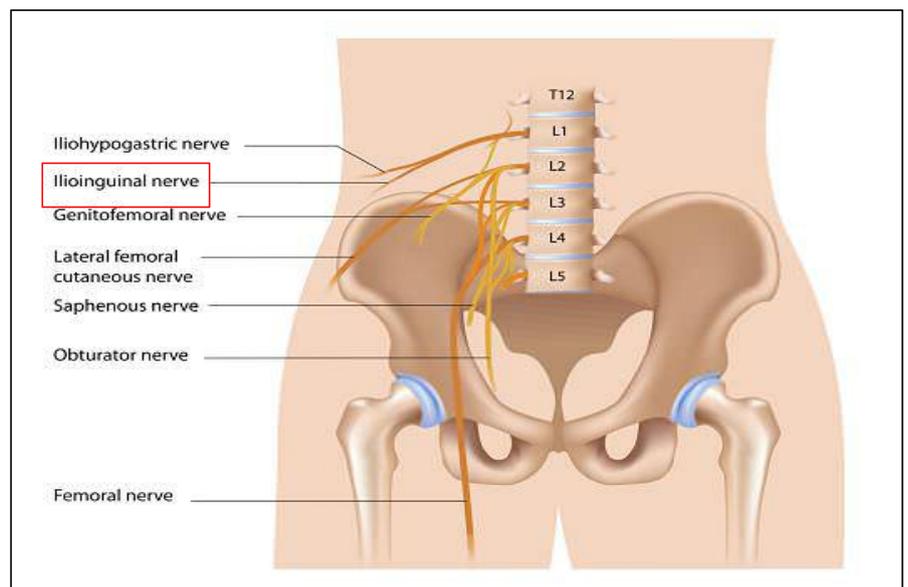
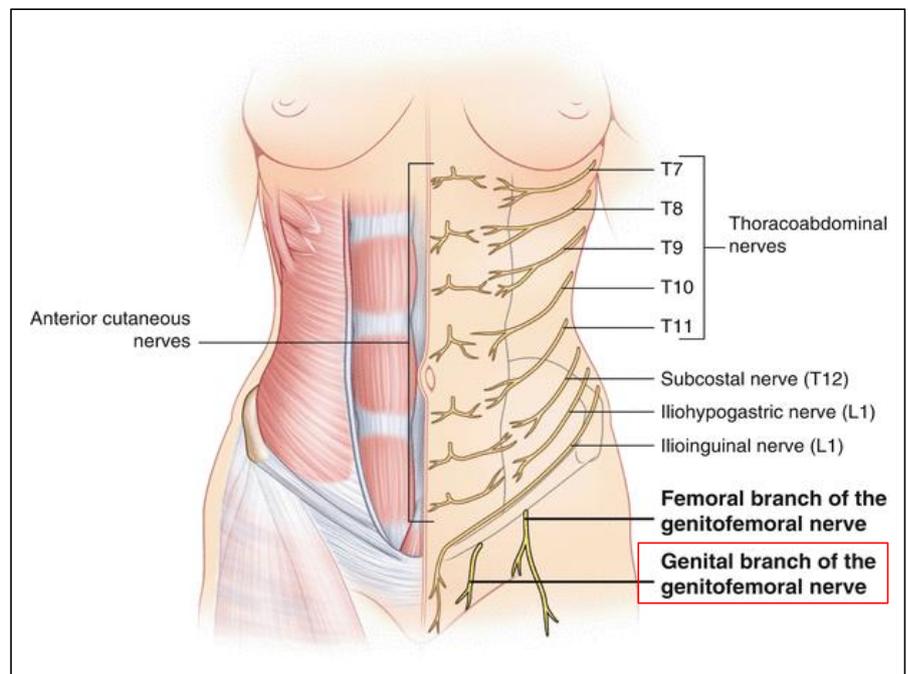


