

## 40a A&P: Reproductive System

# 40a A&P: Reproductive System

## Class Outline

5 minutes

Attendance, Breath of Arrival, and Reminders

10 minutes

Lecture:

25 minutes

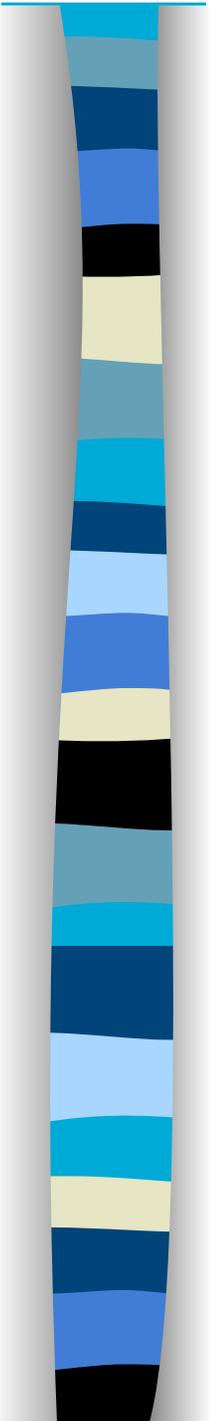
Lecture:

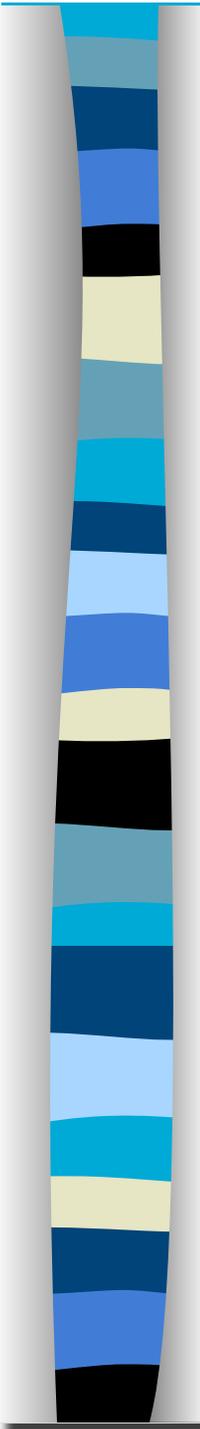
15 minutes

Active study skills:

60 minutes

Total





# 40a A&P: Reproductive System

## Class Reminders

### Assignments:

- 41a Review Questions (Packet A: 165-178)
- 43a Swedish: Outside Massages (Packet A: 57-62)

### Quizzes:

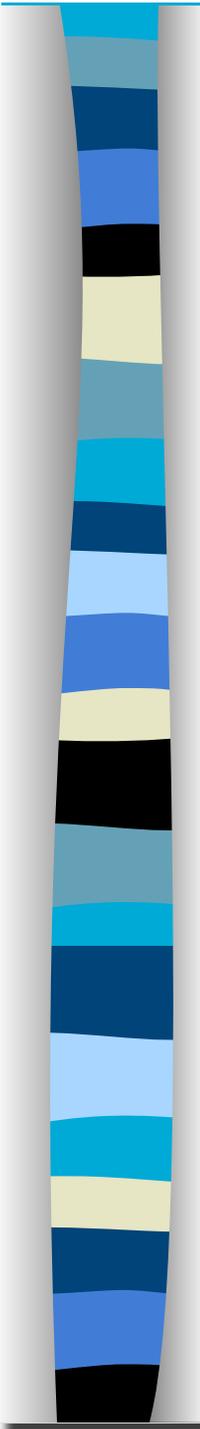
- 42a Written Exam Prep Quiz (35a, 36a, 37a, 38a, 39a, 40a, and 41a)
- 42b Kinesiology Quiz
  - (adductor magnus, gracilis, iliopsoas, sartorius, TFL, piriformis, quadratus femoris)
- 44a Written Exam Prep Quiz (33b, 37b, 41b, 42b, and 43a)

### Practical Exam:

- 44b Integration Massage: Practical Exam (60-minute Swedish, Passive Stretches, and BMTs)

### Preparation for upcoming classes:

- 41a Pathology: Reproductive System
  - Packet E: 87-88
  - RQ Packet A: 175-178
- 41b Business: Get a Job
  - Business Mastery: Pages 145-164, 195-200, 250-253, and 273-277
  - Packet B: 37-41
  - Bring information so that you can complete a handwritten version of your resume and cover letter in class



# Classroom Rules

**Punctuality** - everybody's time is precious

- Be ready to learn at the start of class; we'll have you out of here on time
- Tardiness: arriving late, returning late after breaks, leaving during class, leaving early

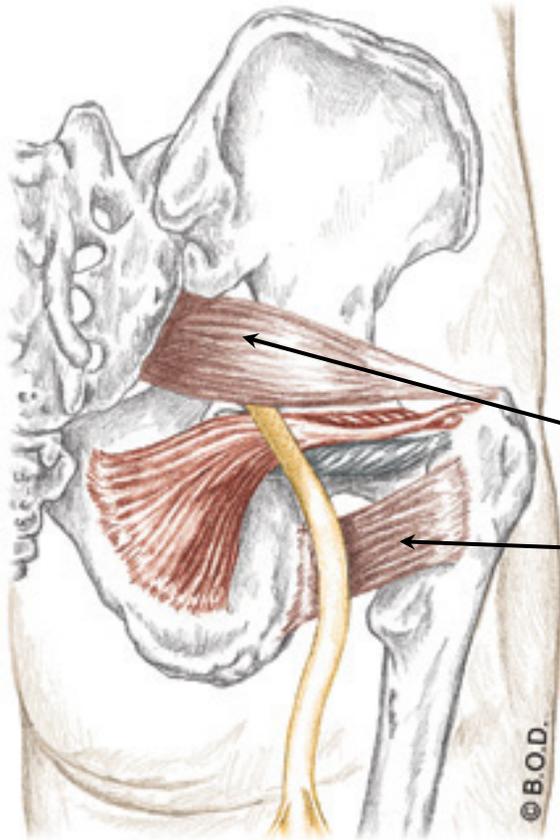
**The following are not allowed:**

- Bare feet
- Side talking
- Lying down
- Inappropriate clothing
- Food or drink except water
- Phones that are visible in the classroom, bathrooms, or internship

*You will receive one verbal warning, then you'll have to leave the room.*

# Lateral Rotators of the Hip

## Trail Guide, Page 328



Sometimes known as the “deep six” or the “deep lateral rotators”.

The lateral rotators are small muscles located deep to the gluteus maximus.

