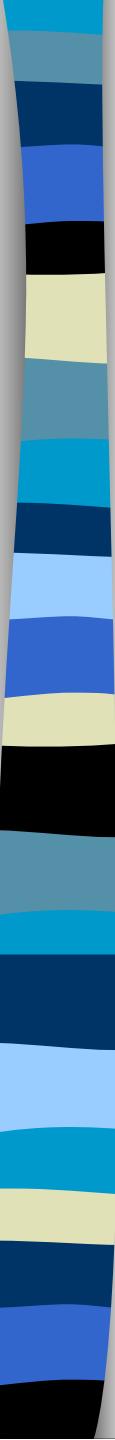




## 40a A&P: Reproductive System



# 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: 173-185)
- 43a Swedish: Outside Massages (Packet A: 57-62)

### Quizzes and Exams:

- 43a Kinesiology Quiz  
(adductor magnus, gracilis, iliopsoas, sartorius, TFL, piriformis, quadratus femoris)
- 44a Quiz (33b, 35a, 36a, 37a/b, 38a, 39a, 40a, 41a/b, 42b, and 43a)
- 46a Exam

### 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
- 41b Business: Get a Job
  - Business Mastery: Chapters 12, 13, 14, and pages 204, 205, 274-276
  - Packet B: 37-41
  - Bring information so that you can complete a handwritten version of your resume and cover letter in class

# Classroom Rules

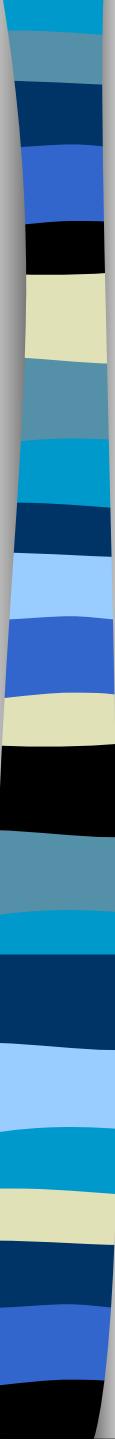
**Punctuality** - everybody's time is precious

- 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.*



**Do you know what you must do to be ready to go into clinic after class 56?**

**Are you making up your absences?**

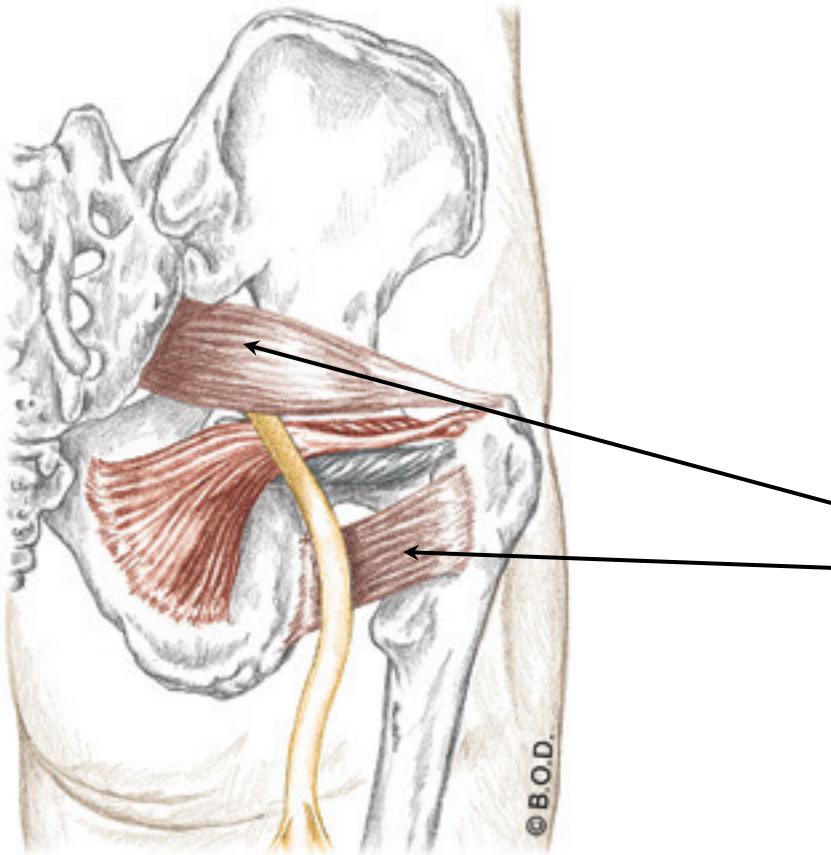
**Are you taking makeup tests and turning in missed assignments so you are passing in all subjects?**

**Not sure? – Check your student portal or email Tila about to verify your status!**

**[tilat@tlcschool.com](mailto:tilat@tlcschool.com)**

# 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.

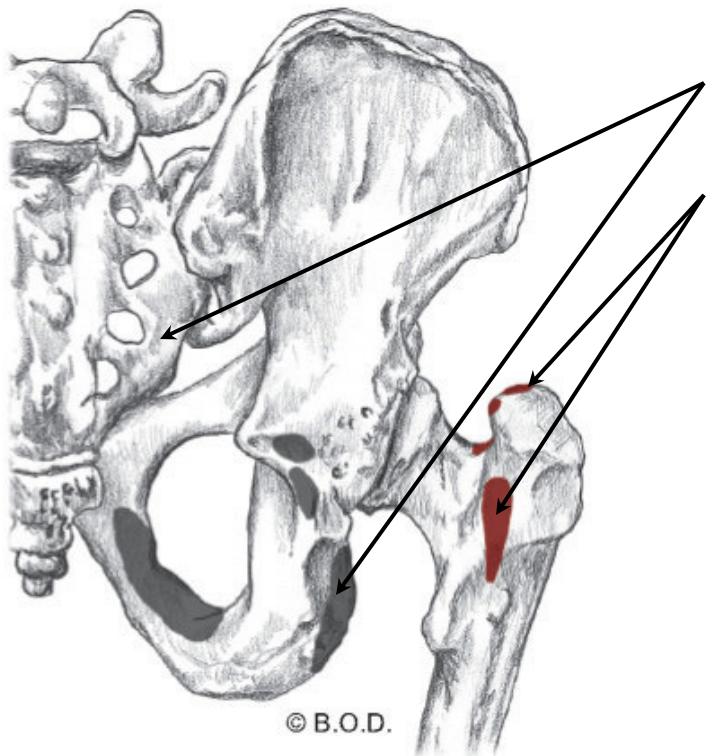
The sciatic nerve travels through the area of the deep lateral rotators.

