do influence secondary tumour formation and perhaps liver perfusion with heparin alone should have been used in the control group. The design of this trial will not allow us to distinguish between the actions of heparin and those of fluorouracil.

Nevertheless, in spite of these criticisms, if the trends of the trial are confirmed it could form a basis to improve the outcome in patients with this common tumour.

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¹ White, H, and Griffiths, J D, *Proceedings of the Royal Society of Medicine*, 1976, **69**, 476.

* *We sent a copy of this letter to Mr Taylor, whose reply is printed below.—ED, *BMJ*.

SIR,—I am grateful to you for allowing me to answer the points raised by Mr Fielding. Firstly, there were equal numbers of lymph nodes involved with tumour in the two groups in the first 50 patients studied, as shown in the paper. We have recently reviewed our results in 78 patients followed up for between six and 24 months. Thirteen out of 38 patients in the perfused group had lymph-node involvement (Dukes C) and 16 out of 40 in the control group. Of the 10 patients in the control group who have subsequently died with recurrent disease, 8 had Dukes C and 2 Dukes B tumours. All three patients who have died in the perfused group had Dukes C disease. In those patients who had liver metastases at necropsy (six in the control and one in the perfused group), all but one had lymph nodes involved with tumour at initial surgery.

We were aware of the known effect of heparin in the development of secondary tumours both from the evidence in the paper quoted and from the work of Hilgard *et al.*¹ However, after a good deal of thought and discussion at the commencement of the trial we considered that the inclusion of a control group with perfusion of heparin alone was not justified. It seemed more logical to include a drug in the treatment regimen which is well known to have a cytotoxic effect on large-bowel adenocarcinoma. It may be that the inclusion of heparin acts as a "bonus" not only by discouraging thrombosis but also by discouraging the establishment of liver micro-metastases. However, I agree that this trial will not distinguish between the actions of heparin and those of 5-fluorouracil.

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¹ Hilgard, D, *et al*, *European Journal of Cancer*, 1972, **8**, 347.

Maternal pethidine and neonatal depression

SIR,—The implications of the study by Dr P C Wiener and others (23 July, p 228) on pethidine-induced neonatal depression are diverse. It is of considerable interest that the effects of pethidine on the neonate are profound and prolonged and that the time when pethidine is given before delivery is of less significance than previously supposed, though this has been well demonstrated without the use of naloxone.¹

In busy peripheral hospitals where epidural

services are not provided pethidine is used routinely in labour. All effective maternal analgesics produce fetal depression and this problem constitutes a major part of our neonatal work load. What we require to know about any new drug is whether it is more effective than a placebo and whether it has significant advantages over drugs already in use. Surely it would have made more sense to perform a trial comparing levallorphan, naloxone, and placebo? Even then, results would have to be interpreted with care because normally the babies in this trial would not have received treatment or investigation of any sort.

In the treatment of babies who have terminal apnoea at birth many have been persuaded by this study to change from levallorphan to naloxone, a drug of which we have little experience. There is no evidence that naloxone is superior to levallorphan in this particular clinical situation. It is too early to say what side effects this drug will have, but in high doses convulsions, transient elevation of partial thromboplastin time, cardiac irregularities, and a hypertensive episode have been recorded.² Particular diligence will be required to monitor side effects if the large intramuscular dose (200 µg) becomes standard.

Active resuscitation will remain essential in the treatment of apnoea at birth unless prevention by narcotic reversal in the mother becomes a practical alternative. Differentiating pethidine depression from other perinatal insults is a constant headache. If naloxone abolishes pethidine depression in a short time we could devote attention solely to those babies who require it. However, the administration of naloxone intravenously at one minute failed to improve Apgar scores at 1 and 5 min against controls.³

In their paper the authors point to the use of naloxone for those babies "who have hitherto been regarded as normal." The prospect of normal babies being given this drug routinely at birth when pethidine has been used in labour is horrifying from both toxicological and economic viewpoints.

The ethical aspects of the design of this trial are not discussed by the authors. It involved considerable medical interference, including cannulation of the umbilical vein, and yet we remain uncertain of the best drug to use for narcotic-induced depression. For 10 years we have known that in mice and men naloxone avoids the respiratory depression associated with nalorphine and levallorphan when there is no coexistent opiate depression.⁴⁻⁷ A definitive trial of naloxone in neonates is urgently required.

