

morning they are picked up by their usual transport which takes them to school. The parents are specifically asked not to visit and are told that they and the other siblings must use this time to do the things they could not do ordinarily as a family group with the handicapped sibling. The admissions are on a rota basis to give the family a break once in 6-8 weekends. The rota has to be flexible to some degree and also has to be planned well ahead. During the school holiday months of July and August the weekend rota is discontinued and we have these children in for 1-2-week periods in the surgical and medical wards of the children's unit.

This service is greatly appreciated by the families. I feel sure that the marriage breakdown rate, which is so high in these families, will be lessened. The cost to the NHS in staffing, food, laundry, and transport is negligible. The view that this type of service is the responsibility of the social service department is, in my view, wrong. The co-operation of our major caring professions is essential to provide a better service for these families by utilising to the maximum those facilities that exist, wherever they may be. I would like to encourage other district hospitals to try this scheme.

E DE H LOBO

Luton and Dunstable Hospital,  
Luton, Beds

### International units and standards in immunology

SIR,—Until the value and importance of using international standards have become generally accepted it seems necessary from time to time to remind the scientific community of their purpose and even, perhaps, of their existence. A number of international standards and reference preparations relevant to immunologists have already been established by the World Health Organisation (WHO), and others are currently being prepared on the advice of and in collaboration with the Standardisation Committee of the International Union of Immunological Societies or of other interested bodies such as the International Agency for Research on Cancer. A list of these substances is given below. They cover materials and reagents of which the activity cannot normally be measured by physical or chemical means alone and their purpose is to serve as standards containing an accurately defined amount of a stable preparation of the material in question with which samples containing unknown amounts of similar material (with the same activity) can be compared.

For the very reason that the quantity of material cannot be measured except in terms of its activity in a given test the standards are assigned a value in units. The value of a unit is arbitrary but is chosen to be convenient for the purpose and to take account of any already accepted units—for example, the standards for human immunoglobulins IgG, IgA, and IgM, which consists of ampoules containing freeze-dried serum from a pool of many normal adult human sera, has been assigned values of 100 U of each activity per ampoule. Comparisons of this standard by immunochemical means with purified preparations of the various immunoglobulins have indicated that units of IgG, IgA, and IgM are approximately equivalent to 80.4, 14.2, 8.47  $\mu$ g respectively (*J Immunol.*, 113, 428 (1974)). Although it might seem that

accurate equivalents for such units could readily be assigned, in practice their value is found to depend on the purity, homogeneity, and physical state of the preparations of isolated Ig used for comparison. The unit provides, therefore, the one invariable quantity against which unknown materials can be evaluated using different tests in different laboratories.

*Some international and national standards and reference preparations already established and available to all or freely available\**

Human IgG, IgA, IgM  
Human IgE  
Human IgD  
Rheumatoid arthritis serum (for rheumatoid factor)  
Anti-nuclear-factor serum (homogeneous)  
 $\alpha_1$ -fetoprotein  
Streptokinase-streptodornase  
Tuberculin PPD  
Carcinoembryonic antigen

\*For a complete list see *Biological Substances, International Standards and Reference Preparations*. Geneva, WHO, 1975.

#### Further standards in preparation

Human serum proteins (for measurement by any method including nephelometric techniques)  
Complement components (functional assay)  
Candida antigens  
Allergens (various)  
Human fetal proteins (additional to  $\alpha_1$ -fetoprotein)  
Fluorescein-conjugated anti-human Ig  
Fluorescein-conjugated anti-human IgM  
Fluorescein-conjugated anti-human IgG  
Double-stranded DNA  
Immune complexes

Similar considerations apply to other materials such as  $\alpha_1$ -fetoprotein, the standard for which consists of accurately measured amounts of pooled cord blood (in which it is assumed that the  $\alpha_1$ -fetoprotein is similar to that in blood samples from pregnant women or patients with suspected liver cancer, for example, on which estimations are required to be made). In the case of some reagents, such as fluorescein-labelled anti-human Ig or IgM, the standards permit comparison of the performance in a variety of immunofluorescence assays of other preparations intended for similar purposes.

Every standard material has been evaluated by recognised expert laboratories in several countries, and no standard is established unless there is agreement about both its suitability and usefulness. Standard materials are available from national control authorities in countries where these exist, free of charge (in the UK this is the National Institute of Biological Standards and Control, Holly Hill, London NW3 6RB), or directly from the Division of Biological Standards of the WHO in Geneva. In order to conserve these standards (which in terms of work done on them are worth their weight in gold) they should in general be used to calibrate local working standards. We hope that any investigators who do not already make use of them will do so, and that editors of journals should insist that where standards exist any measurements which are reported should have been made by comparison with such standards and the results recorded in international units.

J H HUMPHREY  
President

I BATTY  
Secretary of Standardisation  
Committee,  
International Union of  
Immunological Societies

National Institute for Medical Research  
London NW7

### Iron deficiency and restless legs

SIR,—I am writing to draw attention to the surprising lack of general awareness of the association between iron deficiency and the distressing condition of restless legs. Sixteen years ago Ekblom<sup>1</sup> reported that 25% of affected patients have a low serum iron and that 24% of those with iron deficiency anaemia have restless legs. Even earlier Nordlander<sup>2</sup> had shown that in these circumstances iron therapy cured the symptoms.

A rapid survey of textbooks of medicine and haematology shows that while all dutifully mention pica as a symptom of iron deficiency, the common restless legs syndrome is virtually ignored or is confused with the paraesthesiae of peripheral neuropathy. Recent examples of this association in my own experience include a doctor's wife who, among other disabilities, had been unable to visit the theatre for 15 years because she could not sit still; a man of 28 in whom restless legs was the only symptom of iron deficiency due to blood loss; and a woman being treated for malignant disease whose symptoms had been misinterpreted as those of carcinomatous neuropathy. All obtained rapid relief of symptoms with oral iron. The majority of patients with restless legs are, unfortunately, not iron deficient, but those that are can be cured of this miserable condition.

W B MATTHEWS

University Department of Clinical  
Neurology,  
Churchill Hospital,  
Oxford

<sup>1</sup> Ekblom, K, *Neurology*, 1960, 10, 868.

<sup>2</sup> Nordlander, N B, *Acta Medica Scandinavica*, 1953, 145, 453.

### Specialties within community medicine

SIR,—Dr A St Leger (20 March, p 709) raises the question of the form of specialist training that may be required for epidemiologists wishing to practise as recognised specialists in the member countries of the EEC. Epidemiology is not listed in article 5 of the second directive (75/363/EEC) regulating the nature and length of specialist training. Community medicine is listed in the second group and it is stated that the minimum length of specialised training must be not less than four years. However, at present the specialty is recognised only in the UK and Eire. A number of bodies (among them the General Medical Council, the Councils for Postgraduate Medical Education, and the Joint Committee on Higher Medical Training) are currently considering the relationships between the standards of specialist training required by the EEC directives and the standards already accepted by the joint committees on higher training. The question of the formal recognition of specialties within community medicine will have to be kept under review in the light of developments.

Unfortunately much of Dr St Leger's letter conveys a misleading account of the examination<sup>1</sup> and training requirements<sup>2</sup> of the Faculty of Community Medicine (this is the correct title, not Faculty of Community Physicians). The faculty does encourage the development of special interests within the practice of community medicine; a very wide range of subjects has been accepted in relation to Part II of the examination; experience and responsibility in areas of special interest are readily