

Alternatives in Veterinary Anatomy Training

Computer Software

The items in this category are numerous. The following are some good examples.

Comparative Anatomy: Mammals, Birds and Fish

Abstract:

This computer software covers an introduction to:

- Organization of the Organism Orientation to Cells, Tissues and Organs
- Musculoskeletal System
- Circulatory System
- Nervous System
- Integumentary System
- Urinary System
- Digestive System
- Respiratory System
- Reproductive System

Catalog No.: CDMW07

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MediClip Veterinary Anatomy

Abstract:

This computer software that consists of primarily surface and internal anatomy of all regions and systems, with depictions of some surgical and anesthesia techniques. Animals include horses, dogs, cats, birds, frogs, cows, pigs, and goats. This well-known MediClip series contains 494 images created by some of today's foremost medical and veterinary illustrators.

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Web site: <http://lww.com>

Veterinary Neurosciences – An Interactive Atlas

Abstract:

This computer software provides students with an interactive neuroanatomical atlas. Structures of the canine brain can be examined in high-resolution, 8-bit color, myelin stained, transverse

sections. Analogous gross sections of the sheep brain are instantly available with the click of a button. A variety of additional gross views are also provided. Both histologic and gross views have interactive highlighting labels that allow the student to learn about over a hundred structures by either directly clicking on the image or on the structures name in a text list. A Find command gives instant access to a particular structure. Nine additional modules present the major Somatosensory, Motor and Visual pathways. A series of color graphics trace the names and locations of the neural tracts and relay nuclei from the origin to the termination of each pathway. The modules are fully integrated with the atlas providing access to histologic or gross views of any point along the pathway.

Catalog No.: CDSM06

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Plastination of Anatomy Specimens

Abstract:

This is a process by which natural specimens, after formalin fixation, are dehydrated and then infiltrated with silicone. The result is a durable, real anatomic specimen, which can last indefinitely for use in anatomy labs.

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Prosection

Abstract:

Prosection is the carefully programmed dissection for demonstration of anatomic structure. Using prosections, versus individual or groups of students dissecting their own cadavers and increasing the number of students studying a particular cadaver, decreases the overall number of animals used. No difference in learning is seen or demonstratable.

Published Material:

Provo JA, Lamar CH: Prosection as an Approach to Student-centered Learning in Veterinary Gross Anatomy. *Journal of the American Veterinary Medical Association* 206(2):158-161, 1995.

“Analysis of performance in this course [in which prosection was compared with dissection] showed that veterinary students do not need to dissect every area to learn comparative anatomy effectively. Students made as many errors on structures that they learned by dissection as they did on structures learned from peer prosection. This finding is important for 2 reasons. First, learning by demonstration requires much less class time than does dissection (2 hours for a dissection assignment vs. 20 to 30 minutes for a demonstration). Second, the use of prosections can reduce the number of animals needed to teach gross anatomy.

"These findings are in agreement with those in human anatomy. ...studies measuring retention have shown no difference between prosection and dissection."

Silyophilization

Abstract:

This is a process of lyophilization and silicone infiltration (rather than plastination) for preservation of tissues. It is stated to be environmentally safe (cf. plastination) and that the end result is a translucent, durable preserved specimen, which is resistant to compressive forces.

Published Material:

Ocello, P, Render, J, and Rosenstein, D: A new method for preserving ocular tissue for veterinary education. *American College of Veterinary Ophthalmologists (Transactions)* 26: 115, 1995 (September).

Willed Body Donation Program

Abstract:

This program allows the guardians of nonhuman animals who died of natural causes or were euthanized for medical reasons to donate their animal's body to the college to be used in the teaching programs. This donation program is similar to programs used by medical schools that allow individuals to will their bodies to medical education.

Current Veterinary Schools Using This Program on a Substantial Scale:

Texas A&M University, College of Veterinary Medicine

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Published Material:

Kumar AM, Murtaugh R, Brown D, Ballas T, Patronek G, Clancy E: Client Donation Program for Acquiring Dogs and Cats to Teach Veterinary Gross Anatomy. *Journal of Veterinary Medical Education* April 2001.

“The donor program has successfully met the animal needs for teaching gross anatomy and in addition, provides opportunities to integrate clinical perspectives and ethics beginning from the first year of veterinary education.”

Patronek G: Tufts University School of Veterinary Medicine Client Donation Program. *Alternatives in Veterinary Medical Education Newsletter* 11:2-3, April 1999.

“The unique donation program was established several years ago in response to growing ethical concerns by students and faculty over the euthanasia of healthy animals for teaching purposes...”

“Despite the logistical challenges, we feel that the benefits far outweigh the disadvantages. The response from students, as well as clients, to this program has been very positive.”