The measurement of practice

EDUCATIONAL assessment is as emotive and vexatious a subject as intelligence testing. Quantitative measures aimed at overcoming bias are as much criticized for their limitations as qualitative measures for their partiality and liability to subjectivity. Despite recent innovatory objective tests, such as the structured clinical examination, the underlying problem is that quantitative tests are generally more suited to assessing factual recall. Yet the ability to memorize information is unlikely to be a good indicator of clinical performance. Rather it is doctors' ability to use information and to think constructively that should be the main aim of educational assessment.

Until comparatively recently the university medical schools have been burdened with the responsibility of assuring the custodians of the medical register that medical graduates are competent to practise independently with no more than one year of pre-registration experience. Now that postgraduate training is virtually obligatory for all doctors, the purpose of the undergraduate course is accepted as providing a basic grounding in medicine after which a doctor will become competent by way of postgraduate training. This enables the universities to adopt a more relaxed and imaginative approach to their assessment techniques. The task of assuring the competence of practising doctors has shifted to the royal colleges and their faculties. They are being accused of undue rigidity not only in their prescribed training programmes but in their increasing preoccupation with formal assessments. Some colleges are inclined to follow the practice in some other countries of introducing endpoint examinations. There is little enthusiasm, however, for the further step of intermittent assessment of established doctors. This has rightly been resisted in the UK because it is recognized that the tools of assessment are unreliable, and the bridge between examination results and actual practice, tenuous.

General practice is the only clinical discipline whose postgraduate qualification is regarded as a voluntary one. Whatever its deficiencies as an assessment instrument, the MRCGP examination is a means whereby a doctor can obtain an independent judgement on his understanding of practice. It is a goal to study, but like other once-for-all, pass/fail type examinations, it does not provide the stimulus needed for lifelong commitment to continuing education. Nor are serial formal examinations likely to do so; at best they can only establish a minimal level of competence, with all the damage such an empirical approach would do to the promotion of high professional standards.

Assessment is to assign value, which implies some form of judgement. An examiner tries to determine what a candidate knows by how he responds to questions and how he demonstrates his understanding. The right of an examiner to form a judgement about the knowledge and skills of an undergraduate or postgraduate student is vested in his experience and acknowledged academic or professional authority. In continuing education it would be invidious to suggest that there is a hierarchy between the examiner and the 'candidate', even on academic grounds, for the world of academia is not necessarily the world of daily practice. Nor has the opinion of one professional on the work of another any meaning except as a stimulus to change. The motivating force of self-respect cannot flourish in an atmosphere of imposed criticism. Nonetheless the professional person must recognize and accept that adaptation to change is an essential feature of professional practice, and it is not so much what is known but what is done that matters. In every decision and action the doctor should ask, 'In the particular circumstances did I do everything

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that could and should have been done and if not, why not?' Answering this ever-present question should be periodically shared, for no one should be judge and jury. Peer assessment is not an optional extra in professional practice; without effective mechanisms for its universal application public esteem for the medical profession will falter.

The College's quality initiative is an important first step in placing the assessment of performance at the centre of conti-

nuing medical education. It is in line with the well established confidential enquiries into maternal and infant mortality, and the more recent studies of anaesthetic or surgical deaths undertaken by other branches of the profession. Is the time not ripe for the profession as a whole to assure the public that peer assessment is now an essential feature of professional practice?

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Coffee and coronary heart disease

IT has been suspected for many years that some features of our way of life contribute to the risk of developing coronary heart disease. Many studies have examined factors such as cigarette smoking and the dietary constituents sugar, salt, saturated fats, soft water, alcohol, coffee, and so on. Cigarette smoking is now accepted as a major risk factor for coronary heart disease particularly in younger subjects, but for dietary factors the risk is less clear cut.

Several studies have explored the association between coffee consumption and coronary heart disease. In one of the early prospective studies Paul and colleagues[1] found a statistically significant relationship between coffee drinkers and the later development of coronary heart disease. They found that 41% of patients with coronary disease drank more than 100 cups of coffee per month compared with 22% of control subjects. In a second study,[2] which was mainly devoted to examining the relationship between sucrose and coronary heart disease, they could not confirm a significant relationship between coffee intake and the disease; however, they did find a highly significant association between coffee intake and cigarette smoking.

