Our findings would suggest that it is most important that doctors record which phase they are using, whether in clinical practice or in the reporting of therapeutic trials.

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¹ D'Souza, M F, Swan, A V, and Shannon, D J,
Lancet, 1976, **1**, 1228.

² Reid, D D, *et al*, *Lancet*, 1966, **1**, 614.

³ Veterans Administration Cooperative Study Group on
Hypotensive Agents, *Journal of the American Medical Association*, 1970, **213**, 1143.

Out-of-hours calls in general practice

SIR,—It never ceases to amaze me that a general practitioner is expected to be on call 24 hours a day, 365 days a year, and yet be able to come up bright-eyed and bushy-tailed to cope with any emergency. Legal restrictions are laid down on the number of hours that airline pilots, lorry-drivers, etc may work. Yet GPs who equally hold human lives in their hands are expected to carry on regardless—possibly paying the penalty of a mistake through fatigue before a service committee or in the law courts.

Now that the tendency is towards larger group practices and duty-rosters surely it is time that a "shift system" is introduced, with financial encouragement from the Department. It would not be impossible to work a system in which one man in a group was on duty from 6 pm to 8 am for, say, a week, leaving his colleagues to cope with the day work.

Personalised continuity of care is all very commendable, but a fresh, alert doctor is safer and more use to the ill patient.

D HOOKER

Truro

Vinyl chloride: the carcinogenic risk

SIR,—We were pleased to read your well-balanced leading article on the carcinogenicity of vinyl chloride (17 July, p 134). In one respect, however, your discussion of ceiling and threshold limits is misleading and likely to confuse those amongst your readers who are not pollution specialists. We have previously discussed the problems caused by using parts per million (ppm) in an unspecified manner in connection with the pollution of operating theatre atmospheres.¹

Vinyl chloride behaves as a non-ideal gas at room temperature. The ppm unit to which you refer, we presume, is by volume: ppm (v/v). This unit is generally rather loosely used but frequently this ratio is meant to be ppm (ideal volume/ideal volume) without actually being defined. Because of the non-ideality of vinyl chloride vapour a given mass occupies less volume at any particular temperature and partial pressure than predicted by the ideal gas laws. Although the resultant error arising from the use of ppm (ideal v/v) may be small, precision is essential in establishing the threshold and ceiling limits if defined safety levels are to be meaningful.

Later in your article confusion is introduced by the mention of an upper limit (in undefined ppm) of vinyl chloride monomer (VCM) concentration in polyvinyl chloride (PVC) used in fabrication. In this case we must presume that ppm by weight (ppm (w/w)) is meant, but to many readers this may not be obvious.

It is far simpler to use units such as $\mu\text{g/l}$ (equivalent to mg/m^3) for air pollution thresholds because the instruments used to monitor pollution are most easily and reliably calibrated in such mass/volume units. If such a convention were generally adopted comparisons between work from different laboratories would be less subject to confusion because uncertainties in the definition of the concentration limits would be eliminated. Similarly it would be less confusing to discuss VCM concentrations in PVC in terms such as $\mu\text{g/g}$ or mg/kg .

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¹ Robinson, J S, *et al*, *British Journal of Anaesthesia*, 1976, **48**, 167.

Hypophosphataemic osteomalacia in patients receiving haemodialysis

SIR,—Dr J F Mahony and his colleagues (17 July, p 142) reported four uraemic patients with depletion hypophosphataemia and osteomalacia. Three of them had used aluminium hydroxide as antacid while the fourth had not. Dr K Y Ahmed and others (28 August, p 526) reported four patients with persistent predialysis hypophosphataemia in whom osteomalacia developed without their having taken oral phosphate binders. Dr M Cochran and his colleagues (14 August, p 396) examined the action of calcitonin in uraemia and pointed out the role of elevated plasma phosphorus in the observed increase in sensitivity to the hormone in nine of 17 patients. In connection with these publications we would like to report the conclusions reached from our studies of the role of calcitonin in the development of uraemic bone disease.¹⁻³

(1) In chronically uraemic rats four weeks after subtotal nephrectomy calcitonin sensitivity seems to be decreased if the animal is nearly normophosphataemic, calcitonin sensitivity being measured by examining the decrease in serum calcium concentration after the intraperitoneal administration of calcitonin.

(2) In these animals the calcaemic reaction (that is, the duration of hypercalcaemia after an intraperitoneal calcium load, which seems to be a measure of endogenous calcitonin activity) lasts longer than in intact, pair-fed, age-matched controls.

(3) In patients with histologically established chronic renal glomerular disease with proteinuria and normocalcaemia but without elevated serum creatinine, phosphorus, or blood urea nitrogen values the elevation of serum calcium after an intravenous calcium load⁴ lasts longer than in healthy individuals. This may point to the early beginning of diminished calcitonin sensitivity in the course of chronic renal failure.

