General Cadaver Demonstration
Distance Learning & On-Site Programs

General Cadaver Demonstration

This guide is for students participating in AIMS General Cadaver Demonstration programs on-site and through distance learning. Cadaver demonstration programs are presented by AIMS Anatomy Specialists. In this activity students will be exposed to the physiology and anatomic relationships of the major organ systems of the body and how those organ systems can relate to various human diseases. At the end of this document, you will find vocabulary review and pre/post tests for your students.

Educational Standards: The demonstration meets the following standards.
National Science Education (NSE) content standards for grades 9-12:

1. Systems order and organization
2. personal and community health
3. form and function
4. matter, energy and organization of living systems
5. evidence, models and explanation

Show Me Standards: (Science, and Health/Physical Education)

1. characteristics and interactions of living organisms
2. properties and principles of matter and energy
3. structures of, functions of, and relationships among human body systems
4. principles of movement and physical fitness
5. methods used to assess health, reduce risk factors, and avoid high risk behaviors (such as violence, tobacco, alcohol and other drug use)
6. diseases and methods for prevention, treatment and control

Objectives: The student will be able to:

- become acclimated to the use of a cadaver as a learning tool for health-science education.
- understand the structure of, functions of, and relationships among major organs and body systems.
- describe several major diseases affecting Americans today and how nutrition, exercise and proper health habits can prevent many diseases.
- students will feel comfortable asking health related questions of their physicians
- possess the foundational knowledge needed to understand physician guidance in regards to disease prevention and treatment.

Prerequisite Knowledge: Students should be familiar with terms relating to the major organs and systems.

“Cadaver Demonstration”

Vocabulary Review

Carpal Tunnel Syndrome - a condition where there is a disturbance of median nerve function in the wrist as the nerve passes through the carpal tunnel.

Humerus - the bone of the upper part of the arm.

Radius - one of two bones that constitute the forearm. It articulates with the humerus at the elbow.

Ulna - one of the bones that comprise the forearm. Situated next to the radius.

Deltoid - thick, multi pennate muscle forming rounded shoulder muscle mass, responsible for roundness of shoulder. Prime mover of the arm when all its fibers contract simultaneously.

Femur - the large bone in the thigh, between the pelvis and knee.

Tibia - large bone between the knee and the foot. It supports 5/6 of the body weight.

Fibula - the smaller bone between the knee and the foot. It supports 1/6 of the body weight.

Tibialis anterior - superficial muscle of anterior leg; laterally parallels sharp anterior margin of the tibia; prime mover of dorsiflexion.

Sciatic nerve - a nerve which originates in the lumbar and sacral spinal cord and supplies motor and sensory innervation to the lower extremities. It is the largest nerve in the body and has two branches, the tibial nerve and the peroneal nerve.

Diaphragm - thin muscle below the lungs and heart that forms a muscular partition between the thoracic and abdominopelvic cavities. It is the most important muscle of inspiration.

Trachea - a fibrocartilaginous tube, lined with mucous membrane, passing from the larynx to the bronchi.

Bronchus - one of the two large branches of the trachea, that lead to the lungs.

Bronchioles - the branching air passages inside the lungs.

Alveoli - one of the microscopic airsacs of the lungs.

Atherosclerosis - changes in the walls of large arteries consisting of lipid deposits on the artery walls; the early stages of arteriosclerosis.

Duodenum - first part of the small intestine.

Jejunum - the part of the small intestine between the duodenum and the ileum.

Ileum - terminal part of the small intestine, between the jejunum and the cecum of the large intestine.

Appendix - a worm-shaped process projecting from the blind end of the cecum.

Liver - lobed accessory organ that overlies the stomach; produces bile to help digest fat, and serves other metabolic and regulatory functions.

Bile - greenish- yellow or brownish fluid produced in and secreted by the liver, stored in the gallbladder, and released into the small intestines.

Gallbladder - sac beneath the right lobe of the liver used for bile storage.