A few years later two papers were published by the Boston Collaborative Drug Surveillance Program.[3,4] Their first study,[3] which was cross-sectional, was confined to patients admitted to eight hospitals in the USA, Canada and Israel. They reported that 276 patients admitted with acute myocardial infarction had a significantly greater coffee intake before admission than 1104 matched control patients admitted with other diseases, but they found no significant differences between these groups in their consumption of tea. The second paper[4] reported a cross-sectional study of patients admitted to 24 hospitals in the Boston area. Coffee consumption in 440 patients diagnosed as having acute myocardial infarction was compared with that in over 12 000 patients with other diagnoses. The risk of myocardial infarction in those drinking more than five cups of coffee per day was found to be about twice as great as in those who drank no coffee at all. The difference was statistically highly significant and was not explained by possible confounding factors including cigarette smoking. These reports stimulated a number of letters in the medical press and attracted some publicity in the lay press. They were followed within a few years by a number of prospective studies from the USA and one from Sweden.

Four prospective studies from the USA[5-8] failed to demonstrate any significant, independent relationship between coffee drinking and the incidence of new myocardial infarction. However, they did confirm the significant association between coffee consumption and cigarette smoking; for example in the Kaiser-Permamente study[5] about 30% of cigarette smokers drank more than six cups of coffee per day compared with about 11% of non-smokers. In the Framingham study[6] coffee consumption was associated with an increased risk of death from all causes, but this relationship was explained by the association between coffee drinking and cigarette smoking.

Two reports from the Swedish prospective study of men living in Gothenberg[9,10] are of particular interest because the coffee consumption per capita in Sweden in one of the highest in the world[9] (about twice as great as in the USA) and there is a wide range of consumption. The first paper[9] reported no association between coffee intake and the incidence of new myocardial infarction in 834 men aged 50 years followed up for 12 years. After 17 years of follow-up[10] the relationship between coffee intake and the incidence of myocardial infarction became statistically significant on univariate analysis but the significance disappeared when cigarette smoking was taken into account. The findings in the prospective study group were also compared with those in a group of 230 male survivors of myocardial infarction.[9] The survivors reported a coffee consumption before infarction which was significantly greater than that reported by men in the prospective study who later sustained an infarction. This difference was explained as being due either to the effect of having sustained a myocardial infarction on the patients' rating of their coffee consumption or to a real increase in their coffee consumption during the months or years before they suffered myocardial infarction. When the population study and the myocardial infarction patients were combined a significant association between coffee intake and myocardial infarction was found even after standardizing for other variables including smoking, serum cholesterol levels and blood pressure.

In a recent prospective study from the USA[11] 1130 male medical students were followed up for 19-35 years and coffee drinking and other risk factors were related to the incidence of new coronary heart disease. At the initial examination 18% of the men drank no coffee at all and 13% drank at least five cups per day. The cumulative incidence of coronary heart disease in the heavy coffee drinkers was 6.7 times as great as in the non-coffee drinkers after 30 years of follow-up. However, after allowing for confounding variables coronary heart disease was not independently associated with the coffee consumption reported at the initial examination but it was significantly associated with the coffee intake reported closest to the coronary event. The authors[11] suggest that the long time interval between assessment of coffee intake and coronary events in some of the earlier prospective studies may explain their failure to detect an independent association between the two. They also confirmed[11] the correlation between coffee consumption and cigarette smoking and found that those who stopped smoking drank less coffee than those who continued to smoke but more than those who had never smoked.

In most studies heavy coffee drinkers smoked more cigarettes, consumed more sugar and in some studies drank more alcohol[9] than non-coffee drinkers. They also had higher serum cholesterol levels[12] and in one Norwegian study[13] had a lower incidence of colon cancer. In the Tromso study[14] a small group of men with hypercholesterolaemia who stopped drinking boiled coffee had a significant fall in serum cholesterol levels — in