The over-prescribing of new "wonder drugs" will continue unabated until those who are given the task of assessing efficacy show a more positive attitude to their responsibilities.

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S K M JIVANI

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¹ Harvey, D R, Communication at Perinatal Symposium, Glasgow, November 1977.

² Narcan Information Booklet. Surbiton, Surrey, Winthrop Laboratories.

³ Evans, J M, *et al*, *British Medical Journal*, 1976, **2**, 1098.

⁴ Foldes, F F, *et al*, *American Journal of Medical Sciences*, 1963, **245**, 23.

⁵ Foldes, F F, *et al*, *Canadian Anaesthetists' Society Journal*, 1969, **16**, 151.

⁶ Foldes, F F, and Torda, T, *Acta Anaesthesiologica Scandinavica*, 1965, **9**, 121.

⁷ Evans, J M, *et al*, *Anaesthesia*, 1974, **29**, 721.

Beta-blocking drugs in diabetes

SIR,—In reply to Dr J R Lawrence and his colleagues (10 December, p 1541), theirs is a common criticism of comparative drug studies, since all drugs have different pharmacological profiles and strictly equipotent dosages are often difficult to achieve. Our protocol was designed to determine whether dosages of beta-blockers of similar cardiovascular effect differ in their effects on metabolic homeostasis. The dosages used, albeit at single dose levels, are nevertheless clinically relevant. I disagree that propranolol was used in a more effective dosage, as evidenced by a very similar degree of suppression of exercise-induced tachycardia by all three beta-blockers. There was a clear sinus bradycardia during hypoglycaemia in subjects receiving propranolol. This has been observed by other workers,^{1,2} who have also noted alterations in diastolic and systolic blood pressure. This hypertensive response in propranolol-modified hypoglycaemia is thought to be due to unopposed peripheral vasoconstriction. The mechanism for the associated sinus bradycardia is not known.

Coincidentally, in the same issue there was an excellent review of the mechanisms of blood glucose regulation in hypoglycaemia in the paper by Dr L V Campbell and others (p 1527). Their suggestion that glucagon unresponsiveness to hypoglycaemia in diabetes is a form of selective autonomic neuropathy is novel. The hypoglycaemic action of beta-blockers may in part be due to pancreatic sympathetic antagonism, or to ancillary properties such as membrane-stabilising action acting at the α cell. Indeed, the oral hypoglycaemic sulphonylureas have been shown to have membrane-stabilising action.³ However, whatever the mechanisms, the message for the clinician is that in diabetic patients prone to hypoglycaemic attacks one of the more cardio-selective drugs should be chosen to lessen the risk of hypertensive attacks and to allow more rapid recovery from low blood glucose levels.

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¹ Davidson, N McD, *et al*, *Scottish Medical Journal*, 1976, **22**, 69.

² Lloyd-Mostyn, R H, and Oram, S, *Lancet*, 1975, **1**, 1213.

³ Pogatsa, G, Kaldor, A, and Vizi, E S, *Drug Research*, 1973, **23**, 1085.

Beta-blockers and thyroid function

SIR,—Your review (22 October, p 1039) of the physiology and pharmacology of propranolol is timely. Reference to the use of propranolol in surgical patients, however, suggests the view of a physician with less than adequate contact with the surgical scene. Supervision and treatment of the thyrotoxic patient should be the joint responsibility of physician and surgeon, and like the anaesthetist the physician quickly appreciates the value of propranolol as the sole agent in the pre-operative patient. Its mode of action has still to be determined and recent correspondence (19 November, p 1352) shows the wide individual variation in the metabolism of propranolol, though present indications are that the main impact is on T₃. Despite operation at high T₄ levels, I have still to see symptoms suggestive of postoperative crisis which is most readily detectable by a rise of rectal tempera-

ture, generally before the patient leaves the operating table.