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

Posterior View

# Lateral Rotators of the Hip

## Trail Guide, Page 328



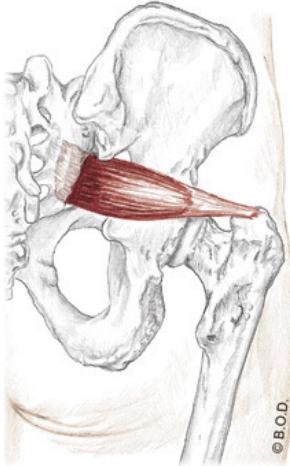
Origins: sacrum and pelvis

Insertions: greater trochanter

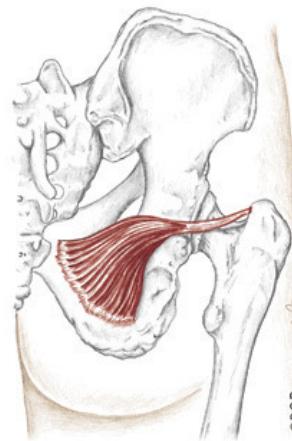
Posterior View

# Lateral Rotators of the Hip

## Trail Guide, Page 328



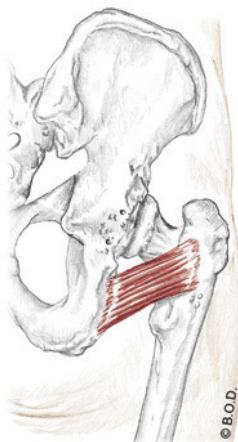
Piriformis  
(posterior view)



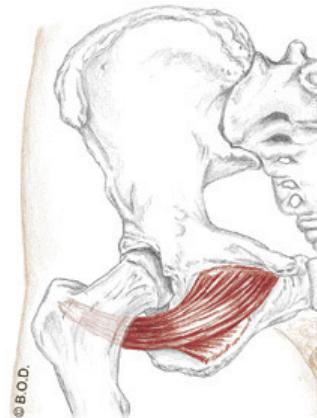
Obturator Internus  
(posterior view)



Gemellus Superior  
(posterior view)



Quadratus Femoris  
(posterior view)



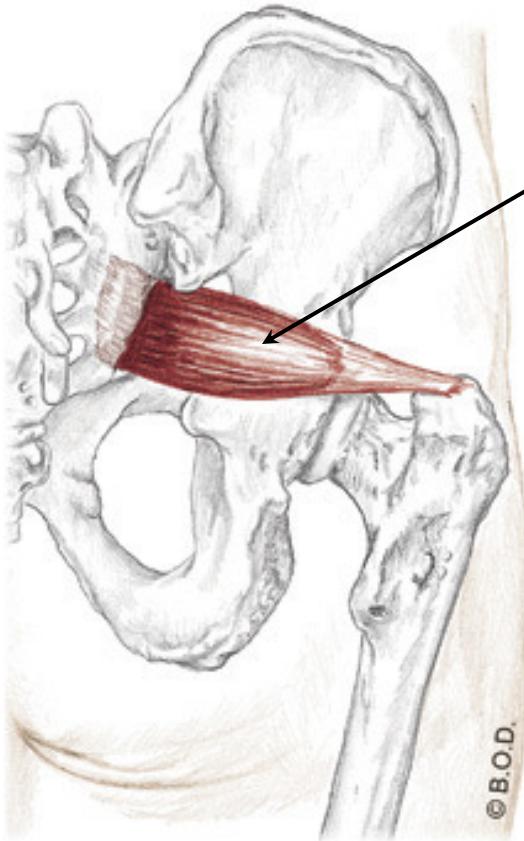
Obturator Externus  
(anterior view)



Gemellus Inferior  
(posterior view)

# Piriformis

## Trail Guide, Page 328



**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*.

Posterior View

# Piriformis, page 328

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

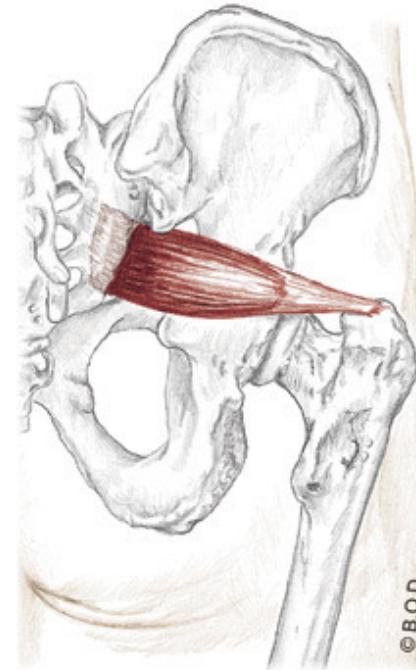
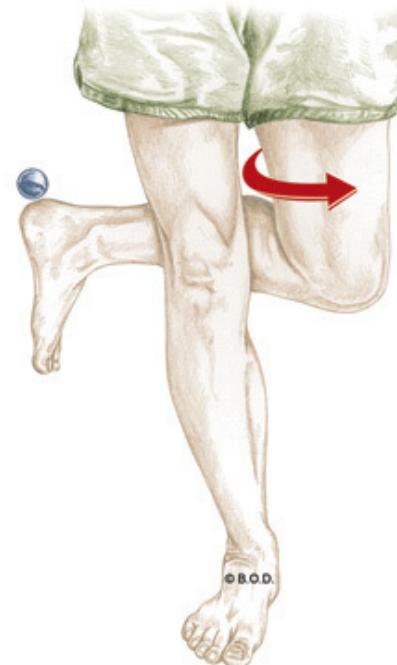
**Abduct** the hip (coxal joint) when it is flexed

