

Medical Education Revisited

“... medical educationists must not aim at the production of medical technicians who concern themselves with science and finance, but they should rather promote a special class of professional people known as the medical men. Men who are concerned not only with knowledge or profit and loss, but also with the philosophy of living and morality. It must be stressed that a fool without moral is only a social nuisance, but an intelligent mind, bereft of scruples, is a danger to society. Hence, medical education is imperfect and even menacing, if it neglects the human side of a doctor's training.”

Gwee Ah Leng, SMJ 1963

CHANGING THE UNDERGRADUATE MEDICAL CURRICULUM

1. Reduction of factual overload and integration of teaching

Three approaches are being taken to reduce curricular content overload:

- a) Teaching throughout the medical course will be directed and co-ordinated at Faculty level rather than at departmental level hence lessening the tendency for rapid accumulation of factual content and duplication of teaching.
- b) Educational objectives and core curricula are being defined for individual components and modules throughout the course.
- c) A Medical Education Section will be established in the Faculty of Medicine to monitor curriculum content and teaching.

2. Promoting active learning

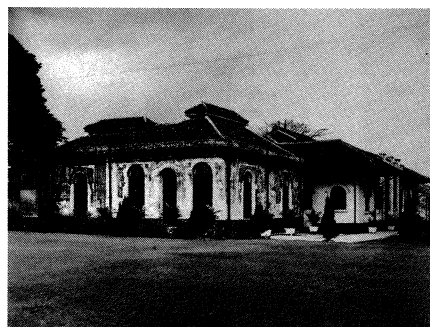
- a) Instruction organised around an integrated organ system-based approach will be supplemented by strong problem-based learning components. In a typical problem-based learning session, a small group of students is given an instructive clinical case or pathophysiological condition. The students are expected to identify and critically discuss amongst themselves the primary problems or issues presented by the case. Following this, the students would independently research different facets of the case through reviewing the literature, before reconvening to consolidate their data and ideas. The tutor acts

A PICTORIAL HISTORY OF MEDICAL EDUCATION IN SINGAPORE

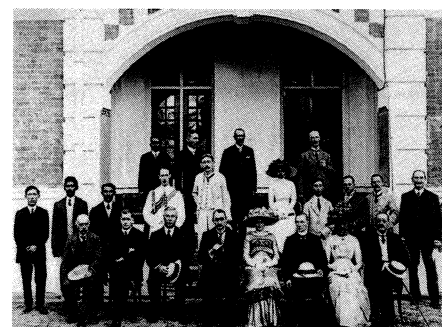
King Edward VII College of Medicine 1905 – 1949



Tan Jiak Kim, through whose efforts the Medical School opened in 1905



The Medical School started on the premises of a former female lunatic asylum at Sepoy Lines



Official opening of the Medical School on Thursday, 28 September 1905

primarily as a facilitator who would guide the students during the course of their discussion. At the end of the whole session, the tutor would review the main learning points of the case and will point out important areas or issues which the students had overlooked and would need to look into.

- b) The Faculty plans to gradually increase the amount of project work in which students are expected to frame relevant questions and to independently plan and execute an approach which would address them.
- c) Students will be provided with greater exposure to and opportunities for research. A specific introductory module on research will be introduced which will present a broad overview of how new knowledge is generated, the scientific method and general basic research methodologies. As part of the University's Undergraduate Research Opportunities programme, the Faculty has made provisions for interested students to carry out a range of research projects under the mentorship of experienced investigators in the Faculty.

3. Extending the effective use of Information Technology in medical education

It is intended that Information Technology will be used extensively to reinforce the educational objectives of integrated teaching and to further encourage self-directed learning. For example, a well-designed multimedia programme on hyponatraemia can incorporate teaching elements in anatomy, physiology, biochemistry, chemical pathology and clinical nephrology. An interested preclinical student can use the programme to learn about the clinical relevance of the basic science knowledge while a clinical student could use it to revise the scientific basis of clinical practice with regard to hyponatraemia. Most importantly, the student would be able to use the teaching programme to the degree and at the pace with which he is most comfortable.

4. Greater opportunities for elective study

There have to be provisions in the curriculum for students to pursue in greater depth, areas in which they have special interest. In the current curriculum, a 6-week elective posting period already exists in the 4th year of the medical course during which time, students can choose from a wide variety of options ranging from clinical attachments to basic bench research. It is our intention that curriculum time freed up by the reduction of curriculum content in the first 2 years of the course, should provide additional opportunities for elective study. Ideally, there should be at least 1 elective period when students can opt for modules of study which are totally outside of medicine, since even this limited broadening of the undergraduates' education could help reduce the tendency for the students to be too narrowly focused on medicine.

5. Practical and communications skills training

Greater emphasis will be placed on ensuring that students achieve competence in the practical skills required of young doctors. The Faculty has set up a clinical skills laboratory which is equipped with mannequins for students to practise practical procedures such as venepuncture and catheterisation, teaching aides for instruction in basic clinical skills such as cardiac auscultation and per rectal examination, supported by plastinated anatomical specimens, relevant radiographic and other images and multimedia teaching programmes. Instruction will



Graduation of the first batch of doctors, 1910



The College of Medicine Building opened on 15 February 1926

commence in the second year of the medical course, starting from April 1998, and will be reinforced in the third, fourth and final years. This will be complemented by training in Basic Cardiac Life Support and Advanced Trauma Life Support, which are already components of the current curriculum. Formal training in communications skills will be carried out concurrently with instruction in practical skills.

