Vas deferens :

Blood supply : Artery of the vas is derived from inferior vesical artery.
It runs in the spermatic cord and anastomoses with the testicular artery.
Veins : join the vesical venous plexus.
Nerves : are derived from prostatic nerve plexus which comes from the inferior hypogastric plexus.
Fibers are mainly **sympathetic** for the process of ejaculation.

Seminal Vesicles

Arterial supply : from inferior vesical and middle rectal arteries.
Veins : to vesical venous plexus.
Nerves: from prostatic nerve plexus (mainly **sympathetic**).

Bulbourethral Glands :

Blood supply: by artery of the bulb of the penis.
It is innervated by prostatic nerve plexus

Prostate gland:

Arteries are derived from inferior vesical and middle rectal arteries.
Venous drainage : the veins form the prostatic venous plexus which has the following features :
- It is embedded between the two capsules of the prostate.
- It is present only in front and sides of the gland
- Superiorly, it is continuous with the vesical venous plexus.
- Anteriorly : it receives the deep dorsal vein of penis.
- Posterolaterally : the plexus is drained to the internal iliac veins which in turn communicates with the internal vertebral venous plexuses by the Batson venous plexus.

These veins are valveless and responsible for spread of cancer prostate to lumbar vertebrae
Lymphatic Drainage: to internal, external iliac lymph nodes.

Nerve Supply: by prostatic nerve plexus derived from the inferior hypogastric plexus.

Penis

Blood supply :All are branches of internal pudendal artery and all are paired (right and left).
- Dorsal artery of the penis supplies the skin, fascia, and glans .
- Deep artery of the penis supplies the corpus cavernous with convoluted helicine arteries
- Artery of the bulb supplies the corpus spongiosum and glans penis

Venous drainage of penis
1 . Superficial dorsal vein
ends in the corresponding superficial external pudendal vein.
2. Deep dorsal vein of the penis
terminate in prostatic venous plexus.

Lymph drainage
From the **penis** into **superficial inguinal lymph nodes** (with the scrotum).
From **glans** penis, lymphatics drain directly **to gland of Cloquet** in the femoral canal.

Nerves of the penis
1**. Dorsal nerve** of the penis (sensory), is a branch of pudendal nerve, runs lateral to the dorsal artery of the penis
2. **Cavernous nerves** (autonomic) arise from the inferior hypogastric plexus
,Parasympathetic fibers (S2,3,4) produce vasodilatation & erection of penis

Ovary :

Arterial Blood Supply**:** By the ovarian artery

 The ovarian artery arises from the abdominal part of the aorta at the level L2.

* Distribution : it supplies the ovary, lateral part of uterine tube and anastomoses with the uterine artery within the broad ligament.

Venous Drainage:

 The veins emerge at the hilum of the ovary as a **pampiniform plexus** which gives rise to the ovarian vein.

 The right ovarian vein I.V.C.

 The left left renal vein.

Lymphatic Drainage : to lateral aortic lymph nodes,

Nerve Supply : by autonomic nerves along the ovarian artery. They are derived from coeliac and aortic nerve plexuses. They are **sensory and vasomotor**.

Uterine tube / fallobian tube

Blood Supply :

Medial 2/3 by uterine vessels. Lateral 1/3 by ovarian vessels

Nerve Supply :

Medial 2/3 by uterine nerve plexus. Lateral 1/3 by ovarian nerve plexus

Nerve supply :

Sympathetic and parasympathetic nerves from the inferior hypogastric plexuses

Vagina

Arterial Blood Supply : by **uterine and vaginal** arteries.

The vaginal A. supplies the base of the bladder and gives vaginal branches which anastomose with vaginal branches from uterine A.

These anastomoses form 2 median longitudinal vessels called **azygos arteries** which descend anterior and posterior to the vagina supplying it

Venous Drainage : by **vaginal venous plexus** on the side of vagina. It is drained by the vaginal vein into internal iliac vein.

Lvmph Drainage :

 Above the hymen → external, internal iliac lymph nodes.

 Below the hymen → superficial inguinal lymph nodes

Nerve Supply :

 Above the hymen → Autonomic fibres from the uterovaginal plexus derived from the **inferior hypogastric plexus.**

 Below the hymen→ The lower inch of vagina is supplied by the **pudendal nerve**.

