



40a A&P: Reproductive System



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

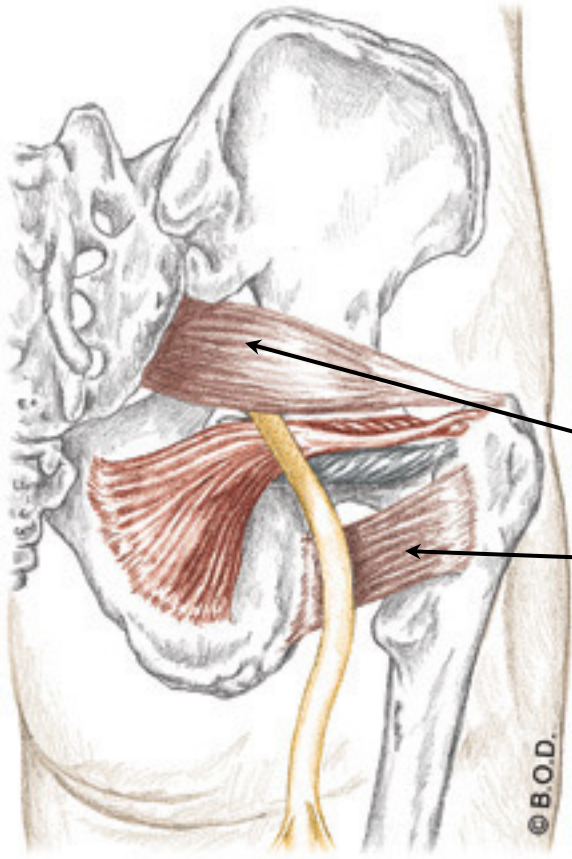
The following are not allowed:

- 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.

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.

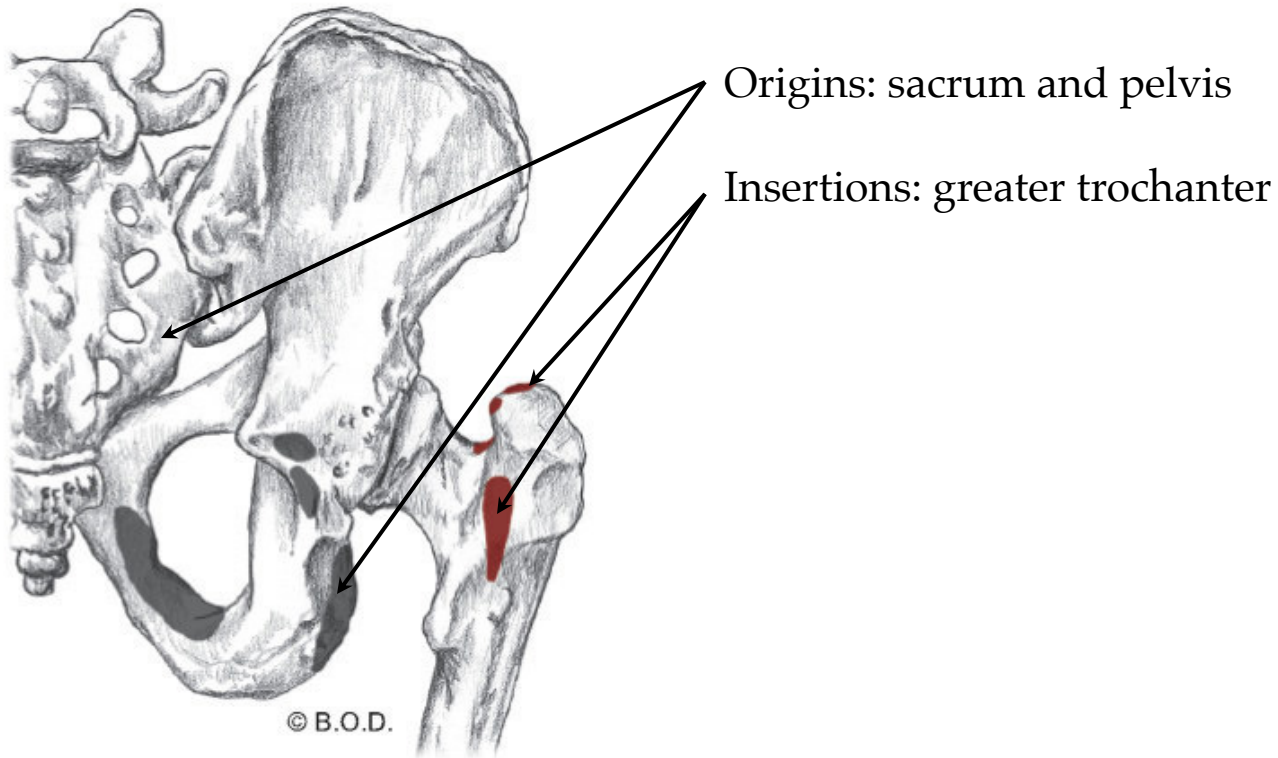
The sciatic nerve travels through the area of the deep lateral rotators.

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

Posterior View

Lateral Rotators of the Hip

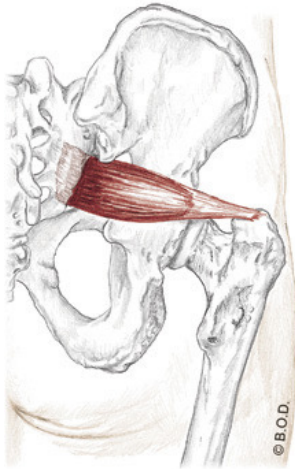
Trail Guide, Page 328



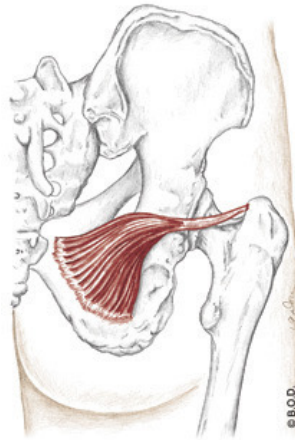
Posterior View

Lateral Rotators of the Hip

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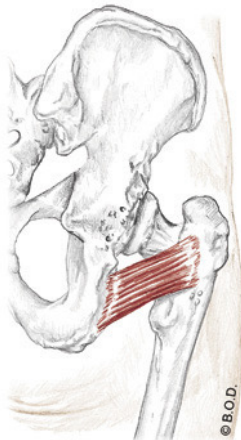
Piriformis
(posterior view)