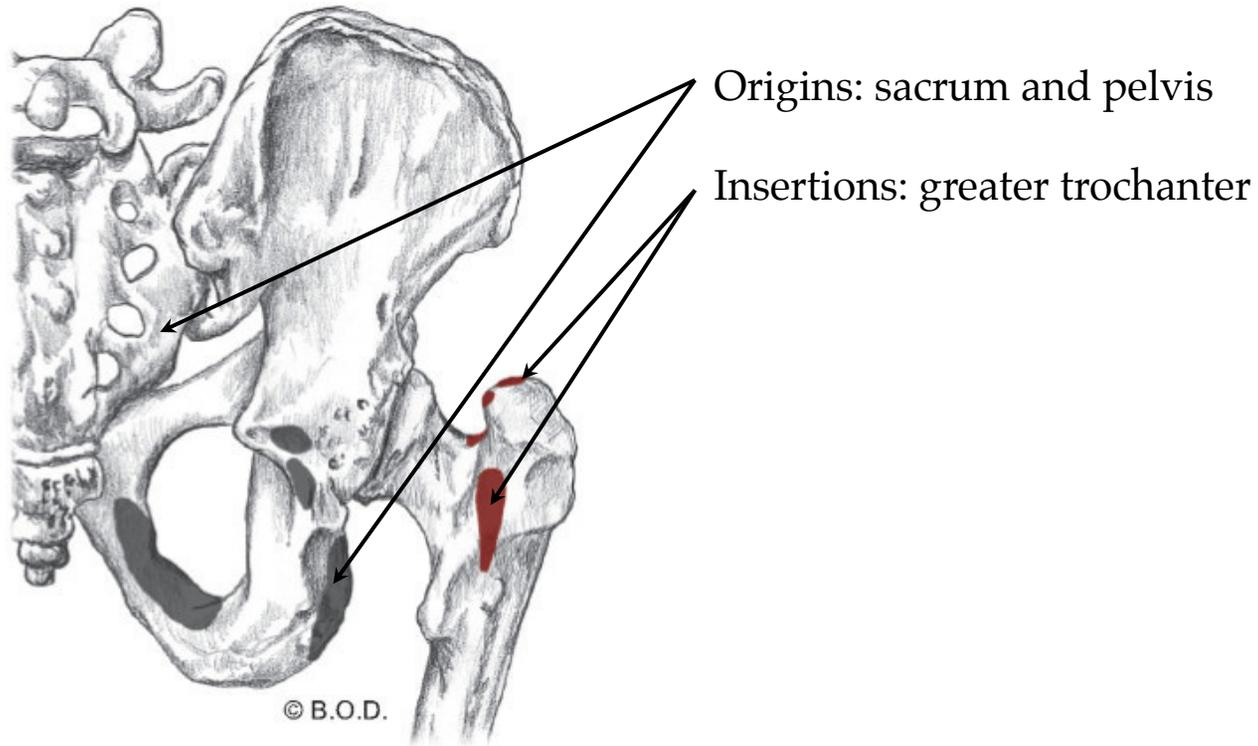
The sciatic nerve travels through the area of the deep lateral rotators.

**Piriformis** and **Quadratus Femoris** are the most easily palpated.

Posterior View

# Lateral Rotators of the Hip

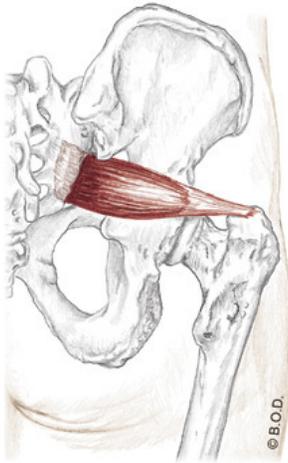
Trail Guide, Page 328



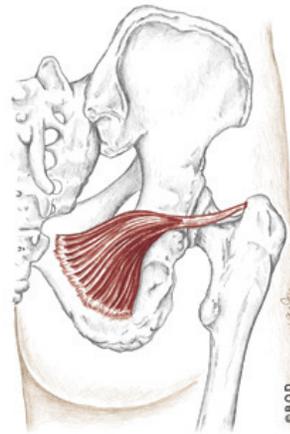
Posterior View

# Lateral Rotators of the Hip

Trail Guide, Page 328



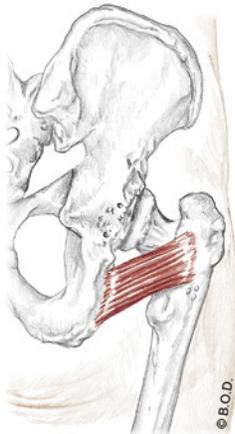
Piriformis  
(posterior view)



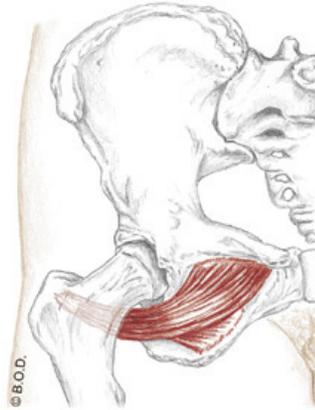
Obturator Internus  
(posterior view)



Gemellus Superior  
(posterior view)



Quadratus Femoris  
(posterior view)



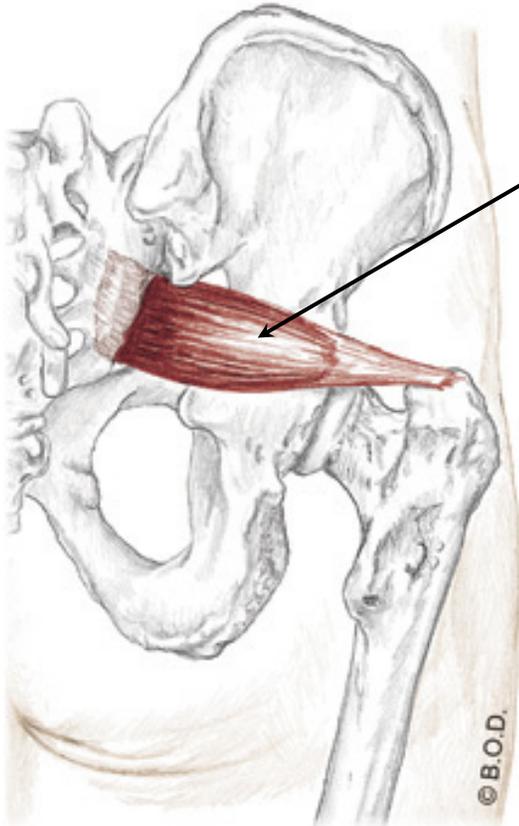
Obturator Externus  
(anterior view)



Gemellus Inferior  
(posterior view)

# Piriformis

Trail Guide, Page 326



Posterior View

**Piriformis** originates on the anterior aspect of the sacrum.

It is often implicated in nerve pain radiating down the leg (AKA: piriformis syndrome).

*Piri* means *pear*.

*Formis* means *form of or shaped*.

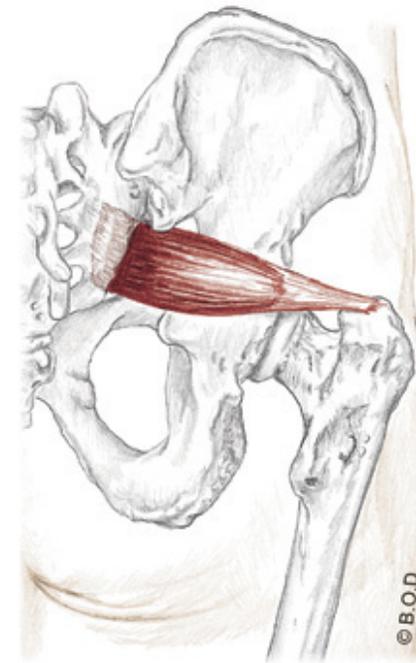
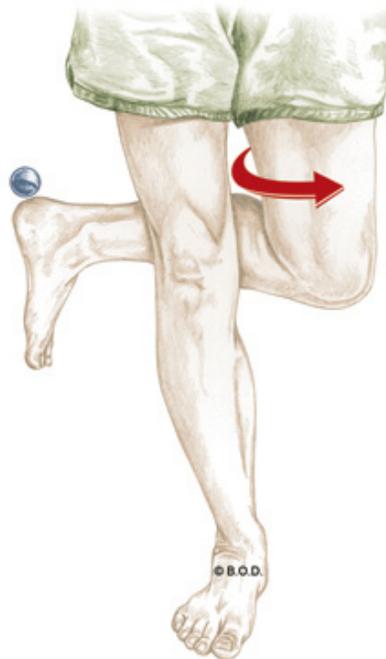
# Piriformis, page 328

**A** Laterally rotate the hip (coxal joint)

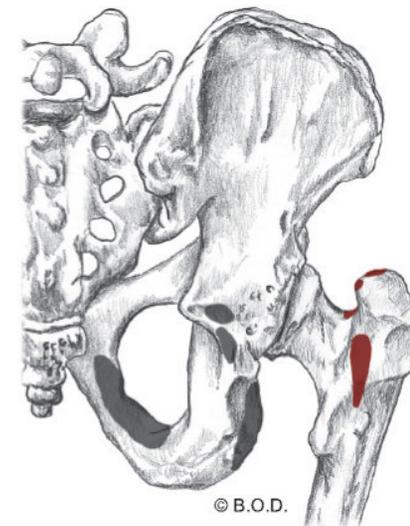
**Abduct** the hip (coxal joint) when it is flexed

