Hypokalaemia may increase the predisposition to lethal cardiac arrhythmias[3] and convulsions, especially in hypoxic patients with airways obstruction; serum potassium concentrations should therefore be monitored in every patient with established or suspected theophylline toxicity, and hypokalaemia should be corrected.

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EDITOR,—D J M Reynolds and J K Aronson indicate in their article on monitoring treatment with theophylline that, to achieve an optimum effect in the absence of complicating factors, plasma concentrations of theophylline must be in the range of 55-110 μmol/l.[1] However, this therapeutic range, obtained in studies conducted in patients with asthma,[2] should not be used as a reference in patients with chronic obstructive airways disease, in which the use of theophylline has been a subject of controversy.[3] Its usefulness in this disease has been questioned, and a maximum efficacy was obtained in one report at lower plasma concentrations.[4]

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AUTHORS' REPLY,—Memon's points about metabolic abnormalities, emphasising hypokalaemia, are misleading in relation to monitoring theophylline therapy. Hypokalaemia, as his selection of references shows, occurs after acute single overdosage of theophylline, but not during long term overdosage.[1] Furthermore, although there is an increase in circulating catecholamines in response to theophylline, in the one study he quoted that did not relate to overdose,[2] the effect on blood glucose was clinically insignificant. In contrast, the $\beta_2$ adrenoceptor agonists, with which Memon compares theophylline, can have large effects on plasma glucose, accompanied by similar changes in plasma potassium concentrations.[3]

It is certainly important to measure the plasma potassium concentration during acute administration of theophylline (for example, after overdose or in acute severe asthma), since hypokalaemia may require treatment, but the plasma potassium concentration should not be regarded as a useful measure of the action of theophylline during long term therapy.

Sacristán and colleagues refer to chronic obstructive airways disease in the context of irreversible airways obstruction, which we did not discuss. The evidence that theophylline is of benefit in such cases is inconclusive.[4] However, of the seven studies in the review they quote,[4] three showed objective changes in lung function after theophylline, all in association with plasma concentrations in the therapeutic range. Indeed, in one of those studies there was significant benefit when plasma concentrations were 95-120 μmol/l (17-22 μg/ml) compared with 50-70 μmol/l (9·0-12·5 μg/ml).[5] We do not believe that there is any good evidence that the therapeutic plasma concentration range is different in chronic obstructive airways disease than in asthma.

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1 Kelemen K, Knoll J. Central nervous stimulants and anorectic agents. In: Dukes MNG, ed. *Meyler's side effects of drug annual 11*. Amsterdam: Elsevier, 1987:5-6.
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## Liver failure induced by paracetamol

EDITOR,—Gary P Bray draws attention to the fact that paracetamol is a common cause of morbidity and death in Britain and that it is the most common reason for intensive care for fulminant hepatic failure and liver transplantation.[1,2] Colleagues and I recently reported a case that may point to a possible adjunct to treatment for these patients.[3]

A 24 year old woman presented to hospital more than 18 hours after self poisoning with over 30 g of paracetamol taken as both co-proxamol and paracetamol. Her circulating paracetamol concentration was 943 μmol/l on admission, implying a high risk of fulminant hepatitis even if she was treated with the antioxidant acetylcysteine. She was also profoundly hypothermic (rectal temperature 19°C). Her condition was stabilised by resuscitation with intravenous fluids, vasoactive drugs, and active rewarming, and acetylcysteine treatment was begun. Her condition improved, and she returned to the ward after a short period of ventilation in intensive care. Results of liver function tests remained entirely normal despite the delay in presentation, and she recovered rapidly with no sign of hepatocellular damage.

Hypothermia is not a usual feature of paracetamol poisoning and in this case was probably due to a combination of other factors. Hepatocellular metabolism, including conjugation, is reduced in hypothermia.[4] We postulated that hypothermia may have reduced formation of the toxic reactive intermediates produced by metabolism of paracetamol, and so prevented the development of hepatitis in this high risk case.

Induced hypothermia is used intraoperatively during cardiopulmonary bypass and has also been used in the intensive care management of cerebral oedema. This case points to a possible role for moderate hypothermia in preventing hepatitis secondary to ingestion of paracetamol, when it might be used as an adjunct to treatment with acetylcysteine or haemoperfusion in high risk cases.