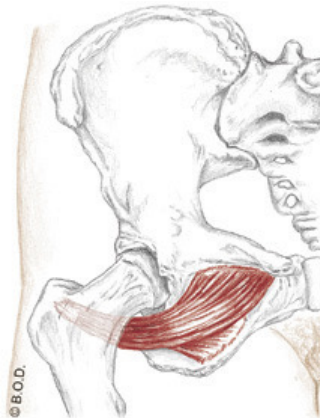
Obturator Internus
(posterior view)



Gemellus Superior
(posterior view)



Quadratus Femoris
(posterior view)



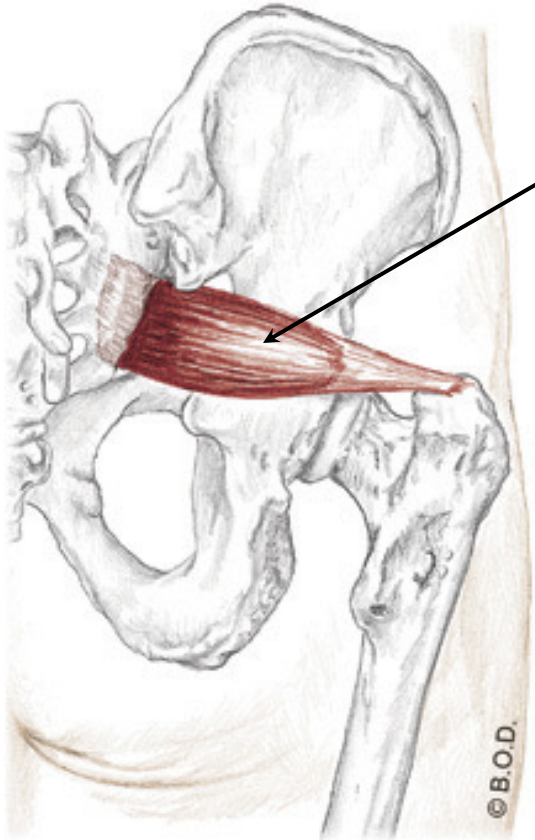
Obturator Externus
(anterior view)



Gemellus Inferior
(posterior view)

Piriformis

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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)

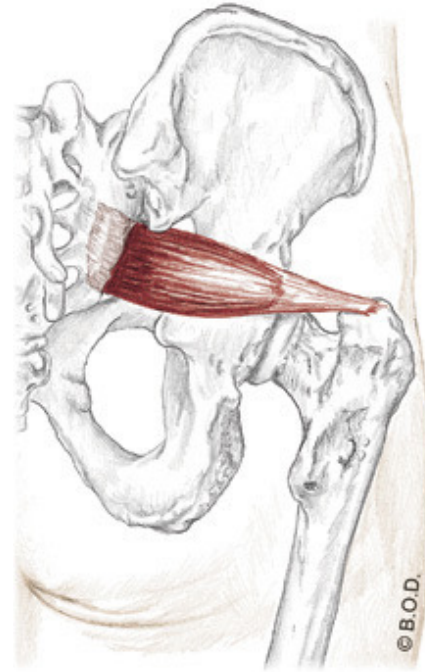
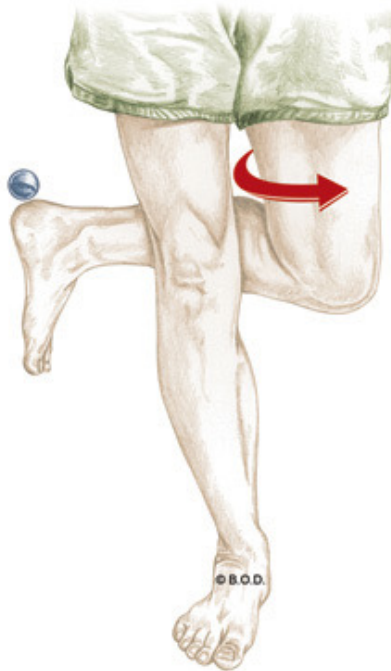
Abduct the hip (coxal joint) when it is flexed

Anterior surface of sacrum

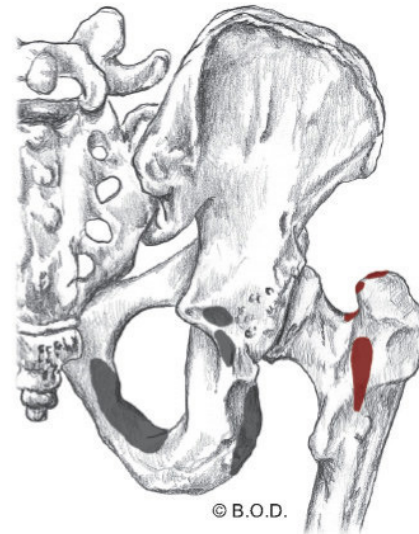
O

Superior aspect of greater trochanter

I



Posterior View



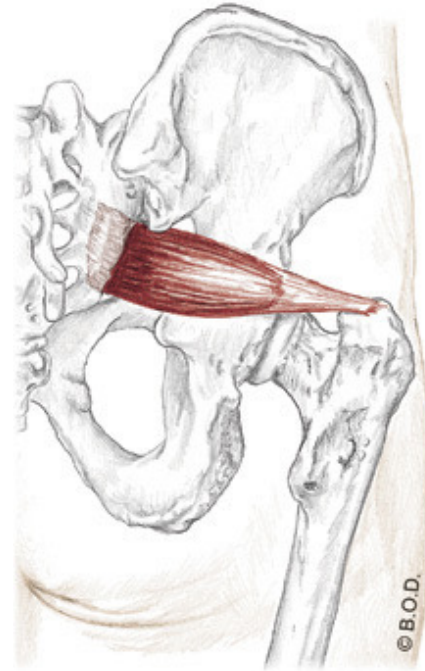
Piriformis, page 328

A Laterally rotate the hip (coxal joint)

