reactions involved in glucose metabolism—namely, nicotinamide, aneurine, pyridoxine, and probably ascorbic acid. The best way of ensuring such a supply is to administer the vitamins by intravenous injection, and the use of the water-soluble vitamins in this way was first suggested by Gould¹ in the treatment of delirium tremens and other acute psychoses.

While it is perfectly true to say that there are no "well-controlled trials providing conclusive evidence of the value of vitamins in such patients" clinical impressions are not entirely worthless, and the use of high doses of vitamins of the B complex and C in this way is in fact supported by numerous published clinical reports.²⁻⁷—I am, etc.,

Vitamins Ltd.,
London W.6.

N. T. POLLITT.

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Paediatric Prescribing

SIR,—I was pleased to note that in your two articles entitled "Paediatric Prescribing" (14 and 21 December, pp. 1519 and 1577) you carefully omitted to mention the numerous "rules" which have proved so inadequate for modern drug therapy. However in publishing tables of drug doses in age columns I think you add to the present chaos, especially when as in the second article the figures in the columns do not match your recommendations in terms of "mg. per lb. of body-weight," and you do not state how you arrived at your recommendations.

May I reiterate the method which I believe is the answer to the mathematics of paediatric prescribing¹⁻⁷ and which I call the percentage method? Adult doses are known to all practitioners; therefore all that he requires to remember is which percentage of the adult dose applies to which weight (or age) as in the following Table.

The Percentage Method

Age	Weight in lb.	Percentage of Adult Dose*
Birth	5½	10
"	7	12.5 (1/8)
2 months	10	15
4 "	14	20
9-12 "	22	25 (1/4)
3 years	33	33
5 "	40	40
7 "	50	50 (1/2)
10 "	66	60
11 "	80	70
12 "	88	75 (3/4)
14 "	100	80
16 "	120	90
Adult	145	100 (1)
"	220	120

* Based on formula:

$$\frac{\text{Surface Area of Child (m}^2\text{)}}{\text{Surface Area of Adult (m}^2\text{)}} \times 100$$

The important features to note are that a full-term newborn infant requires an eighth (12.5%) of the adult dose, at 1 year one-quarter (25%), at 7 years one-half (50%), and at 12 years three-quarters (75%) of the adult dose. The rest of the doses fall into place.

Example: The adult dose of tetracycline is usually given as 1-2 g. per 24 hours, the lower dose being for mild and the upper dose for severe infections. An infant of 1 year therefore requires 25% of this—i.e., 250-500 mg. per 24 hours. In practice this means ½-1 teaspoonful of tetracycline suspension six-hourly.

In my book the *Paediatric Prescriber*¹ I have found the percentage method so uncannily accurate that I have been able to dispense with all other formulae. The method works as well for barbiturates as for cardiac glycosides, purgatives, antimalarials, or anticonvulsants. In fact I have also shown that it can be used for estimating fluid and electrolyte requirements in children (Chapter 17).

The advantages of the percentage method are that it is simple to use, it disposes of the myth that infants are more sensitive or tolerant to certain drugs than adults, and it uses the range of doses which applies equally to adults and children. Above all it lends itself to standardization, and if universally used would make comparison of various trials of drugs in children meaningful. It is to be hoped that the *B.P.*, *B.P.C.*, and other "official" publications will follow the lead of the *Drug and Therapeutics Bulletin* in adopting the percentage method.—I am, etc.,

Klerksdorp,
Transvaal,
S. Africa.

PINCUS CATZEL.

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** We have shown Dr. Catzel's letter to our expert contributor, who comments as follows:

"I agree that Dr. Catzel's suggested (percentage) method of arriving at dosages for children as calculated from an adult dose is a promising line. However, certain exceptions to this rule—i.e., for premature and newborn babies—are admitted and must be stressed.

"Many doctors prefer to check dosages of less commonly used drugs by reference to a table or book, and it was for this purpose that the dosage tables were given in some detail. This also enabled one to see in what form the preparation was available so that the dose could be calculated to the nearest tablet or easily measurable liquid volume."—Ed., *B.M.J.*

Immunization Against Poliomyelitis

SIR,—Your leading article "Immunization Against Poliomyelitis" (18 January, p. 132) implied that the attenuated live poliovirus vaccine used in Canada in 1962 was administered in the mono-typic form, as in the U.S.A. The 4,000,000 doses used in 1962 contained all three types and the formula was almost identical with that of the trivalent vaccine now recommended in Great Britain.—I am, etc.,

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Laboratories,
University of Toronto,
Toronto 5, Canada.

R. J. WILSON,
Assistant Director.

Colds and Their Viruses

SIR,—Your leading article (29 February, p. 513) opens with the statement, "We can no longer talk about the 'common cold virus,' because many viruses which can cause colds are now known." For "cause" insert "initiate" and I agree.