Anterior surface of sacrum

**O**

Superior aspect of greater trochanter

**I**



# Piriformis, page 328

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

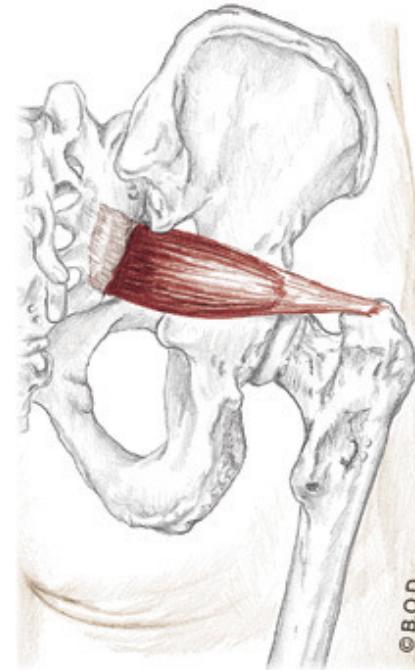
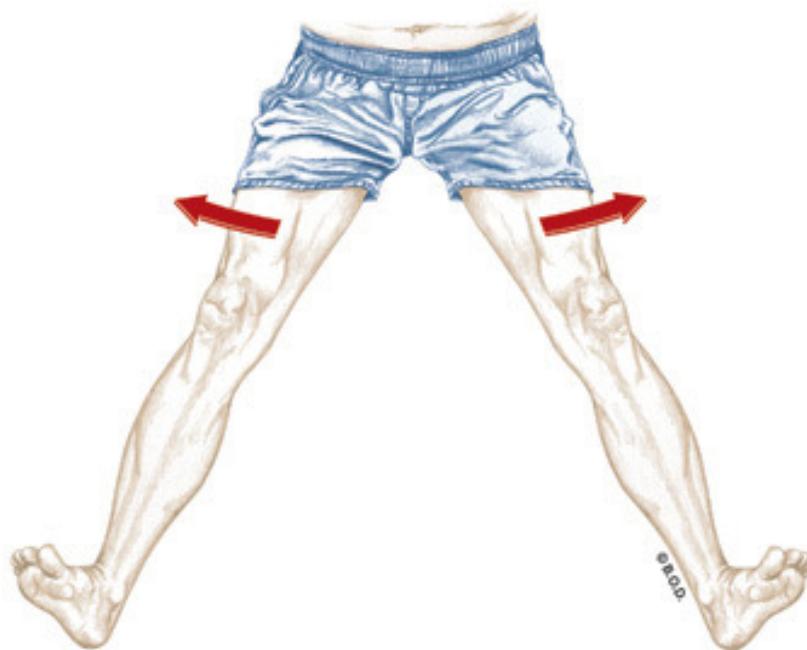
**Abduct** the hip (coxal joint) when it is flexed

Anterior surface of sacrum

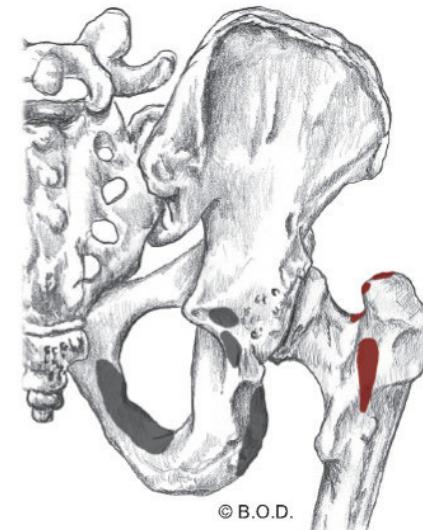
**O**

Superior aspect of greater trochanter

**I**



Posterior View



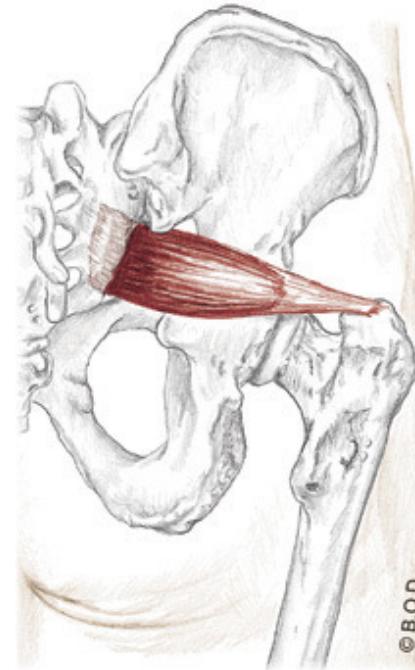
# Piriformis, page 328

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

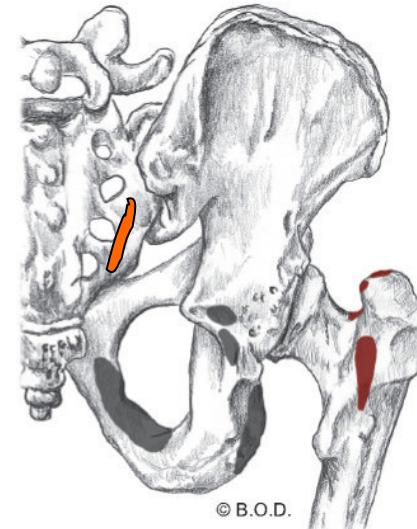
Abduct the hip (coxal joint) when it is flexed

**O** Anterior surface of sacrum

**I** Superior aspect of greater trochanter



Posterior View



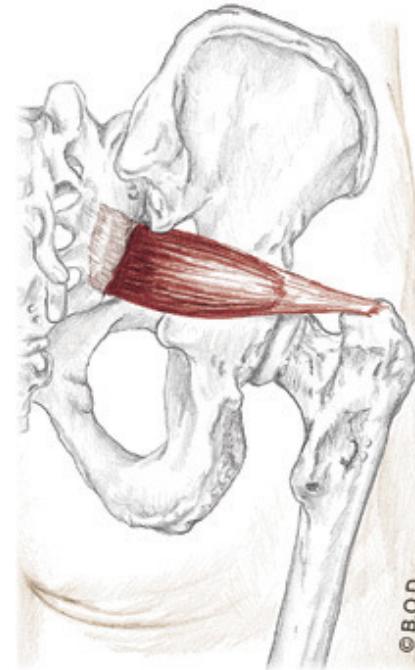
# Piriformis, page 328

**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

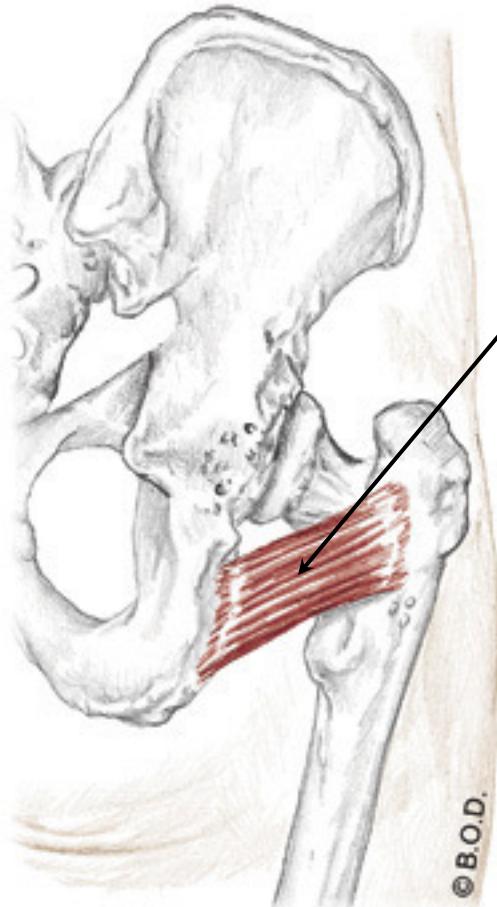


Posterior View



# Quadratus Femoris

Trail Guide, Page 328



Posterior View

**Quadratus Femoris** originates on the lateral border of the ischial tuberosity.

*Quadratus* means *four-sided*.

