

## **\*Summary\***

### **Lecture 1**

-pelvic peritoneum in female:-

Rectouterine (Douglas) pouch - Uterovesical (vesicouterine) pouch-  
Broad ligament of uterus.

- ovaries;. primary sex organs in female

Its medial end is attached to uterus by **ligament of ovary**.

Its lateral end is related to the **fimbriae of the uterine tube**.

**\*\*Function;** 1-Production of female germ cells, 2-Secretion of female sex hormones.

-the uterine (fallopian) tubes;.,

It is divided into:

- 1) **Intramural part: opening into the uterine wall**
- 2) **Isthmus: narrowest part**
- 3) **Ampulla: widest part (site of fertilization)**
- 4) **Infundibulum: funnel-shaped end, has finger-like processes (fimbriae), related to ovary**

**\*\*Function;**

1-Site of fertilization.

2-Transport of fertilized ovum into the uterus.

- the uterus;.

**\*\*Divided into:**

Fundus, Body and Cervix which is divided into (Supravaginal part  
Vaginal part) .

- the cervical canal;. consists of ;

INTERNAL OS,EXTERNAL OS

-In a nulliparous woman: external os appears circular.

-In a multiparous woman: external os appears as a transverse slit with an anterior & a posterior lip.

- positions of uterus;.

**\*\*First Position;.**

anteverted uterus- anteflexed uterus

**\*\*second Position;.**

retroflexed uterus \_retroverted uterus

**\*\*\*The Most usual position is the first position (anteflexed uterus- anteverted uterus).**

- levator ani muscles;.

support pelvic organs.

- support of uterus;.

1-Round ligament of uterus (maintains anteverted anteflexed position)

2- Ligaments of cervix (especially transverse cervical)

3- Levator ani muscles

- uterine prolapsed;.

**Downward displacement of uterus**

-vagina;.

**function:** 1) copulatory organ & 2) birth canal

\*Female Reproductive system Arterial supply, venous drainage ,nerve  
and lymphatic drainage ;

organ	arteries	veins	lymphatics	nerves (autonomic)
ovaries	ovarian (abdominal aorta)	ovarian (to inferior vena cava & left renal vein)	to paraaortic lymph nodes (in abdomen)	ovarian plexus (in abdomen)
uterine tubes	-ovarian -uterine	-ovarian - uterin	-paraaortic -internal iliac	-ovarian -inferior hypogastric
uterus	uterine (internal iliac artery in pelvis)	uterine plexus (to internal iliac vein)	to internal iliac lymph nodes (in pelvis)	inferior hypogastric plexus (in pelvis)
vagina	vaginal (internal iliac artery in pelvis)	vaginal plexus (to internal iliac vein)	to internal iliac lymph nodes (in pelvis)	inferior hypogastric plexus (in pelvis)

## Lecture 2 :-

**\*\* The pelvis is composed of 4 bones are lined by 4 muscles and connected by 4 joints :-**

- the bones are : anteriolaterally : 2 hip bones , posteriorly : sacrum and coccyx.
- the 4 joints are : **Anteriorly** ; Symphysis pubis (2<sup>nd</sup> cartilaginous joint)  
**Posteriorlaterally**: Two Sacroiliac joints. (Synovial joints), **Posteriorly**: Sacrococcygeal joint (cartilaginous), between sacrum and coccyx.
- **The pelvis is divided into two parts** by the pelvic brim: Above the brim is the False or greater pelvis, which is part of the abdominal cavity and below the brim is the True or lesser pelvis.

**-The True pelvis has:**

1- Inlet.

2-Outlet.

3- Cavity: Which is a short, curved canal, with a shallow anterior wall and a deeper posterior wall . It lies between the inlet and the outlet.

	<b>Pelvic inlet</b>	<b>Pelvic outlet</b>
<b>Anteriorly</b>	Symphysis pubis.	
<b>Laterally</b>	Ileopectineal (arcuate) lines	
<b>Posteriorly</b>	Sacral promontory, ala of sacrum.	Coccyx
<b>Anterolaterally</b>		ischiopubic ramus (pubic arch)
<b>Posterolaterally</b>		Sacrotuberous ligament

-Female and male pelvis : In female the Sacrum is **usually wider** in proportion to its length Also, the Angle of the pubic arch is **wider**.

-The pelvis has 4 walls :

**1- Anterior pelvic wall : formed by** the posterior surfaces of the bodies of the pubic bones, the pubic rami, and the symphysis pubis

**2- Posterior pelvic wall : It is large and formed by** sacrum, coccyx , piriformis muscles and their covering of pelvic fascia.

