Human Anatomy Education in the Commonwealth of Virginia: Practices, Trends and Innovations at the Six Medical Schools

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Purpose

Anatomy as a basic science in medical education is foundational in understanding the human body. Regardless of the eventual specialty one might choose, knowledge of the human structure is important and necessary for a full understanding of human function, both normal and pathological. Therefore, it is crucial to constantly investigate the current state and innovations that exist in medical anatomy education, and explore different pedagogical approaches and styles in order to continue training competent healthcare professionals.

The objective of this survey study is to explore the various cadaveric anatomy curricula at the six (6) medical schools in the Commonwealth of Virginia. We hope to not only demonstrate the current innovations being implemented, but also provide a resource of reference for medical schools, medical students, anatomy faculty and those involved with medical education in both Virginia and beyond.

Background

Faculty who support the delivery of anatomy content are often curious as to what their peer institutions provide to students relative to pedagogical trends, third party resources, technology and faculty support. In Virginia, medical schools and post-secondary schools who use cadaveric materials formed an organization, the Virginia Association of Human Anatomical Sciences. This group helps to provide some context to participating schools as to practices, trends and innovations at some Virginia schools.

We suggest documenting anatomy education, in particular due to its unique role in medical education, at the Virginia medical schools may be helpful to the programs, the faculty and the general public-at-large. In light of some very disturbing news lately out of Harvard University (https://www.nbcboston.com/news/local/4-charged-in-harvard-morgue-body-part-theft-scheme/3068131/?_osource=db_npd_nbc_wbts_eml_shr), this study is of particular importance as it will highlight the professional conduct in the anatomical programs in Virginia. Although this study has recently completed its data collection, the results that follow are preliminary.

Methodology

There are six medical schools in the Commonwealth of Virginia (Eastern Virginia Medical School, Liberty University College of Osteopathic Medicine, University of Virginia School of Medicine, Edward Via College of Osteopathic Medicine, Virginia Commonwealth University School of Medicine and Virginia Tech Carilion School of Medicine. Four of these are M.D. programs and two are D.O. programs. The anatomy directors of each school were contacted and asked to participate in a one-hour interview via Zoom where a 50 question survey was conducted verbally.

The survey had a total of eight sections including:

School Demographics	Faculty
Anatomy Curriculum	Assessments
Donors	Electives
Resources	Additional Comments

"We focus on caring for the donors; we provide first names and remind our students that these donors are their first patients."

"Being a Christian university, we teach anatomy with the unique aspect of creation."

"We are a clinically focused anatomy curriculum along with having an imaging simulation lab."

"Our 4th year elective with unique rotations offers many special dissection opportunities."

"We have our students take a longitudinal course [Anatomy Rounds] with the mission of learning as much as the students can about their donor."

"All our anatomy faculty are clinicians, and our curriculum is both clinically and research focused."

Preliminary Observations

All six anatomy directors agreed to participate in this survey, and the following is a preliminary summary of its findings:

School Demographics
- ❏ Class size ranged from 49-190 [Average = 172]
- ❏ Average anatomy facility is about 4,500 sq. ft.

Anatomy Curriculum
- ❏ Three schools are region-based and three schools are systems-based
- ❏ Students spend an average of 4-6 hours per week in lab
- ❏ The majority of the schools have a dissection course [80%]

Donors
- ❏ All schools receive their donors from the Virginia State Anatomical Program (VSAP)
- ❏ The number of donors range from 13-32 [Average = 24]
- ❏ An average of 4-5 students study each donor
- ❏ All schools not only report support for continued use of donors but also conducts a donor memorial service

Resources
- ❏ All but one school utilizes Grants Dissector as a resource
- ❏ Most schools do not require lecture time [80%]

Faculty
- ❏ Anatomy faculty range from 1-6 members with about 40% holding doctoral training in anatomy, while others hold doctorates in some area of biomedical science or are clinicians (MD, DO, DC, PT)
- ❏ Range from 1-60 years of faculty experience in anatomy education
- ❏ Range of faculty:student ratio is from 1:3 to 1:27

Assessments
- ❏ All schools have a written examination with most schools having a pinned examination as well [66%]
- ❏ Half the schools utilize NBME-style questions for their anatomy written examination

Electives
- ❏ All schools offer electives in anatomy within their four-year curriculum

Additional Comments
- ❏ A common trend in all the medical schools is shortening of the anatomy curriculum and its integration with other pre-clinical courses
- ❏ Unique aspects reported about each anatomy program is written in quotes in the middle of this poster

Summary

This study was about surveying anatomy curricula in Virginia medical schools. We found a substantial amount of overlap between the schools regardless of none of the directors communicating with each other. All schools appear to be active in professional organizations and conduct research contributing to not only anatomy education but also clinical advancement and applications. Each school has supported the continued use of donors in their anatomy curriculum and agreed on the value of learning how other programs are adapting especially during times of medical school curricular changes.

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