

Introduction of Anatomy and Physiology

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If something is GREY on the handout, you are not responsible for it this semester.

1. Anatomy (Definition and Subdivisions)

- Morphology

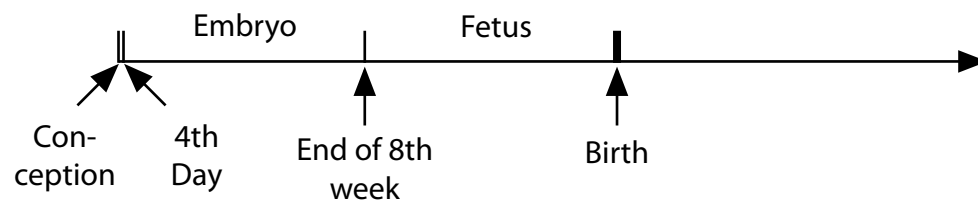
A. Gross (Macroscopic) Anatomy

- Regional Anatomy
- Systemic (or Systematic)
- Surface Anatomy

B. Microscopic Anatomy

- Cytology
- Histology

C. Developmental Anatomy



- Embryology

D. Pathological Anatomy

E. Radiographic Anatomy

F. Molecular Biology

2. Physiology (Definition and Select subdivisions)

- A. Renal Physiology
- B. Neuro Physiology
- C. Cardiac Physiology

3. Life Processes

A. Metabolism

i. Metabolic Subdivisions:

- a. Catabolism
- b. Anabolism

ii. Processes Involved In Metabolism

- a. Ingestion
- b. Digestion
- c. Absorption
- d. Respiration (***Pull out your handout on Cellular Respiration***)

http://www.noelways.com/courses/Anatomy%20and%20Physiology%20I/Lectures_API/Lec1_Intro/Cell_Resp_Intro.pdf

