

## Inguino-scrotal swelling

Inguino-scrotal swellings extend from scrotum to inguinal region and include:

- Inguinal hernias
- Congenital hydroceles
- Varicoceles
- Cord swelling

### **A) Inspection**

The patient should be in standing position, stripped below the waist:

- To inspect the full extent of the hernia
- To inspect direct hernias and varicocele that may not be seen in lying down position

#### 1) **Shape** of the swelling

- Indirect hernias are usually pyriform in shape
- Direct hernias are usually globular in shape

**Location** of the swelling and see whether it is unilateral or bilateral

Measure **exact size** in cm, the size should be measured when the hernia is fully extended by asking the patient to cough

#### 2) **Overlying skin:**

- Look for redness, edema, scar or discoloration
- Redness, edematous & shiny skin suggest acute strangulated hernia
- Scar of previous surgery indicates recurrent hernia
- Observe the swelling closely for visible peristalsis: maybe seen in enterocele

#### 3) **Cough impulse test:**

- Positive cough impulse: diagnostic of an inguinal hernia
- Hernia with no expansile impulse (negative cough impulse):
  1. Omentocele with adhesion
  2. Obstructed hernia
  3. Strangulated hernia

#### 4) **Position of the penis:**

- A hernia usually pushes the penis to the opposite side
- A very large hernia will bury the penis in the scrotal skin

## **B) Palpation**

### **1) Temperature & Tenderness**

**2) Reach the top of the swelling:** Palpate the cord structures between the thumb in front and other fingers behind, if it is not possible to reach the top of the swelling in the scrotum this indicates inguino-scrotal swelling

**3) Relation of pubic tubercle:** Palpate the pubic tubercle and see its relation with the swelling; an inguinal hernia is medial to the pubic tubercle and above the inguinal ligament, while femoral hernia is lateral to pubic tubercle and below inguinal ligament.

**4) Relation to the testis:** Palpate the testis and see whether the swelling stops above it or incorporates the testis into it:

- Acquired hernia always stops above the testis
- Congenital hernia includes the testis within its sac

Look whether the testis can be reduced to the abdomen along with other contents of the sac or not. If the testis is absent and scrotum is empty then it is a case of undescended testis.

### **5) Consistency:**

- Softy & elastic: *enterocele*
- Firm & doughy: *omentocele*
- Tense & tender: *strangulated hernia*
- Bag of worms feel: *varicocele*

**6) Impulse on coughing:** ask the patient to turn his head to opposite side and cough forcefully, keep your hand on the swelling and feel for an expansile impulse on coughing, that is the swelling increases in size and feels more tense during act of coughing

If the hernia is small and not visible keep your hand over the inguinal canal from deep to superficial ring and then ask the patient to cough and feel the impulse.

**Zieman's technique:** used to differentiate indirect and direct inguinal and femoral hernias from each other. Stand on the side of hernia then reduce the hernia and place three fingers: index finger over the internal ring, middle finger over the external ring, ring finger over the femoral ring. Then ask the patient to close the nose and mouth on blow, an impulse is felt by:

- Index finger in indirect inguinal hernia
- Middle finger in direct inguinal hernia
- Ring finger in femoral hernia

### **7) Test Reducibility**

### **8) Internal ring occlusion test:**

Reduce the hernia and place a finger over the deep inguinal ring (1.25 cm above mid-inguinal point), then ask the patient to cough, if the hernia is indirect it will not bulge out on occluding deep inguinal ring (this is a positive occlusion test) but if the hernia is direct it will bulge out medial to the occluded ring at the time of coughing (negative internal ring occlusion test)

**9) Do invagination test**, which gives us information about the following:

1. Size of the superficial (external) inguinal ring
2. Direction of the hernia tract
3. Direction of the expansile impulse
4. Sphincteric strength of conjoint tendon

*Invagination test contra-indications:*

1. If the external inguinal ring is small
2. In a child

### **C) Percussion**

Ask the patient to cough to distend the swelling then percuss gently:

- Resonant note: enterocele
- Dull note : All other swellings

### **D) Auscultation**

Peristalsis may be heard in enterocele, otherwise auscultation is not of any diagnostic use in case of inguinoscrotal swellings.

**Examine the opposite side:**

- Palpate the testis, epididymis and spermatic cord of the opposite side to confirm that they are normal

**Look for a possible cause:**

1. Tone of abdominal wall muscles
2. Scars, ascites
3. Urethra for stricture
4. PR for enlarged prostate
5. Respiratory system for chronic bronchitis, TB