****Culdocentesis**

Drain a pelvic abscess or blood collection through the vagina by the passage of a needle through the posterior fornix.

Uterus

Arterial Blood Supply: by uterine artery

- It runs medially on the upper surface of the pelvic diaphragm to reach the root of broad ligament close to the lateral vaginal fornix.
- It enters the broad ligament and runs a tortuous course along the lateral margin of the uterus. It ends by anastomosing with the ovarian A.
- It gives branches to pelvic part of ureter, vagina (azygos arteries), cervix and of uterus, medial part of the uterine tube .

The ureters pass at lateral fornixes of the vagina, they cross the uterine arteries. (like water underneath the bridge)

Venous Drainage :

- Begins by the uterine venous plexuses.
- Each extends along the lateral side of the uterus within the broad ligament.
- The lower part of the plexus is drained by uterine veins which open into the internal iliac vein.
- The plexus communicates with the ovarian and vaginal venous plexuses.

Varicose Vein and hemorrhoids is common during pregnancy due to compression of gravid uterus on inferior vena cava and inferior mesenteric vein

Nerve Supply : by the uterovaginal nerve plexus derived from the inferior hypogastric plexus**.**

Lymphatic Drainage :

Fundus-- lateral aortic lymph nodes

Uterotubal junction along the round ligament of the uterus--- superficial inguinal lymph nodes.

Body, lymphatics pass through the broad ligament---external iliac lymph nodes

Cervix--- external, internal and sacral lymph nodes

Muscles of perineum

Nerve Supply : *All* muscles in superficial and deep perineal pouches are supplied by perineal branch of pudendal nerve

Pudendal Nerve : In the posterior part of pudendal canal, the nerve gives inferior rectal N. and then divides into 2 terminal branches which are the perineal N. and dorsal nerve of penis(orclitoris).

Sacral plexus (S2,3,4) greater sciatic foramen lesser sciatic foramen pudendal canal (1) **inferior rectal/anal nerve** which goes to the ischiorectal fossa (SENSORY for lower edge of the anal canal along with the surrounding skin and MOTOR for external anal sphincter) and (2) **perineal nerve** which gives off two branches : MOTOR for all the muscles in the perineum and SENSORY for scrotum/labial (**scrotal/labial n.)** (3) finally it gives off a sensory nerve called the **dorsal nerve of the penis.**

Pudendal artery :

Common iliac artery internal iliac artery internal pudendal artery (enters pudendal canal through the lesser sciatic foramen) and gives off 2 branches: **inferior rectus artery** (to the rectum) and **perineal** artery. the perineal artery gives off 2 branches: **scrotal/labial** artery and **transverse artery** .The transverse artery gives off 2 branches that go into the deep.peri.pouch and penetrate the perineal mem**.: urethral artery** and **artery of the bulb**.

Then the transverse art. Penetrates the perineal mem. and enters the superficial peri.pouch gives off 2 branches: **dorsal artery** of the penis and **deep artery** of the penis**.**

Breast

Arterial supply:

1)The medial part.

a)Perforating branches of the internal mammary artery

b) Anterior intercostal arteries from2-6

2)The upper lateral part

Pectoral branch of the thoraco acromial artery.(branch of axillary artery)

3) The lower lateral part:

Lateral thoracic artery (branch of axillary artery)

Venous drainage:

1)The subcutaneous tissues --- venous circle at the base

2)The gland and stroma--- small veins that accompany the arteries --- internal mammary and posterior intercostal and axillary veins

Lymphatic drainage of the female breast:

The superficial lymphatics, form a dense plexus deep to the areola which is called the subareolar plexus

The deep lymphatics form a plexus on the deep fascia of pectoralis major which is called the deep lymphatic plexus

Area		Lymph Group
Central and lateral parts	→	Pectoral (anterior) group of axillary lymph nodes
Upper part	→	Apical group of axillary lymph nodes
Medial part	→	Internal mammary (parasternal) lymph nodes Cross to opposite breast
Infero medial part	→	Lymphatics of the rectus sheath,linea alba and Sub diaphragmatic lymphatics