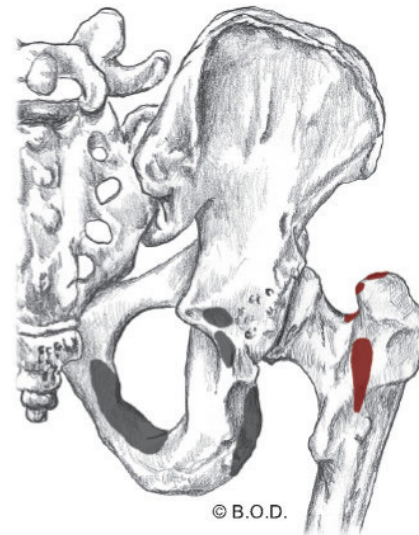
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I Superior aspect of greater trochanter



Posterior View



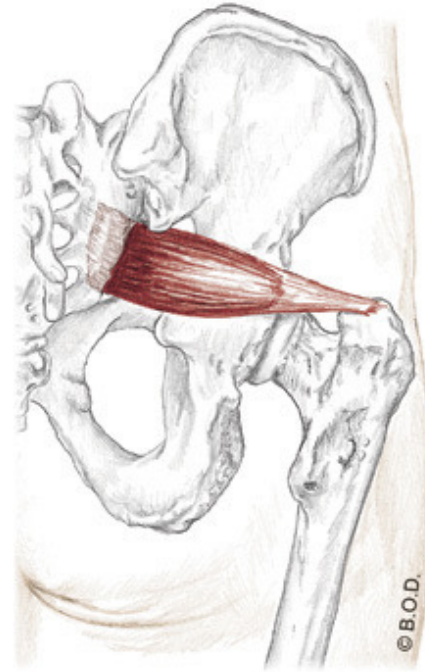
Piriformis, page 328

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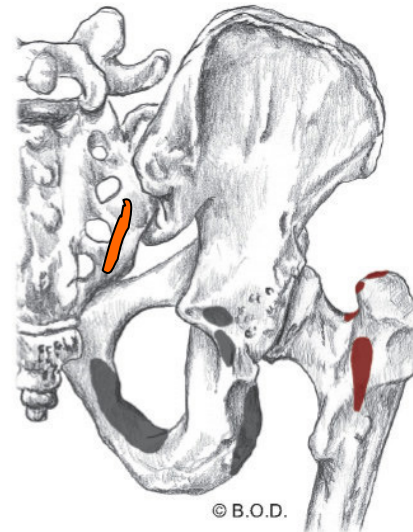
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Posterior View



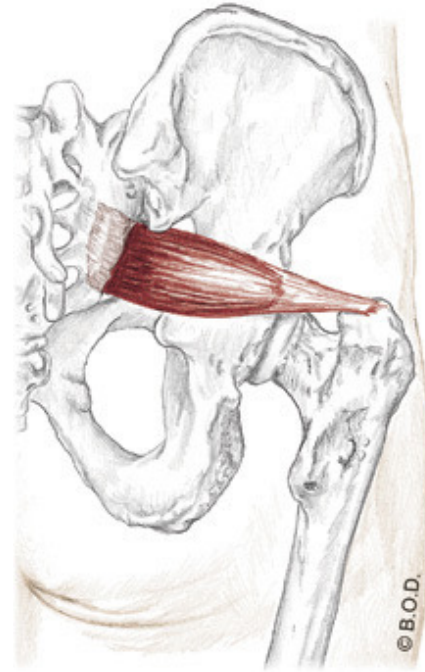
Piriformis, page 328

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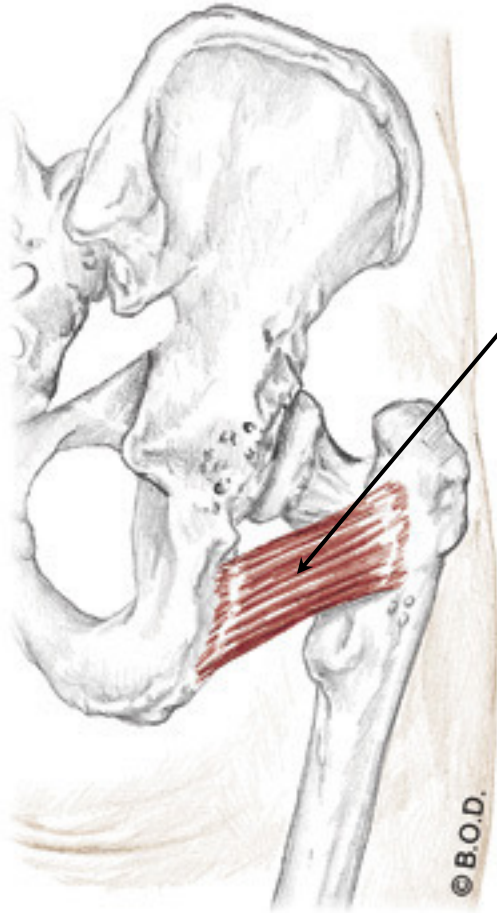


Posterior View



Quadratus Femoris

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Posterior View

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

Quadratus means *four-sided*.

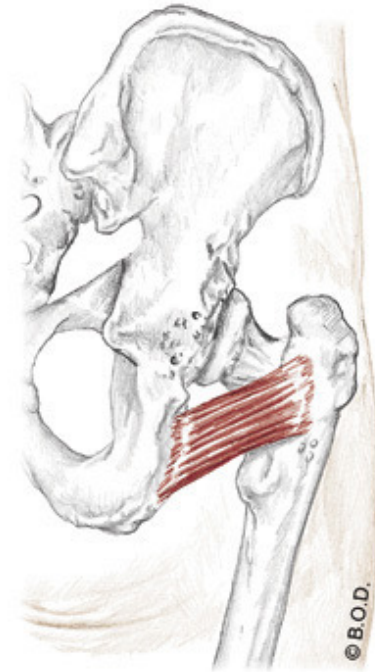
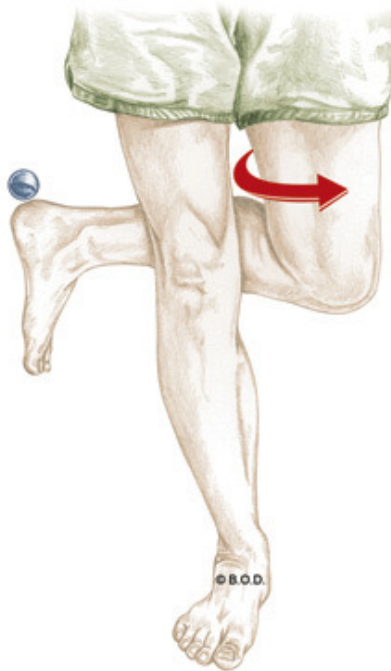
Femoris means *femur*.