**O** Anterior surface of sacrum

**I** Superior aspect of greater trochanter



Posterior View



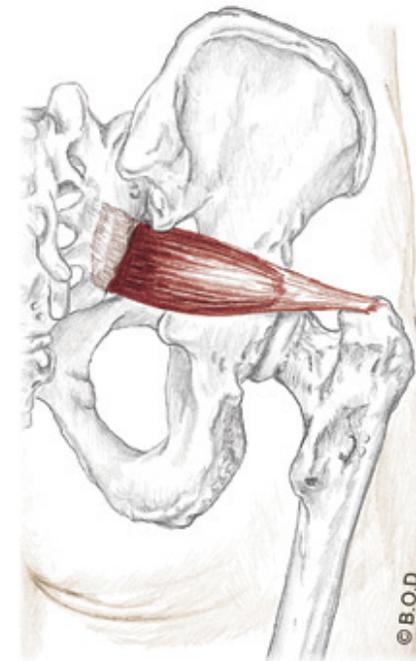
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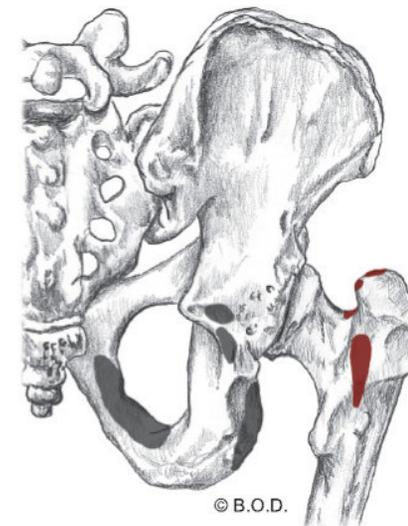
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Posterior View



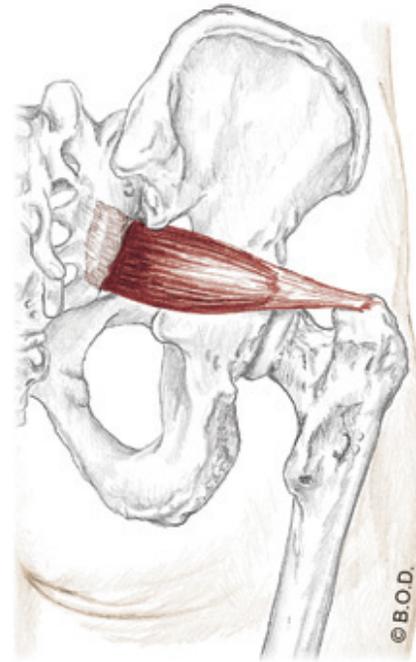
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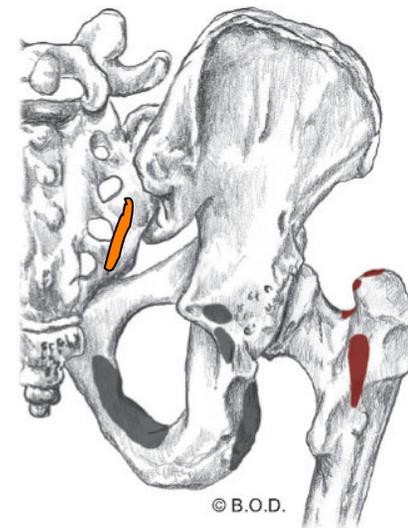
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Posterior View



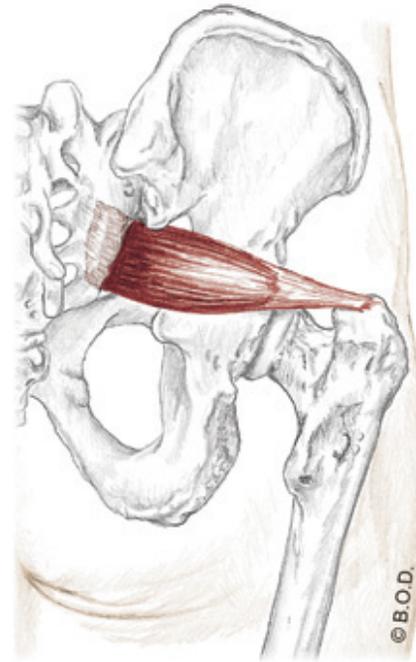
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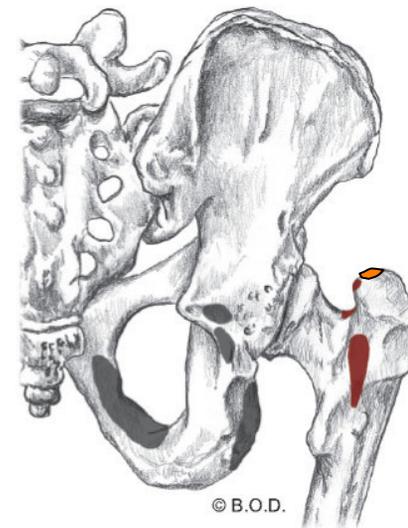
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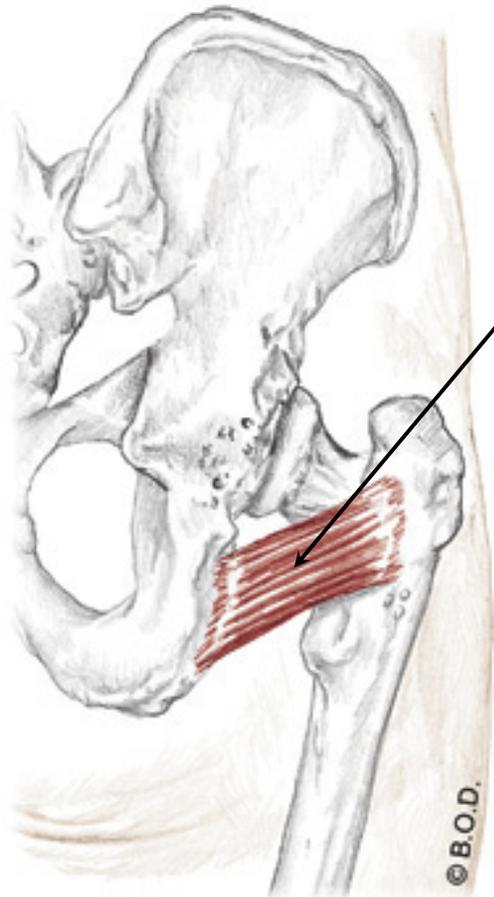


Posterior View



# Quadratus Femoris

Trail Guide, Page 326



**Quadratus Femoris** originates on the anterior aspect of the sacrum.

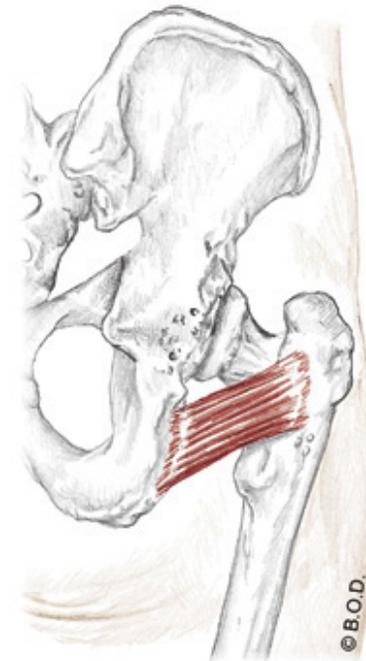
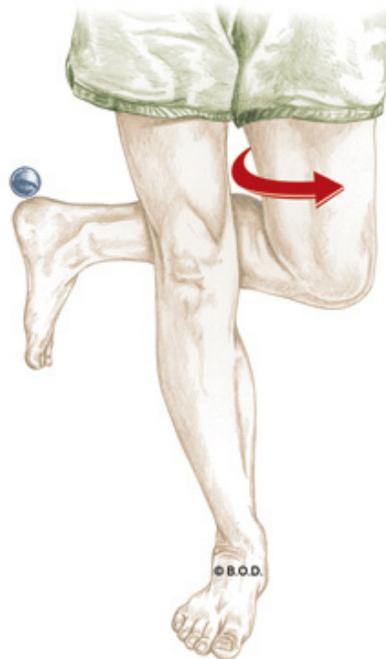
*Quadratus* means *four-sided*.