(4) The anephric, uraemic rat with highly elevated plasma phosphorus seems to be more sensitive to calcitonin than the intact one.

(5) Normal rats with hyperphosphataemia and hypocalcaemia due to repeated oral administration of phosphate are more sensitive to calcitonin than untreated rats.

It appears that our observations are in agreement with the findings of the authors mentioned above. We found that uraemia causes decreased calcitonin sensitivity, which may be counteracted by hyperphosphataemia. It is suggested, therefore, that careful consideration should be given to any reduction of plasma phosphorus in uraemic patients treated with chronic haemodialysis.

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¹ Szűcs, J, Horváth, T, and Steczek, K, *Clinical Nephrology*, 1974, **2**, 161.

² Szűcs, J, *Lancet*, 1974, **1**, 1108.

³ Szűcs, J, Horváth, T, and Steczek, K, *Magyar Belorvosi Archivum*, 1975, **28**, 240.

⁴ Holló, I, Szűcs, J, and Steczek, K, *Endocrinologie*, 1971, **58**, 326.

Postinfluenzal depression

SIR,—This is a syndrome which everyone knows about (leading article, 21 August, p 440) but on which it seems impossible to get any worthwhile information. Having an interest in cerebral complications of influenza I have tried to find evidence for it. I wrote several years ago to a number of Birmingham practitioners at a time when influenza was prevalent but was unable to find any convincing case of post-influenzal depression.

Excellent records of epidemics since 1880 have been kept by the Birmingham Public Health Department and for more recent years the virus type is known. With the valuable help of a psychiatrist, Dr A Orwin, I went through the records of a major psychiatric hospital and could find no correlation between numbers of admissions for depression and occurrence of influenza outbreaks; such admissions were not more frequent at the time of epidemics, nor were waves of influenza followed by detectable waves of depressive illness at any interval afterwards.

Surely one ought to be able to get precise information, something better than anecdotes on single cases, on a subject everyone knows about? Can anyone help me?

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Ingrowing toenail

SIR,—The operation for ingrowing toenail advocated by Mr B V Palmer and Mr D L Stevenson (7 August, p 367) is the classic wedge excision operation described by Watson-Cheyne over sixty years ago¹ and repeatedly described with various modifications since then.²⁻⁴

However, as I pointed out in 1958,⁵ this operation is both inefficient and illogical. It is inefficient because the deeply placed germinal matrix, which it is most important to excise, is the least well exposed. It is illogical because embedding is caused by pressure of the nail against the nail wall and it is unnecessary to remove both the factors in a disorder due to two incompatible factors; if the nail edge is eliminated then the sepsis in the nail wall will always subside.

Strip of nail removed (A) and flaps of nail wall (B) and nail fold (C) reflected to expose segment of germinal matrix (D) to be excised.

A simple and logical operation for unilateral embedded toenail was described by Heifetz in 1945.⁶ This consists of removal of a small segment of germinal matrix on the affected side of the nail. No sutures are required and healing occurs within a few days.

Mr Palmer and Mr Stevenson imply that their operation can be performed in the presence of sepsis, cutting through inflamed nail wall. A deliberate operation through inflamed tissues is bad surgical practice and sooner or later this will lead to severe exacerbations of infection. In infected cases it is safer to excise a small strip of embedded nail under local anaesthesia four weeks before surgery. This will enable an exact dissection of the portion of germinal matrix to be performed under ideal conditions.

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- ¹ Watson-Cheyne, W, and Burghard, F F, *Manual of Surgical Treatment*, vol 2. London, Longmans, Green, 1912.
- ² O'Donoghue, D H, *American Journal of Surgery*, 1940, 50, 519.
- ³ Hyde, T L, *Northwest Medicine*, 1945, 44, 252.
- ⁴ Lake, N C, *The Foot*, 4th edn. London, Ballière, Tindall and Cox, 1952.
- ⁵ Fowler, A W, *British Journal of Surgery*, 1958, 45, 282.
- ⁶ Heifetz, C J, *Journal of the Missouri Medical Association*, 1945, 42, 213.

Rational dosage of non-cumulative drugs

SIR,—The vast majority of drugs prescribed have a half life in their persistence in the body and in their effect. Let us assume that the required effect is attained by 1 g of a certain drug and that it exerts half its effect after six hours. If 1 g is given every six hours the accumulated dosage will approach 2 g—that is, $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8}$ etc. A simple rule for administration might well be to start with 1 g and to proceed by administering $\frac{1}{2}$ g every six hours of half the dosage every half life.

May we therefore in future be informed in the *British Pharmacopoeia* the average half life of every drug when that is practicable so that we can avoid the absurdities of prescribing drugs three times a day when the half life is a week.

