# 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 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 need to do to be ready to go into clinic after class 56?

Are you making up your all your absences?

Have you re-taken tests and turned in missed assignments so you are passing in all subjects?

Not sure of your clinic eligibility?

 Check your student portal for missing grades and absent time that needs to be made up –

or ask your instructor about your status!

# Lateral Rotators of the Hip Trail Guide, Page 328



# Lateral Rotators of the Hip Trail Guide, Page 328



# Lateral Rotators of the Hip Trail Guide, Page 328



Piriformis (posterior view)



Quadratus Femoris (posterior view)



Obturator Internus (posterior view)



Obturator Externus (anterior view)



Gemellus Superior (posterior 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 syndome).

*Piri* means *pear*.

Formis means form of or shaped.

Laterally rotate the hip (coxal joint)

Abduct the hip (coxal joint) when it is flexed

Anterior surface of sacrum

Superior aspect of greater trochanter







Laterally rotate the hip (coxal joint)

Abduct the hip (coxal joint) when it is flexed

Anterior surface of sacrum

Superior aspect of greater trochanter







Laterally rotate the hip (coxal joint)

Abduct the hip (coxal joint) when it is flexed

Anterior surface of sacrum







Laterally rotate the hip (coxal joint)

Abduct the hip (coxal joint) when it is flexed



I Superior aspect of greater trochanter





# Quadratus Femoris Trail Guide, Page 328



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

Quadratus means four-sided.

Femoris means femur.

## Quadratus Femoris, page 328

Laterally rotate the hip (coxal joint)

Lateral border of ischial tuberosity

Intertrochanteric crest, between the greater and lesser trochanters







# Quadratus Femoris, page 328

Laterally rotate the hip (coxal joint)

Lateral border of ischial tuberosity



Intertrochanteric crest, between the greater and lesser trochanters





## Quadratus Femoris, page 328

Laterally rotate the hip (coxal joint)

Lateral border of ischial tuberosity

Intertrochanteric crest, between the greater and lesser trochanters





# 40a A&P: Reproductive System

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## Introduction

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



## Anatomy

Gonads Gametes



### Anatomy

**Gonads** Primary reproductive organs. Testes and <u>ovaries</u>.

**Gametes** <u>Sex</u> cells. Types: spermatozoa and oocytes.







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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 <u>genetic</u> material to be passed from one generation to another.



# Physiology

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



Testes Sperm Spermatogenesis



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





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

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



Secondary sex characteristics Widening of the <u>shoulder</u>, narrowing of the <u>hips</u>. Appearance of facial, axillary, pubic, and chest <u>hair</u>. Enlargement of the <u>larynx</u> which contributes to deepening of the voice.



**Sperm (AKA: spermatozoa)** Sex cells that carry <u>genetic</u> information.

**Spermatogenesis** Sperm cell production that begins during <u>puberty</u> and continues throughout life.





Ovaries Oocyte Ovum



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





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



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



**Oocyte (AKA: unfertilized egg)** <u>S</u>ex cell that carries <u>genetic</u> information. Mature within <u>ovarian</u> follicles. One (or sometimes more) is released during ovulation.

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





Menstruation

Menstrual Cycle Follicular phase Ovulation Luteal phase



**Menstruation** Periodic discharge of built-up endometrial lining form the nonpregnant 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 (AKA: reproductive or fertility cycle)** A series of hormonal events that begins at puberty continues until <u>menopause</u> unless interrupted by pregnancy, disease, or stress. Occurs about every <u>28</u> days





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**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.





**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.





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