*Femoris* means *femur*.

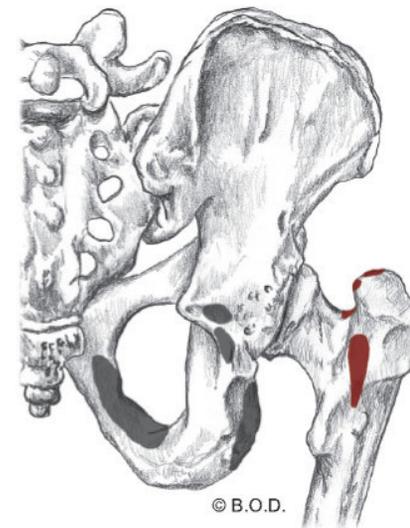
Posterior View

# Quadratus Femoris, page 328

- A** Laterally rotate the hip (coxal joint)
- O** Lateral border of ischial tuberosity
- I** Intertrochanteric crest, between the greater and lesser trochanters

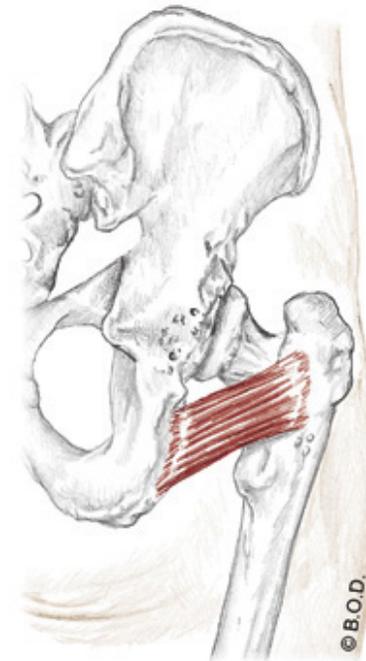


Posterior View

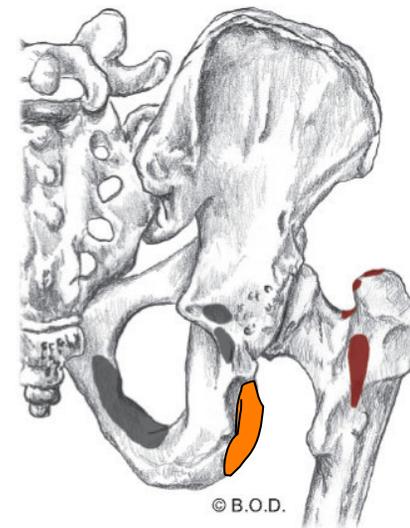


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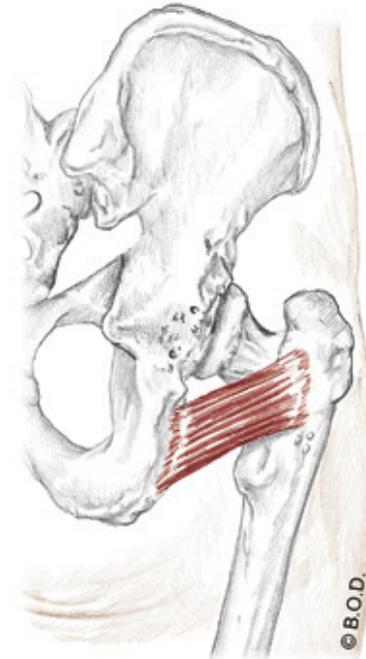
Posterior View



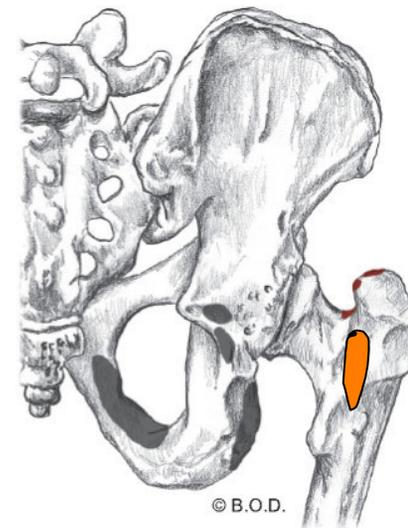
© B.O.D.

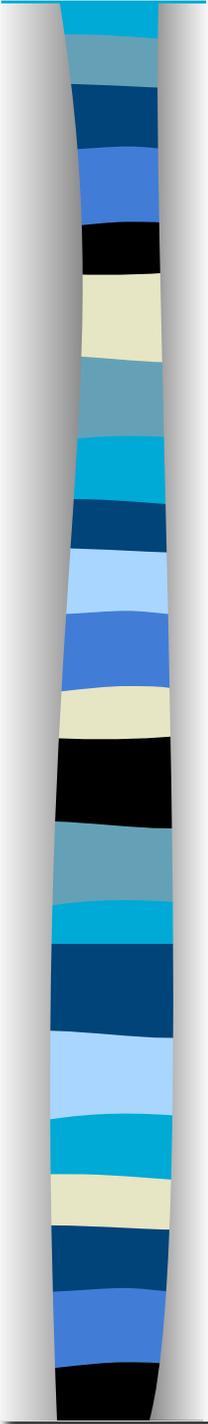
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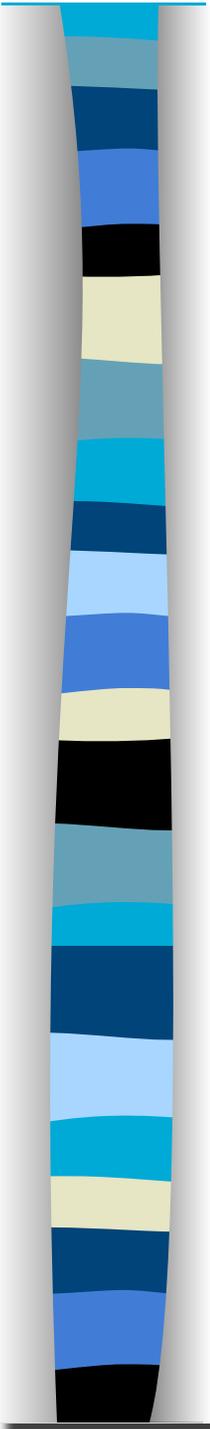
Posterior View





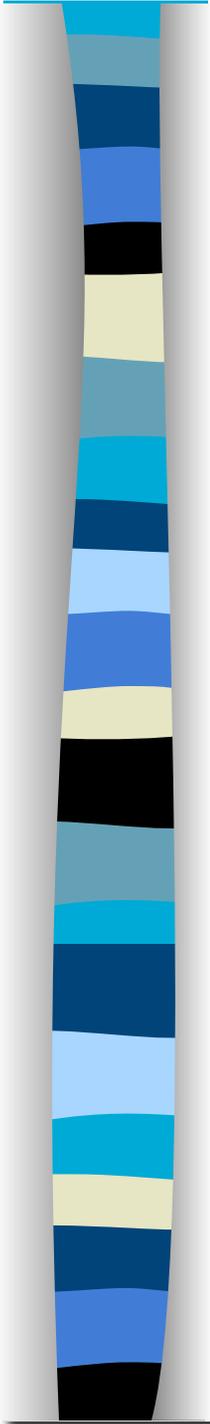
## 40a A&P: Reproductive System

E - 83



## Introduction

**Sexual reproduction** Process by which spermatozoa and oocytes unite to produce offspring for the survival of the species and pass on hereditary traits from one generation to the next.



