contraception with an expert and who, by reason of their various disabilities, are unable to seek this advice for themselves. Patients are referred by health visitors, social workers, and general practitioners who are already concerned with the total well-being of the family. We are frequently requested by patients to give advice and practical help with their multiple problems and this is done by contacting the appropriate social agencies with whom we work very closely. To suggest that this smacks of 1984 is to imply that we are invading people's homes against their will and imposing restrictions on their desire to have children. This is not the case, and it is well established that it is impossible to persuade people to practice contraception effectively against their wishes.

The funds available to support the medical and social services are inevitably limited and a doctor must ensure that the resources are being used wisely. The high cost of a domiciliary service as compared with that provided in a clinic demands some justification in financial terms. To imply that this was my sole motivation merely demonstrates how easy it is to lift phrases out of context to fit preconceived ideas.

I am fully aware of the excellent work done by the Catholic Marriage Advisory Council and have recommended patients to go there on several occasions. My colleagues in the F.P.A. likewise frequently do so but unfortunately I am unaware of any return flow. However, our domiciliary patients are the very ones who will not attend any clinic. I have at present three families who are using the calendar method of contraception but only one of the first 27 Roman Catholic patients requesting our help wished to use this method. A doctor who is consulted professionally for contraceptive advice should either offer the full range of methods available or refer the patients to someone who can. To refuse to do so is to deny them a fundamental human right, the freedom to control their own fertility by the method of their own choice, unless there are good medical reasons for advising an alternative. —I am, etc.,

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Side Effects of Phenothiazines

SIR,—The case history of adverse reaction to a high dosage of parenteral fluphenazine decanoate is obviously valuable in its own right but, accepting Kline's¹ experience of high doses "without ill effect," the outline of the psychotic illness described by Drs. R. N. Allan and H. C. White (22 January, p. 221) does raise in my mind one or two questions.

It is stated that "treatment was started . . . 50 mg initially and 100 mg a week later." Would Drs. Allan and White explain the rationale of such high doses administered to a patient under inpatient management in preference to repeated administration of oral or parenteral small doses until the value and effect of the (or any other) drug for this particular patient had been established? It is relevant that this patient seems to have been well enough to be permitted to leave hospital.

Is it reasonable to rely upon Kline in the hope that ultra-high dosage will not have

"ill effects" rather than upon a "normal" dosage increasingly tailored to the degree of improvement in the absence of uncontrollable extrapyramidal side effects? After all, the use of long-acting parenteral phenothiazines has been established as a mode of management for patients who might otherwise lack full co-operation, but I would think that "maintenance" is needed after remission of acute illness which in this case seems not to have been achieved.

I am sure many colleagues will agree that the use of large doses of any drug needs to be examined very carefully with an eye to the future of the patient apart from the anticipation of immediate response. In the early 1950s we used to admit patients to Barts to watch for undesirable side effects of initial dosages of chlorpromazine 75 mg a day. It must seem ridiculous now—but was it then?—I am, etc.,

London W.1

¹ Kline, N. S., *American Journal of Psychiatry*, 1970, 126, 1799.

SIR,—We were most interested to read about the experiences of Dr. P. D. Ramsden and Mr. D. L. Froggatt (22 January, p. 246). However, acute reactions to phenothiazines are not so rare as they suggest. For physicians working in a regional tetanus centre, acute phenothiazine dystonia following a single dose of perphenazine compound presenting as suspected tetanus is a common enough experience, and it is indeed surprising to us that textbooks on medicine rarely mention this condition in the differential diagnosis of tetanus. Adequate knowledge of prior immunization, scrupulous inquiry regarding ingestion of antiemetic drugs of phenothiazine groups, and a diagnostic test employing intravenous benztropine would spare the patient and his relatives from acute anxiety, and would save an unnecessary journey to the tetanus centre. —We are, etc.,

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SIR,—We were interested to read Drs. R. N. Allan and H. C. White's case report (22 January, p. 221). We wonder if the authors could tell us how this patient came to be given these high doses of fluphenazine decanoate, at such short intervals, apparently as initial treatment.

Currently over 100 patients are maintained at the Modcate Clinic run by the Royal Edinburgh Hospital, and the majority of patients (most of whom are relapsing chronic schizophrenics or paranoid psychotics) are maintained on 25 mg monthly. The highest dose in current use is 43.75 mg every two weeks. The clinic policy is to increase the dose of fluphenazine decanoate gradually, titrating it against the patient's symptoms, while reducing oral phenothiazines gradually over the same period. This is done preferably as an inpatient. The interval between injections is left flexible, from 2 to 4 weeks, depending on clinical response. Our initial dose schedule is:

	Day 1	Day 8	Day 15	Day 29	Day 43
Dose of Fluphenazine Decanoate	6.25 mg	6.25 mg	12.5 mg	25 mg	Review

Even with these low doses, approximately a third of patients suffer from mild rigidity (Parkinsonian mask-like facies) and fine tremor, but severe side effects, (for example oculogyric crises and unbearable akathisia) are unusual. Minor degrees of oral dyskinesia have been noted in a small number of patients.

