Bio 104 Laboratory Outlines

Bio 104: Computer Exercise - Anatomy & Physiology Revealed (APR)

Urinary, Reproductive, & Respiratory Systems

A. See 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. Select System → Urinary. Select Dissection (scalpel icon) → Select Topic → Upper Urinary. Select View → Anterior. Click the green Go button.

Click on Layer 4 and identify the following structures:
1. Kidney
2. Ureter
3. Renal vein
4. Renal artery
5. Adrenal gland (suprarenal gland)

Select Change Topic/View → Select Kidney. Select View → Anterior. Click the green GO button.

Click on Layer 2 and identify the following structures:
1. Renal cortex
2. Renal medulla
3. Minor calyx
4. Major calyx
5. Renal pelvis

Question:
1. Trace the flow of urine from the minor calyx to the outside of the body.

Select System → Reproductive → Select Change Topic/View → Select Pelvis-Female. Select View → Sagittal. Click the green GO button.
Click on **Layer 1** and identify the following structures:

1. Ovary
2. Uterine tube
3. Uterus
4. Cervix
5. Vagina
6. Urinary Bladder
7. Urethra

**Questions:**

1. What is another name for “uterine tube”?

2. What is the superior rounded portion of the uterus called?

3. Describe the major differences observed between the female cat and the human regarding the urinary and reproductive systems.

Select **Change Topic/View**→Select **Pelvis-Male**. Select **View** → **Sagittal**. Click the green **GO** button.

Click on **Layer 1** and identify the following structures:

1. Scrotum
2. Testis
3. Epididymis
4. Urinary bladder
5. Prostate gland
6. Urethra (Prostatic, Membranous, Penile)
7. Penis

Select **Change Topic/View**→Select **Testis and Spermatic Cord (isolated)**. Select **View** → **Lateral**. Click the green **GO** button.
Click on Layer 3 and identify the following structures:
1. Testis
2. Epididymis
3. Vas Deferens

Questions:
1. Identify the specific location of spermatogenesis.

Select System → Respiratory → Select Change Topic/View → Select Larynx. Select View → Anterior. Click the green GO button.

Click on Layer 2 and identify the following structures:
1. Epiglottis
2. Hyoid bone
3. Thyroid cartilage
4. Cricoid cartilage
5. Trachea
6. Tracheal cartilage

Select Change Topic/View → Select Lower Respiratory. Select View → Anterior. Click the green GO button.

Click on Layer 4 and identify the following structures:
1. Trachea
2. Primary bronchus (left & right Main Bronchus)
3. The lobes of the lung
4. Diaphragm

Question: For the human lungs, identify the number of lobes and their names.

Select the Animations Icon. From the animations list, select Thoracic Cavity Dimensional Changes. Click Play.
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Questions:

1. What happens to the thoracic cavity volume during inspiration?

2. During diaphragm contraction, does the volume of the thoracic cavity increase or decrease?

From the animations list, select Alveolar Pressure Changes. Click Play.

Questions:

1. During expiration, what causes air to flow out of the lungs?

From the animations list, select Partial Pressure. Click Play.