Major criticism devolves on the statement that "propranolol . . . has not been shown to have any advantage over preparation with atithyroid drugs and thyroxine." The advantages of preoperative propranolol are such that it is now possible to discharge a patient postoperatively at eight to 10 days after initial review at the thyroid clinic. Pre- and post-operative visits can be reduced to three or four. In contrast, the records of most hospitals may reveal visits totalling 30 to 50 or more for some patients at a cost of £5 to £10 per visit by virtue of loss of earnings.

For the surgeon, the gland is considerably smaller, less friable, and sutures easily. Blood loss can be reduced to 15-20 ml in contrast to 500 ml after long-term antithyroid therapy. Even iodine alone may increase gland mass by 30 to 35%, and antithyroid drugs double or treble initial size, and it is with the latter that the hazards of thyroidectomy lie. In these days of progressive inflation and increasing waiting lists any reduction of work load is welcomed by the Health Service. Operative time after propranolol is little more than half of that after conventional preparation, with consequent benefit to the restrictive operative hours now in vogue and the avoidance of weekend nursing care. The use of propranolol as the sole agent in preoperative preparation should not be dismissed as lightly as you suggest.

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¹ Wilkin, T J, et al, *Journal of Clinical Pathology*, 1977, 30, 99.

"Basic Health Education"

SIR,—From Dr J A Muir Gray's comments about *Basic Health Education* (3 December, p 1469) it would appear that he failed to read much of the book. This is borne out by an examination of some of his statements.

(1) "Cannabis is discussed in seven lines." The seven lines are concerned solely with a description of the drug as part of a general discussion about drug dependence to which two whole chapters are devoted.

(2) "I could find no mention of self-poisoning." Clearly he did not read pages 192-3.

(3) The authors "do not describe our services for treating sexually transmitted diseases." Presumably page 94 was missing from Dr Gray's copy of the book.

(4) "The medical preoccupation with the physical disorders of childhood is reflected." There is in fact only one chapter devoted to childhood diseases and part of this is concerned with immunisation. Chapters dealing with such topics as nutrition and fitness appear to have escaped Dr Gray's notice.

(5) He deplores the fact that as many as six pages are devoted to diseases acquired from pets. And yet the zoonoses provide a splendid and important example of practical preventive measures which can come only from an understanding of how such widespread diseases are caused.

(6) His comment about diseases from pets is preceded by an apparent implied criticism of the book's conventional content. Yet the inclusion of this topic makes this book *unconventional* as a health education textbook, as does the presence of chapters on child abuse, the problems of immigrant children, and cancer (all with a strong emphasis on prevention). And it is precisely this unconventionality which has already attracted much favourable comment from others who obviously disagree with Dr Gray.

(7) He deplores the fact that as few as four pages

are devoted to "the difficult child." Is he anxious that we should train teachers to be amateur psychiatrists?

(8) "The book is weak on the subject of the attitudes facing health educators." This comment would be more appropriate if applied to the present state of health education rather than to the book, which is hardly an effective medium through which to influence attitudes. In any event there are already many books dealing with peripheral aspects of health education such as its concept, ideology, curriculum, and attitudes. We deliberately set out to write a book which would not be bogged down by such issues but which instead would provide, as the preface makes perfectly clear, the essential facts about health (which aim Dr Gray acknowledges the book has achieved). This was done after careful evaluation of information provided by many teachers (who are in a much stronger position to influence attitudes) about the areas in which they felt most vulnerable and in which they had received little instruction while at colleges of education. The fact that such topics represent a large proportion of the text is clearly stated in the book's acknowledgments.

Justified criticism is useful. But criticism based on inadequate reading of a book or failure to grasp the book's intent is misleading.

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VINCENT L IRWIN

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*.*We sent a copy of this letter to Dr Muir Gray, whose reply is printed below.—Ed, BMJ.

SIR,—The disagreement between the authors and the reviewer stems from their differing views of the nature of "basic health education." The authors write that they wished to give "facts about health," but can health be described only by facts? I agree that there are books discussing the "concept, ideology, curriculum, and attitudes" of health education, but doctors have a unique opportunity to write about the concept, ideology, and attitudes of health as well as writing about the facts of physiology, pathology, bacteriology, and the other medical sciences, which the authors have done excellently.

