

The Edinburgh study confirms and in some respects adds to the findings of previous investigations.<sup>6,7</sup> The main therapeutic aim in all these studies was to avoid drugs other than aspirin and to concentrate on simple measures such as bed rest, the use (and instruction in the use) of splints, physiotherapy, and graduated exercises during and after the patient's stay in hospital. The results of these studies thus constitute one standard against which the effects of other forms of therapy can be assessed. Duthie and his colleagues suggest that the main benefits obtained by their patients derived from the physical measures taken to prevent deformity and to restore and maintain muscular efficiency, and that such measures are likely to be most effective if applied early in the course of the disease and continued thereafter. It is perhaps worth noting that by no means all patients with rheumatoid arthritis are seen in hospital, let alone admitted to a unit equipped to provide such a service. What we know of the course and prognosis of this disease relates chiefly to in-patients at special centres for the study of rheumatic diseases. In the absence of compulsory registration of suspected new cases it is likely to remain so. While it may be argued that the apparent advantage of early admission to hospital partly reflects a tendency to spontaneous remission during the first year of the disease, the value of planned conservative therapy should not be underestimated.

## Doping of Athletes

With the Tokyo Olympics in mind, the British Association of Sport and Medicine has issued a policy statement on the doping of athletes and sportsmen, which, it states, is being sent to "all the governing bodies of sport." A major difficulty in drafting such a statement is the definition of what, in this context, constitutes "doping." The association's definition is as follows:

Doping is:

(1) The administration to, or use by, a *healthy* individual while taking part in a sporting competition of (a) any chemical agent or substance not normally present in the body and which does not play either an essential or normal part in the day-to-day biochemical environment or process of metabolism, regardless of dosage, preparation, or route of administration, and/or (b) any chemical agent or substance which plays an essential or normal part in the day-to-day process of metabolism or forms a normal part of the biochemical environment, when introduced in abnormal quantities and/or by an abnormal route and/or in an abnormal form, either or both of which (a and/or b) are present in the body of the individual during competition with the purpose or effect of modifying artificially the performance of that individual during competition.

Doping is also:

(2) The administration to, or use by, an individual temporarily or permanently disabled by disease or injury who takes part in a sporting competition of (c) any chemical agent or substance regardless of nature, dosage, preparation or route of administration for *the sole purpose of alleviating or curing the disability and/or its cause*, which, being present in the body of that individual during competition would, *by its secondary effects*, improve artificially the performance of that individual during the competition.

Even this definition, which is detailed to the point of being cumbersome, leaves some scope for argument—for instance, the limiting phrase "while taking part in a sporting competition" must presumably be stretched to include a period before competition, but how long a period? However, the association rightly fastens on an intention or effect "to improve artificially the performance of (the) individual during competition" as the crux, and asks for a degree of flexibility and common sense in keeping to the spirit rather than the absolute letter of the law in interpreting any legislation or formal action based on its recommendations. With this approach, and with the association's purpose in issuing the policy statement—"to facilitate the greater enjoyment of and safety in sport," all lovers of sport will find themselves in sympathy. While perhaps disagreeing with this or that detail, they will welcome the association's initiative in this complex situation.

The ten-clause policy statement starts by roundly declaring that the only effective and safe way of ensuring optimum performance is a proper programme of training and preparation. This cannot be said too often. Then come two clauses asserting that there is no known chemical agent which will both safely and effectively improve performance in healthy subjects, and that such medication will always be "in some degree harmful." Clause (4) states:

(4) That no purpose other than medical (therapeutic or prophylactic) is properly to be served by the administration or use of chemical agents with the intention or effect of modifying the performance of healthy human subjects except in cases of properly controlled research.

The use of chemical agents for other than medical or research purposes is to be regarded as doping, states the next clause (which refers to the definition of doping quoted above), and governing bodies of sport and others concerned are invited to discourage it. The association recommends the banning of public advertising of chemical agents for purposes falling within its definition of doping, if necessary by law, and other measures to curb the practice such as educational campaigns, prohibition of doping in the rules of sports, the introduction of methods of testing and control, and sanctions against offenders. The last two clauses of the statement deal, respectively, with the declaration of medical treatment of competitors and the withdrawal from competition of those receiving certain types of drugs. These clauses are as follows:

(9) That when a sportsman or sportswoman is taking part in a competition while receiving drugs of any kind as a properly authorised form of medical treatment, the same should be made known, in confidence and with the patient's consent, to the duly authorised medical representatives of the body organising the competition.

(10) That certain drugs (including those on the list shown in the second appendix) shall not be used for the properly authorised medical treatment of any individual taking part in a sporting competition and where the use of any such prohibited drug is medically necessary, the sportsman or sportswoman concerned must be withdrawn from the competition.

The list of drugs referred to in clause (10) includes alcohols (except when topically applied), amphetamines, analeptics, cocaine, hormones administered systemically (unless used regularly for at least the preceding 28 days and excepting those whose "sole purpose" is menstrual control), peripheral vasodilators, narcotics, and tranquillizers.

Coming from a body which has as its president Sir Adolphe Abrahams and as its chairman Sir Arthur Porritt, both

prominent in Olympic counsels, the association's policy statement is bound to command respect and attention. Whether it will prove any easier to control doping in athletics and other competitive sports than it is proving in horse and greyhound racing remains to be seen. Undoubtedly an unequivocal climate of opinion against the practice will help. But where the prizes are high, in either prestige or money, and where big sums are wagered, sportsmen will always be subject to temptation and pressures to use less than sporting tactics to gain the victory. Doping "with intent" certainly falls into this category, whatever may be its medical consequences, and we therefore welcome this forthright attempt to put an end to it.