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1 Bray GP. Liver failure induced by paracetamol. *BMJ* 1993;**306**: 157-8. (16 January.)
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EDITOR,—An important reason why paracetamol-methionine is rarely prescribed[1] is that when Sterling Winthrop introduced it in 1986 under the brand name Pameton the Department of Health refused to add it to the list of medicines prescribable within the NHS because it saw "no clinical need." Pameton has been kept on the market as a means of making paracetamol available to patients who may be at risk of self harm, but only on private prescription. Although it was promoted particularly to psychiatric units, they have shown little interest.

Pameton is little publicised because it is of value only to that small number of people who may misuse medicines. The rest of us find paracetamol an effective analgesic with no important side effects and have no need of an antidote.

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EDITOR,—It is unfortunate that Gary P Bray adds to the confusion over deaths from paracetamol overdose by an apparent failure to recognise the difference between the cause of death and a coroner's verdict as to its motivation.[1] He quotes a figure for deaths from liver failure after an overdose of paracetamol and states this may be an underestimate as "many cases of liver failure may not be attributed to a suicidal overdose to alleviate bereaved relatives' distress." All deaths in England and Wales from liver failure due to paracetamol are notified and recorded by the registrar general. The coroners' verdicts for these deaths fall into the three categories of suicide, undetermined, and accidental. The undetermined category includes those deaths referred to by Bray, thereby giving rise to an underestimate of the number of deaths attributed to suicide, but the total number of deaths is unaffected.

In 1990, the Office of Population Censuses and Surveys has told me, there were 150 deaths in England and Wales that could reasonably be attributed to liver failure after paracetamol overdosage, and of these, 119 were either certain or probable suicides.[2] Bray suggests that the addition of methionine to all paracetamol products "might prevent every death that currently occurs." Experience shows that this would not be so, as people bent on suicide who are denied one method will choose an alternative.

A verdict of accidental death was recorded in 31 of the 150 paracetamol deaths where an overdose was taken but death was not thought to be the intention. The most effective way of preventing these deaths would be to convince people never to exceed the manufacturers' dosage recommendations. To achieve the same objective by the addition of methionine to all paracetamol products would be difficult because of formulation difficulties involving a very large number of products and different manufacturers. Furthermore, is it certain that the consumption of more than the daily requirement of methionine in this combination would be safe for all the more than 20 million adults in the United Kingdom who currently consume paracetamol each year without harm?

Certainly it will be disappointing if the number of deaths due to paracetamol overdosage continues at the current level, but it would be wise to recognise that in 1990 in England and Wales there were a further 1593 deaths due to overdosage of medicines other than paracetamol and that the prevention of such deaths should receive at least equal attention.

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## Treating mentally ill people in the community

EDITOR,—Robert Bluglass suggests that brief readmission to hospital to extend leave of absence, a practice declared unlawful in England, persists "under Scots law."[1] Unfortunately, the situation is far from clear. The only reported appeal in Scotland against liability to detention while on leave of absence concerned a patient who was spending three or four days at home each week.[2] The sheriff (a judge in Scotland) dismissed the appeal on the ground that at least some inpatient treatment was actually, and not merely potentially, required at the time the appeal was heard. He went on to say that this was an essential requirement to justify continued detention under the Mental Health (Scotland) Act 1984.

No reported appeal by a patient in Scotland has exactly mirrored the circumstances of the case in England to which Bluglass refers. I suspect that any such appeal would be successful. The statutory form that a responsible medical officer must complete to extend detention (whether or not the patient is on leave of absence at the time) refers unambiguously to the need for treatment in hospital. Any legal reform on this matter introduced in England will equally be necessary in Scotland.

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1 Bluglass R. Maintaining the treatment of mentally ill people in the community. *BMJ* 1993;**306**:159-60. (16 January.)
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EDITOR,—Robert Bluglass sets out the views endorsed by the Royal College of Psychiatrists concerning community mental health legislation.[1] These proposals add little to existing, though rarely used, provisions for guardianship under the Mental Health Act 1983.

The purpose of community intervention is not simply to observe but to ensure that treatment is sustained for those whose illness, in terms of either severity or nature, warrants this. A supervision order allows for close observation but requires evidence of deterioration before action can be taken in the form of recall to hospital to restart treatment. This may well be appropriate for some patients but falls short of securing treatment for others whose relapses may be abrupt and catastrophic.

The current use of restriction orders (section 41) circumvents this problem and has not led to abuse. Many patients who thereby benefit from continuation of treatment as a condition of discharge from hospital are able to resume relationships and activities that would be hazardous without such treatment. Since the order can be made only by a crown court after prosecution for a serious offence, a considerable number of patients, who are equally dangerous or vulnerable, are denied this provision. So too are their families, who are then subject to a greater burden of care, stress, and risk.