- e. Assimilation
- f. Secretion
- g. Excretion

B. Excitability

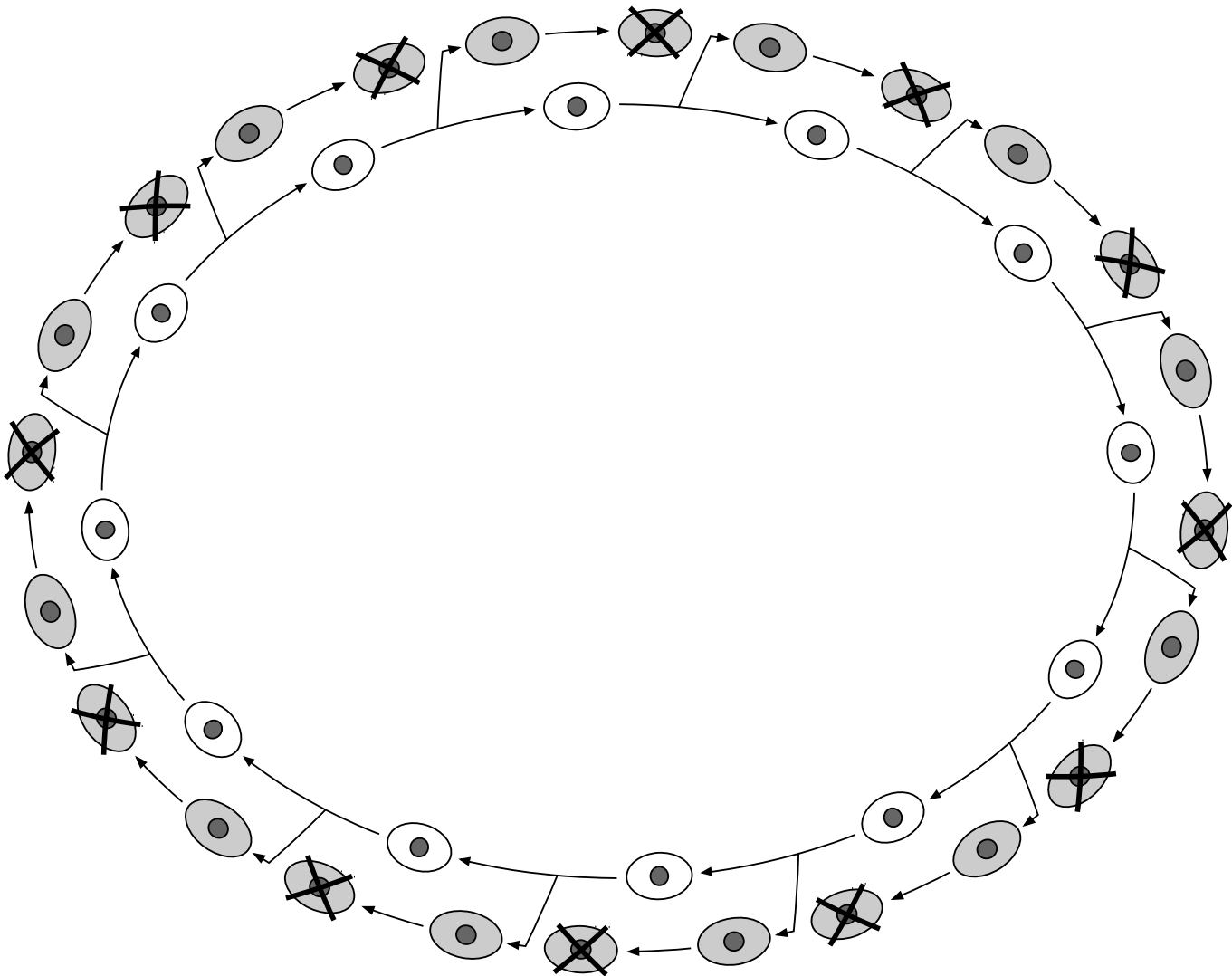
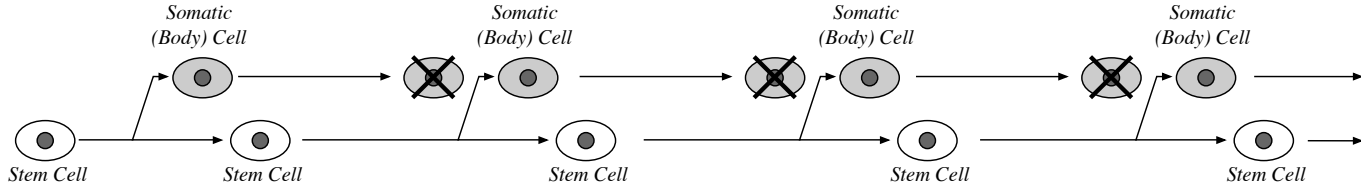
C. Conductivity

