produced in this way. We are sure that urgent warnings are essential to ensure that suitable folate supplements are given to patients fed intravenously.

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¹ Wardrop, C A J, *et al*, *Lancet*, 1975, **2**, 640.

² Wardrop, C A J, *et al*, *British Journal of Haematology*, 1977, **37**, 521.

³ Smith, R C, *et al*, *British Journal of Surgery*, 1978, **65**, 364.

Nutrition and the cancer patient

SIR,—We read with interest your leading article (23 September, p 846) and welcome the new awakening interest in the problem of cancer cachexia in man. While determination of the major factors which contribute to its pathogenesis will necessitate *in vivo* studies,^{1,2} a suitable experimental model system may yield useful clues. However, at the present time we feel that the experimental models currently available are inadequate. Those mentioned in your article^{3,4} relate to studies with transplantable anaplastic animal tumours, as do numerous other studies which can be found in the literature. These experimental models are straightforward to work with and provide the experimenter with quick and reproducible results. Their relevance to cachexia in man can, however, be questioned, since these tumours grow rapidly and may comprise as much as 40% of the final body weight of the animal, a tumour burden which is rarely encountered in the cancer patient. Only when tumours reach this relatively massive size do animals demonstrate any loss of weight or other symptoms of cachexia.

In a recent report Lundholm *et al*⁵ have described similar metabolic abnormalities in liver and muscle tissue from cancer patients and from tumour-bearing animals, which they suggest may be related to the development of cachectic symptoms in man. While these results are clearly significant, the authors fail to relate their findings to any cachectic symptoms in the group of patients examined, and indeed control and tumour-bearing animal groups demonstrated a similar body weight at the time of metabolic studies.

Recently we have developed an experimental model of cancer cachexia utilising the immunosuppressed mouse. A hypernephroma was apparently totally removed at nephrectomy from a patient who had suffered 25 kg weight loss in the two months preceding surgery. It was grown as a xenograft in immunosuppressed mice. Over a period of six weeks, although this tumour grew slowly, the animals became cachectic, losing up to 30% of their initial body weight. On death the tumour, which failed to metastasise, comprised less than 5% of the final body weight of the animal. Both the tumour and the animal are considered to be free of bacterial and viral contamination and present studies have indicated that nutritional depletion does not play a major role in the onset of progressive weight loss. It would therefore appear likely that this tumour may cause cachexia in mice by a mechanism other than one of simple malnutrition. The precise mechanism remains to be established but elaboration of some humoral factor or

factors by the tumour seems possible. Current work is in progress to examine this possibility.

We believe that the immunosuppressed animal presents an ideal model for experimental studies of the aetiology of cachexia induced by human tumours and that it bears a closer relation to the clinical condition than do other experimental animal tumour models currently available.

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¹ Warnold, I, *et al*, *Cancer Research*, 1978, **38**, 1801.

² Jasani, B, *et al*, *British Journal of Cancer*, 1978, **38**, 287.

³ Calman, K C, and McAllister, R A, *British Journal of Cancer*, 1975, **32**, 247.

⁴ Pratt, A W, and Putney, F K, *Journal of the National Cancer Institute*, 1958, **20**, 173.

⁵ Lundholm, K, *et al*, *Cancer*, 1978, **42**, 453.

Clarinetist's cheilitis

SIR,—I read with interest my colleague Dr M G C Dahl's letter (7 October, p 1023) on flautist's chin, which reminded me of three patients I have seen over the past five years with an apparent eczematous dermatitis confined to the median area of the lower lip, in each case exactly underneath the reed of the clarinet. The patients came from different military bands and had been employed as clarinetists on average for over five years. The lesions had been present when seen for up to two to three months.

Extensive patch-testing gave no positive results, but the significant part of the history was that the lesions had appeared in all three cases since the patients had undertaken extra "moonlighting" engagements with pop groups, etc, in addition to their normal military duties. Two patients recovered completely on reversion to normal military duties only and the third understandably failed to attend for follow-up when it was implied that his employers, the Army, might regard his skin lesions as self-inflicted.

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Flautist's chin

SIR,—The letter on flautist's chin by Dr M G C Dahl (7 October, p 1023) prompts me to make the following comments.

I am sure that he is right in attributing the condition to wetting of the skin below the lower lip, especially in a sebaceous subject. The resulting slipperiness causes an insecure embouchure, which the player tries to counteract by increasing the pressure of the instrument against the skin, and also by frequent tentative adjustments which produce an element of mechanical irritation. Thus flautist's chin is brought into line with fiddler's neck, trumpet's lip, etc.

I think Mr Dahl is probably wrong in assuming that the main or only source of the moisture is saliva. Blowing a saliva spray is incompatible with producing a pure tone, and the player avoids it. More likely causes are breath condensate, which is unavoidable, and perspiration in anticipation of a difficult or exposed passage. To the extent that perspira-

tion is involved the local use of an antiperspirant would be worth trying.

