levels below 10 mmol/l (180 mg/100 ml) or by measuring the metabolic rate.

The true lesson of the week was: Patients should not be given more calories than they can use because when calories are given in excess of this the "dehydration" described by Drs Prescott and Stoddart may occur.

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¹ Long JM, Wilmore DW, Mason AD, Pruitt BA. *Ann Surg* 1977;185:417-22.

Cerebral atrophy or hydrocephalus?

SIR,—Dr I W Turnbull (15 March, p 790) supported the call of your leading article (9 February, p 348) for a trial to determine the value of cerebrospinal fluid shunting in patients with dementia, gait disturbance, and hydrocephalus. He suggested that, in addition to static computed tomography, dynamic metrizamide cisternography should be the main investigation. We have performed a study which would suggest otherwise.¹

We compared results of preoperative tests (24-hour intraventricular pressure recording, cerebrospinal fluid infusion test, ventricular isotope clearance, and cerebral blood flow studies) with the response to shunting in 26 adult patients suspected of having communicating hydrocephalus. The potential of a patient to improve after shunting was reliably identified only by the finding of spontaneous waves of increased intracranial pressure, occurring once or twice a minute during the period of continuous monitoring. Similar observations have been made by others.²⁻⁵ The remaining tests often demonstrated an abnormality but were unreliable as predictors of the outcome in an individual patient. Intracranial pressure measurements should form an integral part of any future trial.

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¹ Pickard JD, Teasdale G, Matheson M, et al. In: *Intracranial pressure IV*. Berlin: Springer-Verlag (in press).

² Chawla JC, Hulme A, Cooper R. *J Neurosurg* 1974;40:376-80.

³ Symor J, Dorsch NWC. *J Neurosurg* 1975;42:258-73.

⁴ Brock M. *Radiologie* 1977;17:460-5.

⁵ Jensen F, Jensen FT. *Acta Neurochir* 1979;46:243-57.

Hypnotics and hangover

SIR,—It is useful for practitioners to be aware of benzodiazepine hypnotics, such as triazolam, with a relatively short half life. However, other comments about triazolam in your leading article "Hypnotics and Hangover" (15 March, p 743) should be read with caution.

The evidence for the statement that triazolam "is not associated with much detectable hangover" is a single study.¹ This was a study of young people; it is in older people that adverse effects of hypnotics are most troublesome. Further, it was only a relative lack of hangover by comparison with flurazepam 30 m performance on, for example, a card sorting test at 2.30 pm the next

day in the triazolam 0.5 mg group was still impaired by comparison with the placebo group.

The statement that patients who wake early despite bedtime medication might take in addition triazolam at some point in the night to give them two or three hours' extra sleep is unwise, even though—as your editorial suggests—this advice is only for the "severely depressed." With the appropriate treatment early morning waking is one of the symptoms of severe depression that is the quickest to clear and one which, with sympathetic advice, patients can be helped through. A patient should not be advised to medicate himself when his cognitive processes may already be disturbed by a recent dose of another hypnotic, or to subject himself to yet further hangover the next day.

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¹ Veldkamp W, Straw RN, Metzler CM, Demissianos HV. *J Clin Pharmacol* 1974;14:102-11.

Chlormethiazole and temazepam

SIR,—The hypothesis that short half-life hypnotics such as chlormethiazole and temazepam have advantages in the management of insomnia, particularly in the elderly, may well be valid; and the recent paper by Dr R S Briggs and others (1 March, p 601) would appear to support this view. However, we feel that their experimental evidence and conclusions, which are based on substantially negative findings, may be criticised on the following grounds.

(1) The two-minute abbreviated letter cancellation task which they used to detect impairment of psychomotor performance skills may not necessarily be sensitive to the sedative effects of standard doses of hypnotics in the elderly population, particularly at 11 hours. Our own experience with a number of standard psychomotor tests in elderly individuals has shown that both low baseline scores and abbreviation of tests may result in loss of discrimination. Additionally, it is not stated whether practice effects were minimised by a prestudy regime of familiarisation, a major factor with this particular test.¹

(2) Sway was not measured between dosing and four hours. The accompanying table shows results of a study in this department of the effects of oral diazepam 10 mg (half-life 20-50 hours). Sway was significantly increased in elderly volunteers at 0.5 hours and 2.5 hours after dosage, but not thereafter. It is thus possible that interruption or failure of sleep earlier than four hours after benzodiazepine or other hypnotics may be associated with impaired standing steadiness in the elderly. These drugs distribute rapidly to the central nervous system and it has been suggested that, depending on dose, some effects may be limited to the early distribution phase, declining or

disappearing during the β -elimination phase which determines half-life.²

(3) Our experience with visual analogue scales is that elderly volunteers frequently rate themselves optimistically (that is, relatively unimpaired) compared with the young after sedative drugs, even in the presence of measurable impairment as judged by objective assessments. This would be consistent with the otherwise anomalous finding that, in contrast with the young, "the old were as awake after the two active treatments as after placebo" when roused at four hours, though other explanations are tenable.

Further detailed assessment of both acute and long-term response to hypnotics in the elderly would appear to be necessary in order to substantiate fully the conclusions reached in this study.

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¹ Lawton MP, Cahn B. *J Nerv Ment Dis* 1963;126:550.

² Breimer DD. *Sleep research*. Lancaster: MTP Press, 1979:63-81.

Examination of abortuses

SIR,—Dr A J Barson's comments on the examination of abortuses are timely (12 April, p 1055). If, however, they were extended to include spontaneous abortions, their value would be greatly enhanced. Such examination could yield information concerning the impact of various environmental pollutants on the fetus.

As a prospective means of monitoring noxious agents in the environment, examination of such spontaneous abortions has inherent advantages over methods based on the study of full-term pregnancy outcome. Since there is a higher frequency of congenital anomalies in spontaneous abortions the size of the sample necessary to demonstrate the statistically significant change in risk of teratogenesis can be considerably reduced. Concentration on fetal wastage in early pregnancy confers a distinct time advantage over studies based on neonates. The confounding effect of many related factors influencing the fetus in utero are minimised. Exposure to putative agents at critical times can also be assessed with a reasonable degree of reliability. The relative ease by which the abortus may be examined is a contributory factor to its superiority over anything that may be possible in later pregnancy. The epidemiological surveillance of spontaneous abortion may prove to be a powerful investigative tool in the study of teratogenesis and related pathological processes. Other problems inherent in the assessment of community environmental exposures

Sway after oral diazepam (10 mg) vs placebo (Values are mean scores, with ranges in parentheses)

Time (h)	Young subjects (mean age 22.1; n = 11)				Elderly subjects (mean age 72.4; n = 12)			
	0.5	2.5	4.5	6.5	0.5	2.5	4.5	6.5
Placebo	9.7 (0.9-20.3)	9.7 (1.6-22.4)	9.7 (2.7-25.2)	9.5 (2.6-20.3)	19.8 (6.9-34.2)	19.0 (3.7-31.3)	19.2 (5.0-35.5)	18.9 (4.3-34.2)
Diazepam	12.7 (3.2-23.8)	12.2 (2.9-26.5)	8.4 (3.7-17.5)	9.3 (3.9-21.5)	31.8* (14.0-57.3)	29.4* (12.5-61.3)	26.4 (10.8-65.4)	18.8 (10.6-30.1)

*Significant difference from placebo ($p < 0.05$; Wilcoxon test for matched pairs).