

وسهلا

أهلا



الأستاذ الدكتور يوسف حسين

أستاذ التشريح وعلم الأجنة - كلية الطب - جامعة الزقازيق - مصر

رئيس قسم التشريح و الأنسجة و الأجنة - كلية الطب - جامعة مؤتة - الأردن

دكتورة من جامعة كولونيا المانيا

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Gametogenesis

- ▶ **Formation of the mature gametes (sperm or ova) from the primordial germ cells**

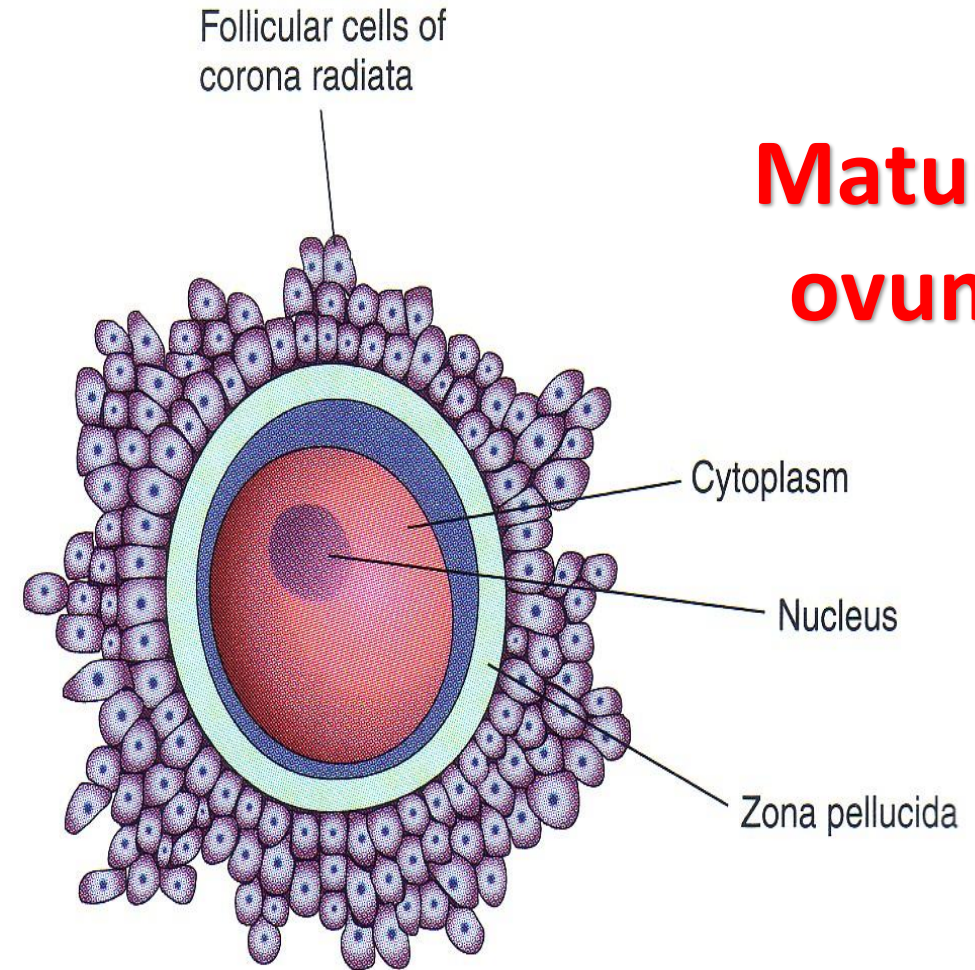
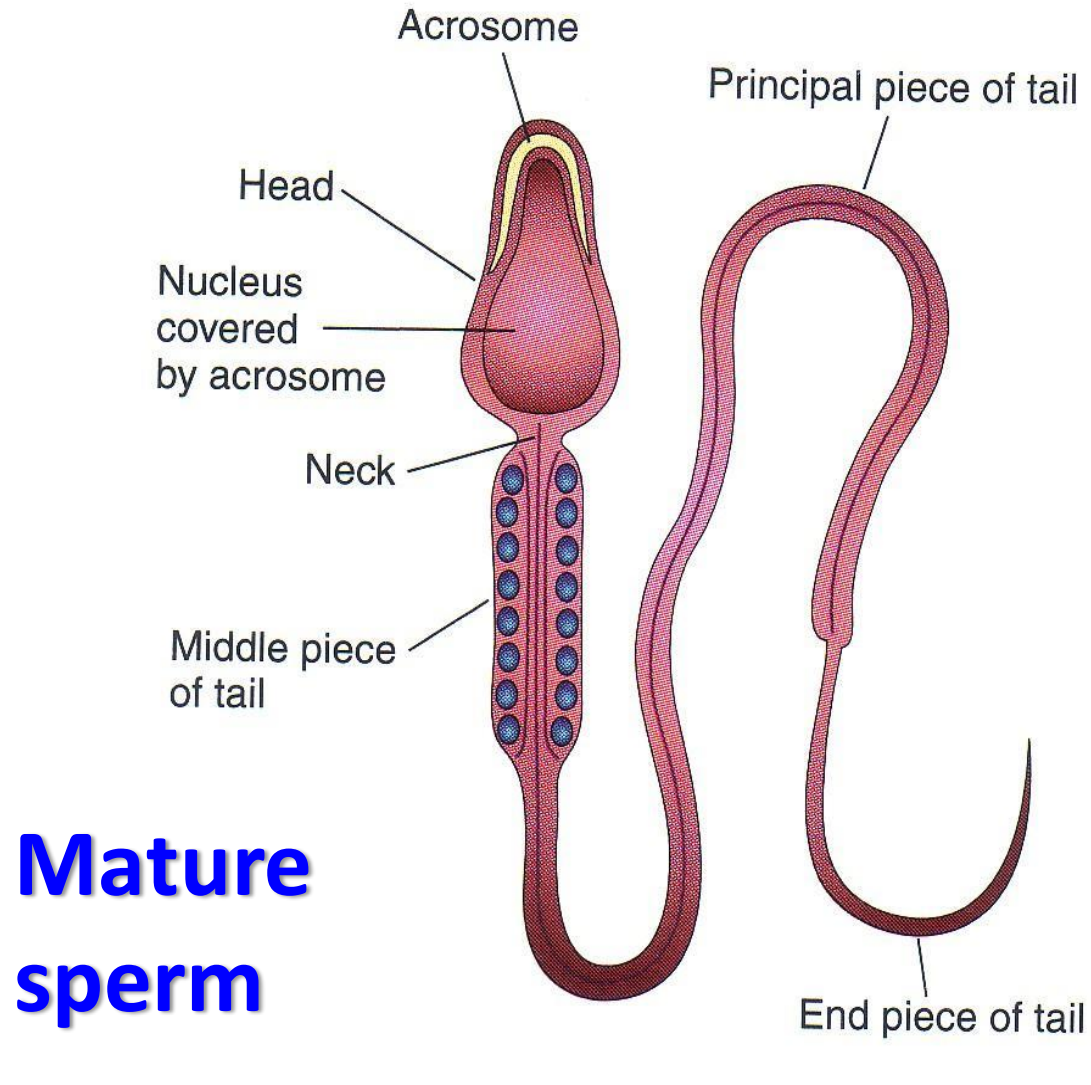
Aim of Gametogenesis