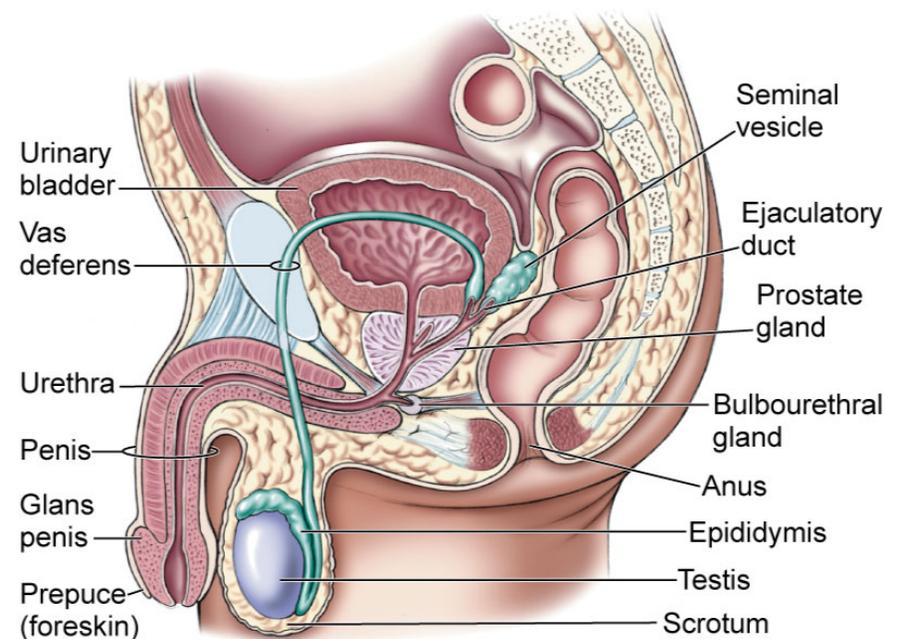
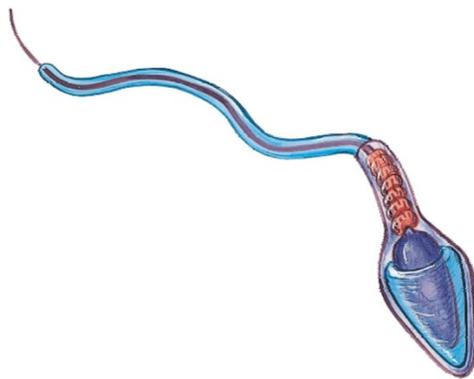
Anatomy

Gonads  
Gametes

# Anatomy

**Gonads** Primary reproductive organs. Testes in men, ovaries in women.

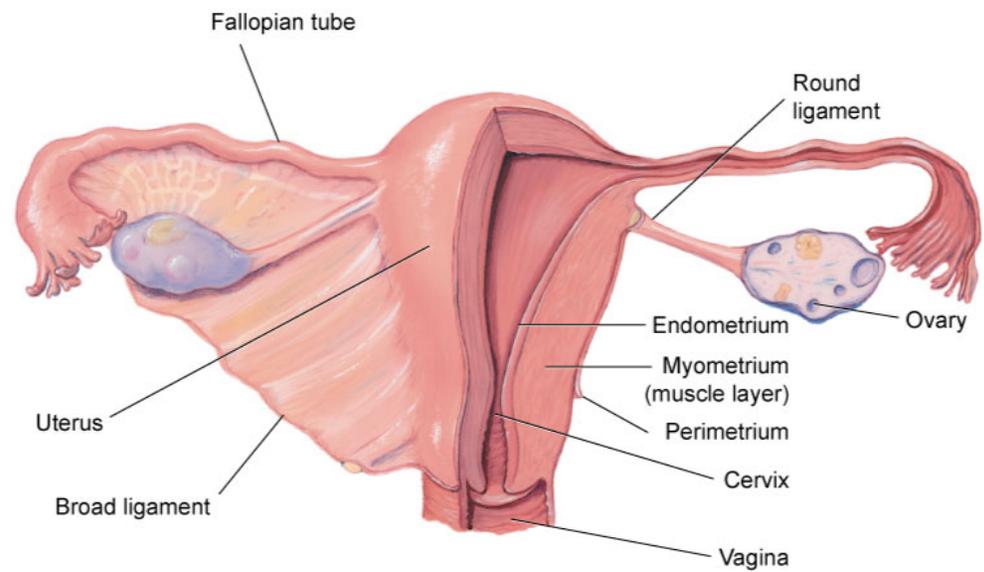
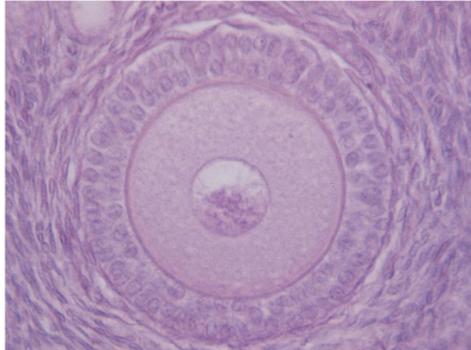
**Gametes** Sex cells. Types: spermatozoa in men, oocytes in women.

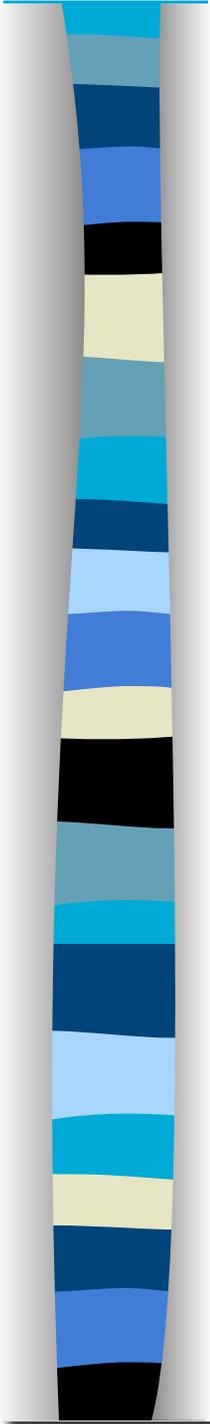


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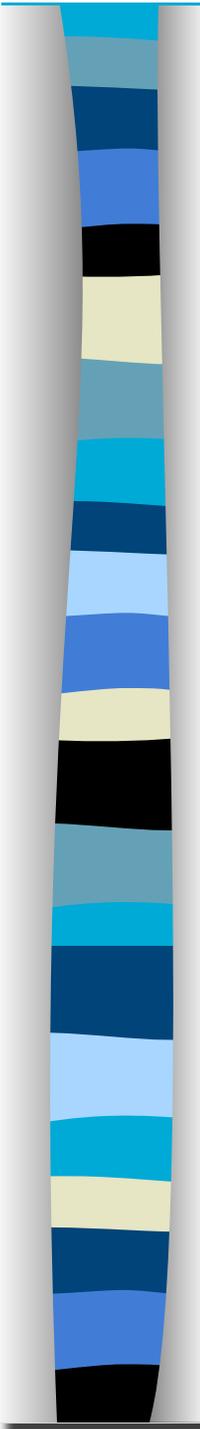
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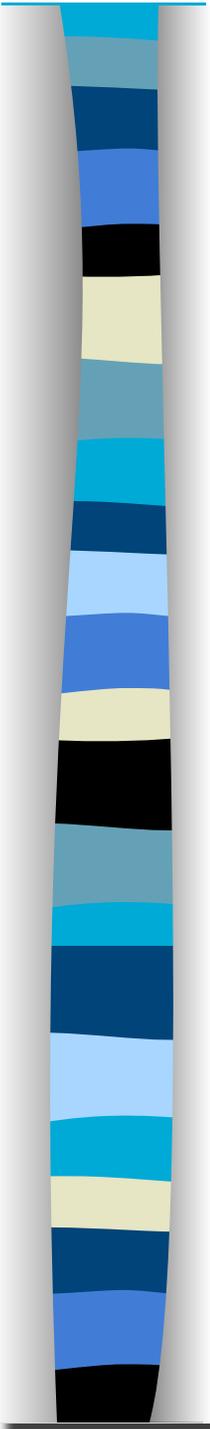
# Physiology

Produce offspring  
Release hormones



## Physiology

**Produce offspring** Process of sexual reproduction that allows new individuals of a species to be produced and genetic material to be passed from one generation to another.



