

Cadaveric Dissection versus Systems-Based Anatomy: Testing Final Year Student Surface Anatomy Knowledge to Compare the Long-Term Effectiveness of Different Course Structures

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Abstract : Newly-qualified Foundation Year 1 doctors in the United Kingdom are frequently expected to perform practical skills involving the upper limb in clinical practice (for example, venipuncture, cannulation, and blood gas sampling). However, a move towards systems-based undergraduate medical education in the United Kingdom often precludes or limits dedicated time to anatomy teaching with cadavers or prosections, favouring only applied anatomy in the context of pathology. The authors hypothesised that detailed anatomical knowledge may consequently be adversely affected, particularly with respect to long-term retention. A simple picture quiz and accompanying questionnaire testing the identification of 7 upper limb surface landmarks was distributed to a total of 98 final year medical students from two universities - one with a systems-based curriculum, and one with a dedicated longitudinal dissection-based anatomy module in the first year of study. Students with access to dissection and prosection-based anatomy teaching performed more strongly, with a significantly higher rate of correct identification of all but one of the landmarks. Furthermore, it was notable that none of the students who had previously undertaken a systems-based course scored full marks, compared with 20% of those who had participated in the more dedicated anatomy course. This data suggests that a traditional, dissection-based approach to undergraduate anatomy teaching is superior to modern system-based curricula, in terms of aiding long-term retention of anatomical knowledge pertinent to newly-qualified doctors. The authors express concern that this deficit in proficiency could be detrimental to patient care in clinical practice, and propose that, where dissection-led anatomy teaching is not available, further anatomy revision modules are implemented throughout undergraduate education to aid knowledge retention and support clinical excellence.

Keywords : dissection, education, surface anatomy, upper limb

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