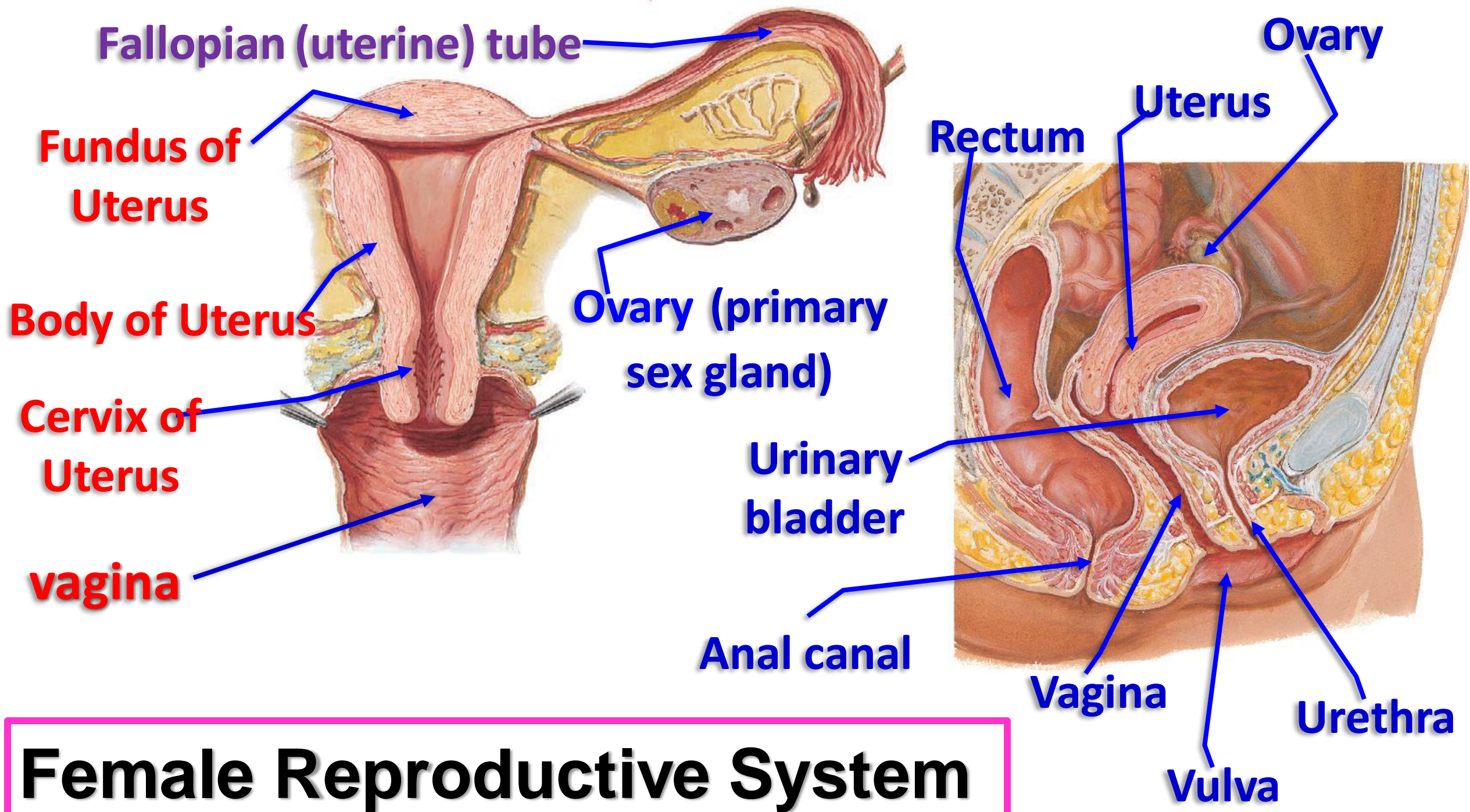
Production of mature male gametes (sperm) and female gametes (ovum) with the following changes:

