BIO 103: Computer Exercise – Anatomy & Physiology Revealed (APR)

Muscles

A. See your Lab Instructor to sign logbook for use of laptop and CD in the lab room.
B. Insert Anatomy & Physiology Revealed (APR) cd into cd drive and allow it to autoplay.
C. To enlarge image: right click on desk top → Properties → Settings → Screen Resolution → click and drag screen setting to 1024x768 pixels.

Muscles

1. Select system → Muscular. Select Dissection (scalpel icon) → Select Topic (Head and Neck) → Select view (Lateral) → Hit Green Go button → Select structure (Muscle) → Muscles of Chewing and Swallowing → Select Temporalis (layer 3) → Then click on animation icon.

2. Select Change topic/view → check out the remaining muscles on your lab handout. View the animations for each muscle.

   - Head & neck → Facial expression
     Anterior view → Go
     o Orbicularis oris (layer 2)
     o Sternocleidomastoid (layer 3)
     Lateral view → Go
     o Temporalis
     o Extrinsic eye muscle (lateral rectus)

Answer the following questions:

1) Which of the above muscles is a muscle of mastication? ______________

2) Name the muscle that abducts the eyeball? ______________

3) Which muscles originate on the sternum and clavicle? ______________

4) Which muscle is used in kissing? ______________

5) Name the muscle used to lower the head: ______________
• Back →
  Posterior view → Go
  o Trapezius
  o Triceps brachii
  o Gluteus maximus

• Abdomen →
  Anterior view → Go
  o Rectus Abdominis

• Thorax → Anterior view → Go
  o Pectoralis major

• Muscles that act on the knee → Hip and thigh → Anterior → Go
  • Quadriceps femoris (rectus femoris)

Check out the animations for the actions of these muscles.

6) What is the action of the “six-pack”? ______________________

7) Which muscle is used to walk up stairs? ______________________

8) Which muscle flexes the thigh and extends the leg? ______________

9) Which muscle is involved with extension of the forearm? ___________

10) Which muscle inserts on the elbow? ______________

11) Name the muscle that moves the scapula: ______________

Histology (microscope icon)

Check out the three muscle tissues:

  Skeletal, Cardiac, and Smooth muscle

Don’t forget to eject the CD prior to closing down the laptop!
The Ear

1. Select system → **Nervous**. Select Dissection (scalpel icon).
   Select Topic → **Hearing/Balance**. Select view → **Lateral** → Hit Green Go button.
   Select structure type → **Sense Organs**. Select structures from the structure list as they correspond to the lab handout. View the animations as you proceed through the structure list.

   **Structure list:** **Sense organs**
   - Auricle
   - Cochlea
   - Semicircular ducts (or canals)
   - Tympanic membrane

   Answer the following questions:
   1) What is the function of the structure know as the auricle or pinna?
      ______________________________
   2) Which organ helps to maintain balance and equilibrium? __________
   3) Which of the ossicles is attached directly to the “eardrum”? ______
   4) Which structure contains the spiral organ of Corti? __________

   **Structure list:** **Nerves → Vestibulocochlear nerve**
   5) Which cranial foramina does this nerve pass through? __________
   6) This nerve is cranial nerve CN ________.
      (Remember to use Roman numerals!)

The Eye

2. Change topic/view → Select Topic → **Vision**. Select view → **Eye-lateral** → Hit Green Go button. Select structure type → **Special Senses**. Select structures from the structure list as they correspond to the lab handout. View the animations as you proceed through the structure list.
Structure list: Sense Organs
- Anterior chamber
- Choroid
- Ciliary body
- Cornea
- Iris
- Lens
- Pupil
- Sclera

Answer the following questions:
1) Where is the anterior chamber located and what does it contain?

2) The image is perceived in which lobe of the brain?

3) Which layer of the eyeball helps to prevent scattering of light rays?

4) Which structure protects the anterior part of the eye?

5) Which structure regulates the thickness of the lens?

6) Muscles within the ________ regulate the size of the pupil.

Structure list: Nerves →
- Optic disk
- Optic nerve
- Retina

7) The optic nerve is CN ________.

8) The crossing of the optic nerves in the brain is called _____________.

9) Where is the “blind spot” located? ________________

10) The photoreceptors are located in the ________________.

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