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Do Virtual Dissection Tables Add Benefits to Physical Models in Anatomy Education? A Review

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Learning objectives

The purpose of this systematic review was to evaluate whether virtual dissection tables, particularly the Anatomage system, provide added educational value when used as a complement to physical anatomical models and cadaver-based teaching in anatomy education. Given the increasing challenges associated with traditional cadaveric dissection—including ethical constraints, high costs, and limited availability—this review aimed to determine the effectiveness of virtual dissection tables within blended learning approaches in improving anatomical understanding, student engagement, and academic performance [1–4].Specifically, the review sought to synthesize current evidence on the...
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Background

The teaching of human anatomy has traditionally relied on cadaveric dissection, which remains a cornerstone of medical education. However, increasing ethical concerns, high maintenance costs, limited cadaver availability, and curricular time constraints have prompted the adoption of digital technologies as complementary teaching tools [1–3]. Among these innovations, virtual dissection tables—particularly the Anatomage system—have gained prominence by enabling interactive, three-dimensional exploration of the human body based on real computed tomography (CT) and magnetic resonance imaging (MRI) datasets [4–6].Virtual dissection tables offer high anatomical detail, real-scale visualization,...
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Findings and procedure details

The systematic literature review identified seven studies that met the predefined inclusion criteria, comprising four comparative studies and three non-comparative studies evaluating the educational impact of virtual dissection tables, primarily the Anatomage system, in anatomy education. The studies included undergraduate medical and health sciences students and assessed outcomes related to academic performance, spatial understanding, motivation, and learner satisfaction.Across all included studies, students reported high levels of satisfaction with the use of virtual dissection tables. Non-comparative studies consistently highlighted increased engagement, motivation, and perceived usefulness of...

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Conclusion

This systematic review demonstrates that virtual dissection tables, particularly the Anatomage system, represent a valuable and effective complement to traditional anatomy teaching methods. When integrated into blended learning approaches alongside cadaveric dissection and physical anatomical models, virtual dissection tables enhance three-dimensional spatial understanding, facilitate the correlation between anatomy and medical imaging, and promote active, student-centered learning.The evidence indicates that the combined use of virtual dissection tables and conventional methods is associated with improved academic performance, higher levels of student satisfaction, and increased motivation. These benefits...

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Personal information and conflict of interest

J. Pinheiro: Nothing to disclose A. D. M. Ribeiro: Nothing to disclose L. P. V. Ribeiro: Nothing to disclose

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Fig 1: *Identification of studies via databases*