D. Contractility

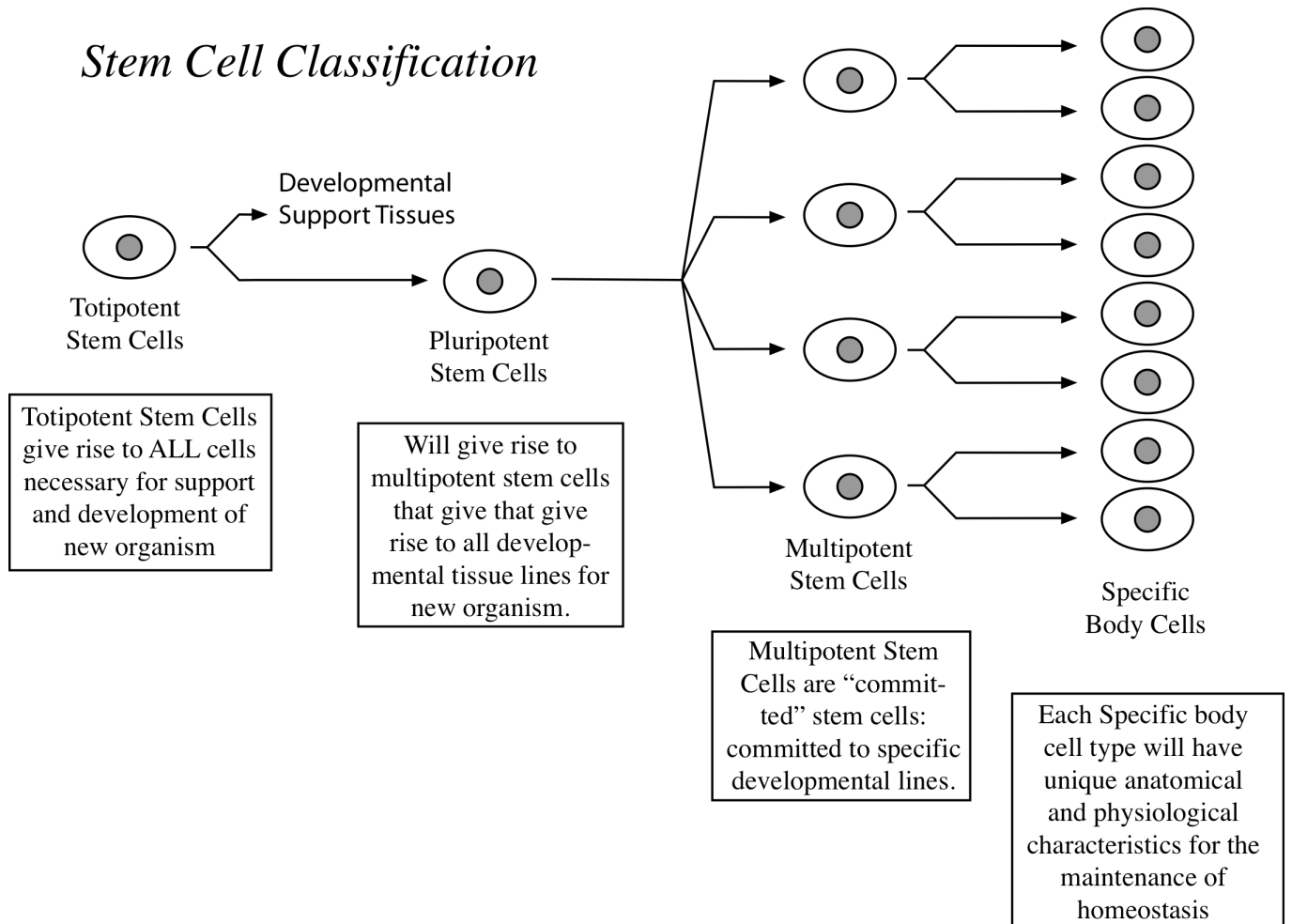
E. Growth

F. Differentiation

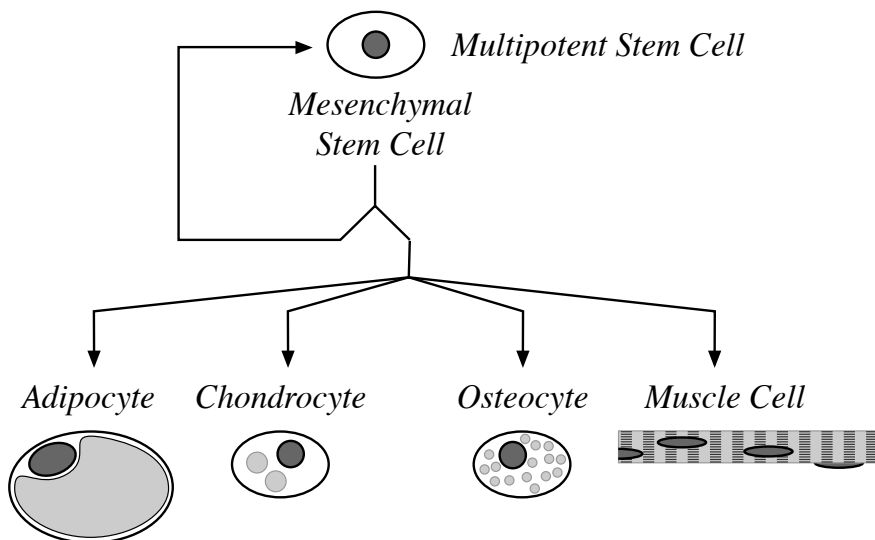
i. Stem Cells



ii. Stem Cell Classification



iii. Stem Cell Example



Reference:
<https://www.rndsystems.com/research-area/mesenchymal-stem-cells>

G. Reproduction

i. Asexual

ii. Sexual

4. Levels of Structural Organization (see diagram in text as well as handout)

A. Chemical Level

D. Organ Level

B. Cellular Level

E. System Level

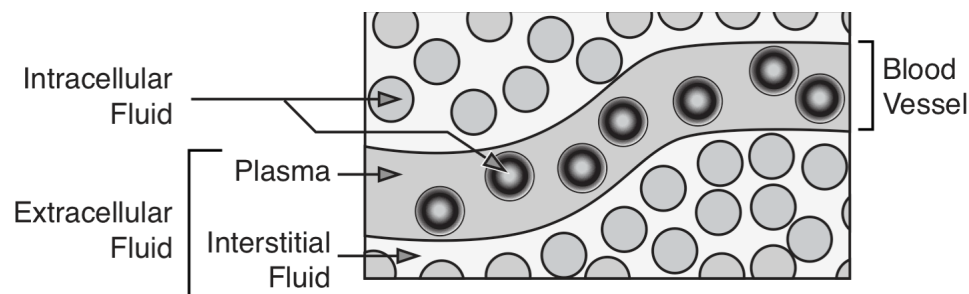
C. Tissue Level

F. Organismic Level

Handout:

http://www.noelways.com/courses/Anatomy%20and%20Physiology%20I/Lectures_API/Lec1_Intro/01_Organization%20of%20Life.pdf

5. Fluids of the Body



A. Intracellular Fluid (Not “inter”)

B. Extracellular Fluid

i. Interstitial Fluid

a. Interstitium (or Interstitial Tissues)

ii. Plasma

6. Homeostasis and Stress

A. Homeostasis

- i. Concentration
- ii. Pressure
- iii. Temperature

B. Homeostatic Imbalances

- i. Stress, Disease, and Death

7. Feedback Systems (*Pull out your downloadable handout*)