6. Winning the support of the teachers

Successful implementation of changes in the curriculum requires the active support of all teachers. Discussion and debate on the intent and substance of curriculum reforms is an essential process which is often helpful in clarifying difficult issues. The active participation of teachers from the Faculty of Medicine, the National University of Singapore, restructured hospitals and the private sector, will help engender a feeling of joint ownership of the revised undergraduate teaching programme which will be critical for its successful implementation. Many teachers would also require additional training, particularly in the conduct of problem-based learning activities, to ensure that educational objectives can be effectively met.

7. The inevitable review of examinations

Since examinations have a profound influence on the way students study, a comprehensive review of our system of evaluation is currently being undertaken with a view to instituting changes which will reinforce the educational objectives of the new curriculum. For example, integrated, systems-based teaching in the preclinical subjects must be tested in integrated examinations evaluating students on the areas covered rather than in the separate Anatomy, Physiology and Biochemistry examinations. The traditional clinical examination is a key component of evaluation in our medical course and will remain to be so. However, there should be a greater emphasis on testing of knowledge and skills in acute medicine, and in practical and communications skills. The examination review committee has also been tasked to recommend the proper balance of tests which will help promote self-directed learning. These would include evaluation based on project work and open-book examinations.

Associate Professor C C Tan
Dean, Faculty of Medicine
National University of Singapore
SMJ 1998; 39:273-6

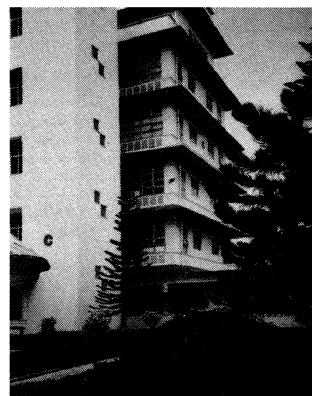
“We should avoid bringing our noble profession to the level of the tradesmen. Instead, we should practise medicine with COMPASSION, with a CONSCIENCE, CREDIBILITY with a CARING concern for our patients and in a dignified CHARACTER. These five Cs are quite different from the materialistic five Cs recently mentioned as Singaporeans’ preoccupation. These ideals and values will maintain the high reputation of our profession.”

Lee Suan Yew, SMJ 1998

The Medical School in the Second World War, 1942 – 1945



Syonan Medical College at
Tan Tock Seng Hospital



From 1944 – 1945 the Syonan
Medical College was at the Malacca
General Hospital

“These circumstances have made it more important than ever before for physicians to keep adding to their knowledge and skills by continuing their medical education throughout their working lives however arduous the undertaking may be. They owe it to their patients and to themselves to do so.”

K Shanmugaratnam, SMJ 1998

ROLE MODELS IN MEDICINE

The study of medicine is not only the study of the human body and its afflictions. It includes the study of man himself. We need doctors who are able to take care of people's general health needs, doctors who are able to relate, doctors who are caring, doctors who are knowledgeable and highly skilled, doctors who are able to inspire by example and behaviour to bring out the best in values in students, and at the same time inculcate confidence and compliance in patients.

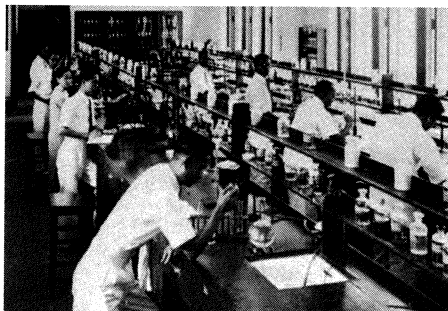
Professors Ransome and Mekie could be described as complete doctors in their respective fields... They are two of the generation of teachers who have left behind them a legacy that the profession can be proud of. They trained such great teachers as Yahya Cohen, K Shanmugaratnam, Gwee Ah Leng, Wong Hock Boon, Lim Kee Jin, N Balachandran, the late Seah Cheng Siang and a host of others who continued or are continuing to propagate this great legacy.

Like William Osler, Dr Sreenivasan was an educated man, an effective teacher, an eternal scholar. He reinforced what Mekie said earlier, that it was “part of the essential tradition of a profession that the older members are under obligation to impart their knowledge and teach their skills to those who will in turn succeed them.” Dr Sreenivasan also taught the need to learn outside the confines of medicine.

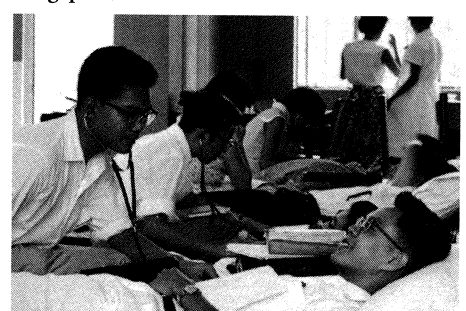
Dr Danaraj drilled us, when we first started clinical training, the basics of general medicine. He instilled into each one of us the need to have a disciplined and systematic approach in history taking, clinical examination, laboratory or other investigations, treatment, and finally case presentation. He taught us the importance of having self-respect in order to gain trust, confidence and respect from patients, and that included proper attire. Dr Danaraj later went on to establish from scratch the Medical School in Kuala Lumpur, bringing honours both to himself and to the school.

Wong Heck Sing
SMJ 1997; 38:459-64

Faculty of Medicine, University of Malaya,
1949 – 1962



Faculty of Medicine, University of
Singapore, 1962 – 1980



Photographs courtesy of Faculty of Medicine, National University of Singapore