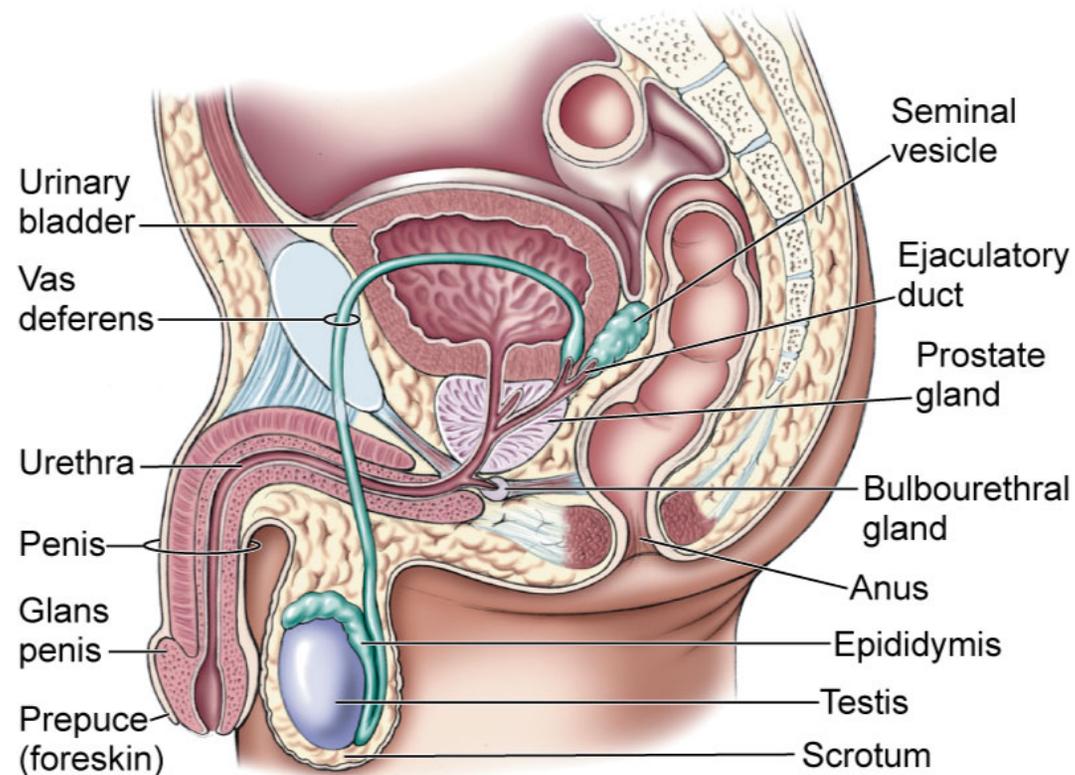
## Physiology

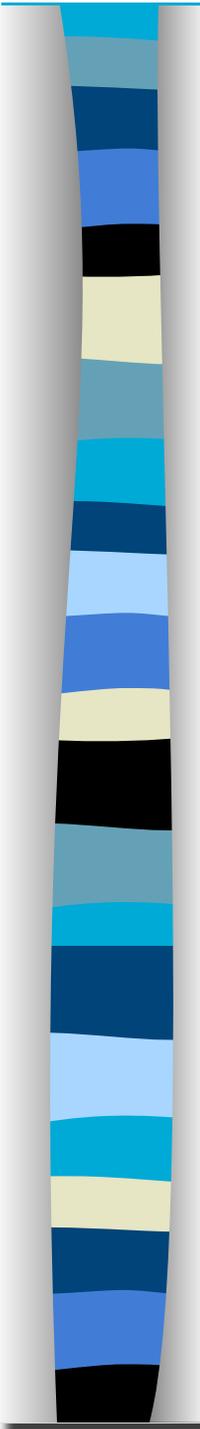
**Release hormones** Process of reproductive structures releasing hormones that regulate reproduction and other body processes.



# Male Reproductive System

**Testes** Paired, oval glands enclosed in the scrotum. Site of sperm and testosterone production. AKA: testicles.

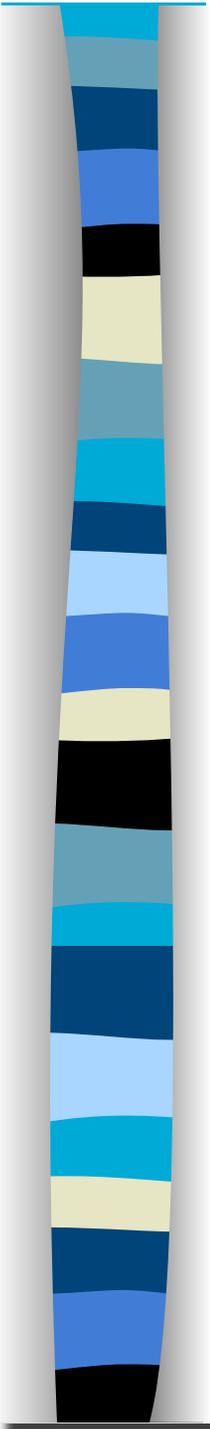




## Male Reproductive System

**Interstitial cells of Leydig** Endocrine cells located in the testes that produce testosterone and DHT.

**Testosterone and DHT** Hormones that are responsible for the development of the male sex organs and secondary male sex characteristic changes that appear at puberty.



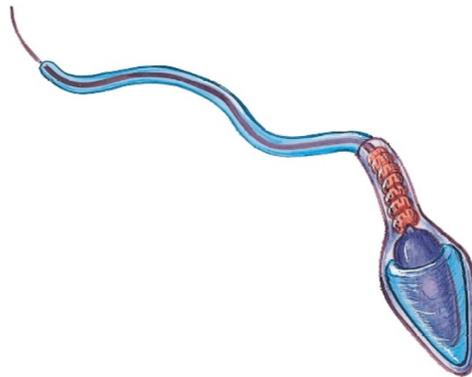
## Male Reproductive System

**Male secondary sex characteristics** Widening of the shoulder, narrowing of the hips. Appearance of facial, axillary, pubic, and chest hair. Enlargement of the larynx which contributes to deepening of the male voice.

# Male Reproductive System

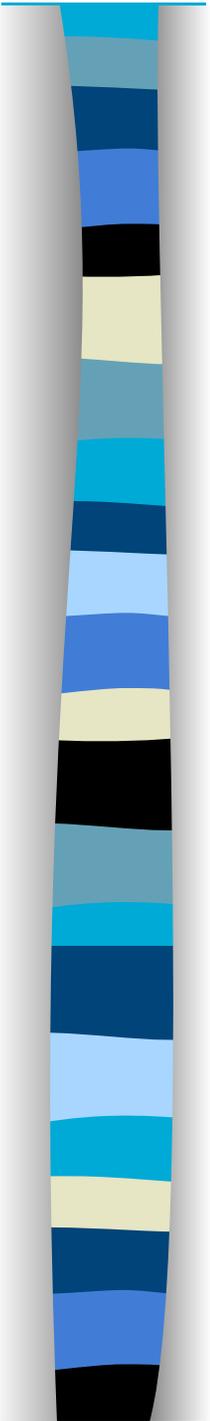
**Sperm (AKA: spermatozoa)** Male sex cells that carry genetic information.