(Be able to illustrate homeostatic model found in handout, and provide an example for both positive and negative feedback systems)

http://www.noelways.com/courses/Anatomy%20and%20Physiology%20I/Lectures_API/Lec1_Intro/Feedback_Sys.pdf

- Nervous System
- Endocrine System

8. Structural Plan (See diagrams in text)

A. Anatomical Position

9. Language of Anatomy (see diagrams in text)

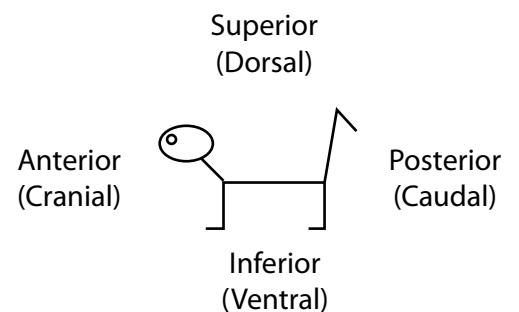
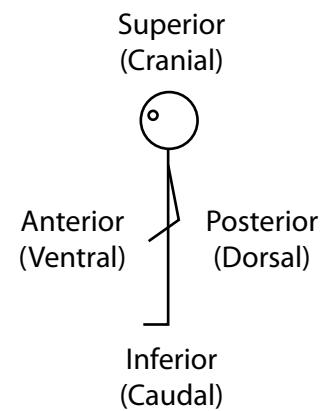
A. Cephalic

- | | |
|----------------------|-----------|
| a. Cranial | f. Buccal |
| b. Facial | g. Nasal |
| c. Frontal | h. Oral |
| d. Orbital or Ocular | i. Mental |
| e. Otic | |

- B. Cervical
- C. Trunk
 - i. Thoracic
 - Mammary
 - ii. Abdomen
 - Umbilical
 - iii. Pelvis
 - Inguinal
 - Pubic
- D. Axillary
- E. Brachium & Antebrachium
- F. Cubital & Antecubital

10. Directional Terms (see diagrams in text)

- A. Superior & Inferior
- B. Anterior & Posterior
- C. Cranial & Caudal
- D. Dorsal & Ventral
- E. Proximal & Distal
- F. Medial & Lateral
- G. Superficial & Deep