A commitment to statutory provision of treatment in the community would represent a considerable advance in health care. A commitment to statutory provision alone fails those most at risk.

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EDITOR,—Robert Bluglass seems to bypass the essential problem in community care of mentally ill people—namely, chronic schizophrenia in which insight is lost.[1] This loss of insight—part of the intrinsic schizophrenic defect state—causes such loss of judgment that the sufferers, given the choice of non-compliance, will refuse to comply with treatment simply to assert their freedom. If they could but appreciate it there is ample evidence from their repeated admissions of the deterioration, often with antisocial consequences, that results from stopping drug treatment.

Under the Mental Health Act 1959 patients maintained on guardianship orders knew that drug treatment could be enforced and therefore appeared regularly for depot injection on the right day and at the right time without pressure or demur. They retained their status, and often jobs, in the community, and tension among relatives was relieved.

The essential weakness of the guardianship provisions under the 1983 act (sections 7 and 8) is that the guardian has the power to enforce attendance for treatment but not treatment itself. All that is needed is two alterations to sections 7 and 8 of the current act. Guardianship should be either to social services as now or to hospital managers. Section 7(5) of the act should be strengthened to put the hospital managers on a par with the local social services authority. The clause "and receive such medical treatment" added to section 8(1)(b) would then make medical treatment compulsory in the community. Those who believe that such insistence would "infringe civil liberties"[1] should appreciate that this liberty is valueless if wise judgment is so impaired by lack of insight that sufferers from the underlying illness can use this liberty only to their detriment.

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EDITOR,—The renewed enthusiasm shown by the secretary of state, and now the Royal College of Psychiatrists,[1] for extending the coercive powers of psychiatry in dealing with the problems consequent on chronic underfunding of community care and the shortcomings of institutional psychiatric practice is regrettable. The argument that, with compulsory supervision, mentally ill people in the community may be offered better service is dubious.

Instead of advocating greater restrictions and sanctions on "mentally ill" people, perhaps the current debate should address the fundamental contradiction that has become all too apparent in contemporary psychiatric practice: the contradiction between care and control, cure and coercion. Professional views of mental illness, especially when manifested in the public realm, continue to be based on nineteenth century ideas about madness as something that should be brought under control and removed from the public gaze. When madness cannot be contained, or attempts to control it fail repetedly in spite of various changes in mental health policies, the answer is sought in greater powers of control and surveillance, now extended into people's homes and the community at large.

Institutional psychiatry with its reliance on hospital treatment has clearly failed and this predates the advent of community care in this country. The notion that hospital care must remain an essential part of mental health provisions is therefore open to challenge. Our work in Ladywood in Birmingham has shown that in the acute care of severely mentally ill people through home treatment, hospital admission can be avoided in four out of five cases. The key to our success is the recognition by users and their families that we avoid notions of coercion and forcible treatment, that psychiatric practice involves more than ensuring compliance with medication. Similar research elsewhere leads to better overall outcome in the long term than does hospital admission.[2] These new beginnings within community care would be seriously compromised if institutional models, with their emphasis on compulsion and surveillance, are simply relocated in a different guise in the community as the power base of psychiatry, namely the asylums, is run down.

The use of compulsion in psychiatric care is not just a procedural, professional matter. There is good evidence to show that the Mental Health Act is used disproportionately against black people and other disadvantaged groups, and this element of social control that is invested in psychiatric practice is likely to be further strengthened and made more pervasive by the introduction of community supervision orders. Such a mental health "sus law," invoked on the basis of unreliable predictions of dangerousness, will bring psychiatric practice closer to policing and will undermine the attempts to achieve cure or care, both in hospitals and in community settings. Sadly, these arguments do not seem to be uppermost in the current discussions at Whitehall or in the Royal College of Psychiatrists.

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1 Bluglass R. Maintaining the treatment of mentally ill people in the community. *BMJ* 1993;**306**:159-60. (16 January.)
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## Preoperative autologous blood transfusion programme

EDITOR,—Martin R Howard and colleagues report their experience of preoperative provision of autologous blood in the Northern region between December 1989 and November 1991.[1] Their project was preceded by a two year pilot study, also funded by Northern Regional Health Authority, from 1987 to 1989. The pilot study was based in Sunderland District General Hospital, and its results have been published[2,3] and presented at numerous international meetings. Howard and colleagues do not compare their results with those of the pilot study, to whose success they owe their funding.