**3- Lateral pelvic wall : it is formed by :** Part of the hip bone below the pelvic inlet, Obturator internus and its covering fascia & the obturator fascia, Sacrotuberous & Sacrospinous ligaments

**4- Inferior pelvic wall or the pelvic floor :**

- The pelvic floor supports the pelvic viscera and is formed by the **pelvic diaphragm**. The pelvic diaphragm is formed by **the levator ani** and the **coccygeus muscles** and their covering fasciae .

**-Levator Ani Muscle :**

**- Origin :** It is a wide thin sheet that has a linear origin from: Back of body of pubis, tendinous arch of the obturator fascia, and the Spine of the ischium .

**-Its fibers are divided into 3 parts:**

1- Pubococcygeus.

2- Puborectalis.

3- Iliococcygeus

Pubococcygeus(anterior fibers)	Puborectalis (intermediate fibers )	Iliococcygeus(posterior fibers )
<p>1-It passes downwards and posteriorly to be inserted into a small fibrous mass, called the <b>anococcygeal body (between the tip of the coccyx and the anal canal)</b> .</p> <p>2-These anterior fibers sweep downward and medially to their Insertion, as follows:</p> <p><b>1-The levator prostate :-</b></p> <ul style="list-style-type: none"> <li>-form a sling around the prostate</li> <li>-supports the prostate</li> <li>-stabilizes the perineal body.</li> </ul> <p><b>2- sphincter vaginae:-</b></p> <ul style="list-style-type: none"> <li>- form a sling around the vagina.</li> <li>-constricts the vagina</li> <li>–stabilizes the perineal body.</li> </ul>	<p>1-It forms a sling around the <b>anorectal junction</b>.</p> <p>2-It has a very important role in maintaining fecal continence.</p>	<p>It`s is inserted into the <b>anococcygeal body and the coccyx</b>.</p>

### **-Actions of levator ani:**

support the visceral organs ,They resist the rise in intra pelvic pressure, have an important sphincter action on the anorectal junction., they serve as a vaginal sphincter in the female.

### **-Arteries of the Pelvis:**

1- Internal iliac artery      2- ovarian artery

### **-Venous & lymph drainage:**

1- Internal iliac vein

2- Ovarian vein (Right ovarian vein drains into IVC , Left ovarian vein drains into Left renal Vein ).

- Lymph from the pelvis passes through Internal iliac>> External iliac >>common iliac nodes >>lymph from Common iliac nodes & the (Ovaries, uterine tubes & fundus of uterus) passes to>> **Lateral aortic (paraortic) nodes**

### **-NERVE SUPPLY :**

-**Somatic** : sacral plexus

### **-Autonomic :**

**1-Parasympathetic** : Pelvic splanchnic nerves

**2-Sympathetic** : Pelvic part of sympathetic trunk , **\*\*Superior & Inferior Hypogastric plexuses**

## Lecture 3 :-

### -The perineum :-

#### 1)located between four boundaries:

**1)anteriorly** : mons pubis. **2) posteriorly** : intragluteal cleft. **3)laterally**: from both sides right and left : medial surfaces of the thighs.

#### 2)The perineum contains the following:

lower ends of urethra, vagina & anal canal and the external genitalia

### -The perineal body :-

**1)boundaries**: Lies in the subcutaneous tissue, posterior to vestibule and anterior to the anal canal & anus, blends anteriorly with the perineal membrane.

**2) function**: Gives attachment to perineal muscles ,plays an important role in visceral support especially in female

### -The anococcygeal body :-

**1)boundaries**: situated between the anterior aspect of the coccyx and the posterior wall of the anorectal canal

**2) function**: Receives insertion of fibers of levator ani muscle.

### -Boundaries & Division of perineum :

**1)Its bony boundaries are: Anterior:** Symphysis pubis. **Posterior:** Coccyx.

**Lateral:** Ischiopubic rami, ischial tuberosities & sacrotuberous ligament.

**2)Divided by an imaginary line passing through two ischial tuberosities, into:**

**Urogenital triangle** "anteriorly" & **Anal triangle** "posteriorly".



- **Urogenital Triangle:**

### 1) BOUNDARIES :

- **Anteriorly** : Symphysis pubis
- **Posteriorly** : Transverse line passing through the 2 ischial tuberosities.
- **Laterally** : Ischiopubic rami & ischial tuberosities.

