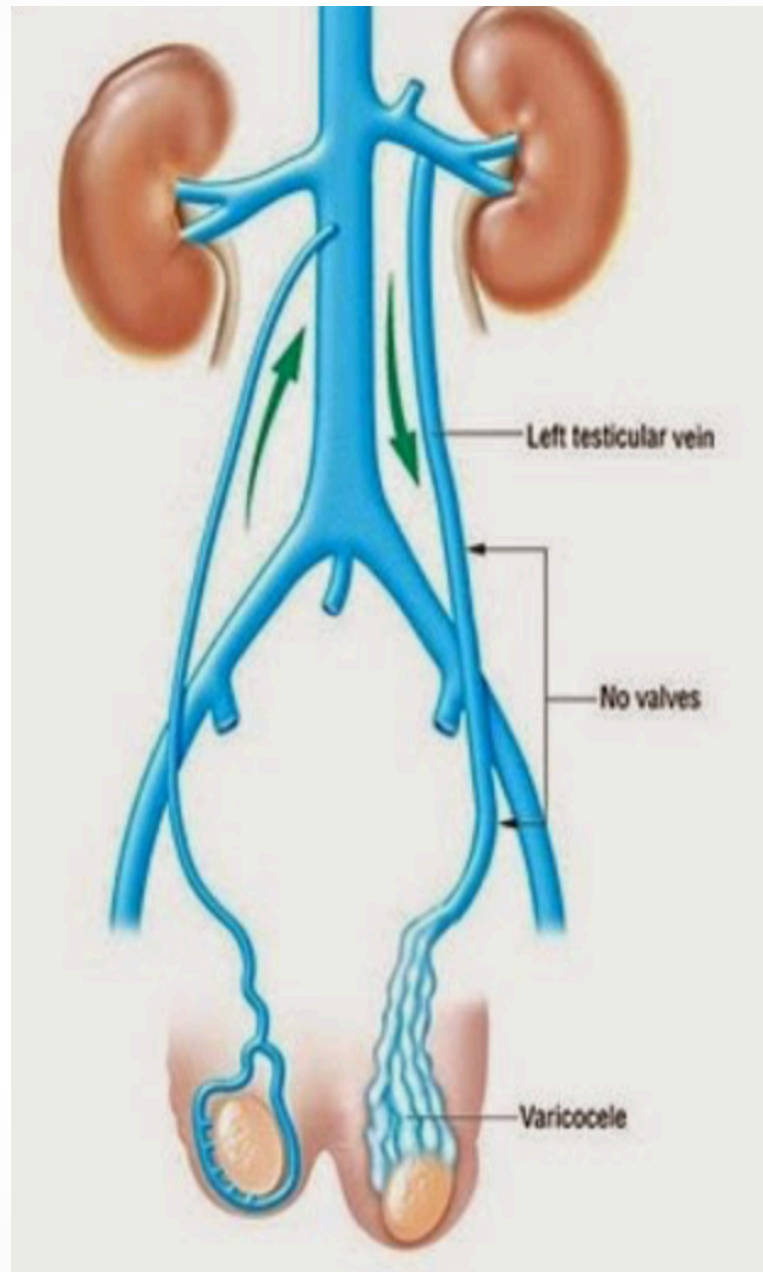
- 1 Define a varicocoele
- 2 What local symptoms might a patient complain of?
- 3 Describe the common signs on physical examination
- 4 Why is it important to image the kidneys?
- 5 Describe the two main methods of non-conservative management?

# Varicocele Definition

“A varicocele is a dilatation of the veins of the pampiniform plexus”







# Significance of Varicocele

A left sided-varicocele may arise as a result of obstruction to venous drainage caused by a renal tumour

Therefore all patients with a varicocele should undergo imaging (usually ultrasound) of their kidneys





# Varicocoele: Methods of Treatment

The two main methods are:

- 1 Surgical ligation
- 2 Embolisation under X-Ray control

# Epididymo-Orchitis

- 1 What is epididymo-orchitis?
- 2 List the symptoms and signs
- 3 How is the condition treated?

# Definition of Epididymo-Orchitis

“An inflammation of the tissues of the epididymis and testis”

The commonest cause of this is infection. You need to know some of the commoner causative organisms.

Read up on these.