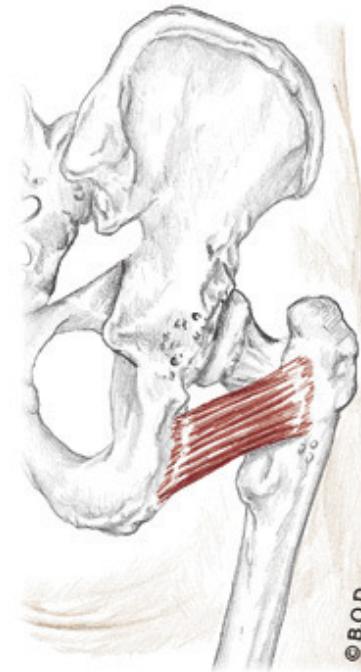
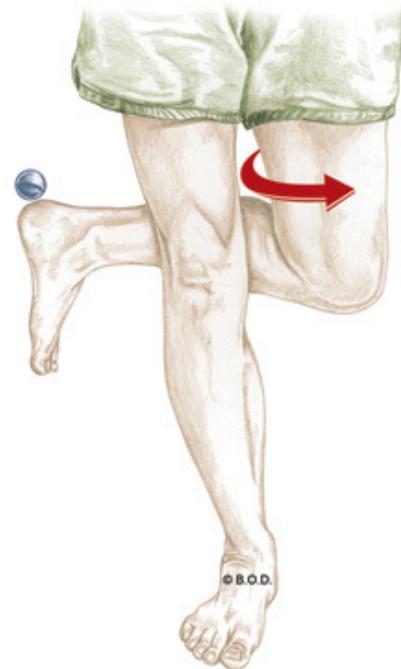
*Femoris* means *femur*.

# Quadratus Femoris, page 328

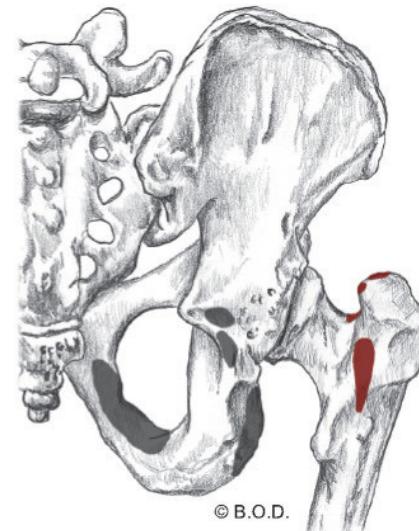
**A** Laterally rotate the hip (coxal joint)

**O** Lateral border of ischial tuberosity

**I** Intertrochanteric crest, between the greater and lesser trochanters



Posterior View

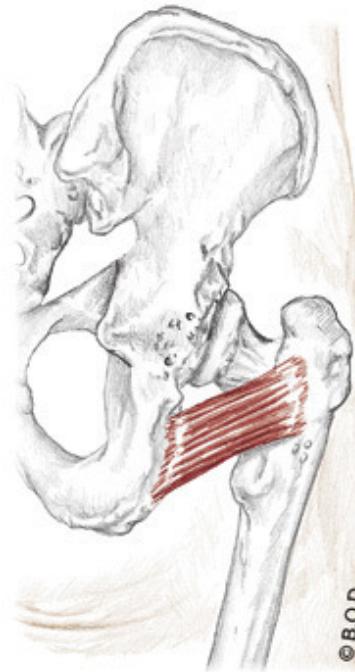


# Quadratus Femoris, page 328

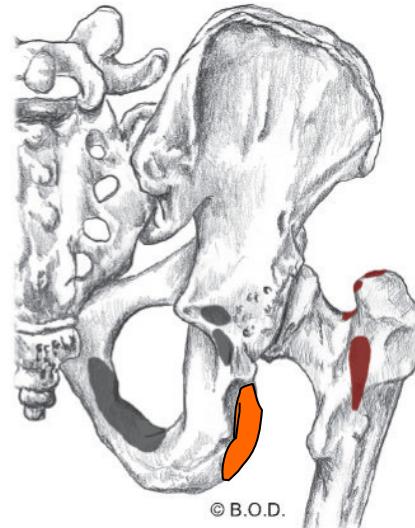
**A** Laterally rotate the hip (coxal joint)

**O** Lateral border of ischial tuberosity

**I** Intertrochanteric crest, between the greater and lesser trochanters



Posterior View

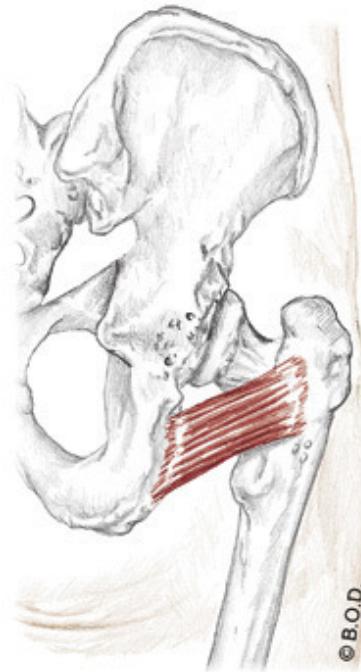


# Quadratus Femoris, page 328

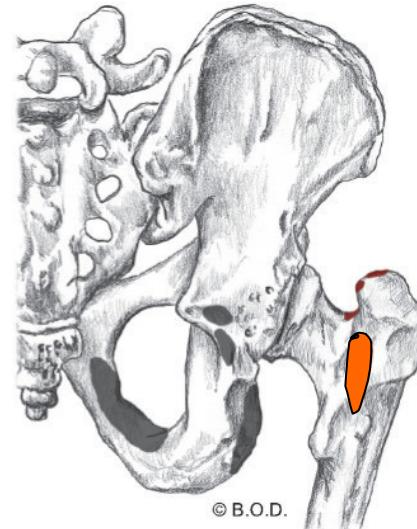
**A** Laterally rotate the hip (coxal joint)

