

- 1 Watkins CJ, Sittampalan Y, Morrell DC, Leeder SR, Tritton E. Patterns of respiratory illness in the first year of life. *Br Med J* 1986;293:794-6.
- 2 Park ES, Golding J, Carswell F, Stewart-Brown S. Preschool wheezing and prognosis at 10. *Arch Dis Child* 1986;61:642-6.
- 3 Pullan CR, Hey EN. Wheezing, asthma and pulmonary dysfunction 10 years after infection with respiratory syncytial virus in infancy. *Br Med J* 1982;284:1665-9.
- 4 McNicol KN, Williams HE. Spectrum of asthma in children. I. Clinical and physiological components. *Br Med J* 1973;iv:7-11.
- 5 Blair H. Natural history of childhood asthma. Twenty year follow-up. *Arch Dis Child* 1977;52:613-9.
- 6 Lenney W, Milner AD. At what age do bronchodilator drugs work? *Arch Dis Child* 1978;53:532-5.
- 7 O'Callaghan C, Milner AD, Swarbrick A. Paradoxical deterioration in lung function after nebulised salbutamol in wheezy infants. *Lancet* 1986;ii:1424-5.
- 8 O'Callaghan C, Milner AD, Swarbrick A. Nebulised salbutamol does have a protective effect on airways in children under 1 year old. *Arch Dis Child* 1988;63:479-83.
- 9 Prendiville A, Green S, Silverman M. Airway responsiveness in wheezing infants: evidence for functional beta-adrenergic receptors. *Thorax* 1987;42:100-4.
- 10 Hodges IGC, Groggins RC, Milner AD, Stokes GM. Bronchodilator effect of inhaled ipratropium bromide in wheezing toddlers. *Arch Dis Child* 1981;56:729-32.
- 11 Rachelefsky GS, Wo J, Adelson J, et al. Behaviour abnormalities and poor school performance due to oral theophylline use. *Pediatrics* 1986;78:1133-8.
- 12 Stratton D, Carswell F, Hughes AD, Fysh WJ, Robinson P. Double-blind comparisons of slow-release theophylline, ketotifen and placebo and prophylaxis of asthma in young children. *Br J Dis Chest* 1984;78:163-7.
- 13 Loftus BG, Price JF. Treatment of asthma in preschool children with slow release theophylline. *Arch Dis Child* 1985;60:770-2.
- 14 Hiller EJ, Milner AD, Lenney W. Nebulised sodium cromoglycate in young asthmatic children. *Arch Dis Child* 1977;52:875-6.
- 15 Storr J, Lenney CA, Lenney W. Nebulised beclomethasone dipropionate in preschool children. *Arch Dis Child* 1986;61:270-3.
- 16 Godfrey S, Avital A, Rosler A, Mandelberg A, Unwyyed K. Nebulised budesonide in severe infantile asthma. *Lancet* 1987;ii:851-2.
- 17 Falliers CJ, Chai H, Molk L, Bone H, de A Cardoso RR. Pulmonary and adrenal effects of alternate day corticosteroid therapy. *J Allergy Clin Immunol* 1972;49:156-66.
- 18 Reiser J, Warner JO. Inhalation treatment for asthma. *Arch Dis Child* 1986;61:88-94.
- 19 Pool JB, Greenough A, Gleeson JGA, Price JF. Inhaled bronchodilator treatment via the nebulizer in young asthmatic patients. *Arch Dis Child* 1988;63:288-91.
- 20 Gleeson JGA, Price JF. Nebulizer technique. *Br J Dis Chest* 1988;82:172-4.
- 21 Reiser J, Frame MH, Warner JO. The potential value of a 750ml pacer for the administration of inhaled corticosteroids to children. *Pediatric Pulmonology* 1986;2:237-43.
- 22 Pedersen S. How to use the rotahaler. *Arch Dis Child* 1986;61:11-4.
- 23 Warner JO, Chetcuti P. Efficacy and acceptability of terbutaline sulphate Turbuhaler in children. In: Newman SP, Moren F, Crompton GK, eds. *A new concept in inhalation therapy*. Medicom Europe BV, 1987:166-72.

## Testing overseas doctors

### *PLAB is fair to all*

The PLAB (Professional and Linguistic Assessment Board) test assesses the competence of doctors from overseas seeking entry to the limited registration list of the General Medical Council (GMC). The first exam was conducted in 1975 by the Temporary Registration Assessment Board (TRAB) to allow doctors to gain temporary registration with the GMC, but when temporary registration was replaced by limited registration in 1978 TRAB became PLAB. The standard of the examination was originally set after several pilot tests that included British volunteers.