A close and careful reading, and re-reading, of this article and the two accompanying papers (29 February, pp. 537 and 540) confirm me in the view I have stated elsewhere¹ that all the careful and highly scientific workers in this field would do well to study sympathetically the dual theory of the common cold propounded by Dr. J. Morrison-Ritchie.² Until the two halves of this theory are put to proper test much of the validity of the work done so patiently over so many years is automatically suspect.

Even a history of isolation, however carefully this has been carried out, does not prove a single cause, since there has never been any work, so far as I can ascertain, on the normal bacteriological flora of volunteers entering these tests.

Until Dr. Morrison-Ritchie's theory on this aspect of the common cold is proved abortive, or developed and given due weight, all the intense study that has gone into this subject cannot be considered complete.—I am, etc.,

Chipping Campden, Glos.

C. B. HEALD.

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Androgens and Anabolic Steroids

SIR,—The review of androgens and anabolic steroids in "To-day's Drugs" (11 January, p. 105) contains a number of errors for correction and some questionable statements for comment.

The author lists among testosterone preparations in common use testosterone implantation pellets, implying that each pellet is 70 mg. Further down the same page he describes them as 75 mg. In fact this size testosterone pellet is standard in the U.S.A. (U.S.A. Dispensatory), but in this country 100 mg. is the usual unit, other weights being available as required. The *British Pharmacopoeia* mentions especially 100 mg. and 250 mg.

The dose of testosterone phenyl propionate is given as 200 mg. intramuscularly, initially weekly then once a month. This substance is about two and a half to three times as potent as testosterone propionate, and the usual recommended dose is 50 mg. per fortnight. The *B.P.* gives 5-25 mg. weekly. The duration of action is only about 10 days, and therefore monthly dosage does not provide continuous maintenance. Continuing on the bottom of the page and overleaf it is inaccurately stated that testosterone phenyl propionate is a microcrystalline suspension, whereas it is a solution in oil.

Although in conformity with current recommendations—both authoritarian and commercial—the statement that prostatic cancer is an absolute contraindication for testosterone and anabolic steroids may be too didactic.¹

The statement that androgens have been used to suppress gonadotrophin production in post-menopausal patients with disseminated

breast cancer is to emphasize one facet which has scarcely been considered and an intention seldom expressed. It was demonstrated first by A. Segaloff in 1951.² M. Douglas³ found a poor response with norethisterone-oenanthate, which reduced gonadotrophin excretion, but testololactone, found by C. B. Rosoff⁴ to give 30% remission, does not possess gonadotrophin-inhibitory effects in laboratory animals. The beneficial effects of oophorectomy would not be due to depression of gonadotrophin. There is clearly still a difference of opinion as to the efficacy and mode of action of androgenic and anabolic steroids in this disease. Segaloff² obtained with testosterone propionate a response rate of 43% in 10-year post-menopausal women with local soft-tissue lesions.⁵ The usual figure of 21% remissions quoted refers to all cases treated, without selection.

Testosterone may or may not⁶ result in hypercalcaemia in 10–20% of cases of mammary carcinoma. No such effect was noticed in those series treated with "durabolin."⁷

The unfortunate tendency to lump all anabolic steroids together as possessing hepatotoxicity has been dealt with in recent correspondence in the *British Medical Journal* (18 January, p. 169), in which it is pointed out that nandrolone is as exempt from this action as is testosterone propionate.—I am, etc.,

W. J. TINDALL.

Organon Laboratories Ltd.,
Morden, Surrey.

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- ⁶ Gardner, B., et al., *Cancer Chemother. Rep.*, 1962, 16, 299.
- ⁷ Westminster Hospital. Published by Brit. Emp. Cancer Camprn, London, 1961, p. 286, 39th Ann. Rep.
- ⁸ Hortling, H., Malmio, K., and Hiisi-Brummer, L., *Acta med. scand.*, 1962, Suppl. No. 385.

** We showed Dr. Tindall's letter to our expert contributor, who replies as follows:

"I apologize for the error in the dose of testosterone. I would not altogether agree with Dr. Tindall's comments on testosterone phenylpropionate as I have treated a number of patients satisfactorily by the regime I mentioned. My own opinion is that the role of the anabolic steroids in medicine is still largely unproved, and I was anxious to leave the reader with a clear impression of the risks involved in their use."—Ed., *B.M.J.*

Splinter Haemorrhages

SIR,—The article by Dr. N. J. Gross and Miss R. Tall on the clinical significance of splinter haemorrhages (14 December, p. 1496) prompted a survey of splinter haemorrhages

in the coppermine workers of Northern Rhodesia.

This mining industry provides a wide range of finger trauma from the grossly traumatic work at the rock face and in other rock-handling processes to the non-traumatic occupations of the skilled technicians, supervisory and personnel officers. The authors' definition of splinter haemorrhages was adhered to and only the relationship to trauma was investigated. The fingernails were examined of 315 European and African mineworkers actively engaged in mining, 14 African mineworkers who had just returned from long leave of more than one month's duration, and 25 Africans who were presenting themselves for initial examination, whose previous occupation was not recorded. As each mineworker collected his record file his occupation was noted and the total number of splinter haemorrhages under the fingernails of both hands was recorded; gross haemorrhages or haematomas were excluded. The examination took place on four separate days. The mineworkers attended from five mines on the copperbelt of Northern Rhodesia in intermixed groups.