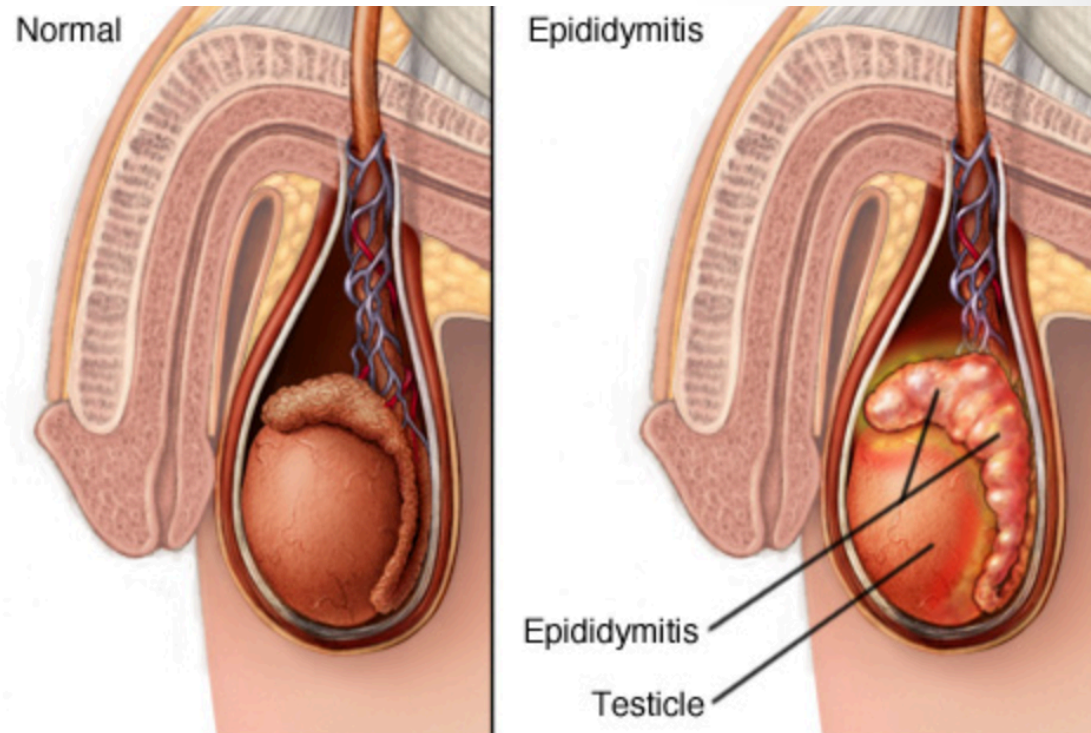


# Symptoms & Signs

Symptoms: Painful  
scrotal  
swelling

Signs: A scrotal swelling  
which you can get above  
and which is

- hot
- tender
- erythematous



# Treatment

An appropriate broad-spectrum antibiotic is used, such as ciprofloxacin.

## Bonus Questions:

- 1 What class of antibiotic does ciprofloxacin belong to?
- 2 What is the mode of action of ciprofloxacin?

# Ciprofloxacin

This is a fluoroquinolone antibiotic

It acts by inhibiting an enzyme called DNA gyrase in reproducing bacteria. This is one of the enzymes responsible for unwinding DNA during replication

# Testicular Tumours

Urology Scrotal Swelling Tutorial Part 2

# Classification of Testicular Tumours

You might sensibly start classifying testicular tumours into benign and malignant. In fact benign solid tumours of the testis are extremely rare.

The classification of malignant tumours is complicated by the fact that there are different classification systems used in the UK and USA and consequently it's easy to get confused if you read textbooks from the different countries.

So **don't read anything now**. Go to the next few slides to see how these tumours are classified and how the systems work in the two countries





# It Starts Off Quite Easily

You can divide them into:

- 1 Germ Cell Tumours
- 2 Other tumours, the commonest of which is lymphoma, which is the commonest testicular malignancy in the older patient. We won't be saying any more about these

# Still Quite Easy

Germ cell tumours can be divided into

- 1 Seminomas (we'll talk about these in a bit)

- 2 Non-seminomatous germ cell tumours

The classification of these is where confusion sometimes arises. A summary is on the next slide



# But Remember

40% of testicular tumours are mixed, i.e. they have both seminomatous and non seminomatous elements

# Questions

- 1 What is the peak age incidence of seminomas?
- 2 What is the peak age incidence of non-seminomatous germ cell tumours (NSGCTs)?
- 3 What are the symptoms & signs of a testicular tumour?
- 4 What investigations are required?
- 5 What surgery is usually necessary?
- 6 What other therapeutic options exist for seminomas & NSGCTs?



# Peak Age Incidence

Seminomas 40 years

NSGCTs 30 years

# Symptoms & Signs

Symptoms: Painless scrotal swelling

Chance discovery

Testis feels “heavier”

Signs: Scrotal swelling which you can get above

The lump is craggy & does not transilluminate

May be associated with hydrocele

May have palpable liver due to metastases

# Investigations

Radiology:

Ultrasound of testis

CT of abdomen to assess spread

Chest X Ray for metastases

Blood Tests:

AFP (alpha foeto-protein)

$\beta$ -hCG (human chorionic  
gonadotrophin)

LDH (lactate dehydrogenase)

# Surgery

An inguinal orchidectomy is performed

i.e. the testis is taken out through an incision in the groin

This is because the lymphatic drainage of the testis is to the para-aortic nodes. An incision in the scrotum risks spreading the tumour to the superficial inguinal lymph nodes which drain the scrotal skin



# Other Treatments

If the tumour has metastasised, other options for treatment include:

Radiotherapy for seminoma

Chemotherapy for NSGCTs

Sometimes a combination of the two is required