PLAB itself has undergone scrutiny by a GMC working party, which concluded that "the PLAB tests are a fair assessment of the standard required of overseas qualified doctors for practice at senior house officer level in the United Kingdom. Both the medical and the language components of the test are valid and reliable."

The tests are held in London, Glasgow, and Edinburgh—usually in at least one centre monthly. The linguistic and medical component must be passed at the same time. Both spoken and written English are assessed. Candidates listen to sentences prerecorded on tape and select from their answer papers the most suitable of four possible responses to each sentence. A new type of English test will start this year and will include more modern methods of testing the candidate's understanding of spoken English; questions will have to be answered about conversations among doctors, patients, and other staff recorded in hospital wards. Essay questions and the writing of imaginary letters check efficiency at written English. Linguistic proficiency is also measured by the CLOZE test: certain words in passages of prose are left blank, and the candidate has to fill in the word to complete the sentences. The paper is piloted on English speaking medical students, whose results are then analysed and applied to the scale of marking.

The medical component consists of a multiple choice questionnaire, an examination of projected material, and a medical short answer paper. The last of these is being modified into a clinical problem solving paper, which should be better for judging competence in a clinical setting. In the projected material paper, begun in 1985, slides of common clinical conditions—for example, rashes and papilloedema—and radiographs are shown, and questions likely to be asked at the bedside have to be answered. A panel selects the slides and questions. After the examination the examiners' comments

and the candidates' marks for each slide are used to improve the questions or to discard the slide.

An essential of both components of PLAB is the oral examination, in which the candidate meets two examiners face to face: this tests ability to speak and to be understood, and questions are directed towards judgment and safety in coping with emergencies. The English examiners may play the role of a patient.

All components of PLAB are monitored by comments from the examiners and by studying correlations among the various parts. The examiners are issued afterwards with an analysis of their severity or leniency compared with other examiners for each part of the test.

PLAB is probably achieving its objective, but there are criticisms that patients are not used and that candidates do not have to use language settings commonly encountered by doctors. Although often considered, a clinical examination has never been included, but the introduction of the projected material and a clinical problem solving paper is an attempt to mitigate this lack. The cost of running a clinical examination would add considerably to the current fee of £240 for the first attempt and £190 for each subsequent attempt. The value of an oral test in assessing medical skills has been questioned, but it is important because language skills also have to be assessed.

The number of candidates for PLAB and the proportion passing has fallen over the years: 1100 (43% of entrants) passed in 1980, and 410 (23%) in 1986. Most fail because of lack of medical knowledge rather than poor linguistic skills. After a marginal failure the test can be retaken in two months, but a severe fail means a six month wait. Those who fail are told whether the failure was marginal or severe for each component, and the GMC publishes *Advice for Candidates*.

The number of those exempted from PLAB have remained fairly constant: 582 in 1980 and 624 in 1986. Exemption, which is solely for postgraduate training, is suitable for doctors who have trained in a specialty—and saves them going back to acquire the broad knowledge needed for PLAB. Experience in the specialty and in English has to be vouched for by a sponsor overseas with a personal knowledge of the doctor, and this is linked with sponsorship by a consultant in Britain. Conditions that allow the GMC to grant limited registration are governed by the Medical Act 1983, and a training programme in an approved hospital has to be

satisfied. A doctor may be on the limited register for no more than five years. The doctor may later be granted full registration if he applies formally and if "the Council thinks fit so to direct having regard to the knowledge and skill shown and the experience acquired." Guidance on acceptable qualifications and experience for exemption may be obtained from the GMC.

Candidates coming to Britain should be conversant with the exam and devote time to preparing for it. Candidates are allowed only three attempts (or in special circumstances four). A clinical attachment before taking the exam would help candidates to understand the type of medicine practised in Britain.

No exam is ever considered perfect—least of all by those

who fail. But it is encouraging to know that the GMC working party endorsed PLAB and that the entire exam is constantly under review by four panels of experts and by the board to whom they report. Furthermore, when the GMC monitored the exam (from 1975 to 1987) by asking consultants their opinion of candidates who had had 12 months' professional experience after passing the test, adverse reports never exceeded 2%.

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1 Working Party on the PLAB Tests. *Report*. London: General Medical Council, 1986.