1- Nucleus: reduction of **diploid** number (46 chromosomes) into haploid number (23 chromosomes).

2- Cytoplasm: Increase in size in ova and markedly reduced in sperms.

Where Sperm or Ovum are formed? It is formed inside the gonads (testis or ovary)





Fallopian (uterine) tube

Fundus of Uterus

Body of Uterus

Cervix of Uterus

vagina

Ovary (primary sex gland)

Rectum

Uterus

Ovary

Urinary bladder

Anal canal

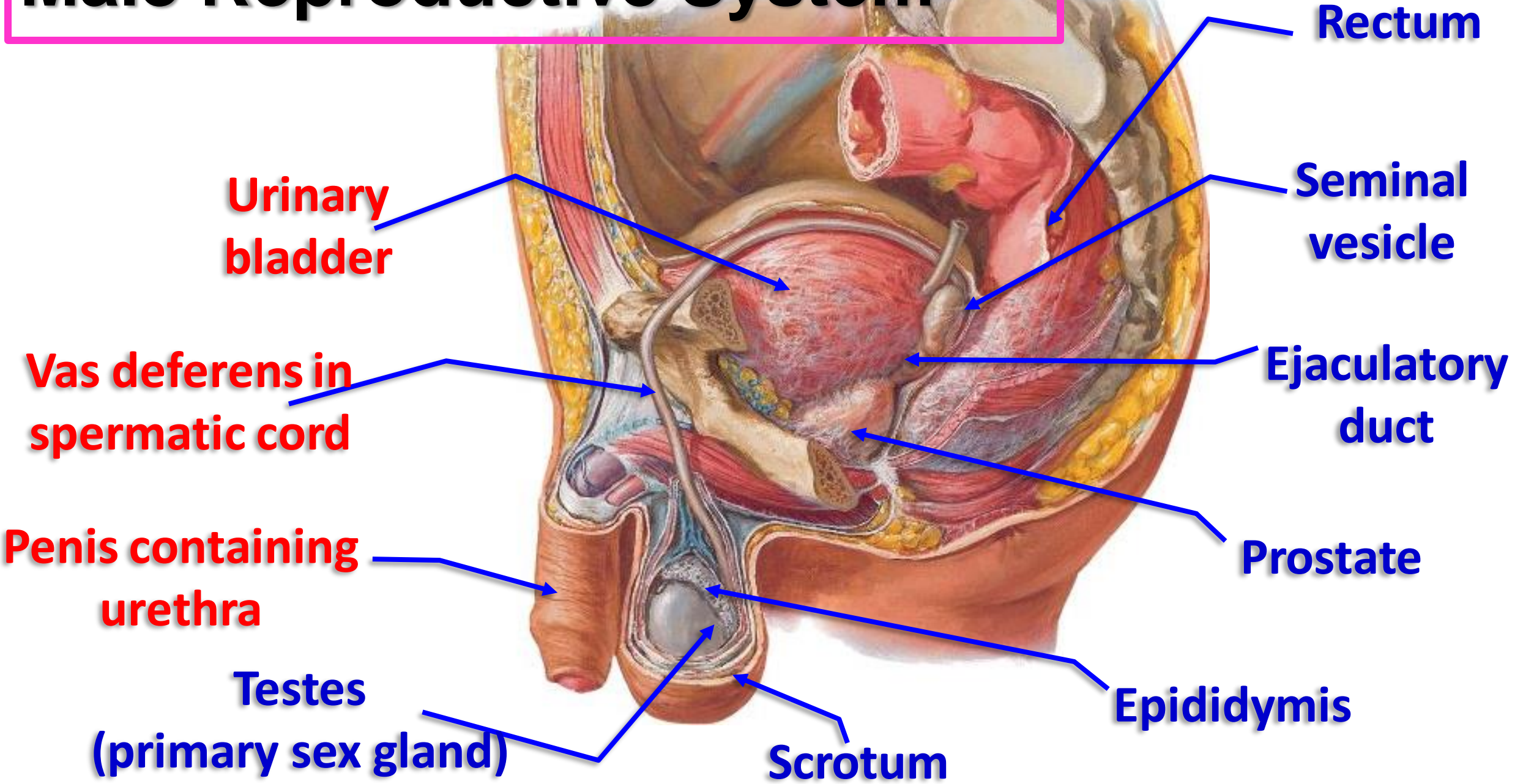
Vagina

Vulva

Urethra

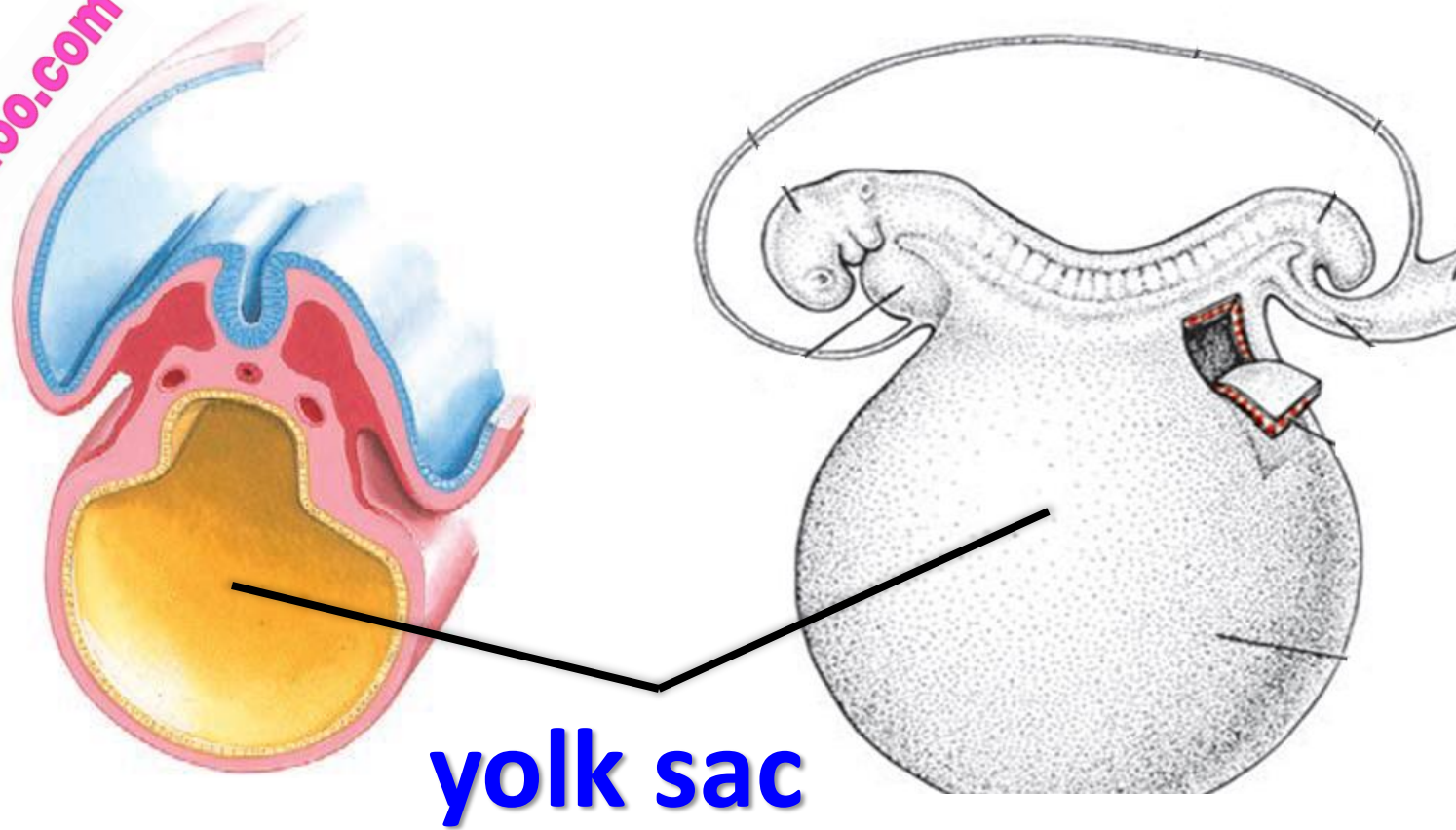
Female Reproductive System

Male Reproductive System



Source of primordial germ cells

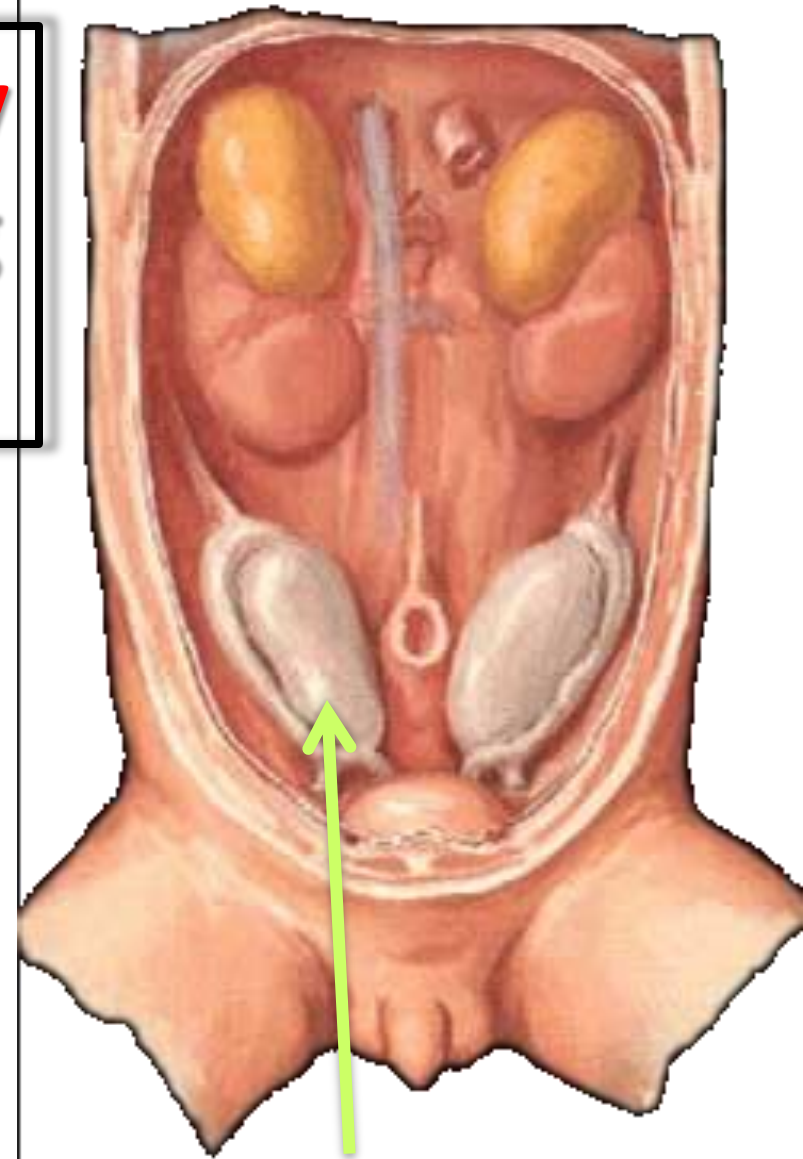
