Policy Document

Anatomy Curriculum Policy

Background

The Australian Medical Students’ Association ("AMSA") is the peak representative body of Australia’s medical students. Accordingly, AMSA is uniquely placed to advocate on issues of medical education and make representation on the provision of modern medical curricula in the Australian context.

Recently, much attention has focused on the perceived lack of anatomical knowledge of Australian medical graduates, both in the popular press [1] and academic literature [2,3]. A sustained decline in the number of hours dedicated to teaching anatomy from the mid-1990s has been attributed to the introduction of integrated, problem-based curricula [4], the redesign of medical curricula to accommodate a vast expansion in basic science knowledge [5], as well as the rise of time-poor, four-year graduate programs [6].

Existing curriculum guidelines for medical graduates by the Australian Medical Council ("AMC") do not provide detailed content requirements in respect of individual subjects, including anatomy. In 2010, a survey of Australian and New Zealand medical schools revealed considerable variation in the level and content of anatomy instruction and assessment, ranging from a minimum of 56 hours to a maximum of 506 hours (mean 171 hours) per course [7]. The results of the survey lead the authors to suggest that the level of anatomical knowledge held by some medical graduates might be inappropriate for clinical practice [7]. It would be simplistic, however, to assume that anatomical knowledge is purely a function of teaching hours without taking account of student learning styles and instruction format, and more research is needed in this area [8,9]

Detailed evidence pertaining to students’ confidence in their own levels of anatomical knowledge is currently lacking. A brief questionnaire examining student opinion on anatomy tuition was conducted by AMSA in 2006, and submitted to the Department of Education, Science and Training as part of the National Medical Education Study [10]. The results revealed several areas of concern: less than 40 per cent of students felt their anatomical knowledge sufficient to practice as competent junior doctors, 73 per cent perceived the number of teaching hours too little, and 53 per cent believed anatomy was significantly underrepresented in assessment at their university (n = 610). A study of newly graduated doctors from Nottingham University in the United Kingdom has found no statistical difference in attitudes toward anatomy teaching adequacy when career intentions (surgical versus nonsurgical) are controlled for [11], suggesting that the concerns revealed in the previous AMSA survey are likely to be distributed evenly across all students.

Peer perspectives on the adequacy of current curricula range from supportive of student concerns [12] to outright dismissive [13]. In the surgical literature, published opinions remain largely emotive and lacking of empirical data substantiating the claim that current graduates have significantly less anatomical knowledge than previous generations [14]. There are a number of recent publications suggesting that modern medical curricula significantly undervalue anatomy teaching, leading to the perception of poorer diagnostic skills and clinical error due to so-called “anatomical ignorance” [15-18], however, this is yet to be demonstrated empirically. As such, the Australian & New Zealand Association of Clinical Anatomists have formally stated the need for basic standards, particularly in view of government funding of Australasian medical schools [12,19]. This statement follows the publishing of a core syllabus in anatomy by the Anatomical Society of Great Britain and Ireland detailing the minimum expected knowledge of recently qualified medical graduates in the United Kingdom [5]. At current, this core syllabus remains largely aspirational in nature and has not been adopted by the General Medical Council, the equivalent body of the AMC in the United Kingdom.

Anecdotel evidence suggests a rise in extracurricular anatomy elective courses initiated by both faculty and students. Students have identified a perceived deficiency in anatomical knowledge as the key reason for participating in these elective courses [6,20]. The high demand for positions in these supplemental programs has been claimed as evidence of their success [21], meaning demand for similar programs is likely to be sustained. However, given their extracurricular nature and the limited number of positions,
the benefits are not extended to entire cohorts, and the majority of medical schools do not offer such programs. In addition, the advent of graduate diplomas and master’s degrees in gross and surgical anatomy, further shifts the onus of responsibility away from universities providing more than a perfunctory knowledge of anatomy [6].

Much conjecture still exists on what constitutes an appropriate anatomical knowledge for graduating medical students. Without guidelines, it is unclear whether the content of a medical degree should be limited to the knowledge required of interns, or providing students the capability and confidence to undertake postgraduate training. In reality, defining the core knowledge is a difficult task that requires input from the key stakeholders with a vested interest in the quality and competency of Australian medical graduates, namely, the Australian Medical Council, the Medical Deans Australia & New Zealand, as well as the postgraduate specialist colleges. There is no doubt, however, that ‘the anatomy and anatomical problems of safe clinical practice, even at a junior level, are similar everywhere’ [7], demanding consistency across Australian medical schools.

In summary, there is currently a wide variation in the emphasis given to instruction in anatomy in Australian medical schools. In the absence of national guidelines for the teaching of anatomy, the level of basic anatomical knowledge held by some graduates might be inadequate for competent clinical practice, as curriculum standards and methods of assessment are left to the discretion of individual institutions.

**Position Statement**

AMSA believes that:

- Consideration should be given to developing learning goals or guidelines for anatomical teaching in Australasian medical schools.
- Assessment is the best method of driving learning outcomes in anatomy, and more research is needed to determine the most efficacious methods of assessing anatomical knowledge in medical students.
- Further evidence is needed as to what constitutes core knowledge of anatomy for medical graduates.
- Traditional methods of anatomical instruction, including dissection, should be available to medical students at all universities, in the absence of evidence demonstrating the superiority of modern teaching methods.

**Policy**

AMSA calls upon:

1. The Australian Medical Council, with the support of Medical Deans Australia & New Zealand and the specialist colleges to:
   a. Collaborate to develop clear guidelines that make explicit the core knowledge of anatomy expected of medical graduates for competent practice.
   b. Make specific recommendations to universities as to how they can improve the teaching, method of instruction and assessment of anatomy.
   c. To recognise the advent of extracurricular, supplemental anatomy courses as a positive development, and consider their inclusion in standard curricula so as to extend the benefits to entire cohorts.

2. Australian universities and the postgraduate specialist colleges to carry out further research into the role of anatomy in modern practice, and the most effective methods of delivering anatomical education.

**References**


Policy Details

Name: Anatomy Curriculum Policy

Category: B – Medical School Education
History: Adopted Council 3 2013