Fluphenazine decanoate seems to be a valuable maintenance therapy in those chronic psychotics who relapse because of failure to take oral phenothiazines. We do not see that it has any place in the setting of an acute admission before stabilization on conventional phenothiazines has been obtained. Why then was the patient in Drs. Allan and White's report given these large doses?

We would like to thank Dr. A. D. Forrest for permission to report details of the Modcate Clinic.

—We are, etc.,

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Phenothiazines in Cold Weather

SIR,—The recent period of very cold weather and the inadequate domestic heating through shortage of coal can be expected to lead to accidental hypothermia, especially in old people. It is important at such a time to eliminate preventable causes. Cases of severe hypothermia have been reported following ingestion of a variety of sedatives, tranquilizers and antidepressive drugs. Chlorpromazine and other phenothiazines are particularly dangerous because they directly depress the body temperature by causing vasodilatation and by abolishing shivering; moreover, they lessen the patient's awareness of environmental hazards.

It would be wise, therefore, for general practitioners to pay special attention to those old people who are receiving phenothiazines regularly. The degree of exposure to cold need not be severe in these patients, who can, indeed, become hypothermic while lying in bed. They should be visited more often at home during the cold weather and, if possible, the dosage of phenothiazine reduced.—I am, etc.,

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Generalized Pustular Psoriasis

SIR,—One may wonder whether your leading article on pustular psoriasis (29 January, p. 262) sufficiently emphasizes the part played by systemic steroid therapy in inducing this dangerous syndrome. Ryan and Baker¹ were able clearly to establish this probability in a quarter of their patients and, set against the very few who benefit from this treatment, there can very rarely indeed be justification for it in psoriatics.

Pustular psoriasis is nowadays much more common than it was 30 years ago. Why is this? If systemic steroid therapy is recognizable as a cause we should closely consider the part which may also be played

by the long-continued local application of potent steroids. It is known that the psoriatic skin may absorb many times more readily than normal; and that under polyethylene occlusion this is further greatly enhanced.

The association is difficult to prove, but clinical observation suggests that some patients with extensive psoriasis are subject to striking relapse, unexpected deterioration, and to the first development of pustules in relation to local steroid application or its cessation. It is, I believe, open to question whether the application of steroids to extensive cases is wise, particularly if this is continued over long (months) periods and especially if combined with polyethylene occlusion. Beyond a comparatively slight symptomatic improvement this form of treatment gives rather little benefit to most psoriasis sufferers. I suggest that it also exposes them to a risk of serious aggravation.—I am, etc.,

F. RAY BETTLEY

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¹ Ryan, T. J., and Baker, H., *British Journal of Dermatology*, 1971, 85, 407.

SIR,—In the leading article "Generalized Pustular Psoriasis" (29 January, p. 262) you quote Ryan and Baker's findings¹ that death in this condition may be due to the disease or its treatment with systemic corticosteroid or methotrexate.

Severe or extensive psoriasis is now treated by many with topical steroids under polyethylene occlusion. Rebound of the psoriasis with pustulation may occur when the use of steroids topically or systemically is curtailed for various reasons even when the psoriasis has been controlled. The same sequence may be observed when treatment is given with methotrexate. The use of these potent preparations for the treatment of psoriasis may be hazardous.

T. McFadyen and A. Lyell² have rendered a service when they demonstrated a concealed bacteraemia in patients receiving steroids or methotrexate in whom the ordinary clinical signs of systemic infection would be suppressed. In fact it is known that low grade bacteraemia may occur in any exfoliative dermatitis, whatever the cause, by invasion through the skin and there was less difficulty in the diagnosis of this complication in presteroid days.

The paragraph in the leading article on the "flaccidity" of the definition of an "ide" eruption was indeed flaccid. Dermatologists have a reasonable conception of the aetiology and morphology of "ides" of the skin.—I am, etc.,

LOUIS FORMAN

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¹ Ryan, T. J., and Baker, H., *British Journal of Dermatology*, 1971, 85, 407.

² McFadyen, T., and Lyell, A., *British Journal of Dermatology*, 1971, 85, 274.

Controlled Trial of Penfluridol in Acute Psychosis

SIR,—The need for long-acting forms of medication in the extended care of schizophrenic patients is now well established and I was interested to read the report by Dr. H. M. van Praag and others (18 December, p. 710) on a new oral compound of this type. However, I am very puzzled by their conclusion that "oral medication has the

advantage of being much more manageable for 'field workers' (social psychiatrists and practitioners)."

Firstly, what do they mean by "social psychiatrists?" If these doctors are working in hospitals or clinics they are surely not going to find periodic injections very difficult, particularly if nurses are working alongside them. So far as domiciliary work is concerned, it is unlikely that any psychiatrist will visit a patient weekly to see that he takes a tablet, and on an initial consultation something more effective than one dose of penfluridol is likely to be needed.