Pancreas - gland located behind the stomach, between the spleen and the duodenum; produces both endocrine and exocrine secretions.

Kidneys - pair of organs located in the right and left side of the abdomen which clear poisons from the blood, regulate acid concentration and maintain water balance in the body by excreting urine.

Spleen - largest lymphoid organ; provides for lymphocyte proliferation, immune surveillance and response, and blood-cleansing functions.

Insulin - a hormone that enhances the carrier-mediated diffusion of glucose into tissue cells, thus lowering blood glucose levels.

Diabetes - disease caused by deficient insulin release, leading to inability of the body cells to use carbohydrates.

Uterus - hollow, thick-walled organ that receives, retains, and nourishes fertilized egg; site where embryo/fetus develops.

Fallopian (uterine) tubes - tubes through which the ovum is transported to the uterus.

Ovaries - female sex organ in which ova (egg) are produced.

Aortic arch - the curved portion between the ascending and descending portion of the aorta.

Esophagus - muscular tube extending from the laryngopharynx through the diaphragm to join the stomach.

Bladder - smooth, collapsible, muscular sac that stores urine temporarily.

Heart murmur - a finding on physical examination of the heart that can, in some cases, indicate the presence of cardiac disease. Murmurs result from vibrations set up in the bloodstream and the surrounding heart and great vessels as the result of turbulent flow.

Heart attack - damage that occurs to the heart when one of the coronary arteries is occluded.

“General Cadaver Demonstration”
Pre/Post- Test

1. Which two types of digestion occur in the mouth? _____ & _____
2. Normal pH of human blood is _____.
3. Name three functions of the spleen. _____, _____ & _____.
4. The first chamber that blood enters on its way back to the heart is the _____. The blood then passes through the _____valve and enters the _____. When that chamber contracts, blood passes through the _____ valve, and is carried by the _____ on its way to the _____. Oxygen rich blood is then carried via the _____veins, back to the heart where it enters this heart chamber _____. Blood then passes through the _____ valve on its way to the left _____. When this chamber contracts, blood moves through the _____ valve and enters largest artery in the body. This vessel is called the _____, and carries blood to _____.
5. The first and shortest part of the small intestine is the _____. This is where most _____ occurs.
6. Oxygen-rich blood is carried into the brain by two pairs of arteries. These arteries are the _____ and the _____.
7. _____ is a collection of lipid fats and proteins that sheath (cover) the long extensions of neurons, called axons. This substance is produced in the CNS by these types of cells _____.
8. This muscular tube passes through the thoracic cavity, just behind (deep to) the trachea. _____
9. Four key functions of the liver are: _____ / _____ / _____ / _____.
10. Four main ligaments stabilize the knee. These are the: _____ / _____ / _____ / _____.
11. This is a rapidly developing loss of brain functions due to a disruption of the supply of blood to the brain: _____
12. These lung structures are spherical in shape and are the primary sites of gas exchange with the blood: _____

Bonus: Are you interested in a career in medicine, as either a doctor, nurse, or some other member of the healthcare community? Y or N

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General Cadaver Demonstration
Pre/Post Test
Answer Sheet

1. Mechanical & Chemical
2. 7.40
3. Helps in immune response, Destroys old and damaged platelets and red blood cells, Serves as reservoir for blood
4. Right atrium / Tricuspid / Right ventricle / Pulmonary / Pulmonary artery / Lungs / Pulmonary / Left Atrium / Mitral (bicuspid) / Left Ventricle / Aortic / Aorta / Body (systemic circulation)
5. Duodenum / Digestion (breakdown)
6. Carotids / Vertebrals
7. Myelin
8. Esophagus
9. Produce bile / Convert glucose to glycogen for storage / Produce cholesterol / Clears blood of drugs and other toxins
10. Medial collateral / Lateral collateral / Anterior cruciate / Posterior cruciate
11. Stroke
12. Alveoli