Quadratus Femoris, page 328

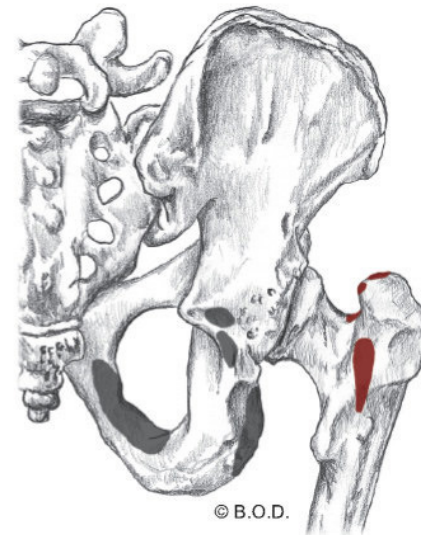
A Laterally rotate the hip (coxal joint)

O Lateral border of ischial tuberosity

I Intertrochanteric crest, between the greater and lesser trochanters



Posterior View

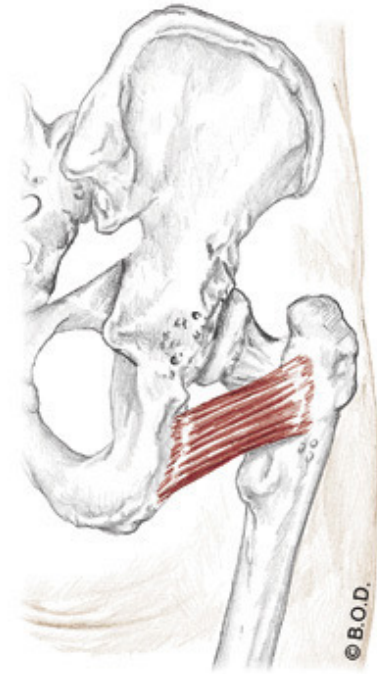


Quadratus Femoris, page 328

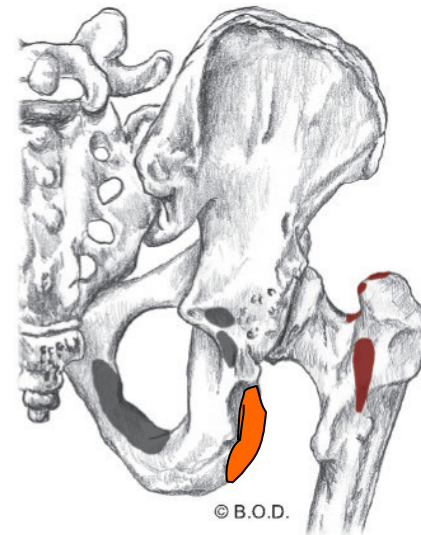
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Posterior View

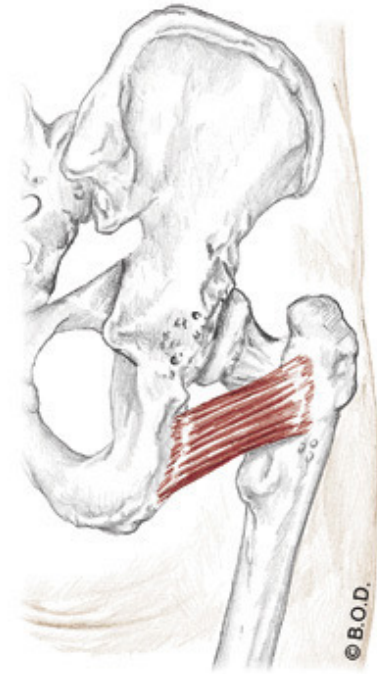


Quadratus Femoris, page 328

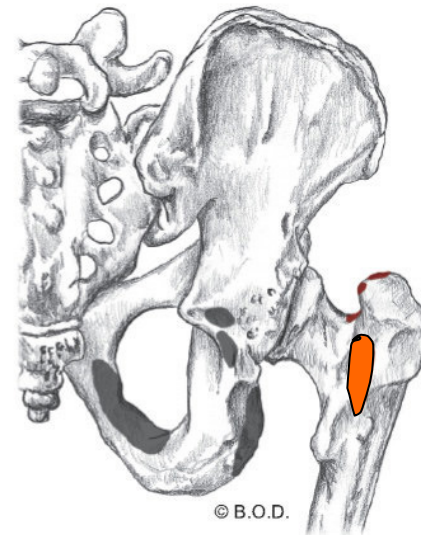
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Posterior View





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.



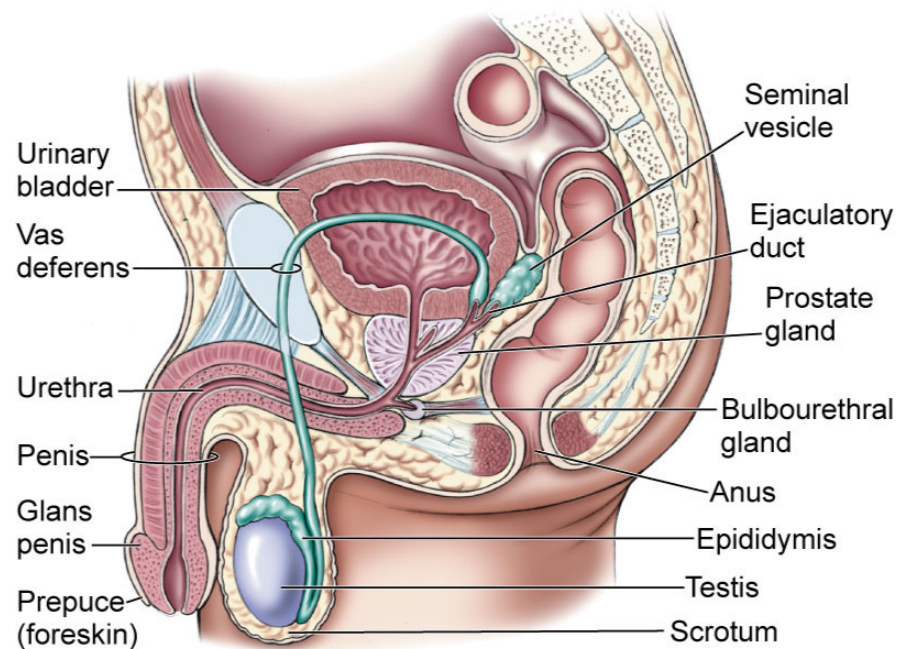
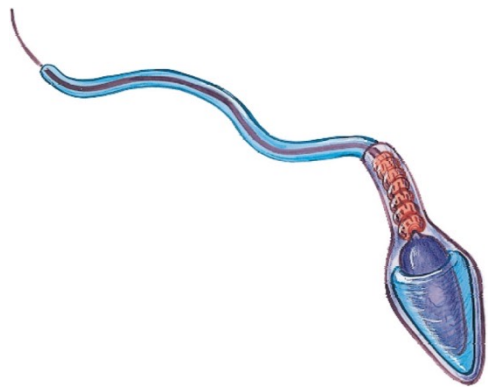
Anatomy