During the investigation it soon became apparent which occupations produced splinter haemorrhages, and it became possible to anticipate which occupations were traumatic. To classify the occupations into traumatic, non-traumatic, and an intermediate group (in which occupations were considered to be borderline) the opinions were obtained of three mine captains and a safety officer to whom all injuries which occur in the mine are reported. In the non-traumatic group it was generally discovered on questioning that persons exhibiting haemorrhages indulged in gardening or other hobbies which could traumatize the nails, whereas those without haemorrhages did not. Of particular significance is the group of 14 African mineworkers returning from long leave of a month or more. This was by far the largest group to be completely free from haemorrhages. One particular finger showed a traumatic haematoma localized to the centre of the base of the nail accompanied by a "shower" of six splinter haemorrhages limited to the centre of the distal third of the nail. For comparison with the non-traumatic group the most traumatic occupation, which is also included in the traumatic group, has been reproduced separately.

The results are shown in the Table below.

These findings seem to confirm the causal relationship between trauma and splinter haemorrhages, and amplify the findings of Dr. Gross and Miss Tall.

I wish to express my thanks to Dr. A. Gray, Director, and Dr. G. H. Fletcher, Deputy Director of the Bureau, for allowing me to conduct this investigation.

—I am, etc.,

R. E. RAWORTH.

Pneumoconiosis Medical and
Research Bureau,
Kitwe, Southern Rhodesia.

Group	Total No. of Miners in Group	Total No. of Miners with Haemorrhages	% of Miners Affected	Total No. of Haemorrhages per Group	Average No. of Haemorrhages per Miner in Total Group
Traumatic	174	102	58.6	290	1.67
Intermediate	45	23	51.1	49	1.09
Non-traumatic	96	30	31.3	60	0.63
Most traumatic occupation— underground machines	43	32	74.4	81	1.88
Ex long leave	14	0	0	0	0
Initial examinations	25	12	48.0	29	1.16

Jargon

SIR,—I am glad to see that the correspondence on jargon begun by Dr. J. A. Browne (25 January, p. 245) is still alive: a couple of lines questioning our use of medical language do more to justify the space which you devote to correspondence than two pages of letters from general practitioners bleating about their pay. Indeed, such letters are classic examples of "space-occupying lesions" in that they are pathological manifestations of professional communication, causing the compression and displacement of the normal matter (the exchange of clinical and scientific information) for which most of us subscribe to the *Journal*.

One has to agree with Dr. Browne that "space-occupying lesion" is an ugly mouthful of a term. Nevertheless it does its job in describing clearly a particular class of disorder. I doubt whether Einstein would have claimed that all lesions must by definition be space-occupying: what about biochemical ones? Still, if "space-occupying lesion" must go, perhaps "displacement lesion" would be acceptable; or (may classical scholars forgive me!) "cryptoma."

More seriously, on the subject of terminology, I am worried, Sir, by what seems to be your editorial policy in using regularly the term "seat-belt" when referring to car safety harness. The word "belt" suggests just that—a device girdling the waist and giving no support to the upper torso. Regrettably, plain lap-belts without shoulder straps are offered to motorists; and doctors may be encouraging this by recommending "seat-belts." If it is our wish to reduce the number of heads broken in car crashes we should be careful to advocate "safety harness."—I am, etc.,

Camberley, Surrey.

JOHN GUIGNARD.

Absence of Pulmonary Embolism in Asians

SIR,—Those of us who have worked in Eastern countries would agree with Professor L. F. Tinkler's observation (22 February, p. 502) on the rarity of pulmonary embolism in Asians. There is no doubt that the incidence of thromboembolic complications after trauma, prolonged immobilization, surgery, and cardiac infarction, etc., is extremely low, and from personal experience of about seven years' work in India I can remember only isolated instances of pulmonary embolism complicating cardiac infarction. Accurate statistics in India are difficult to compile, but it is estimated that embolic complications in myocardial infarction are less than about 3%, in contrast to about 15 to 20% in the West^{1,2} (less in those treated with anticoagulants). The causes of this significant difference are obscure and may also partly be responsible for the lower incidence of vascular occlusive diseases in general.

Studies on blood lipids, coagulability, and fibrinolysis carried out in Africa and India have shown distinct differences as compared with those in Europe and the U.S.A. Similar studies emphasize the difference between the Bantu and white population.³ Natives of New Guinea are reported to differ from healthy Australians in dissolving fibrin more rapidly.⁴ Higher fibrinolytic activity in blood in association with a very low incidence of embolic complications has prompted a section