**O** Lateral border of ischial tuberosity

**I** Intertrochanteric crest, between the greater and lesser trochanters



Posterior View





## 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.

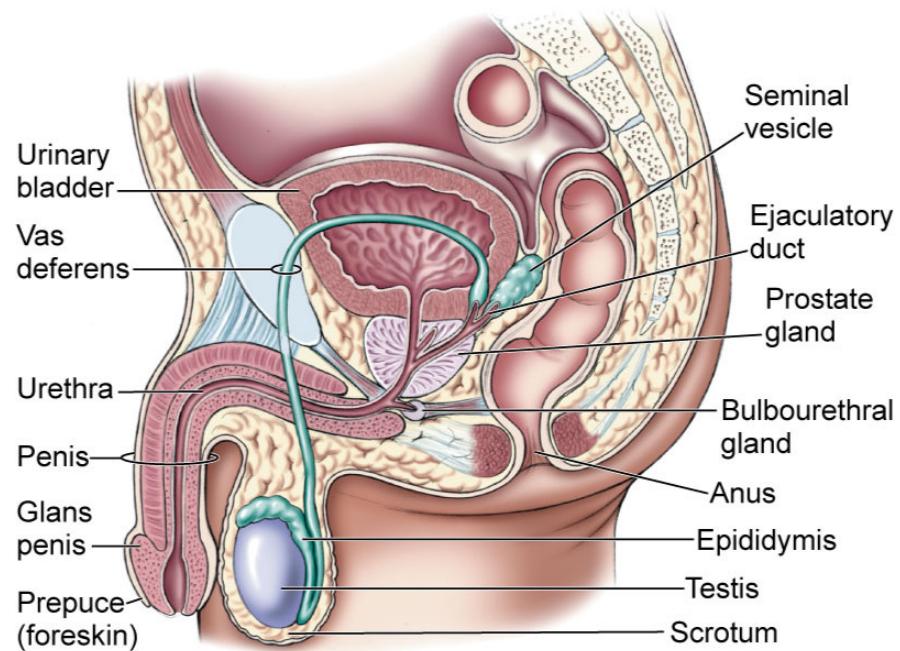
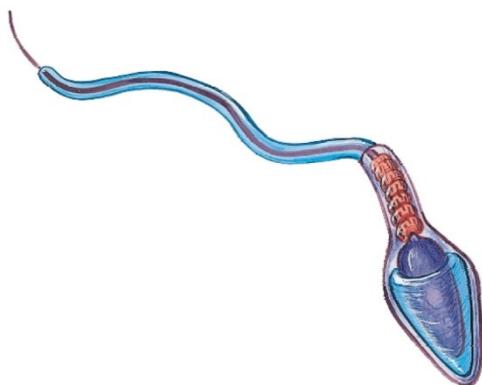
# Anatomy

Gonads  
Gametes

# Anatomy

**Gonads** Primary reproductive organs. Testes and ovaries.

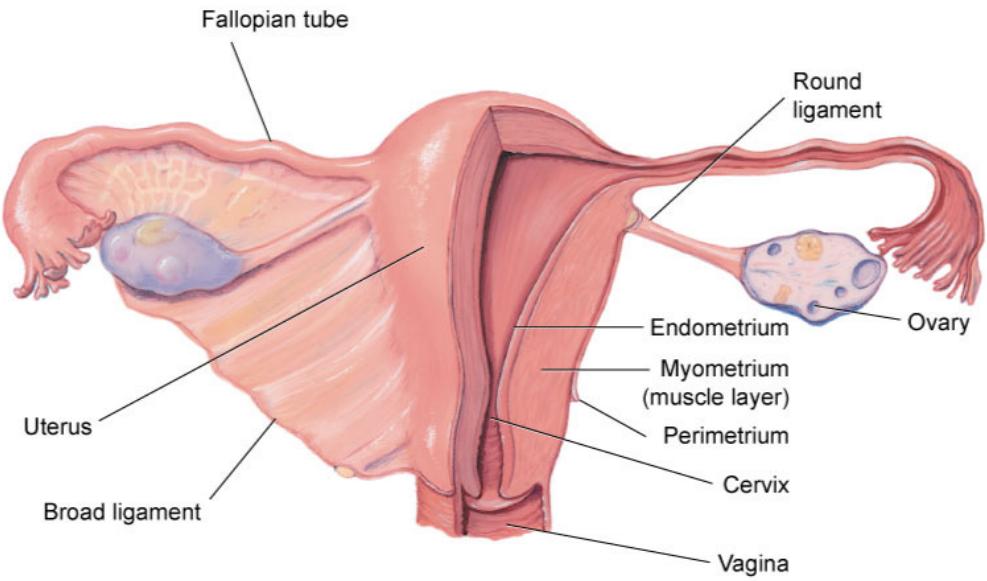
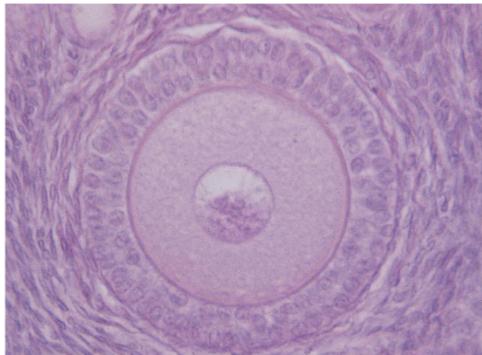
**Gametes** Sex cells. Types: spermatozoa and oocytes.



# Anatomy

**Gonads** Primary reproductive organs. Testes and ovaries.

**Gametes** Sex cells. Types: spermatozoa and oocytes.



# 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

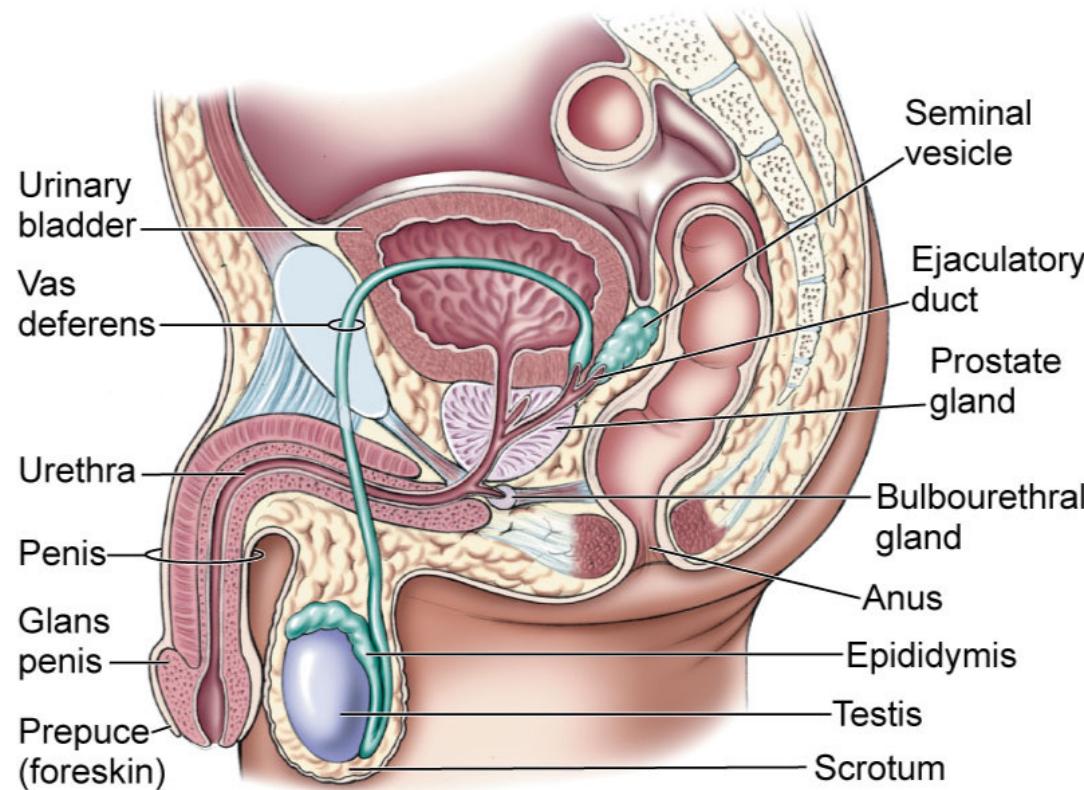
**Release hormones** Process of reproductive structures releasing hormones that regulate reproduction and other body processes.