Since the war, metal flutes with their more brilliant tone have become relatively more popular than wooden ones, especially for orchestral playing. On account of the cost of silver and gold, these flutes are mostly alloy. There is therefore the possibility that the condition complained of is due to a sensitivity to nickel, chromium, or some other constituent of the alloy. The easiest way to check on this would be for the player to borrow a cocuswood, silver, or vulcanite flute for a few weeks. For a man, as I was taught many years ago, the solution of the problem is simple. He grows an unobtrusive little goatee below the lower lip, and thus interposes a layer of dry bristle and air between the mouthpiece and the skin. The embouchure can then be made further secure, if necessary, by a light application to the bristles of resin readily available from a string player.

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Medical and dental problems of musical instruments

SIR,—A day before I read the interesting report by Dr M G C Dahl (7 October, p 1023) of a case of "flautist's chin" I was asked by a 40-year-old male amateur clarinet player if anything could be done about the ulceration of his labial mucosa associated with playing this instrument. The answer is yes: a thin, custom-built mouthguard made of polyvinyl or acrylic resin covering the 6-8 lower anterior teeth can be made to give the player comfort, if simple smoothing of the sharp incisal edges does not suffice.

The dental problems arising from playing musical instruments were well discussed in a series of 12 articles by Porter, which have been republished as a monograph.¹

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¹ Porter, M M, *Dental Problems in Wind Instrument Playing*. London, British Dental Association, 1968.

Treatment of childhood cancer: effects on gonads

SIR,—We were interested in your leading article (16 September, p 785) concerning gonadal function following the treatment of cancer in childhood. One point worthy of comment is the suggestion that the vulnerability of the testis to cytotoxic damage may be critically dependent on age and pubertal status. One of the major reasons for the development of this hypothesis has been the observation by several groups^{1,2} that basal gonadotrophin levels of prepubertal boys treated with cytotoxic drugs were not abnormally elevated. However, study³ of patients who received testicular irradiation in prepubertal life has revealed grossly reduced sperm counts and elevated serum follicle-stimulating hormone levels when these individuals achieve adulthood but essentially normal basal gonadotrophin levels while they remain prepubertal. This suggests that estimation of the basal gonadotrophin levels is an unreliable method of predicting testicular damage in prepubertal life when that damage predominantly affects the tubular elements.

In addition, a recent study⁴ of testicular morphology in boys treated for acute lymphoblastic leukaemia (ALL) with combination chemotherapy found no evidence of a relationship between the degree of tubular damage and the age at which the subject first received cytotoxic therapy. Therefore the prepubertal testis would appear to be just as vulnerable to cytotoxic damage as the pubertal testis.

Finally, it is true that we observed⁵ depressed ovarian function in a proportion of girls previously treated for ALL with combination chemotherapy. However, the evidence indicated direct damage to the ovaries due to the chemotherapy rather than as a consequence of radiation-induced hypothalamic-pituitary damage.

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¹ Pennisi, A J, Grushkin, C M, and Lieberman, E, *American Journal of Diseases of Children*, 1975, **129**, 315.

² Sherins, R J, Olweny, C L M, and Ziegler, J L, *New England Journal of Medicine*, 1978, **299**, 12.

³ Shalet, S M, et al, *Clinical Endocrinology*. In press.

⁴ Lendon, M, et al, *Lancet*, 1978, **2**, 439.

⁵ Shalet, S M, et al, *Journal of Pediatrics*, 1977, **90**, 920.

Normality and abnormality in psychiatry

SIR,—Professor Geoffrey Rose and Dr D J P Barker (23 September, p 873) have reminded us of a major difficulty in medicine—the differentiation of abnormality from normality. The operational definition of abnormality mostly adopted by psychiatrists embraces its statistical, clinical, and prognostic aspects. There are no tables of “normal” ranges of the quality, severity, and duration of psychic reactions, but each psychiatrist acquires a measure of these by experience. This is necessarily a subjective process. It is influenced by our concepts of mental illness, themselves dependent on our culture, subculture, personal experiences, and training. Those who treat the whole spectrum of illness become more tolerant of milder psychic reactions, and may regard them as normal. In keeping with this, it was shown that medical doctors rate psychiatric patients as less sick than do other professional groups.¹

We may also be influenced by the country where we receive our psychiatric training. Psychiatrists trained in Britain, for instance, see less pathology than those trained in the United States.² Similar Anglo-American differences in measures of psychiatric morbidity were also shown during the course of an epidemiological study in New York.³ The degree of subjectivity that enters our recognition of abnormality can be minimised by standardising the criteria for its recognition, being aware of those factors that influence our measures, and training. High levels of agreement on the recognition of specific abnormalities, such as schizophrenia,⁴ and high levels of inter-rater reliability in the use of rating scales can be achieved.