Gonads
Gametes

Anatomy

Gonads Primary reproductive organs. Testes and ovaries.

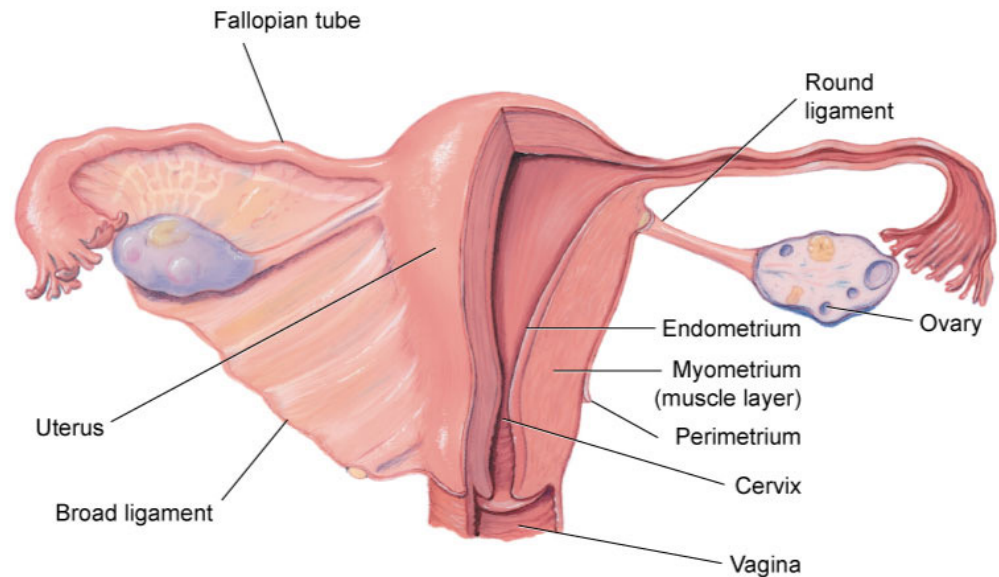
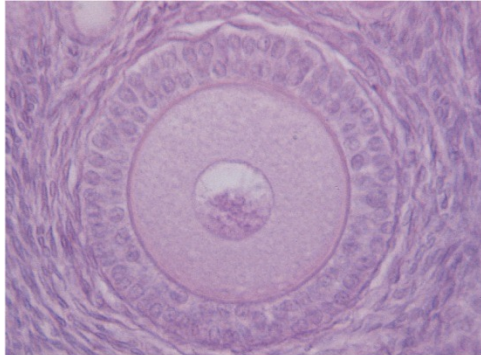
Gametes Sex cells. Types: spermatozoa and oocytes.



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.

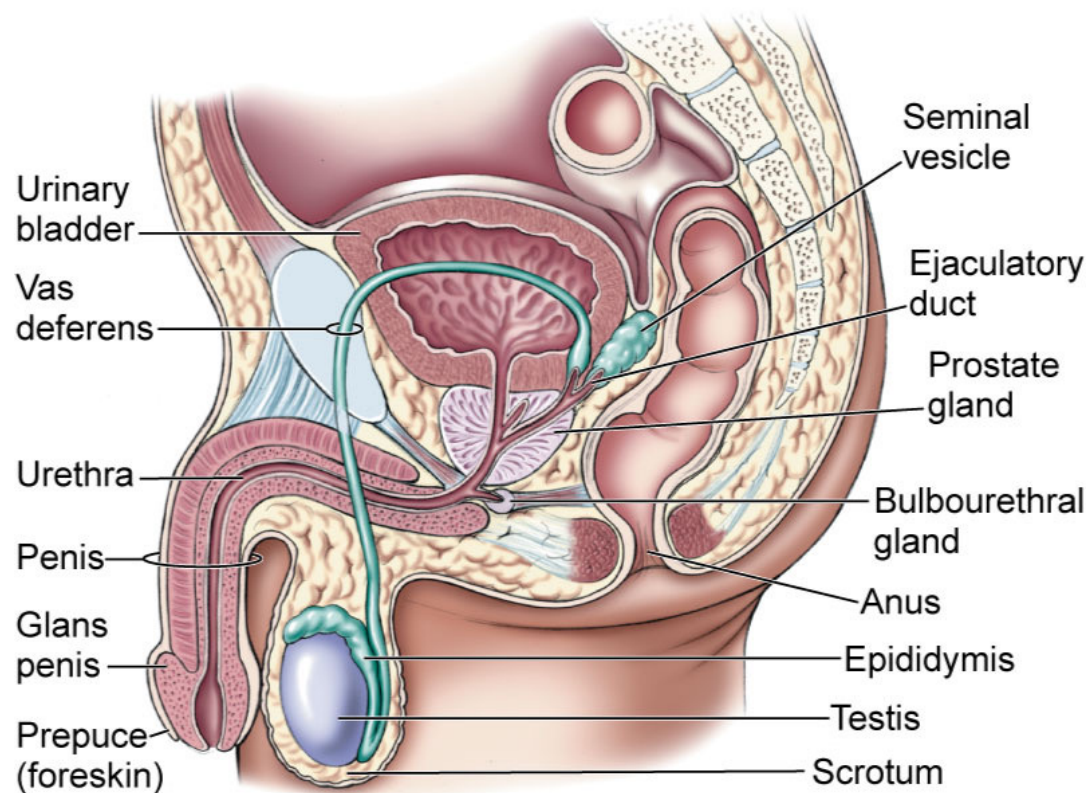


The Reproductive System

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.