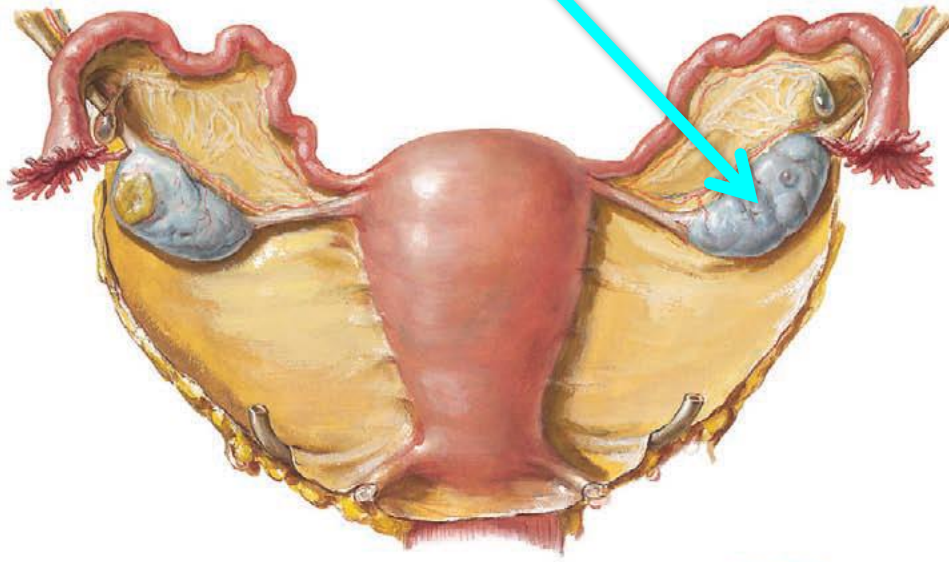
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- Primitive germ cells appear in the wall of the endodermal layer of yolk sac (forming the gut tube) at the 2nd week after fertilization.

- **At the end of 5th week, they migrate to reach developing gonads**

Ovary in female).



