

performance was evaluated by an examiner who was not connected with the project.

**Evaluation of results and impact** The low performers included 15 men and 6 women aged 19–20 years. All came from high socio-economic backgrounds and had gained high scores in their entrance examinations. Non-academic causes of low performance were stress resulting from language problems (8/21 students), problems in adjusting to life away from home (6/21), lack of self-confidence (12/21), fear of failure (8/21) and worry about the future (10/21). Academic problems included difficulty in managing study time (17/21), lack of concentration (10/21), inability to retain what was studied (10/21), examination anxiety (8/21), inability to write examinations (5/21), etc.

Analysis by paired *t*-test revealed a statistically significant improvement in the post-programme performance of the 16 students who participated in the sessions ( $P < 0.001$ ). The pre- and post-programme performances of the 6 low performers who did not participate in the project showed no statistically significant difference ( $P = 0.518$ , Wilcoxon signed rank test). A post-programme questionnaire was administered to assess the participants' response to the intervention. The response was positive and majority of them felt that the sessions had helped to improve their performance (average score 3.63/6.00), change their study behaviour (3.69/6.00) and change their attitude (3.50/6.00). They felt that the strong point of this programme was that it gave them more confidence and boosted their self-esteem.

It was concluded that poor performers can benefit from individually tailored remedial programmes which include counselling and training in study skills, along with good mentor support.

*Correspondence:* Vijaya V Mysorekar, Professor of Pathology, MS Ramaiah Medical College, MSR Nagar, MSRT Post, Bangalore 560054, India. Tel: 00 91 80 2360 5190; Fax: 00 91 80 2360 6213; E-mail: vijayamysorekar@yahoo.com

doi: 10.1111/j.1365-2923.2007.02887.x

## Diagnostic grand rounds in undergraduate medical education

*Andrea Praschinger, Stefan Stieger & Franz Kainberger*

**Context and setting** A new integrated medical curriculum was implemented at the Medical University of Vienna in the winter term of 2001. The last 2 years of the 12-term (6-year) undergraduate medical training focus on the extension of clinical

skills. Students are prepared for practical tasks in clinical routine after graduation. Diagnostic science was included in the new curriculum in order to teach students about indications for, investigation with and interpretation of diagnostic methods and their appropriate uses in the clinical setting.

**Why the idea was necessary** Diagnostic tests had been taught thus far without reference to the patient's medical history. Students and young medical graduates found it difficult to apply their knowledge of diagnostic tests and select the appropriate test method in routine clinical practice.

**What was done** Diagnostic grand rounds (DGRs) were implemented in Year 5 of medical training and held every 2 weeks for 2 hours. The lessons were focused on patient histories. The purpose of learning was to enable students to select the appropriate diagnostic test. Experienced representatives of various clinical departments presented case studies through computer presentations or patient interviews in the lecture hall. Students participated actively in the lessons. Based on the patient's symptoms, students were asked to state suspected diagnoses by completing diagnostic forms and to answer specific questions by voting. After discussing the patient's suspected diagnosis, determining the diagnosis and deciding on diagnostic methods, the test itself was explained. Reasons for selecting a specific diagnostic method in a particular situation were explained. For practical instruction, diagnostic methods were presented live in the lecture hall using manikins or video clips.

In DGRs students learn to structure information and apply standards to select the appropriate test. Students are trained to integrate their knowledge of clinical tests and clinical symptoms in order to treat patients. The purpose is to encourage diagnostic reasoning.

**Evaluation of results and impact** Three evaluations were performed to assess the effectiveness of this new teaching strategy. On being questioned about the impact of diagnostic rounds, 84% of the students said they benefited from attending these, particularly with regard to expressing allocation diagnosis and selecting the appropriate diagnostic test. The lesson also enabled the students to understand the anatomical, physiological and pathological contexts of diseases, as well as the test results. This was confirmed by teachers, all of whom considered DGRs a useful means of teaching clinical diagnostics. The Diagnostic Thinking Inventory – a questionnaire-based measure of diagnostic abilities which has already been shown to have good reliability and validity in several studies – was used in a pre- and post-test design. Students had significantly higher

scores on both scales in 'flexibility in thinking' and 'structure of knowledge in memory' after attending DGRs for 4 months, independent of the medical knowledge and skills acquired through bedside teaching.