Not all those who react abnormally in the statistical sense have psychiatric disorders. Clinical and prognostic factors also have to be considered. These include the suffering caused to the individual and society. Because of our medical training we attach considerable importance to organic abnormalities and the

response to treatment. The debate as to whether antisocial personality disorders should be treated by psychiatrists would come to an abrupt end if in psychopaths a consistent physical abnormality were discovered or if a new drug capable of converting them into well-adjusted citizens were synthesised. The bandwagon would be filled with all disciplines making their territorial claims and curing as many psychopaths as possible. At present only a handful of devoted doctors treat these individuals and we all pass the buck in their direction.

As psychiatrists we should give more thought to the concepts of normality and abnormality for clinical reasons as well as research. Unless we do this some abnormal people may be neglected medically, while others will only have to enter our office and they will become converted from people to patients. As a result, medical treatment may be prescribed for non-medical conditions, and people will be exposed to the unnecessary risk of iatrogenic disease.

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¹ Copeland, J R M, et al, *Psychological Medicine*, 1975, **5**, 89.

² Katz, M M, et al, *American Journal of Psychiatry*, 1969, **125**, 937.

³ Edwards, J G, *Mental Health and Society*, 1977, **4**, 126.

⁴ Wing, J K, et al, *British Journal of Psychiatry*, 1967, **113**, 499.

Drug treatment of psychiatric patients in general practice

SIR,—The article by Dr P Tyrer on the drug treatment of psychiatric patients in general practice (7 October, p 1008) arrives at conclusions which cannot be justified by the study.

It is always difficult to perform research of this nature when the observer is also a participant in the consultative process. Dr Tyrer's observations took place over a period of four years and in that time he must have had patients referred to him by general practitioners whose knowledge of pharmacology had been found wanting on the evidence of a previous referral. Did Dr Tyrer seek, ever so diplomatically, to remedy that defect in his correspondence arising from the first consultation, as one would expect from a specialist whose advice had been sought, or did he allow the general practitioner to labour on in ignorance so that the scientific validity of the study was unimpaired?

There are several statements in the article which will not meet with universal agreement. For example, he defines a regular daily dose of 50 mg amitriptyline as being too low, yet I have under my care a patient on this dose and the laboratory reports a therapeutic blood level of nortriptyline. The major flaw, however, is that he attempts to generalise on psychiatric prescribing in the world of general practice, not by going into that world but by surveying it from the narrow keyhole in the door of his outpatient clinic. Two hundred and eighty-seven patients in four years represents only a fraction of the psychiatric morbidity in a population of 120 000. He has no idea how many patients in Southampton have received excellent treatment from their general practitioners for psychiatric illness and achieved a complete cure without coming near him. He makes the assumption that he is seeing a representative sample, but it is an equally

tenable assumption that the patients he sees are referred because they are not getting better because their treatment is inadequate. His sample is highly biased towards providing the sort of statistics he obviously set out to achieve when he embarked on the study. General practice research should be done in general practice or not at all.

In his discussion of the results Dr Tyrer suggests that the seductive advertising of the pharmaceutical companies is partially to blame for bad prescribing. General practitioners are used to the pressure of advertising and I would be surprised if it is as influential as he thinks. We are very susceptible to the views of our academic specialist colleagues and I find it disturbing that at least one eminent consultant has been associated with the advertising campaigns of three separate psychotropic drugs.

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SIR,—Dr Peter Tyrer (7 October, p 1008) criticises GPs for misuse of psychotropic drugs in the patients they refer to his psychiatric outpatients. He bases his criticism on his own diagnosis of the patients referred and his knowledge of the pharmacology of the drugs used by the GP. But pharmacology is only one part, and on occasions a small part, of the effect a drug has on a patient. One needs to know who first prescribed it, what the patient thought it was for, what he now thinks it is doing, and above all in what climate of transaction it is being prescribed.

Often patients cling on to various drugs as a token of the doctor's concern, and this concern may be more potent than the pharmacological effects of (for example) a small dose of amitriptyline which we may give them. It is, of course, our duty to try to cut this down and to be aware of the pharmacology of the drugs we use, but Dr Tyrer should understand that general practice involves frequent brief encounters between doctor and patient. With luck we may be able to develop a relationship which is useful. Until this happens, and often it never is, it is common for prescriptions to be given as a token of our wish to do something better for them in time. To dismiss this as useless placebo prescribing is to ignore the subtle and strong individual associations which patients have with their chosen drug, of whatever colour, shape, or size, often prescribed by a previous psychiatrist who has failed to help them.

It is disturbing that a psychiatrist should write an article which so completely ignores the human factors in medicine, and all the tensions between doctor and patient which surround their transaction. Perhaps he should spend a little time in general practice to see why patients really take drugs. He might learn a few healthy self-doubts about his own prescribing, instead of criticising his GP colleagues from afar.

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Preventing deaths from malaria

SIR,—In their letter (21 October, p 1158), Drs W D Mackenzie and P J C Chapman rightly take credit on behalf of British Airways and British Caledonian Airways respectively for their in-flight announcements concerning malarial risk. Better late than never, but a