Testis in male

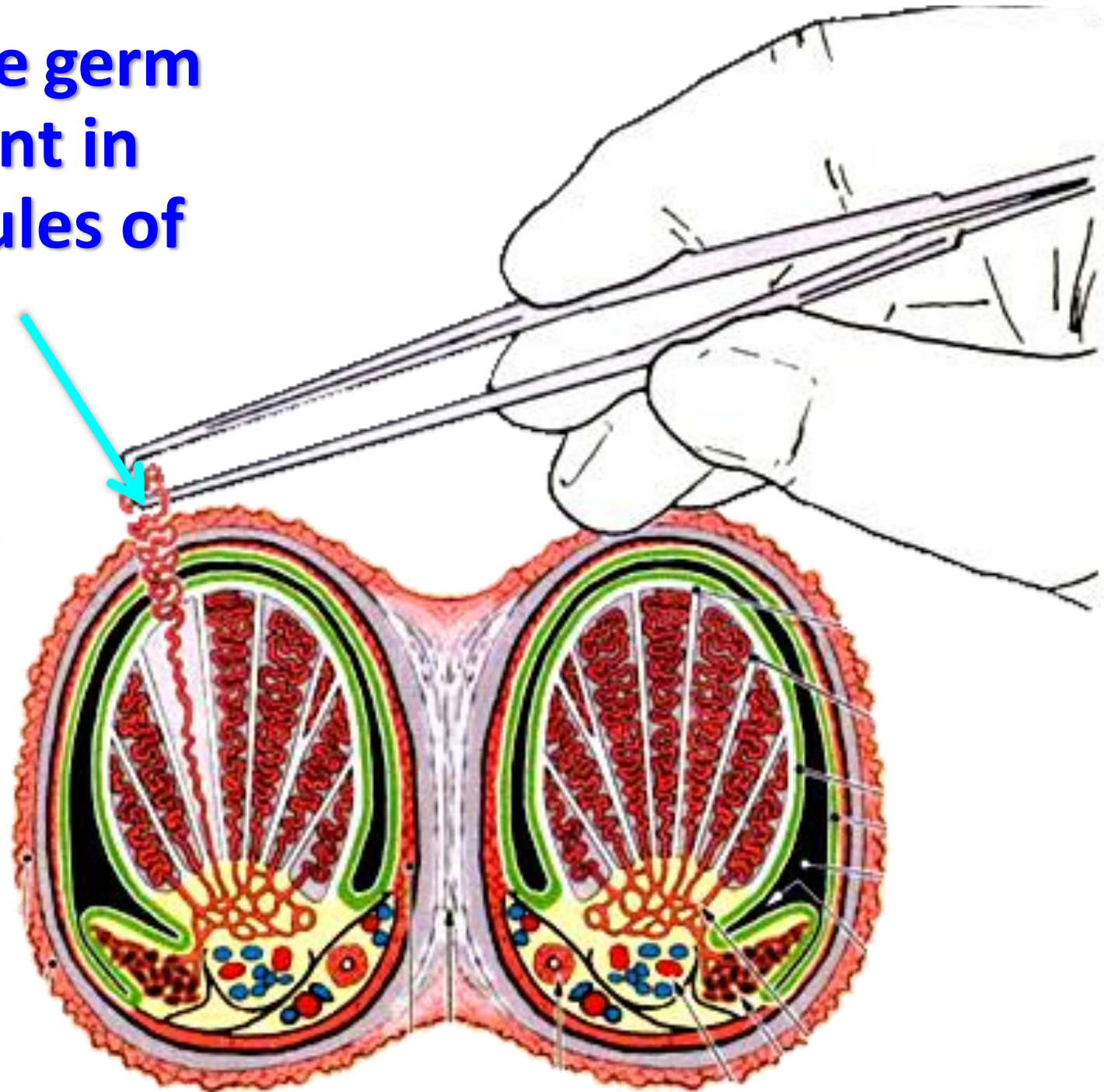
❖ Primordial germ cells

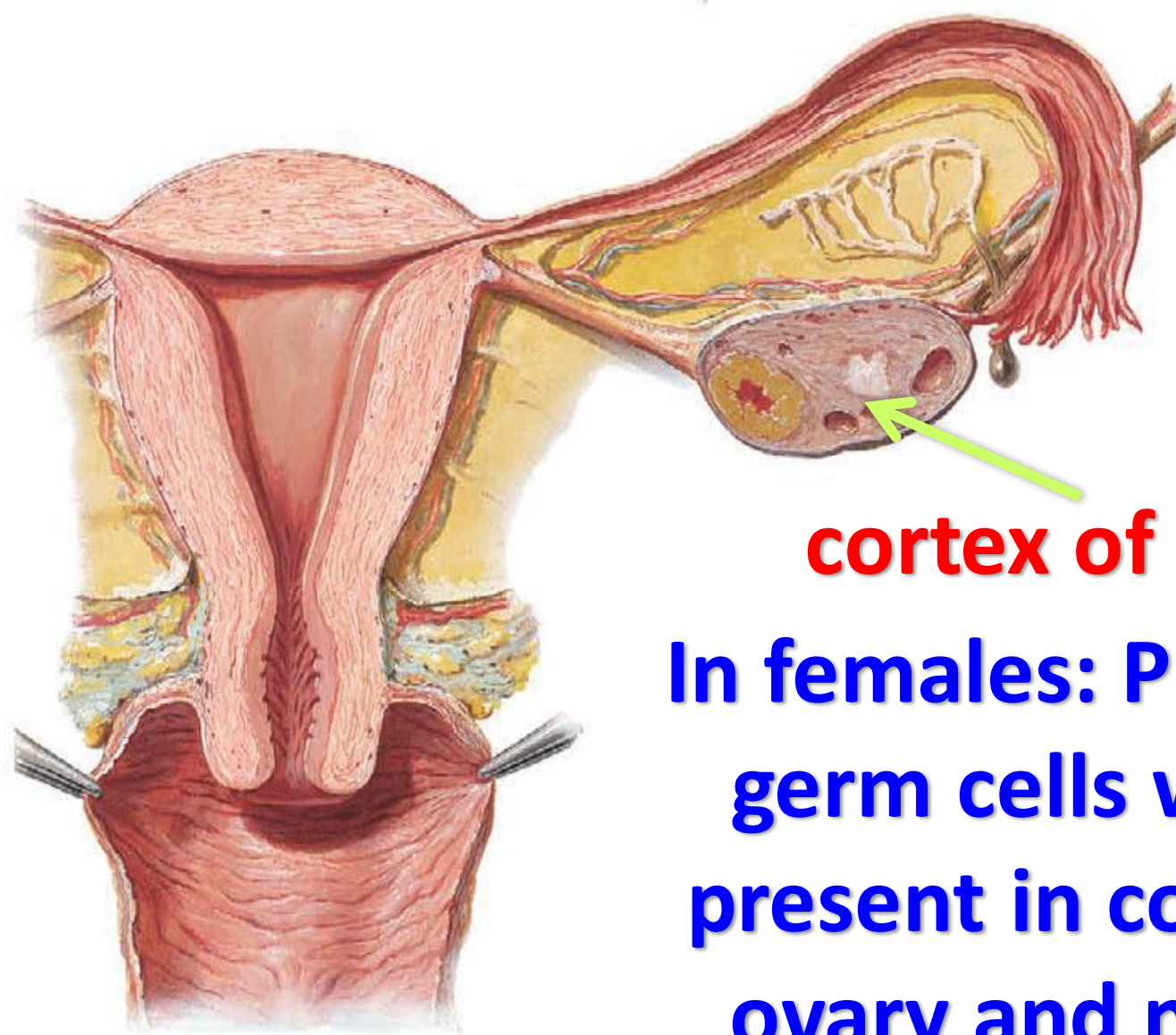
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- They appear in the wall of the endodermal layer of the yolk sac (forming the gut) **at the 2nd week after fertilization**
- They migrate (**at the end of 5th week**) by amoeboid movement toward the hind gut epithelium and then through dorsal mesentery to the primitive gonads in the abdomen
- Then, they invade the genital ridges of the primitive gonads **in the 6th week** of development.
- They reach the primitive gonads by:
 - a- Primitive gonads give a chemostatic attractant for the germ cells
 - b- Tissue rearrangement that occurs in the early embryos.

In males: Primitive germ cells will be present in seminiferous tubules of testis and named spermatogonia.

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cortex of ovary

In females: Primitive germ cells will be present in cortex of ovary and named oogonia.

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