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A prognostic sign in ECT

SIR,—Anaesthetists familiar with anaesthesia for electric convulsion therapy (ECT) must have observed, in a high proportion of cases, a phenomenon that could be of some prognostic value to the psychiatrist. I refer to a stage in the course of treatment when superficial arm and hand veins, previously contracted and almost invisible, making venepuncture excessively difficult, are found to be dilated and easily visualised or palpated, thus offering no difficulty in venepuncture. In my experience, shared with many psychiatrists with whom I work, this sign seems to mark the threshold of clinical improvement beyond which few further treatment sessions may be necessary.

I have been unable to discover any reference in the anaesthetic literature to this sign, but perhaps my psychiatric colleagues might be able to supply a convincing explanation of its aetiology. My uninformed guess is that it is (in part at least) a vasomotor effect in which skin temperature plays a major part. Cold, cyanosed extremities are commonly observed in severe depressive illness and, unless perpetuated by other causes, will give place to a normal skin temperature and relative vasodilatation as the clinical condition improves. Even with the onset of the generalised flush immediately following a single ECT venous dilatation may be briefly observed, especially on the dorsum of the hands.

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Primum non nocere, or the pharmacological lucky dip

SIR,—A Bengali man was admitted with apparent digitalis intoxication. His electrocardiogram showed first-degree heart block, coupled ventricular ectopic beats, and S-T-segment changes consistent with digitalis effects, and his serum digoxin level was 4.9 nmol/l (3.8 ng/ml). It was not possible to relate this to dose times. There was no evidence of potassium depletion. He was in gross cardiac failure.

He said that he took two tablets regularly each day but later revised this to five. Someone brought a plastic carrier bag to the ward containing his tablets. These are recorded in the accompanying table. The five daily tablets were, he said, two Slow-K, one ampicillin capsule ("very good, doctor, very good"), and two white tablets. He drew the last items from

the phial (No 12) marked "Valium" which contained three populations of tablets—prochlorperazine, frusemide, and Buscopan (hyoscine butylbromide). Each evening must therefore have afforded him a new therapeutic surprise—tranquillity, profound diuresis, or little detectable effect. His wife, who would certainly have noticed, could not help, being in Bangladesh. His general practitioner also shared his nationality, so presumably language had not been a problem. He agreed that while he had taken digoxin, it was not part of the "regular five." Compliance with a schedule of five daily doses would be likely to be less than 25%.¹

A drug cupboard audit should be a regular part of the treatment history and examination in every case. We have encountered many who keep a pharmacological bran tub or lucky dip, but this patient is so far the most unusual. We are trying the effect of giving him a little diagram with coloured tablet symbols set against meal times, but do not yet know whether we have communicated better than anyone else.

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¹ Galtey, M S, *Journal of the Royal College of General Practitioners*, 1968, 16, 39.

Breast-feeding and the BBC

SIR,—Apropos the recent correspondence on breast-feeding it might amuse your readers to know that when I wrote to the BBC suggesting that one way in which they could help to promote breast-feeding was to show it as a natural activity on the screen this was described as "eccentric" by their director of programmes. O tempora! O mores!

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Conception and congenital abnormalities after chemotherapy for leukaemia

SIR,—We read with much interest the report by Dr J A Russell and others (19 June, p 1508) of two men who fathered children with congenital abnormalities after they had received chemotherapy for acute myelogenous leukaemia. This prompts us to report a patient

Drug name on container	Instructions on label	Actual contents of container	State of contents
(1) Slow-K	One, 3 × daily	42 Slow-K	Moist, frosted, and sticky
(2) "	(Bengali writing)	7 Slow-K	
(3) "	"The tablets/capsules"	95 Slow-K	
(4) Penbritin	500 mg 4 × daily	nil	Heavily worn symbols
(5) "	500 mg 6-hourly	nil	
(6) "	250 mg 4-hourly	17 ampicillin capsules	
(7) "	250 mg 6-hourly	13 ampicillin capsules	
(8) Digoxin	0.25 mg (Bengali)	28 digoxin tablets	
(9) "	0.25 mg daily	18 digoxin tablets	
(10) "	0.25 mg, two daily	64 digoxin tablets	
(11) Valium	5 mg 3 × daily	2 diazepam tablets	
(12) "	5 mg, one at night	245-mg prochlorperazine tablets	
(13) "	One at night	24 40-mg frusemide tablets	
(14) Stemetil	5 mg, "one to be taken twice times a day"	20 Buscopan tablets	Worn symbols
(15) Aldactide	3 × daily	15 10-mg diazepam tablets	
(16) Buscopan	2 × daily	nil	
(17) Lasix	40 mg daily	nil	
(18) "	40 mg "The tablets/capsules"	2 frusemide tablets	
(19) "	40 mg, one to be taken a day	29 " "	