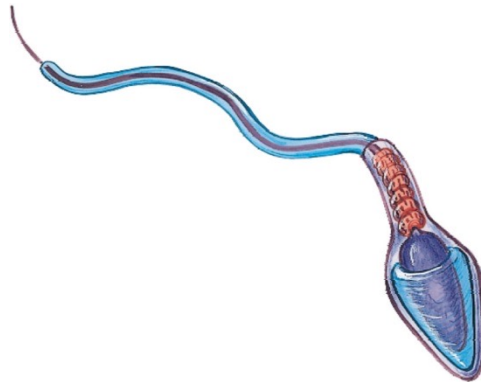
The Reproductive System

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

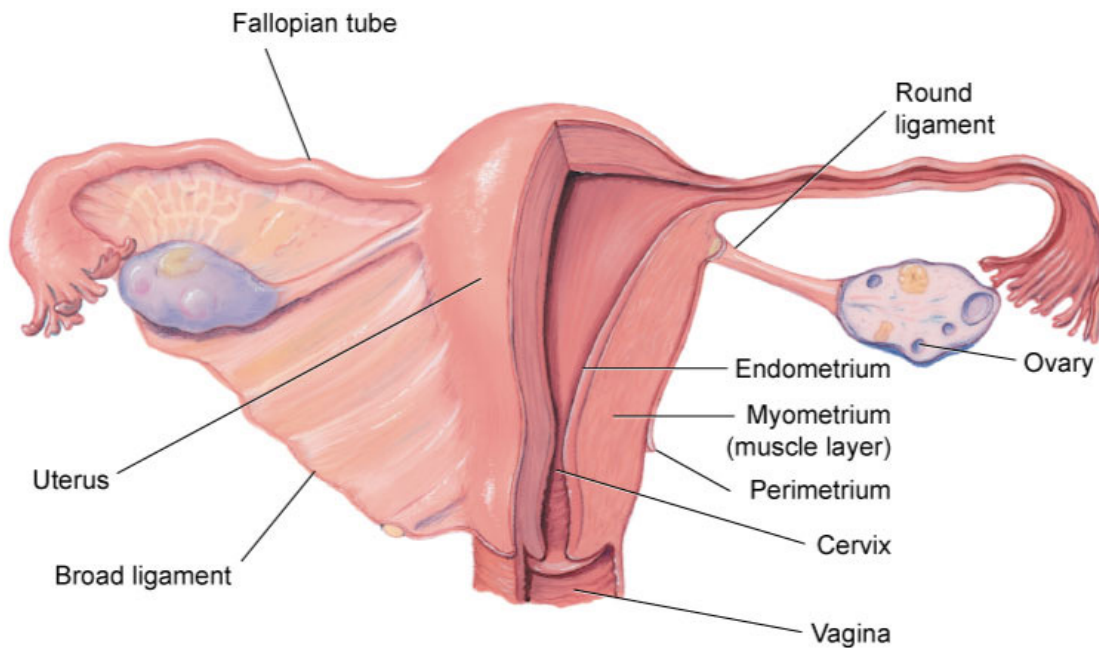
Ovaries

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

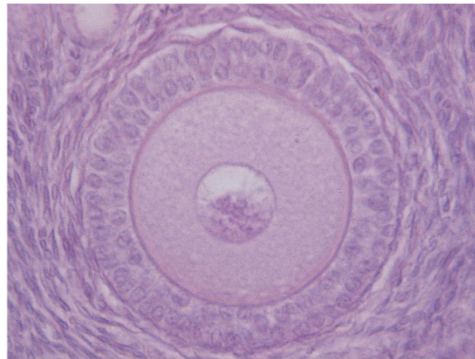
Secondary sex characteristics Distribution of adipose tissue in the breasts, hips, and abdomen. Wide hips. Pubic and axillary hair.