## Round-the-Clock Blood-pressure

Diurnal variations in blood-pressure have long presented a problem to the physician, whether in the diagnosis of hypertension or the estimation of its severity. New methods of automatic recording at frequent intervals<sup>1-3</sup> have now made it possible to study variations of pressure throughout the 24 hours without the presence of a nurse or a physician. Using an oscillometric method of recording with a double pneumatic cuff automatically inflated every five minutes, D. W. Richardson and his colleagues have made important observations on normal subjects and hypertensive patients.

Large diurnal variations occur, both in health and in hypertension, the lowest pressures being usually recorded during sleep. Eight healthy subjects were studied, and five of these were found to have systolic blood-pressures below 80 mm. Hg during sleep. High pressures were also recorded in these normal subjects at some time during the day, systolic pressures exceeding 140 in three and diastolic values exceeding 90 mm. Hg in all eight. With one exception the average highest diastolic blood-pressure during a 24-hour record exceeded the average lowest systolic pressure, a fact that underlines the extent of the 24-hour variation.

The same considerable decline in pressure was seen in all of the 30 hypertensive patients during sleep. In fact, in more than half of the hypertensive patients the pressure fell to levels that would be accepted as entirely normal on a casual day-time reading. Once again, with three exceptions, the highest mean diastolic pressure exceeded the lowest mean systolic pressure. No difference was found in the 24-hour pattern of a rise during the day and a fall during sleep between those with renal hypertension and those with "essential" hypertension, though the average magnitude of the pressure change was less in patients with renal disease.

Blood-pressures were higher in the late afternoon and evening than in the morning. During the night the lowest levels were recorded during the early hours of sleep. The relation of the blood-pressure to the depth of sleep was studied by means of the electroencephalogram, the greatest fall of

pressure occurring when medium deep sleep was present. These findings in general confirm earlier observations of a gradual rise during the day and rapid decrease during the early hours of sleep.<sup>4-6</sup>

What then is the meaning of the so-called "basal" blood-pressure and what significance, if any, should be attached to the casual reading? The basal pressures<sup>7</sup> taken every 5 minutes for half an hour and finally every minute for 3-4 minutes, under conditions of complete quiet, were never as low as those recorded during sleep with the automatic blood-pressure recorder—indeed they were often close to the highest pressures recorded with the apparatus. Casual pressure readings did not differ appreciably from these basal readings, though, as might be expected, a greater range of variation of casual readings was found. In the practical management of hypertension, therefore, provided due regard is paid to factors likely to affect the pressure—such as the doctor-patient relationship, the time of day, the position of the patient, and other environmental circumstances—then the casual reading remains the most practical and useful method of recording the blood-pressure.

## "Journal of Medical Genetics"

Medical students were being taught to take a family history with care long before genetics became a science, and the obvious resemblances between blood relatives have excited a variety of emotions throughout the ages. Though pride and rejoicing are perhaps most often on the record, accusations of bastardy in high places have been known to make swords rattle and committee meetings break up in disorder. Recently new techniques for the microscopical examination of chromosomes, the biochemical differentiation of the body's constituents, and the statistical analysis of measurable characteristics have enormously enlarged the scope of genetics. To a much greater extent than formerly it is now possible to predict the likelihood of a person's falling victim to some disease or of what course his disease will take. All this means more papers for publication, and consequently last year the decision was made to publish another specialist journal in association with the *British Medical Journal*, making the fifteenth of this kind. A team of distinguished medical men with special interest in genetics have consented to serve on the editorial committee, while the editor is Professor Arnold Sorsby, research professor in ophthalmology at the Royal College of Surgeons. The first number of the *Journal of Medical Genetics* now appears dated September 1964.<sup>1</sup>

An editorial points out that the new journal "is the first to be exclusively medical and to be broadly based." The editors hope it will attract contributions not only from hospitals and research units but from general practitioners also, and that the latter will be stimulated "to explore the immense wealth of genetic material that comes their way." Thus the journal will doubtless serve to focus genetic study on to the problems of human disease. And the particularly strong traditions of scientific genetics in Great Britain, originating in the nineteenth century, should find much support for their continuance in its publication.

<sup>1</sup> Richardson, D. W., Honour, A. J., Fenton, G. W., Stott, F. H., and Pickering, G. W., *Clin. Sci.*, 1964, 26, 445.

<sup>2</sup> Follett, D. H., Freundlich, H. F., Shaw, D. B., and Davies, D. H., *Lancet*, 1963, 1, 808.

<sup>3</sup> Ball, G. R., Pallett, J., and Shillingford, J. P., *ibid.*, 1961, 2, 1178.

<sup>4</sup> Brush, C. E., and Fayerweather, R., *Amer. J. Physiol.*, 1901, 5, 199.

<sup>5</sup> Brooks, H., and Carroll, J. H., *Arch. intern. Med.*, 1912, 10, 97.

<sup>6</sup> Mueller, S. C., and Brown, G. E., *Ann. intern. Med.*, 1930, 3, 1190.

<sup>7</sup> Alam, G. M., and Smirk, F. H., *Brit. Heart J.*, 1943, 5, 152.

<sup>1</sup> British Medical Association, Tavistock Square, London W.C.1. £3 3s. per annum (abroad £3 10s.), 4 numbers; single numbers 18s. 6d.