!!!CAUTION!!!

- This power point presentation is intended to be used as an “add on” exercise to your standard lab experience. It is not intended to be used in lieu of the “hands on” lab time. In lab you will be tested on the actual lab specimens and not the pictures contained within this video presentation.
How to use this material

• Each specimen is illustrated in a two slide sequence. The first slide contains a fully labeled specimen. The second slide is missing the labels and asks you to supply them like a test circumstance. You can toggle back and forth between the two slides until you have mastered all the items.

• This presentation is patterned after material within your lab manual by Darrell Davies. Be sure to check with your instructor for any alterations specific to your course.

• This presentation is designed to better prepare you for lab quizzes, or Part I of the two part testing system in each lab unit. Other video material (A.D.A.M. and Histology) is accessed elsewhere. Those materials are for lab practicals, Part II of testing in each lab unit.
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Unit I – Introduction
lab exercises # 2-6

Body plan
Sectioning
Epithelial histology
Skin
Osteology
Human Body Plan

Lab exercise #2
Anterior / Ventral (front) view
Posterior / Dorsal (back) view
Anterior / Ventral (front) view

Superior / cranial / cephalic

Inferior / caudal

Midline bisect / longitudinal axis

Lateral / distal

Medial / axial
(front) view
Left lateral view revealing cranial cavity of head, coronal section of anterior body wall, & transverse sections of arms and legs.
view revealing cavity of head, section of body wall, & sections of arms and legs
Heart removed to reveal mediastinal space
Abdominal cavity

Diaphragm

Liver

Stomach

Colon

Spleen

Small intestine (left side covered by Greater Omentum)
? intestine (left side covered by ? ?)
Coronal section of abdomen revealing internal body cavities
section of revealing internal body cavities
Selected abdominal viscera

- Pancreas
- Colon
- Greater Omentum covering left side of intestines
- Small intestines (uncovered)
Selected ? viscera

(uncovered)

? ? covering left side of intestines
Longitudinal section of stomach

Attaches to esophagus

Attaches to sm. intestine
? section of ?

Attaches to ?

Attaches to ? ?
Inferior view of liver

Liver

Liver

Gallbladder
? view of ?
Apices of lungs

Right lung (3 lobes)

Left lung (2 lobes)

Anterior view of lungs
Sectioning

Lab exercise #3
Various section planes

Coronal / Frontal
Sagittal (mid)
Transverse / cross
Oblique
Various section planes
Can you identify these 4 section planes?

What kind of section has been made on Grandma’s neck?
Oblique section plane

Midsagittal section plane

Lateral view - right half of body

Anterior view - left half of body
? section plane

? view - right half of body

? view - left half of body
Anterior / ventral view

Sagittal section of head

Transverse sections of arms and legs
Posterior / Dorsal view

Sagittal section of head

Transverse sections of arms and legs
view

section of head

sections of arms and legs
Midsagittal section of head

Transverse section of neck

Right side half of head
Midsagittal section plane

Left side half of head
Left half of head from a midsagittal section

Cranial cavity

Brain removed from cranial cavity
Brain removed from cavity
Coronal section reveals internal ventral body cavities.

Midsagittal section plane (vertical line)
section reveals internal ventral body cavities
Epithelial Histology

Lab exercise # 4
The 3 epithelial cell shape options

- Squamous
- Cuboidal
- Columnar
The 3 ? cell shape options
Simple Squamous Epithelium
(1 layer of squamous cells)

Free surface

Basement membrane (blue area)
Epithelium
(? layer of ? cells)

(blue area)
Simple Cuboidal Epithelium
(1 layer of cuboidal cells)
Epithelium
( layer of cells)

(blue area)
Simple Columnar Epithelium
(1 layer of columnar cells)

Free surface

Basement membrane (blue area)
Epithelium
(??? layer of ??? cells)

(??? (blue area))
Stratified Squamous Epithelium
(>1 layer of squamous cells)
Epithelium
(>layer of cells)
Stratified Cuboidal Epithelium
(>1 layer of cuboidal cells)
Epithelium
(> layer of cells)

(blue area)
Stratified Columnar Epithelium (>1 layer of columnar cells)
Epithelium (>2 layer of 2 cells)
Stratified Squamous Epithelium (>1 variously shaped cell layers, squamous shaped superficial cells)
Epithelium (> variously shaped cell layers, ? shaped ? cells)
Simple Squamous Epithelium
(1 layer of squamous cells)

- Plasma membrane
- Free surface
- Cell nucleus
- Basement membrane area
Epithelium
(? layer of ? cells)
Simple Cuboidal Epithelium
(1 layer of cuboidal cells)

Cell nucleus
Free surface
Plasma membrane
Basement membrane area
Epithelium
(layer of cells)

area
Simple Columnar Epithelium
(1 layer of columnar cells)

- Free surface
- Basement membrane area
- Plasma membrane
- Cell nucleus
- Goblet cell inside an epithelial cell
- Free surface
Epithelium
(layer of cells)

inside an epithelial cell

area
Stratified Squamous Epithelium
 (>1 layer of cells, those nearest the free surface are squamous shaped)
Epithelium

(layer of cells, those nearest the free surface are shaped)
Pseudostratified Columnar Epithelium (all cells contact the b.m.)

- Plasma membrane
- Cell nucleus
- Basement membrane area
- Free surface
Epithelium (all cells contact the b.m.)
The 5 ?? you need to identify
Integumentary System (skin)

Lab exercise # 6
3 layers of the integumentary system

- Stratum Corneum
- Epidermis
- Dermis
- Hypodermis (subcutaneous)
- Adipose tissue
3 layers of the ? system
Sebaceous (oil) gland around hair follicle
Eccrine sweat gland & duct
Arrector pili muscle
Hair bulb
Hair papilla
? (oil) gld.

? sweat (scent) gland & duct

? sweat gld. & duct
Stratum Corneum of epidermis

Dermal papillae (finger prints)

Sensory nerve endings

Dermis area

Eccrine sweat gland. ducts
? ? of ?

(finger prints)

? area

? sweat
gld. ducts
Osteology (bone)

Lab exercise #7
Medullary (marrow) cavity

Compact (hard) bone tissue

Cancellous (spongy) bone
CROSS SECTION THROUGH PORTION OF FEMUR BODY

LOWER EXTREMITY OF FEMUR, MEDIAL ASPECT

cavity

bone tissue

bone
Cancellous (spongy) bone within distal epiphysis

Compact (hard) bone on outer surfaces
bone on outer surfaces

bone within distal epiphysis
2 Osteons or Haversian Systems
(comprised of concentric rings of lamellae)

3 Laminar lamella

Osteocyte (dark dots)
2 ? or ? Systems
(comprised of concentric rings of ?)

(dark dots)
Nutrient foramena (for blood vessel penetration)

Tendon - exterior
?- exterior

? ? (for blood vessel penetration)
Osteonic (Haversian) Canals (vertical)

Volkman’s Canals (horizontal)
Canals (vertical)

Canals (horizontal)