

Evolving Roles of Anatomists in Modern Medical Education

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For centuries and particularly in the past few decades, the role of anatomists in medical education has been a subject of significant interest as both educational methods and clinical practice continue to advance. Anatomists are now adapting to a landscape where traditional cadaver-based teaching is balanced with interactive and technology-enhanced methodologies. This is of particular significance as there are variations of delivery techniques among lecturers and high-quality lectures are easily accessible on the web. So, what are the current and potential future roles of anatomists within this shifting paradigm?

Anatomy education is moving from passive, lecture-based teaching to active, student-centered learning. This shift allows students to engage with anatomical concepts more interactively, and anatomists play a vital role in

facilitating this by implementing methods such as problem-based learning (PBL), flipped classrooms, and small group discussions. Here, anatomists serve not only as knowledge providers but as facilitators, guiding students through complex subjects and encouraging critical thinking.

With the rising number of medical faculties and budget constraints, cost-effective anatomy education is crucial. Cadaveric dissections, although traditional, require substantial financial and logistical investment. In contrast, prosected specimens and digital tools (like virtual dissection tables and 3D anatomy apps) offer less costly alternatives. While the debate over the superiority of dissection versus prosection remains unresolved, many educators advocate a blended approach, allowing students to benefit

DOI: <https://doi.org/10.4038/slaj.v8i2.260>

Sri Lanka Anatomy Journal 2024; 8(II): 3-4

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from both experiences based on available resources.

Although dissection may not be universally deemed superior for theoretical learning, it fosters essential practical skills. Time spent in the dissection laboratory helps students acclimate to anatomical terminology, develop teamwork and communication skills, and build resilience for clinical environments. Given the sensory demands of dissection (smell, handling tissues), this experience can acclimate students to similar environments they will encounter in their clinical years.

The use of formalin in cadaver preservation poses health risks, including respiratory and allergy issues for students and faculty. Modern alternatives, such as alcohol-based preservation or plastination, mitigate these hazards and can make dissection laboratories safer. Moreover, ventilation systems and detached and separate anatomical resource centers reduce the impact of preservation chemicals on the surrounding environment. Anatomists, therefore, have an increasingly critical role in advocating for a safer, student-friendly laboratory environment.

Assessing anatomical knowledge is another evolving area. Traditional examinations may not adequately gauge practical anatomical understanding. Instead, anatomists are involved in developing Objective Structured Practical Examinations (OSPEs) that better evaluate applied anatomy skills, such as surface anatomy and radiological interpretations. Anatomists may also guide

assessment methods that align closely with real-world applications, enhancing student preparedness for clinical practice.

Anatomists today are tasked with linking anatomical concepts with their clinical applications. By emphasizing applied anatomy, students are better prepared to recognize and understand the relevance of their anatomical knowledge in diagnostics and treatment. This integration of clinical case discussions, radiology, and imaging studies into anatomy education is becoming a primary focus.

There is a pressing need for anatomists across universities and institutions to converge together to discuss best practices, share resources, and address the future of anatomy education. Workshops or forums focused on curriculum standardization, cost-effective strategies, and assessment techniques can drive improvements across programs.

In summary, the role of anatomists is no longer confined to teaching anatomy but extends to innovating pedagogy, fostering an applied understanding of anatomy, developing effective assessments, and enhancing laboratory safety. By embracing these responsibilities, anatomists can ensure that future generations of medical professionals are better equipped with both theoretical knowledge and practical skills essential for clinical excellence.