The place of physiology in an integrated medical curriculum

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In 1996 Flinders University took its initial cohort of students into Australia's first Graduate Entry Medical Programme (GEMP) (Finucane *et al.*, 2001). The teaching of basic sciences such as physiology in the first two years was by Problem-based Learning (PBL) tutorials with a small number of supporting lectures and practical sessions. The tutorials involved analysis of PBL cases which were clinical patient scenarios written to highlight particular areas of body function in a relevant context. There were no groups of lectures under the heading of "Physiology", or under the names of any of the other preclinical departments that had previously taught their own disciplines. This of course generated concerns that basic science would no longer be learned in any depth. The extent to which physiology appeared in the preclinical years of the course was measured by analysing the "Learning Objectives" – a group of brief statements that define the course designers' intentions for student learning, week by week. Learning Objectives define the course content and are decided at the earliest stage of course design before PBL cases are written or lectures planned. The first 59 teaching weeks of the 4 year GEMP involved teaching basic human biology integrated with clinical science, using PBL cases. Over this period there were a total of 494 Learning Objectives in the area of basic biomedical science, on average 8 or 9 per week. The number of Learning Objectives that could be considered as relating to physiology, eg: "Describe the mechanisms (muscles, pressures and volumes) underlying spontaneous ventilation" "Know the pattern of blood flow through the kidney and how this is regulated under different circumstances" "Understand how gastric acid is produced" were counted. There were 119 physiology Learning Objectives, constituting 24% of the basic biomedical science learning expected in the first 2 years of the GEMP. These Learning Objectives were spread across 39 of the 59 weeks, showing that physiology learning was explicitly expected in 66% of the weeks. This is probably an underestimate of the physiology content. There were Learning Objectives such as: "The physiological basis and significance of added heart sounds" and many others relating to pathophysiology which were not included in the count, even though such issues would traditionally have been taught by physiologists in past courses. It is therefore not surprising that, despite the absence of sessions called "Physiology", the staff of the Department of Human Physiology were highly in demand to write PBL cases and participate in supporting sessions. The lack of an explicitly labelled physiology section in the course has not lessened the amount of physiology that the students are required to learn. On the contrary, the high proportion of physiology material in the explicit Learning Objectives emphasises the fundamental role of the discipline in the early stages of medical training.

Finucane, P., Nicholas, T.E., & Prideaux, D. (2001) *Medical Teacher* 23, 76-79.