I see health education as having more to do with "the expressive order of the schools, with conduct, character and manner" than with the "instrumental order of the school," which is to do with "the acquisition of specific skills."¹ The authors say that the teacher "must first know the essential facts about health" (their italics), quoting from the *Handbook of Health Education*.² However, the replacement for this handbook, the Department of Education and Science's excellent book *Health Education in Schools*,³ takes a different line. It not only quotes from the Office of Health Economics' pamphlet "Prospects in Health"⁴ but the Department's authors go on to state that "today there is no sharp demarcation but a continuous gradation between health and sickness; all have almost unlimited scope for regarding ourselves as sick. . . . The healthier the population becomes the more sickness it reports, and the more insistent becomes the demand for treatment. . . . These are some of the changes in society and in medicine which impose changes on the health service. Their discussion is a neglected part of health education." The Schools Council's equally good working paper on "Health Education in Secondary Schools" states that "health education, more than most subjects, depends for success on the formation and development of attitudes."⁵ The Court Report was equally forthright: "A solely factual and objective approach to health education by itself is unlikely to be satisfactory."⁶ Health is more than facts and health education is about more than facts, in my opinion.

I still think that the book by Drs Spira and Irwin is too much orientated towards the physical side of growing up. No one can be satisfied with the physical state of health of our young people, but as a school doctor who allows teachers open referral, with the parents' permission, I find that the overwhelming number of children referred are worrying the teachers with problems which are emotional, psychological, and existential, not physical. Disturbed and disturbing young people are those whom teachers define as having health problems. I do not wish teachers to become "amateur psychiatrists," but very many of them are professional counsellors, whether or not they are so titled. In one school I attend the teachers certainly counsel and care for many young people who need psychiatric help, except that either they or their parents do not agree with our definition of their need. School teachers do, and always will, provide most of the care for difficult children, but they need more support, which has been offered in Oxfordshire by much closer direct links between the psychiatrists and the schools. Counselling is not separate from health education. "While a counsellor always has an important indirect role to play in health education, it is sometimes an important direct role."⁷

My criticism of the contents as conventional and the authors' contention that they are unconventional cannot be reconciled. We are so obviously working from different conventions. I must admit that I cannot find much guidance from the prevention of zoonoses to help me consider the challenges to prevention which face us now and in the future.

As the authors say, the seven lines on cannabis are set in a 3½-page discussion of drug addiction, yet I think cannabis merits more attention because it is the drug most widely used in schools, excluding alcohol, and because pupils almost always know more about the subject than the teachers. Even a young teacher who has smoked a joint or two finds himself in difficulty when asked, Does cannabis make your brain shrink? How is it harmful? How many people die each year of cannabis smoking? Does cannabis lead on to hard drugs? Why is tobacco legal but cannabis illegal? The authors quote 27 lines of interesting poetry on drugs, but I would still have preferred them to have increased the "essential facts about" (authors' italics) cannabis.

The authors in their preface express the objective of providing "information of a practical nature to help the teacher in his role as a guardian of the children." Although they describe in 13 lines the general practitioner and special clinic services for treating the person infected with "venereal disease," I do not consider they have described the services which can "help the teacher in his role as a guardian." Most teachers will be as well aware of the existence of the GP and the special clinics as they are about the graffiti about the crabs which can jump six feet, which the authors include. In my experience the teacher in whom a young person confides a fear that he or she has acquired a sexually transmitted disease has many more problems than can be solved by simple referral to a GP or special clinic. Should he tell the parents or the headmaster? Will someone from the hospital visit the young person's home or the school, or the homes of other pupils? What effect does the age of the young person have on the right to confidentiality? The contact tracer, who is mentioned only indirectly as "the tracing procedure," can often help a teacher under these sort of pressures if he knows of her existence. Many STD clinics have support from a medical social worker who can advise and support the teacher; even one phone call can be helpful if the teacher is told of this service. The school doctor can also advise. It was these services that I considered the authors should discuss in the light of the intention quoted.

On pages 192 and 193 the authors do indeed discuss poisoning by carbon monoxide, poison gases, tablets [sic], corrosives, and acid, all in 20 lines preceded by "Burns and Scalds" and followed by six lines on "Heat Exhaustion" in the chapter on "Classroom Crises." I would call this the discussion of accidental poisoning rather than self-poisoning as I and many others use the term. The brevity