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

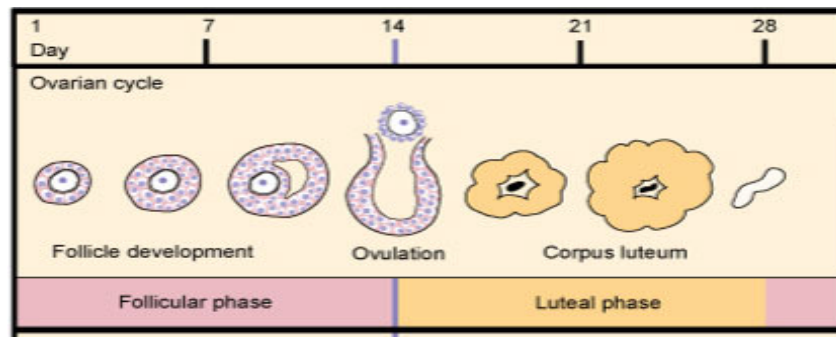
Follicular phase

Ovulation

Luteal phase

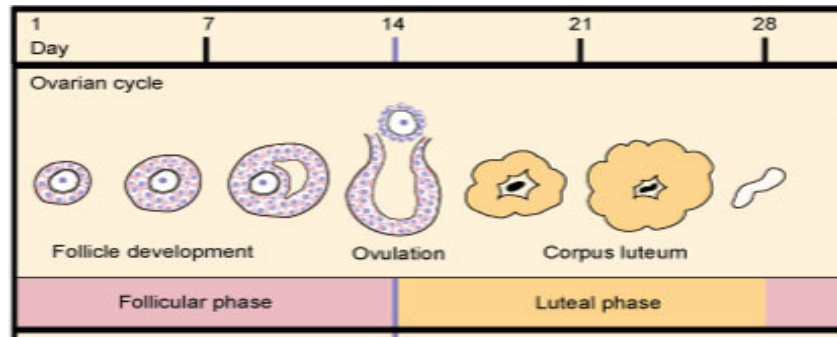
Menstrual Cycle

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



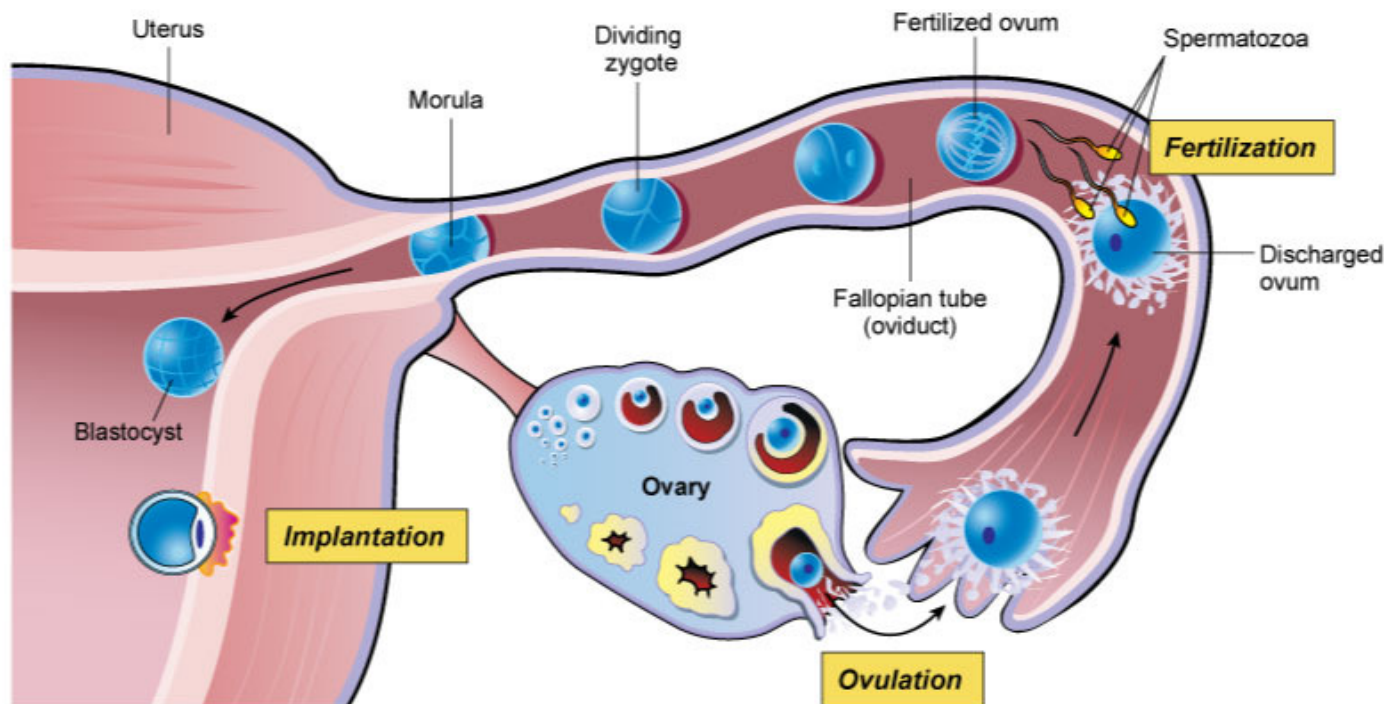
Menstrual Cycle

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



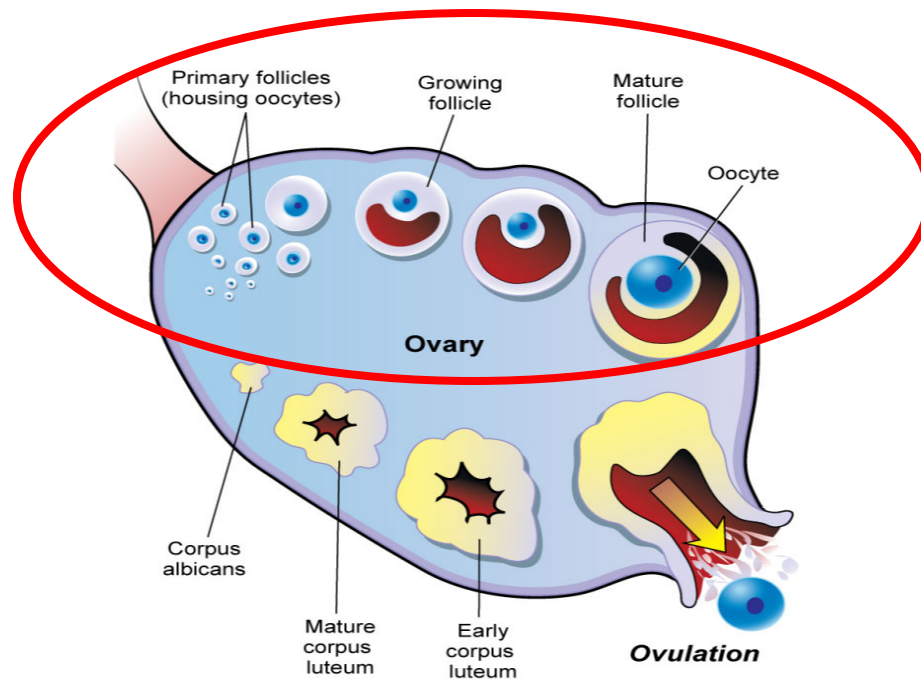
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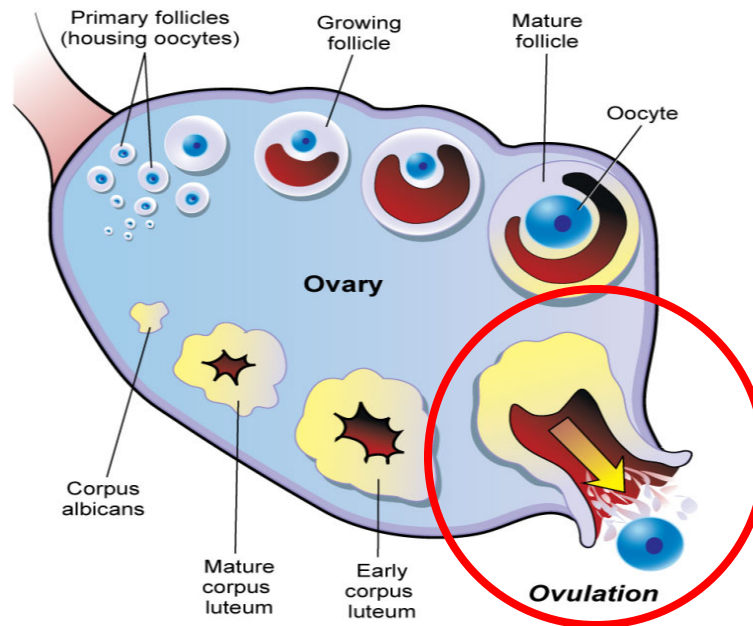
Menstrual Cycle

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.