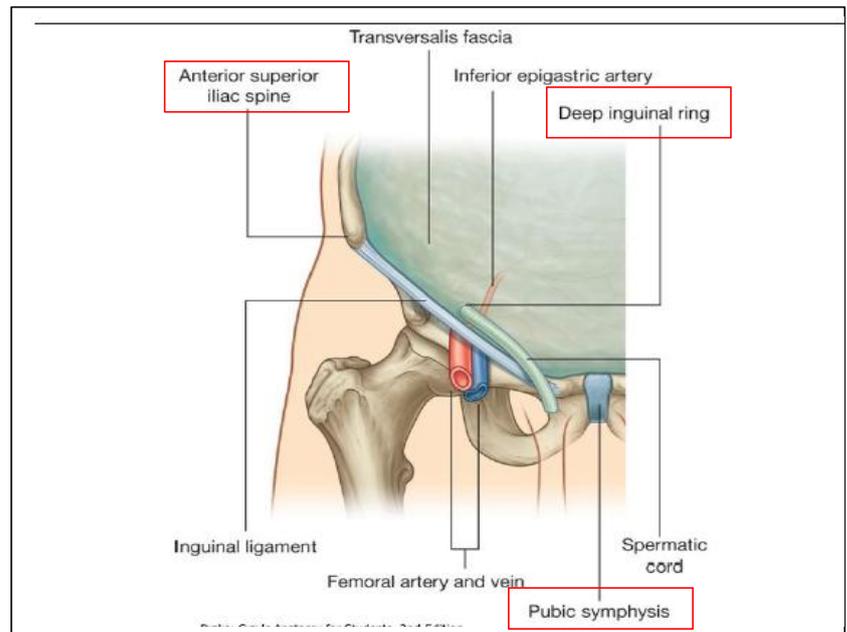
Inguinal Canal Anatomy

- **Inguinal Canal** : slit-like passage , extends in **downward and medial** direction , above and parallel to the inguinal lig .
- Its length is approx : **4 cm** .
- **Begins** at the deep inguinal ring , **ends** at the superficial inguinal ring .
- **Contents** :
 - (1) **Genital branch** of genitofemoral nerve , **Spermatic cord** (men) and the **round lig**(women).
 - (2) **Ilio-inguinal nerve** passes through part of the canal(in both sexes).



Deep inguinal ring (aka internal inguinal ring):

- At a point midway b/w the ASIS and pubic symphysis , just above the inguinal lig .
- Referred to as an opening(or defect) in the transversalis fascia , extending all the way to the superficial inguinal ring , forming the so-called Inguinal canal .
- Forms the begining of the inguinal canal .



Superficial inguinal ring(aka External inguinal ring)

- Anatomical relations :
 - (1) Above the pubic crest .
 - (2) Superolateral to pubic tubercle .
 - (3) Within the aponeurosis of EAO muscle .
- It is a triangular opening , 2 sides of this triangle are called medial crura and lateral crura, attached to pubic crest and pubic tubercle , respectively .

Boundaries of Inguinal Canal

(1) Anterior Wall :

Formed along its length by aponeurosis of the external oblique muscle , also it is reinforced laterally by the lower fibers(lower part)of internal oblique muscle that originate from the lateral 1/3 of the inguinal lig .

(2) Posterior Wall :

Formed along its length by the fascia transversalis , reinforced medially by the conjoint tendon .

<<Remember , conjoint tendon is the combined insertion of internal oblique and transversus abdominis into the pubic crest >>

(3) Floor(inferior wall) :

Formed by the medial 1/2 of inguinal lig , reinforces most of the medial part the lacunar lig .

•Contents :

(1) Spermatic Cord (in men) .

During emryonic life , early stages of testis development take place within the abdomen , as the first appearance of the gonad consists in a thickening of mesothelial layer of the peritoneum -explains that testis , originates early from the abdomen , in the lumbar region -.

It gets its supply from the aorta by a branch called Testicular artery(branch of the abdominal aorta).

In order not to forget that , remember :