# The Reproductive System

Testes  
Sperm  
Spermatogenesis

# The Reproductive System

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



# The 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 sex organs and secondary sex characteristic changes that appear at puberty.

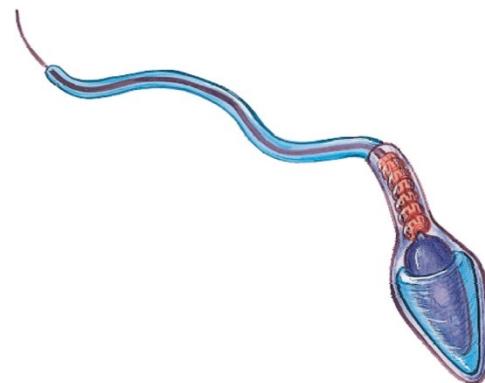
# The Reproductive System

**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 voice.

# The Reproductive System

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

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

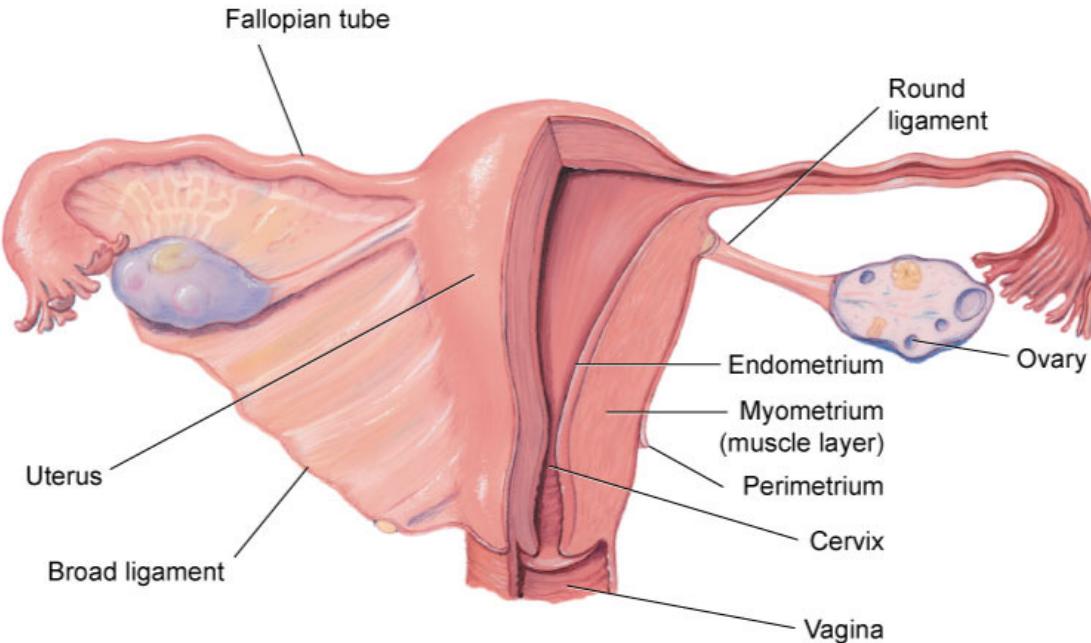


# The Reproductive System

Ovaries  
Oocyte  
Ovum

# The Reproductive System

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



# The Reproductive System

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

# The Reproductive System

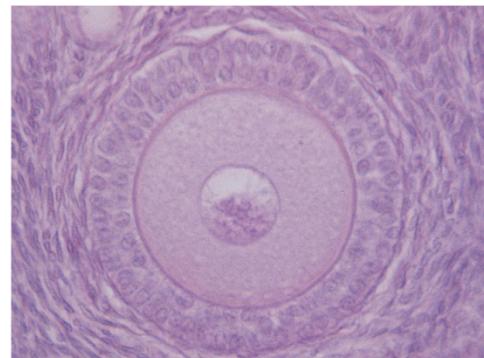
**Secondary sex characteristics** Distribution of adipose, tissue in the breasts, hips, and abdomen. Wide hips. Pubic and axillary hair.

