longer established drugs and study the available literature critically (extending of course beyond the information supplied by the drug company).

4. Keep up to date with the literature on new drugs but only prescribe these ('category three drugs') when category one and two drugs have failed and the condition is severe enough to warrant the potential risks of a new substance. Careful and controlled administration is the rule here.

I think that these ideas may be particularly useful to trainees.

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PROGESTERONE AND PREMENSTRUAL SYNDROME

Dear Sir,

After reading Gwyneth Sampson's paper (*Journal*, **135**, 209–15), I had recourse to my ancient physiology textbook and read there that progesterone has very little effect when given orally. It may be that absorption is better by the vaginal or rectal route, although this strikes me as unlikely.

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Dear Sir,

It is true that progesterone has little effect when given orally; it can, however, be given intramuscularly, vaginally, rectally or by implantation into the fat of the abdominal wall. Nillius and Johansson, reporting on several studies, found absorption of progesterone was rapid by these routes, usually resulting in high plasma levels within the first two hours and peak plasma levels within the first eight hours after administration. Plasma levels corresponding to those encountered during the luteal phase of the menstrual cycle were attained with an i.m. injection of 25 mg progesterone in oil or 100 mg progesterone used vaginally or rectally. Langecker reviewed other studies showing that progesterone is readily absorbed rectally or vaginally. In a group of women with premenstrual syndrome studied in a metabolic unit we found progesterone administered vaginally in the same dosage regimes as in our paper produced appropriate rises in plasma progesterone levels.

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THE EFFECT OF PSYCHOSIS ON GENDER IDENTITY

Dear Sir,

The reported incidence of transsexualism in England and Wales is 1 in 66,000 with a ratio of four males to one female. The likelihood of an individual developing hypomania is greater, but the likelihood of the two together must be very small. I report a case study of a transsexual patient who developed hypomania and the effects this had on his gender identity.

This 29-year-old male to female transsexual had presented five years previously requesting a sex change operation. He had had the feeling that he was a woman trapped inside a man's body since he was 6 years old. The management of the case consisted of helping him to live and adjust as a female, including the taking of stilboestrol for a period of two years. He functioned well as a female and was reviewed at six monthly intervals.

One year ago he came to the hospital in a very disturbed state with elation of mood showing a diurnal variation, irritability, distractibility, pressure of talk, flight of ideas and grandiose delusions. A diagnosis of hypomania was made and he was treated with phenothiazines. During the psychotic phase he showed no transsexual feelings, discarded his female attire, thought the whole idea of living as a woman was ridiculous and that he was really a man. He dressed in male clothes. As the psychosis improved the transsexual feelings gradually reappeared. During this time he showed ambivalence about his gender

identity, appearing one day dressed as a male and another dressed as a female. After six months he had fully recovered from his psychosis and the phenothiazines were discontinued. At this stage the transsexual feelings had been re-established and he again believed that he was a female trapped in a male body.

Walker (1976) suggests that transsexualism is not altered in depression, psychosis or psychopathic disorders, but this has been disproved in this case. During the patient's hypomanic episodes one of his delusional ideas was that he was an antichrist. One could speculate that he saw himself as a male because an antichrist is generally considered male. This was not obvious clinically: the patient saw no connection between his gender identity and his role as an antichrist but did refer to himself as masculine when talking about this role.

A number of changes in the neurotransmitter substances have been reported to be associated with psychotic illness, including hypomania. Everitt *et al* (1975) and Soulairac and Soulairac (1975) reported that sexual behaviour is influenced by a number of neurotransmitters, but it is not possible at this stage to develop a biochemical model that would explain the changes seen in this case.

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TARDIVE DYSKINESIA AND THE MENTALLY HANDICAPPED

DEAR SIR,

Most surveys have been carried out among long-stay psychiatric hospital populations of chronic schizophrenics where phenothiazines have frequently been used for long periods of time.

So far few studies have involved the equally long-stay populations of mental handicap hospitals where chronic shortage of staff, inadequate diversional activities and inappropriate environments have frequently necessitated the non-specific use of antipsychotic medication to reduce behaviour disturbances. Routine review of prescriptions in mental handicap hospitals has not always been adequate; it has been our experience that prescriptions may be repeated at infrequent intervals with little thought for their continuing need. In the past anticholinergic drugs were often given routinely, and the mentally handicapped, because of the supervision of their drug taking, probably reach a high degree of compliance. Many mentally handicapped have congenital or long-standing brain damage, and because of the increasing life span the geriatric population of mentally handicapped individuals is increasing so that between 10 per cent and 24 per cent of patients in most long-stay hospitals are over 65 years.

Surveys for abnormal movements in these patients should therefore yield fruitful results, although such surveys will challenge our diagnostic skills as by no means will all the movement disorders be tardive dyskinesia: the involuntary movements of the cerebral palsies must be distinguished.

In a small survey of the total population in one long-stay female ward in a mental handicap hospital where ages ranged from 42 to 87 years (mean of 65 years) and time spent in hospital ranged from 2 to 50 years (mean of 32 years) and mental ages ranged from less than 5 years to dull normality, 9 had received antipsychotic medication in the past 7 years. Obvious movements suggestive of tardive dyskinesia were found in 49 per cent and mild abnormal movements of the face, tongue, jaws and hands were found in a further 37 per cent. All 9 who had received antipsychotic medication, and 25 out of 31 who had not received medication had abnormal movements; in this small number there was no significant relationship to medication history, nor to age. This survey was primarily a pilot scheme to assess the level of co-operation one could expect from such a population. With appropriate techniques and much encouragement all patients in the survey completed the examination, based on the technique described by Sovner (1978), using the Abnormal Involuntary Movements Scale (NIMH, 1975) with appropriate simplification assuming low cognitive abilities (Blowers and Bicknell, 1979).

With the slight improvements in the mental handicap services and the greater emphasis on daily activity programmes, many of the behaviour disturbances formerly treated by medication are being successfully dealt with by methods not requiring medication. Many mentally handicapped people are being maintained in the community in more appropriate environments than were hitherto available in