**Spermatogenesis** Sperm cell production that begins during puberty and continues throughout life.



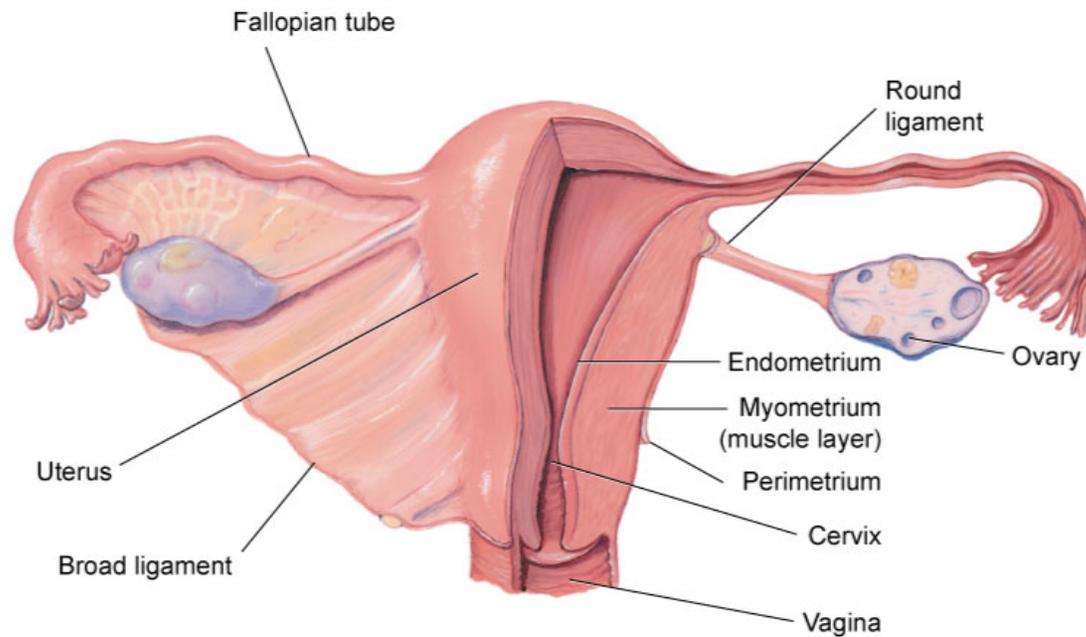
# Female Reproductive System

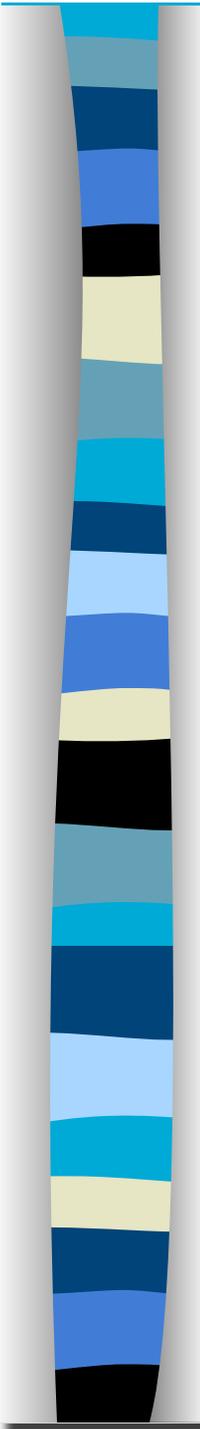
Ovaries  
Oocyte  
Ovum



# Female Reproductive System

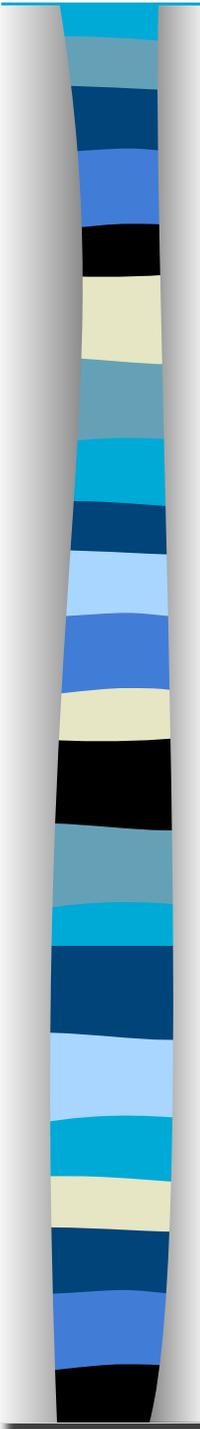
**Ovaries** Pair of almond-shaped organs. Produce hormones such as progesterone, estrogen, relaxin, and inhibin.





## Female Reproductive System

**Progesterone and estrogen** Hormones responsible for the regulation of the menstrual cycle and the development of female secondary sex characteristics.



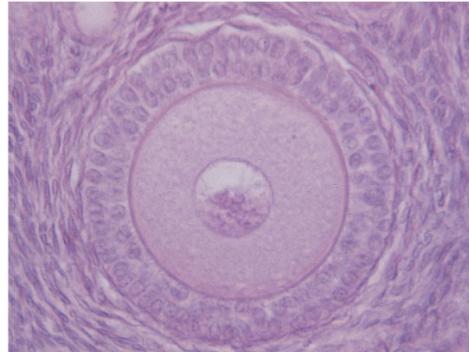
## Female Reproductive System

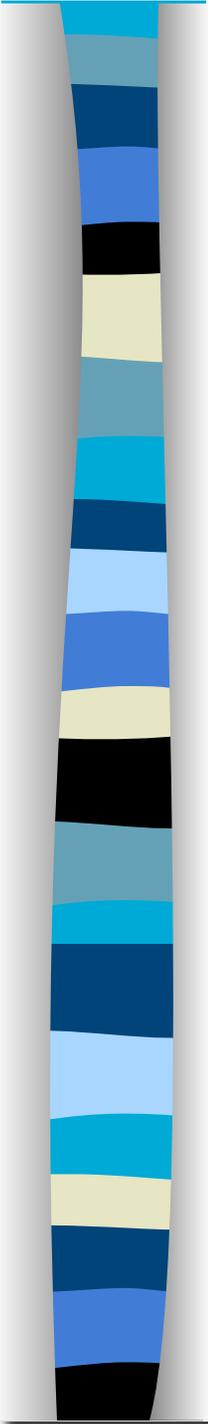
**Female secondary sex characteristics** Distribution of adipose, tissue in the breasts, hips, and abdomen. Wide hips. Pubic and axillary hair.

## Female Reproductive System

**Oocyte (AKA: unfertilized egg)** Female sex cell that carries genetic information. Mature within ovarian follicles. One (or sometimes more) is released during ovulation.

**Ovum (p. ova)** Mature oocyte that has been released by the ovary.





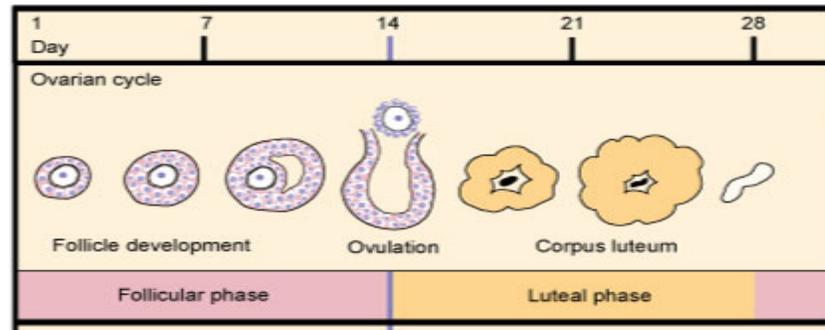
# Menstrual Cycle

Menstruation

Menstrual Cycle  
Follicular phase  
Ovulation  
Luteal phase

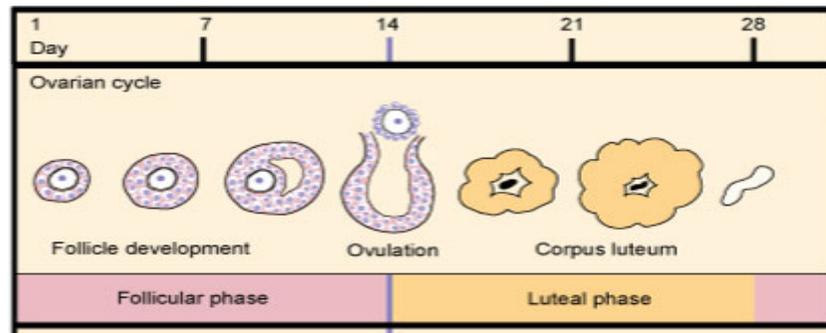
# Menstrual Cycle

**Menstruation** Periodic discharge of built-up endometrial lining from the non-pregnant uterus lasting approximately 5 days. Estrogens and progesterone production is suddenly reduced causing uterine arteries to constrict which in turn causes the death of the internal lining of the uterus. Patchy areas of bleeding develop and small portions of the lining detach