11. Planes and Sections (see diagram in text)

- A. Sagittal Plane
 - i. Midsagittal (median) Plane
 - ii. Parasagittal plane
- B. Frontal plane (or Coronal)
- C. Horizontal plane (or Transverse)
- D. Oblique

12. Body Cavities (***Pull out your downloadable handout***)

http://www.noelways.com/courses/Anatomy%20and%20Physiology%20I/Lectures_API/Lec1_Intro/Body_Cavities.pdf

- A. Dorsal Body Cavity (see diagrams in text)
 - i. Cranial Body Cavity
 - ii. Vertebral or Spinal Canal
- B. Ventral Body Cavity (see diagrams in text)
 - i. Thoracic Cavity

* Viscera

- a. Plural Cavities
 - Parietal Pleurae
 - Visceral Pleurae
 - Pleural Cavity
- b. Mediastinum
- c. Pericardial Cavity
 - Visceral Pericardium
 - Parietal Pericardium
 - Pericardial Cavity

ii. Abdominopelvic Cavity (see diagrams in text)

a. Abdominal Cavity

b. Pelvic Cavity

- Peritoneum
- Mesenteries

c. Intraperitoneal vs. Retroperitoneal

13. Anatomical Areas (see diagrams in text)

A. Abdominopelvic Regions

i. Orientation

a. Umbilicus

ii. Nine Regions

a. Umbilical Region

b. LEFT Lumbar Region

c. RIGHT Lumbar Region

d. Epigastric Region

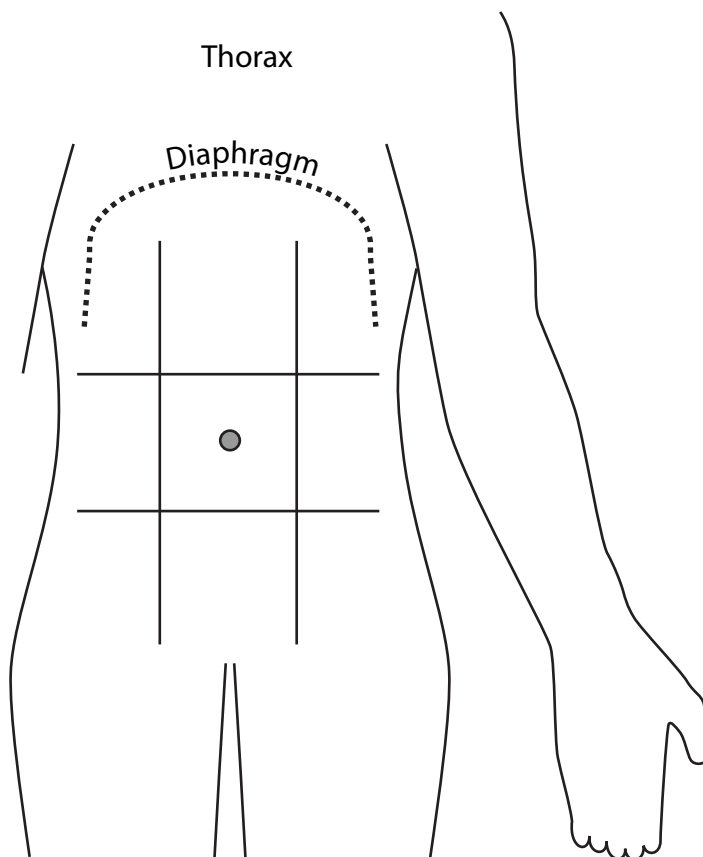
e. LEFT Hypochondriac Region

f. RIGHT Hypochondriac Region

g. Pubic Region

h. LEFT Iliac or Inguinal Region

i. RIGHT Iliac or Inguinal Region



B. Abdominopelvic Quadrants

- i. Right Upper Quadrant (RUQ)
- ii. Left Upper Quadrant (LUQ)
- iii. Right Lower Quadrant (RLQ)
- iv. Left Lower Quadrant (LLQ)