### 2) CONTENTS :

Lower part of urethra , vagina & External genitalia (vulva).

- **Urogenital Diaphragm:**

### 1) Composed of:

1- Sphincter urethrae .

2- the deep transverse perineal muscles enclosed within the superior and inferior layers of fascia of the urogenital diaphragm (**The inferior layer of the fascia is formed by the perineal membrane**).

- **Fascia of Urogenital Triangle (Perineal Fascia):**

### 1) Definition :

The perineal fascia is continuous anteriorly with the fascia of abdomen and **consists of superficial and deep layers**

**-Superficial perineal fascia:** consists of

- 1- **Superficial fatty layer (Camper's fascia)** makes up the substance of mons pubis & labia majora and extends into the anal region
- 2- **Deep membranous layer (Colles' fascia ):** Does not extend to anal region. Becomes fused with the posterior margin of the perineal membrane.

**-Deep perineal fascia:** invests the muscles in the superficial perineal pouch.

- **Anal Triangle:**

**1)Boundaries :**

**Anteriorly:** Transverse line passing through the 2 ischial tuberosities.

**Posteriorly :** coccyx. **Laterally :** ischial tuberosity & sacrotuberous lig. overlapped by gluteus maximus.

**2)CONTENTS:** Lower part of Anal canal (upper part lies in pelvis),Ano-coccygeal body (or raphe) :a fibrofatty mass that extends from anus to tip of coccyx , Ischiorectal fossa on each side.

- **Anal Canal:**

-It is about 1.5 in. long, descending from the rectal ampulla to the anus.

**1)Relations : (In female):**

**Anteriorly:** Perineal body, urogenital diaphragm, and lower part of vagina. **Posteriorly:** Anococcygeal body. **Laterally:** Ischiorectal fossae.

- **Involuntary internal sphincter** supplied by:

inferior hypogastric plexus (sympathetic) & pelvic splanchnic nerves (parasympathetic)

- **Voluntary external sphincter** supplied by :

inferior rectal nerve (branch of internal pudendal nerve) and peineal branch of the S4 nerve.

- **Ischiorectal Fossa:**

**1)Boundaries:**

**Base:** Skin of the perineum .**Medial wall:** Levator ani & anal canal.

**Lateral wall:** Obturator internus, covered with pelvic fascia.

**2)Contents:** Dense fat.,Pudendal nerve & internal pudendal vessels within the pudendal canal, Inferior rectal nerve & vessels crossing the fossa to reach anal canal

- **Vagina:**

**Arteries:** The vaginal artery, a branch of the internal iliac artery, and the vaginal branch of the uterine artery.

**Veins :** Vaginal veins drain into the internal iliac veins.

## Lecture 4

- The scrotum is an out pouching of loose skin & superficial fascia, it houses and protects the testis and regulates its temperature
- The testis is an almond shaped organ that is responsible for **spermatogenesis and hormone production**
- The testis is covered by Tunica Vaginalis and Tunica albugenia
- The arterial supply for the testis is the **testicular artery** which is a direct branch from the **abdominal aorta**
- The venous drainage is **Pampiniform plexus** of veins They become larger, converge as it approached the inguinal canal and form the testicular vein **The right vein drains into IVC ,the left vein drains into Left Renal Vein.**
- Epididymis It is divided into: Head, Body and Tail . It :- 1. **Stores spermatozoa up to 2 weeks to allow for physiological maturation**  
2. Secretes and absorbs the nourishing fluid. 3. Recycles damaged spermatozoa.
- The vas deference ,Carries sperms from the tail of the Epididymis to the pelvic cavity. Passes through the inguinal canal. **It crosses the ureter.** Its terminal part is dilated to form the ampulla of the vas **It joins the duct of the seminal vesicle to form the ejaculatory duct which opens into the prostatic urethra.**
- Seminal Vesicles Secrete (**60% of Semen**)
- The prostate **30 % of semen**
- The bulbourethral gland **10% of semen**
- Prostatic sinus: is A groove on each side of the crest, **where the prostate opens into it.**
- Prostatic utricle :\_A depression on the summit of the urethral crest, The **ejaculatory ducts open on the sides of the utricle.**
- The penis is a Copulatory & Excretory organ.
- Cremasteric reflex is to determine **if the testicular pain is caused by Epididymitis or testicular torsion, if its normal then its epididymitis if its abnormal "absent " (then its testicular torsion )**