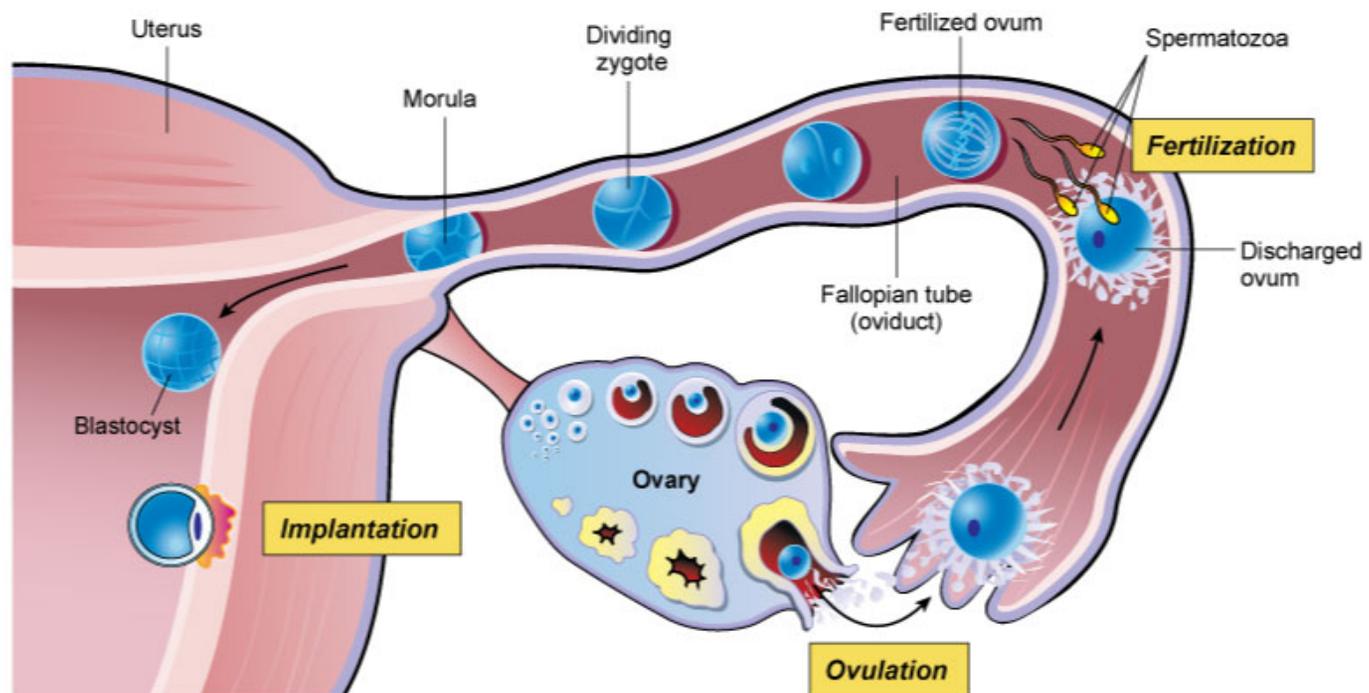
# Menstrual Cycle

**Menstrual cycle (AKA: reproductive or fertility cycle)** A series of hormonal events that begins at puberty continues until menopause unless interrupted by pregnancy, disease, or stress. Occurs about every 28 days



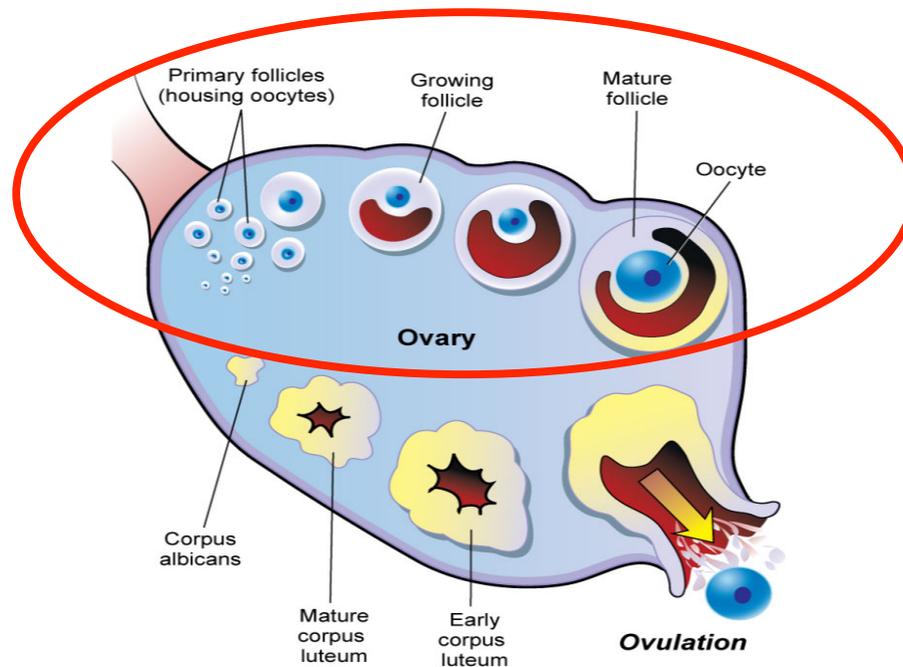
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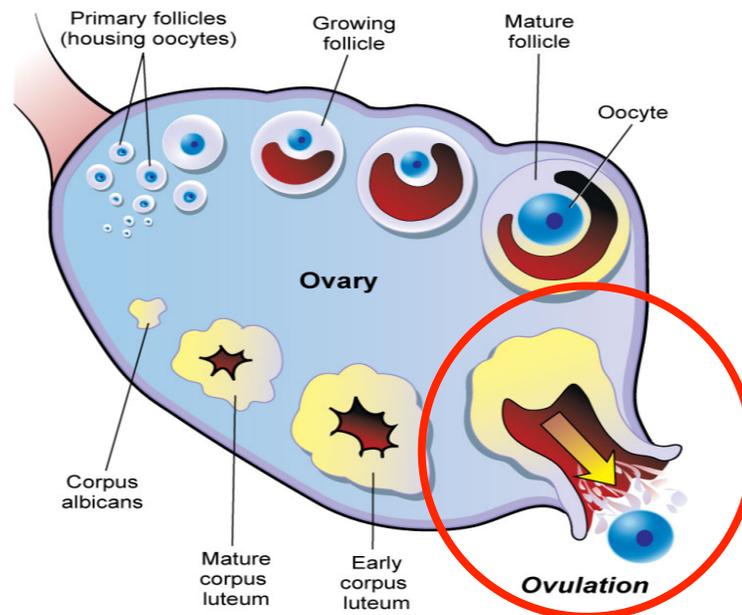
# Menstrual Cycle

**Follicular phase** First phase of the menstrual cycle, days 1-13. Begins with menstruation to shed the uterine lining so that estrogens can prepare the uterine lining for implantation. Also FSH, estrogens, and LH promote the development of ovum in the ovarian follicles.



# Menstrual Cycle

**Ovulation** Second phase of the menstrual cycle, day 14. Surge of LH causes the ovarian follicle to rupture and the ovum to be released. Ovum travels down the fallopian tubes toward the uterus.



# Menstrual Cycle

**Luteal Phase** Third phase of the menstrual cycle, days 15-28. The former ovarian follicle secretes estrogens and progesterone, which maintain the uterine lining for implantation and pregnancy. Progesterone also slightly elevates body temperature, creating an incubating effect. Relaxin relaxes the uterus to facilitate implantation. Inhibin inhibits the secretion of FSH and LH.