## Structured abstracts

### *Now required for all papers reporting clinical trials*

Since the beginning of serious scientific publication in 1665 there has been a continued attempt to improve both the content and the presentation of articles. Thus probably about two thirds of biomedical journals use peer review—although this often dates back only to the second world war—and most original articles use the IMRAD formula: separate sections of introduction, methods, results, and discussion.<sup>1</sup> The latest development is structured abstracts,<sup>2,3</sup> and we will now require these for all papers reporting clinical trials.

Voices have been raised against both peer review and the IMRAD formula. Peer review carries the recognised dangers of delay, bias, and expense, yet it remains the best method of evaluating scientific work that we have, apart from time, and has survived for over 300 years. The IMRAD formula has been termed a straitjacket around the author, resulting in articles that lack personality or sparkle; others argue that it does not reflect science as it happens. Medawar went so far as to describe the scientific paper as a fraud.<sup>4</sup> This view supposes that readers go through articles savouring their stylistic nuances. The evidence suggests, however, that readers skim, concentrating on particular passages; an expert, for example, who finds the methods outdated or invalid will read no further. And the IMRAD formula does allow readers to find the answer to any of Bradford Hill's questions. Why did you start? What did you do? What answers did you get? What does it mean?

In practice, I suspect, most readers are content to read a paper's title and abstract, casting an eye over the remaining sections. The abstract, then, has a pivotal role not only in briefly answering all of Hill's questions but also in being able to stand on its own as a packet of information. This latter function has become particularly important now that many on line databases do not supply the full text of articles but only the title, name of the authors, bibliographical details, and the abstract. A subscriber in a provincial town or even a city in the Third World may be able to get no more without sending for a full copy.

Some of the abstracts supplied with the papers are adequate for these purposes, but many are not. Omissions may be put

right, but prevention is better than cure. Thus structured abstracts for clinical trials have been worked out by a McMaster team and the *Annals of Internal Medicine*,<sup>3,4</sup> and starting in this issue (p 163) we too will use them.

The proposals, which arise out of work developing rules and appraisal skills for reading clinical journals,<sup>5,8</sup> are based on describing key aspects of the purpose, methods, and results of a trial in a consistent way and using a standard glossary of terms (such as cohort, cost-benefit analysis, and randomisation). The structured abstract must mention seven key aspects: objective, design, setting, patients or participants, interventions, measurements and results, and key conclusions; Altman and Gardner have recently added an eighth—outcome measures or endpoints.<sup>9</sup> Detailed instructions on how to prepare a structured abstract have been published in the *Annals of Internal Medicine*.<sup>3</sup>

The proposals were reviewed widely at the *Annals of Internal Medicine* and by an ad hoc international group before being introduced in the *Annals* in April 1987,<sup>3,4</sup> and the reactions have been favourable. Indeed, one of the structured abstracts that we will be publishing was submitted unsolicited. As with statements of power and confidence intervals structured abstracts will, we hope, become just another essential element in a well executed and reported clinical trial.

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1 Lock S. A difficult balance. *Editorial peer review in medicine*. London: Nuffield Provincial Hospitals Trust, 1985.

2 Ad Hoc Working Group for Critical Appraisal of the Medical Literature. A proposal for more informative abstracts of clinical articles. *Ann Intern Med* 1987;106:598-604.

3 Huth EJ. Structured abstracts for papers reporting clinical trials. *Ann Intern Med* 1987;106:626-7.

4 Medawar PB. Anglo-Saxon attitudes. *Encounter* 1965;25:52-8.

5 Department of Clinical Epidemiology and Biostatistics, McMaster University Health Sciences Center. How to read clinical journals. VI. To learn about the quality of clinical care. *Can Med Assoc J* 1984;130:377-81.

6 Department of Clinical Epidemiology and Biostatistics, McMaster University Health Sciences Center. How to read clinical journals. VII. To understand an economic evaluation (part A). *Can Med Assoc J* 1984;130:1428-34.

7 Department of Clinical Epidemiology and Biostatistics, McMaster University Health Sciences Center. How to read clinical journals. VII. To understand an economic evaluation (part B). *Can Med Assoc J* 1984;130:1542-9.

8 Sackett DL. Evaluation: Requirements for clinical application. In: Warren KS, ed. *Coping with the biomedical literature. A primer for the scientist and the clinician*. New York: Praeger, 1981:123-57.

9 Altman DG, Gardner MJ. More informative abstracts. *Ann Intern Med* 1987;107:790-1.