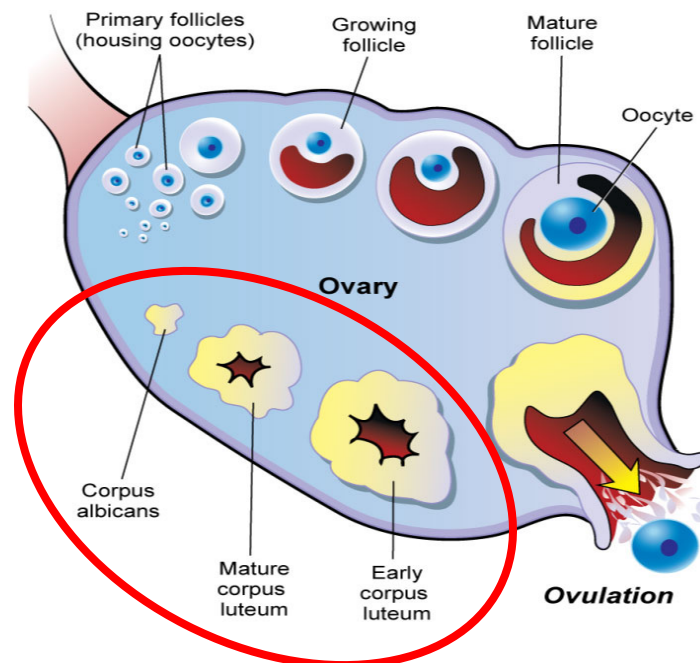
Menstrual Cycle

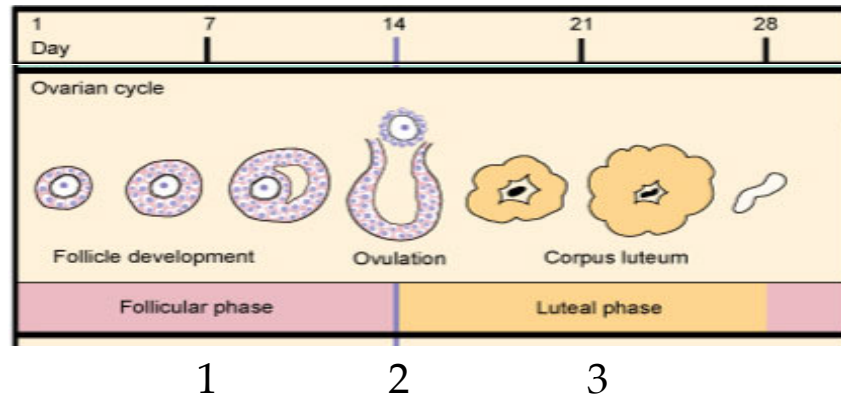
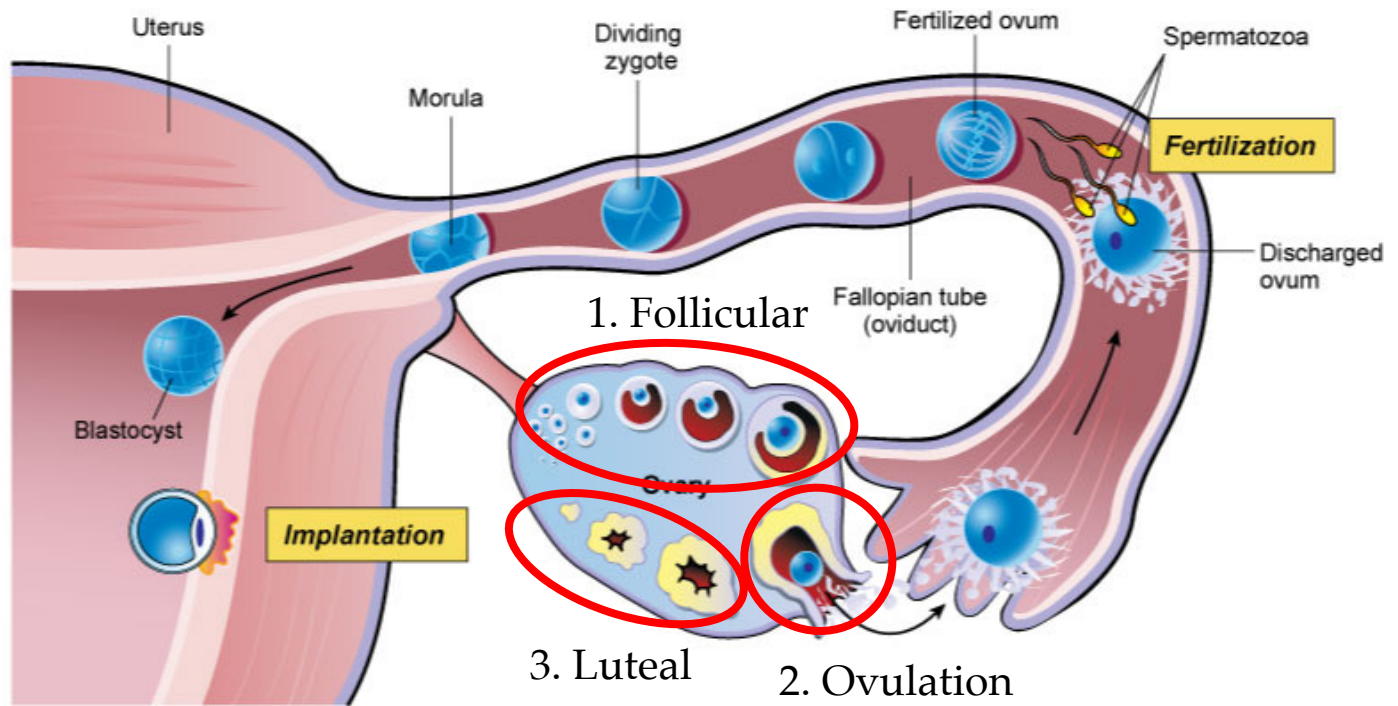
Ovulation Second phase of the menstrual cycle, day 14. Surge of LH causes the ovarian follicle to rupture and the ovum to be released. Ovum travels down the fallopian tubes toward the uterus.



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.







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