Secondly, what is the advantage to general practitioners? If the doctor is seeing the patient weekly the difficulty of giving an injection is surely minimal, whereas the advantages of intramuscular medication are considerable.¹ However, such frequent contact is unlikely to be possible over the long periods necessary in treating many schizophrenic patients, and I hope that the Dutch authors are not suggesting that treatment should be undertaken without psychiatric consultation at any stage. In a condition as serious as schizophrenia this would surely be unwise in any area where a psychiatrist is available.

But if the patient is not seen actually swallowing the tablet each week by a professional worker (and even this sight can sometimes be misleading), we are back where we started in the days of ineffective, unreliable oral medication. Quite apart from any "magic 'charge' of the syringe," an injection leaves no doubt as to whether the patient has received the medication or not. Also, recent absorption studies² indicate that this is generally by far the most efficacious route. Our studies in Salford³ show that fluphenazine decanoate injections can substantially reduce the amount of time that a large sample of schizophrenic patients need to spend in hospital, when other conditions are held as constant as possible. I remain to be convinced that this regimen is less "manageable" than that proposed with oral penfluridol.—I am, etc.,

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¹ Freeman, H. L., *Journal of Specialist Medicine: Psychiatry and Neurology*, 1971, 2, 3.

² Curry, S. H., Davis, J. M., Janowsky, D. S., and Marshall, J. H. L., *Archives of General Psychiatry*, 1970, 22, 209.

³ Johnson, D. A. W., and Freeman, H. L., *Practitioner*, 1972, in press.

Psychosis and Ketamine

SIR,—I should like to support the suggestion of Drs. S. M. Laird and M. Sage (22 January, p. 246) that adequate pre-operative sedation will do much to prevent the dreams and restlessness associated with the recovery of consciousness in adults after ketamine anaesthesia. I have completed a study of 100 patients between the ages of 17 and 47 years who required surgical operations of a relatively minor nature. Each patient received nitrazepam 10 mg and droperidol 20 mg orally about 1 hour pre-operatively. This mixture provides excellent sedation and sleep in virtually all patients not afflicted with pain.¹ Anaesthesia was induced in each patient with an average dose of ketamine 250 mg intravenously and maintained with supplementary doses of ketamine 100 mg intravenously at approximately 10 minute intervals. Inhalational

agents were not used. Twenty-five of the patients were also curarized, intubated, and ventilated with air or oxygen during operations on pelvic viscera, mainly hysterectomy, partial salpingectomy, or appendicectomy.

Careful postoperative interrogation of each patient by members of the nursing and surgical staffs revealed that all patients were fully anaesthetized during the period of surgery, and none experienced dreams or other unpleasantness. The nitrazepam-droperidol premedication completely suppressed the dreams and mental agitation associated with the recovery from ketamine anaesthesia in adults, and no special precautions were required to maintain silence and the lack of other disturbances during recovery. The premedication also prevented the muscular catatonia or rigidity which sometimes complicates ketamine anaesthesia. Full details of the study will be reported elsewhere.²—I am, etc.,

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¹ Johnstone, M., *British Journal of Anaesthesia*, 1971, 43, 380.

² Johnstone, M., *Anaesthesia and Intensive Care (Australia)*, in press.

SIR,—Drs. S. M. Laird and M. Sage (22 January, p. 246) are almost certainly correct in contending that ketamine is not contraindicated in psychiatric patients. Because of the advantages of an intramuscular anaesthetic in certain situations, we recently made a study¹ of ketamine anaesthesia in electroconvulsion therapy, together with Dr. Sara Hereward of the department of anaesthesia, University of the West Indies.

In over 60 ketamine anaesthetics given to depressed and/or psychotic patients, hallucinations and other unpleasant emergence phenomena did not occur, and this supports the findings of Orecchia *et al.*² in a larger series using only the intravenous route. However, as most candidates for E.C.T. are concurrently receiving one or more psychotropic drugs, it is not clear whether it is the E.C.T. or the medication—or both—which provide this "protection."

We saw nothing to suggest that ketamine had any adverse long-term effect on the psyche in our patients. Albin and Dresner³ have already shown that no such effects appear to follow its use in non-psychiatric patients.

In addition to causing no cardiac depression, little or no respiratory depression, and minimal interference with the airway, intramuscular ketamine in a dose of 4.4 mg/kg gives a pleasant and rapid induction—usually within three minutes when mixed with hyaluronidase. It can with advantage be given by a nurse known to the patient, avoiding the anxiety which some patients feel when exposed to strange faces and sinister-looking apparatus. In the absence of hypertension, we regard it as the anaesthetic of choice for E.C.T. where the patient is anxious and disturbed, or has no visible veins.—We are, etc.,

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JONATHAN DAVIDSON

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¹ Brewer, C., Hereward, S., and Davidson, J. R. T., *British Journal of Psychiatry*, 1972, in press.

² Orecchia, C., Marullo-Reedtz, G., and Bram, S., *Minerva Anestesiologica*, 1969, 35, 711.

³ Albin, M. S., and Dresner, A. J., paper delivered to International Symposium, Ostend, 1969.