*Correspondence:* Andrea Praschinger PhD, Medical University of Vienna, Core Unit for Medical Education (BEMAW), Spitalgasse 23, BT87, PO 10, A-1097 Vienna, Austria. Tel: 00 43 1 40160 36712; Fax: 00 43 1 40160 936500; E-mail: andrea.praschinger@meduniwien.ac.at  
doi: 10.1111/j.1365-2923.2007.02888.x

### Enhancing humanism through gross anatomy: a pre-course intervention

*Jerry B Vannatta & Sheila M Crow*

**Context and setting** At the University of Oklahoma College of Medicine, we designed a luncheon where the families of anatomy donors are invited to meet the students who will dissect the bodies of their relatives before the anatomy course begins. The luncheon was specifically designed so that the families of donors lunched with and became acquainted with the very students assigned to dissect their family member.

**Why the idea was necessary** It is well documented that a certain dark humour is associated with gross anatomy classes in medical schools. We felt that meeting the families of donors and hearing their life narratives before beginning dissection would increase the level of professionalism in the anatomy laboratory. We also felt it would increase student empathy for the diseased donor's suffering during life as the students went about the dissection.

**What was done** A freshman class of medical students was randomised into groups of students who participated in the donor luncheon experience and students who did not. Families of donors to the anatomy programme were invited to a luncheon sponsored by the College of Medicine. They were asked to bring pictures and the life stories of the donors to share with the students. This luncheon took place during orientation in Year 1 of medical school. The idea was to personalise the donor so that the first 'patient' the students encountered would have a name, a life story and thus a psychosocial history. We hypothesised that the experience of meeting the donor's family and learning the donor's life story would create empathy for the donor and his or her family. It was also hypothesised that less dark humour and 'cadaver tricks' would be used by students who met with the families of donors. The

students and families became acquainted and the families shared stories about their donor members over lunch.

**Evaluation of results and impact** Evaluation was carried out using questionnaires in order to compare the 2 groups of students. Those exposed to the families of anatomy donors were more likely to think about the donor's family during the gross anatomy course (a measure of empathic understanding) and were less likely to quit thinking of the donor as a human being and detach from the process. Both these findings were statistically significant. Interestingly, the group exposed to donor families approached the gross anatomy experience more intellectually than emotionally, compared with the non-exposed group. One student who participated in a 'cadaver trick' was exposed for this behaviour in a 360-degree professionalism evaluation used during the course. This behaviour was seen as unprofessional by fellow students. In summary, we believe our results affirm that a programme such as the anatomy donor luncheon offered at the University of Oklahoma College of Medicine provides an ideal opportunity to teach and encourage humanistic qualities of respect, empathy and compassion.

*Correspondence:* Jerry B Vannatta MD, WP1160, PO Box 26901, Oklahoma City, Oklahoma 73190, USA. Tel: 00 1 405 271 5882; Fax: 00 1 405 271 1476; E-mail: jerry-vannatta@ouhsc.edu  
doi: 10.1111/j.1365-2923.2007.02889.x

### An alternative means of obtaining student feedback

*Andrew M Luks*

**Context and setting** When medical students complete evaluations on courses conducted over many weeks or months, they are asked to evaluate lectures that may have occurred weeks earlier and, as a result, may not be able to give feedback as effectively as they would immediately after a lecture took place.

**Why the idea was necessary** The Pulmonary and Critical Care Division at our institution sought to improve the quality of its course on pulmonary physiology and pathophysiology. We needed student input about the quality of the lectures to inform these improvements. Concerned about the delay between delivery of the lectures and the traditional evaluation process, we designed a different method to solicit more timely and potentially useful feedback.

**What was done** A cohort of students was recruited to give feedback on lectures as they took place, rather than at the end of the course. Students were