فلينظر الإنسان مم خلق، خلق من ماء دافق يخرج من بين الصلب والترائب

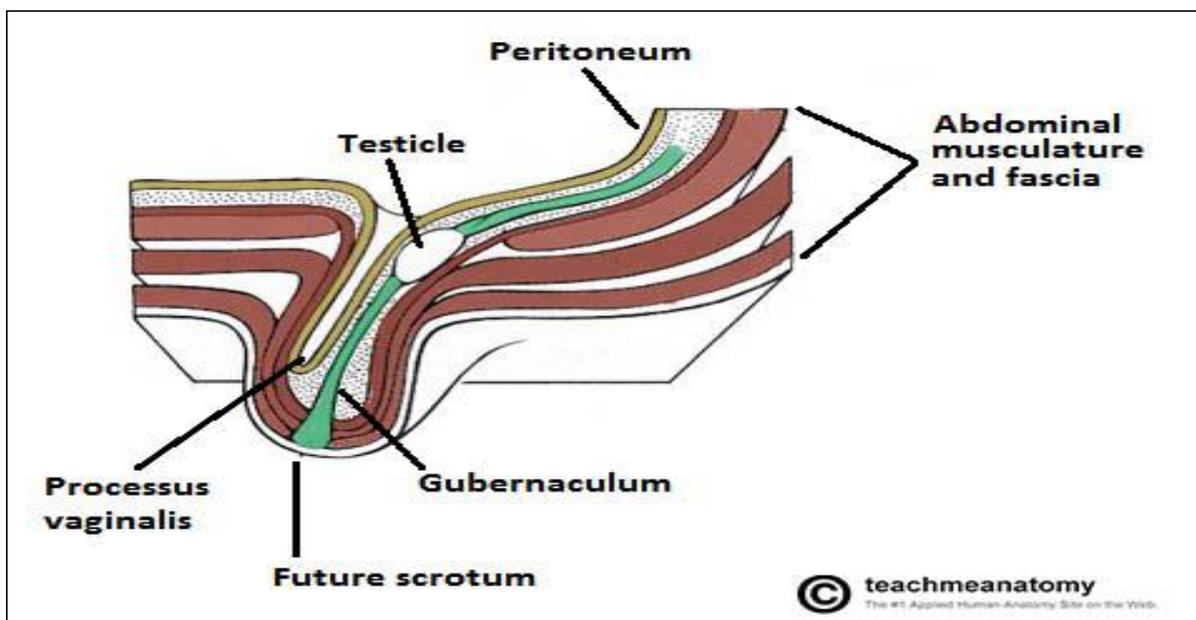
من بديع الإعجاز العلمي الوارد ذكره ، تفسيراً لماهيّة خلق الإنسان ، وصولاً للحقيقة العلمية بأن الأصول الخلوية للخصية في الذكر أو المبيض في الأنثى تجتمع في ظفر الأبوبين(الصلب) ثم تنرج من الظفر الى منطقة بين بدايات العمود الفقري و بدايات الضلوع(الترائب) ، يتبعه ان يهاجر المبيض إلى الحوض بجانب الرحم في الأنثى ، والخصية إلى كيس الصفن حيث الحرارة أقل وإلا فشلت في إنتاج الحيوانات المنوية وتصبح معرضة للتحول إلى ورم سرطاني إن لم تنرج من الصدر حيث نشأتها إلى كيس الصفن حيث يجب أن تكون

After you understand what's written above , you have to be familiar with the so-called **Undescended Testicle or Cryptorchidism**

- Referred to ,a condition in which the testicle that hasn't moved into its proper position in the bag of skin hanging below the penis (scrotum) before birth .
- In order for testicles to develop and function normally, they need to be **slightly cooler than normal body temperature(37°)**. The **scrotum** provides this cooler environment. Complications of a testicle not being located where it is supposed to be , several complications arise , being most important : **Testicular Cancer** .

- (2) Round ligament of the uterus .
- (3) Ilio-inguinal nerve (in both sexes).

Development of inguinal canal



- During embryological life, the tissue that will become **gonads** (either testes or ovaries) establish in the posterior abdominal wall, and descend through the abdominal cavity.
- **Gubernaculum** >> fibrous cord of tissue attaches the inferior portion of the gonad to the future scrotum (in males) or labia (in females), and guides them during their descent.
- In the embryological stage, the canal is flanked by (Surrounded by) an **out-pocketing** of the peritoneum called **processus vaginalis** and the **abdominal musculature and fascia**.
- The inguinal canal is the pathway by which the **testes**, leaves the abdominal cavity and enter the scrotum.

• Fate of gubernaculum and processus vaginalis :

(1) **Process Vaginalis** :

Normally degenerates, but a failure to do so interfere with the descent of the testes.

(2) **The gubernaculum** :

Once it has shortened in the process of the descent of the testes, becomes a small scrotal ligament, tethering the testes to the scrotum and limiting their movement.

• **Contents of spermatic cord** :

- (1) **Ductus Deferens** ; carries sperm to the ejaculatory duct.
- (2) Artery of ductus deferens .
- (3) **Testicular a.**
- (4) Genital branch of genitofemoral nerve .
- (5) Lymphatics .
- (6) Remnants of processus vaginalis .
- (7) The **pampiniform plexus of veins** (or testicular veins) .
- (8) Sympathetic nerve fibers .
- (9) Cremasteric a. and vein .

Mnemonic to easily memorize them

Spermatic Cord Contents

Partying Doesn't Contribute To A Good Social Life

- ▶ Pampiniform Plexus
- ▶ Ductus Deferens
- ▶ Cremasteric Artery
- ▶ Testicular Artery
- ▶ Artery of the Ductus Deferens
- ▶ Genital Branch of Genitofemoral Nerve
- ▶ Sympathetic Nerve Fibers
- ▶ Lymphatic Vessels