# The Reproductive System

**Oocyte (AKA: unfertilized egg)** 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.



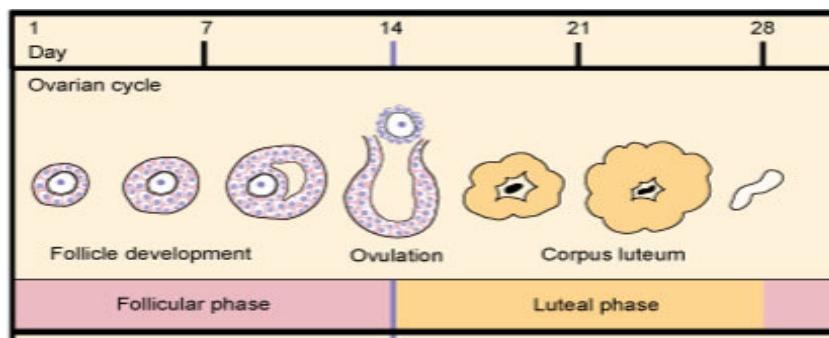
# Menstrual Cycle

Menstruation

Menstrual Cycle  
Follicular phase  
Ovulation  
Luteal phase

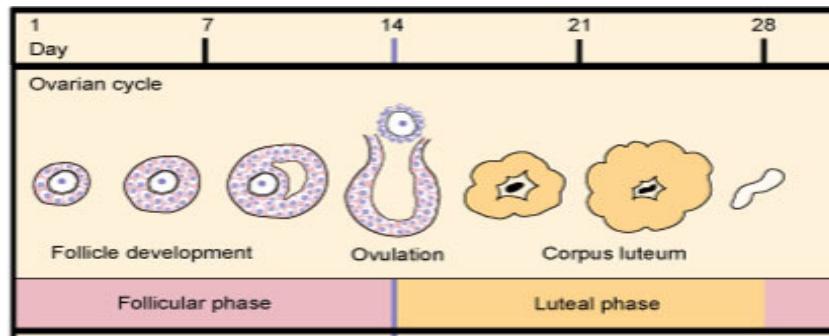
# Menstrual Cycle

**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



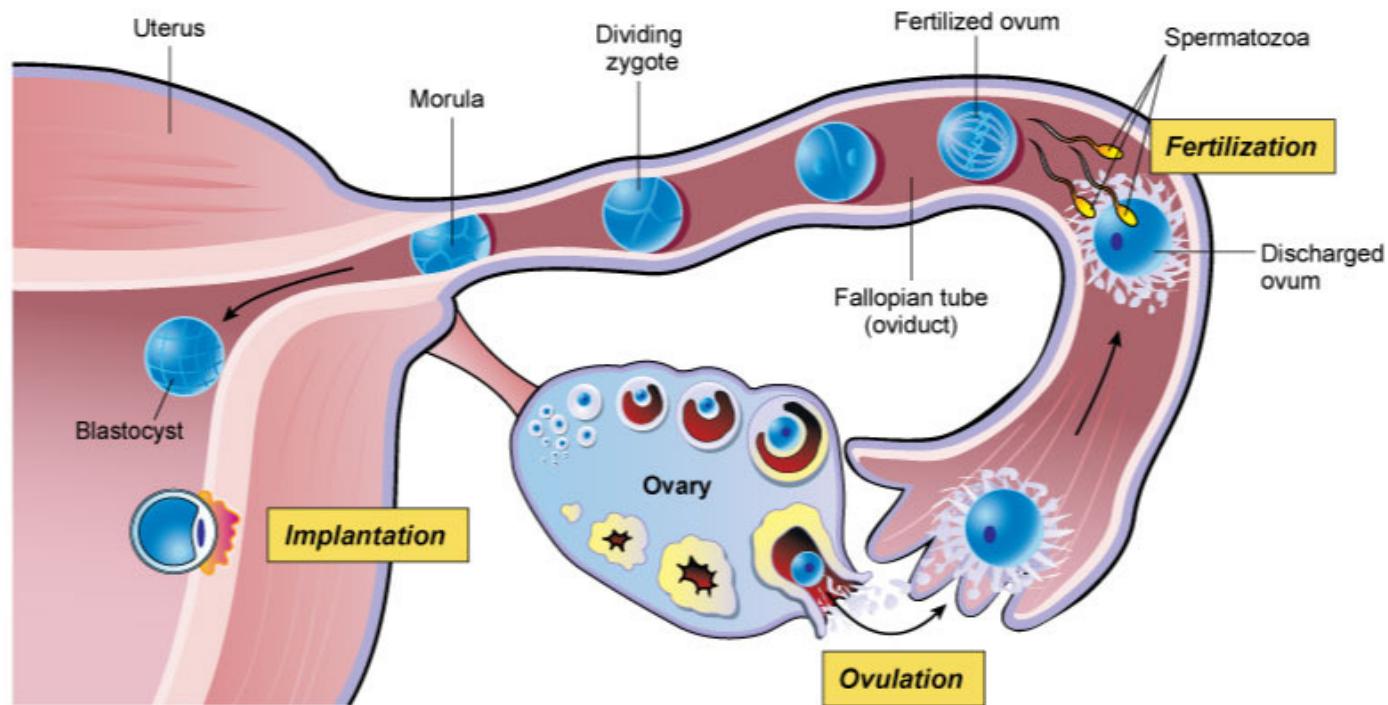
# Menstrual Cycle

**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



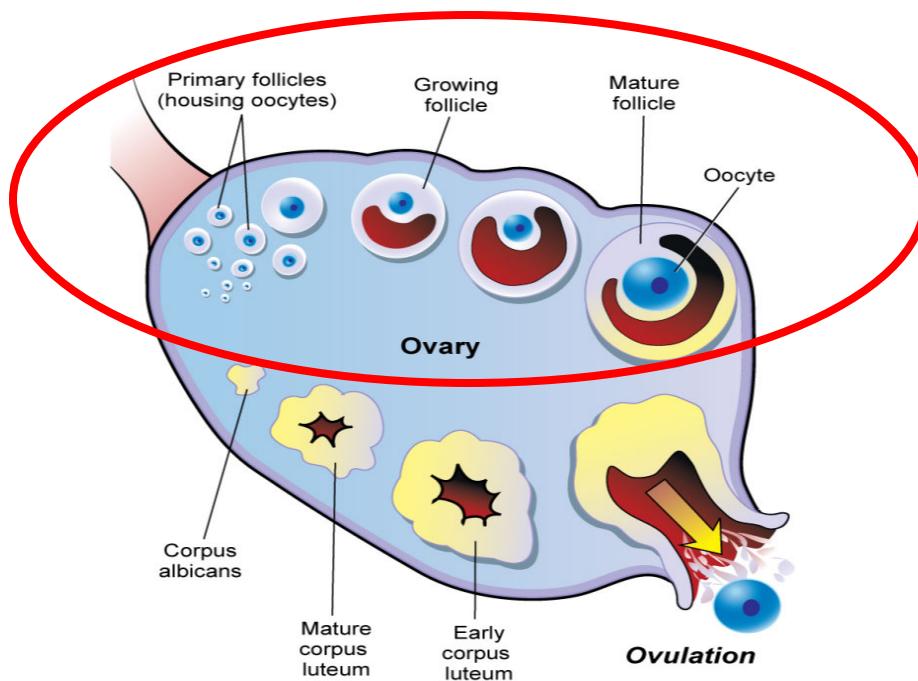
# Menstrual Cycle

**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



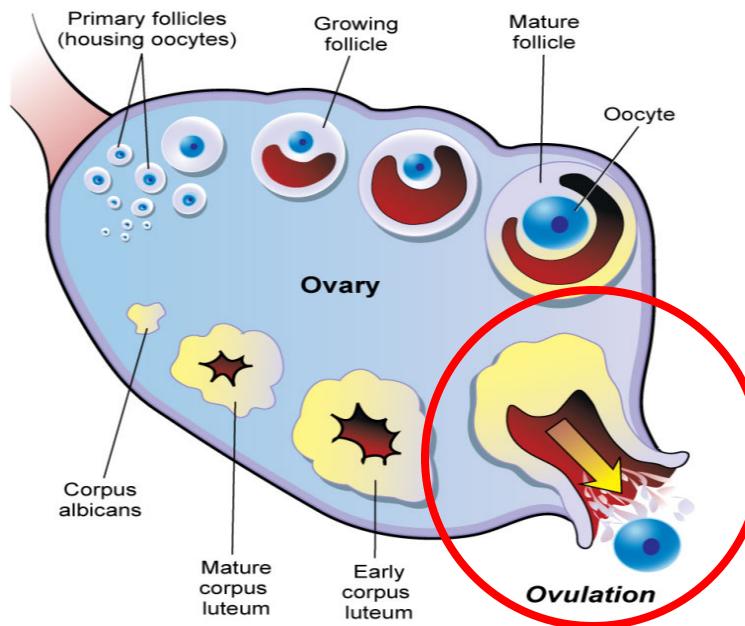
# Menstrual Cycle

**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.



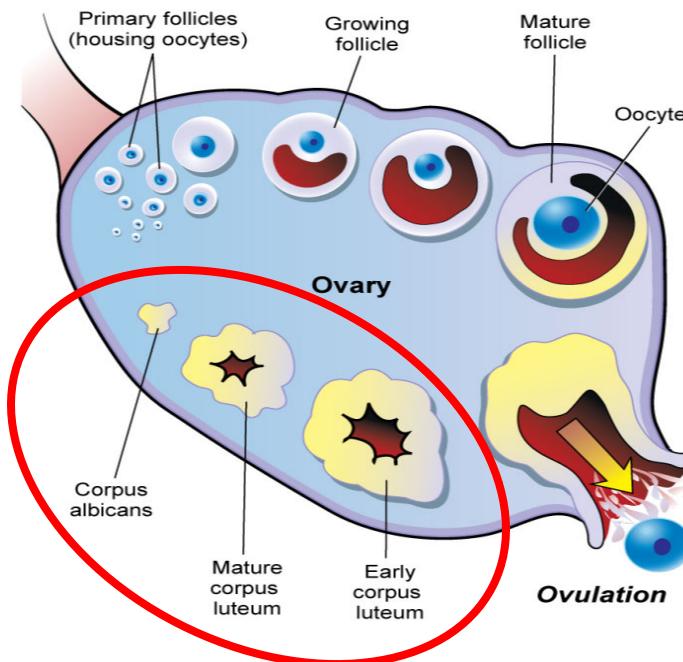
# Menstrual Cycle

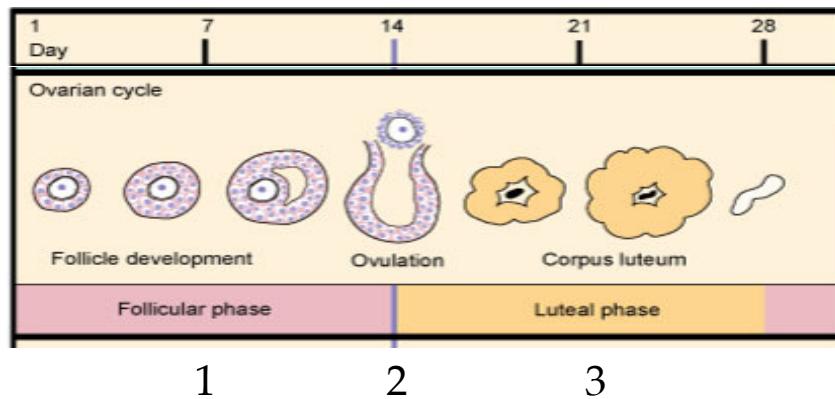
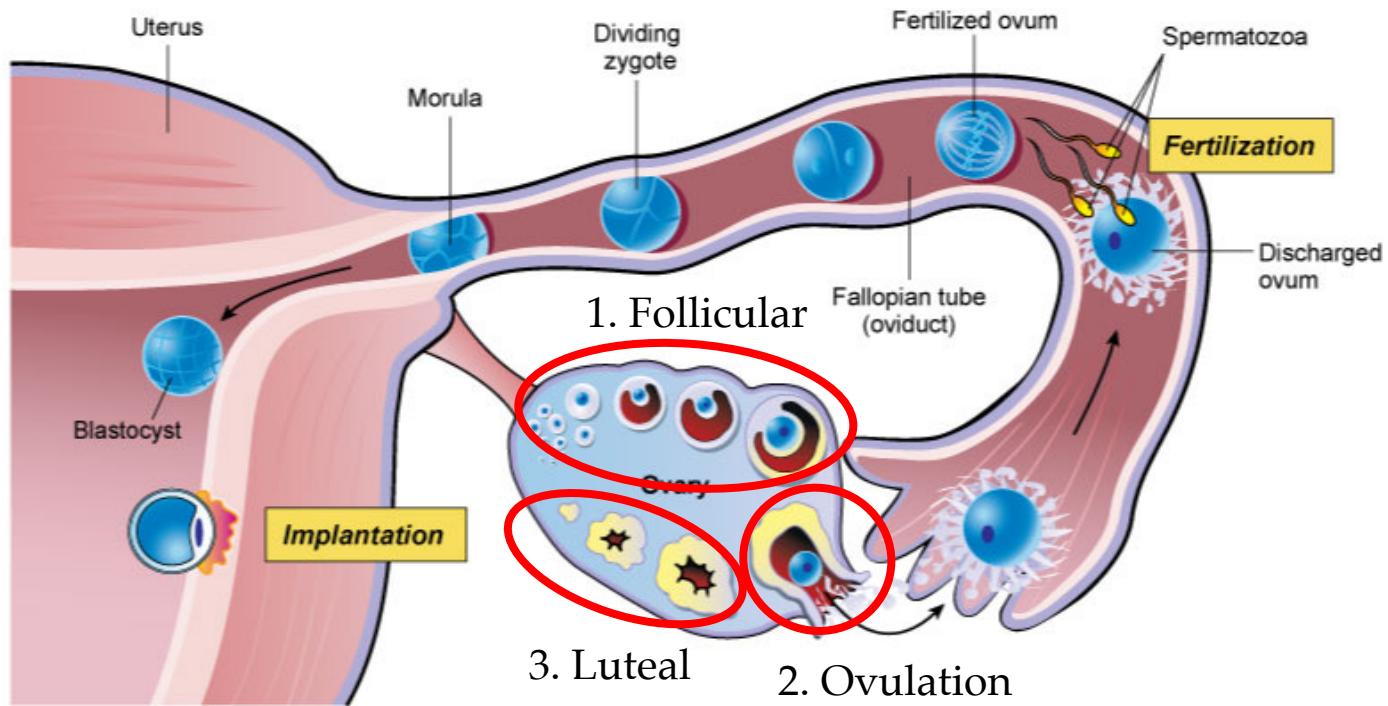
**Ovulation** Second phase of the menstrual cycle, day 14. Surge of LH causes the ovarian follicle to rupture and the ovum to be released. Ovum travels down the fallopian tubes toward the uterus.



# 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.







## 40a A&P: Reproductive System

*IF time allows, start the 41a lecture –  
Reproductive System Pathology*