of vomiting does not distress the child as much as it does the mother, but its beneficial effect can be demonstrated to her by pointing out the sticky mucus it has produced.

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Beta-blockers and plasma triglycerides

SIR,—In a recent article by Dr A Helgeland and others (1 April, p 828) and in a letter from Mr J Shaw and others (15 April, p 986) attention is drawn to increased levels of serum triglycerides and serum uric acid caused by treatment with various beta-blocking drugs. The serum cholesterol values remained unaffected. The authors are concerned about the possible adverse effects from these elevated triglyceride levels during long-term treatment in hypertensive patients.

Caution is evidently necessary when treating patients with drugs for many years as in hypertension, especially in moderately severe hypertension in which the overall risk of hypertensive complications is not overwhelmingly high. Virtually all commonly used antihypertensive drugs cause subjective or objective side effects—diuretics causing increased serum uric acid and decreased serum potassium concentrations, methyl dopa mental changes and haemolytic anaemia, and beta-blockers bradycardia, cardiac decompensation, and elevated serum triglyceride concentrations, to mention but a few examples. Some consequences might be detectable only during long-term follow-up. Major end-points such as stroke, fatal or non-fatal myocardial infarction, cancer, and above all total mortality are of special importance.

Studies carried out so far have concerned only relatively short-term follow-up in relatively severe hypertension, but the balance has been in strong favour of antihypertensive therapy.^{1,2} The present concern seems to be due to the fear of high triglyceride levels being associated with an increased risk for coronary heart disease (CHD). There is no strong evidence for such a fear. In well-analysed prospective population studies high serum triglyceride levels have been associated with increased risk only in univariate analysis.³ In multivariate analysis including blood pressure, smoking, and serum cholesterol concentration the addition of triglycerides has not improved prediction at all.³ In one study⁴ triglycerides were considered of importance for predicting risk, but a proper multivariate analysis was never performed in that series. Nor have high serum triglyceride levels been found to be associated with an increased risk in patients who have suffered a myocardial infarction.⁵

In a recent study,⁶ though it was not double-blind with placebo versus active drug, we found a significantly lower total mortality and significantly lower rate of non-fatal plus fatal CHD during 4.3 years' follow-up in treated hypertensives as compared with non-treated men with somewhat lower blood pressures but comparable other risk factors. Seventy-eight per cent were treated with beta-blocking drugs. Thus the results of this study did not indicate any adverse effects of beta-blocking drugs on CHD—rather the opposite. These results might indicate some cardio-protective effect of the beta-blockers in hypertensive patients similar to those found in patients sustaining a myocardial infarction.⁷ The possible mechanisms behind this effect have been discussed recently.⁸

The most common complication during follow-up in most hypertensive patients will be CHD, whereas only a minor proportion will suffer strokes. Thus it is important not only to try to lower blood pressure but also to watch carefully any differences between antihypertensive drugs with respect to particular beneficial effects on CHD and total death rate. Two long-term multicentre trials aimed at disclosing whether such differences may exist between commonly used antihypertensive drugs are in progress. Our group started one such study in 1976 in which diuretic saluretics (and combinations) are compared with beta-blocking drugs (and combinations) in several thousand hypertensives with diastolic blood pressures of 100-130 mm Hg.

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¹ Veterans Administration Cooperative Study Group on Antihypertensive Agents, *Journal of the American Medical Association*, 1967, **202**, 1028.

² Veterans Administration Cooperative Study Group on Antihypertensive Agents, *Journal of the American Medical Association*, 1970, **213**, 1143.

³ Wilhelmsen, L., Wedel, H., and Tibblin, G., *Circulation*, 1973, **48**, 950.

⁴ Carlson, L. A., and Böttiger, L.-E., *Lancet*, 1972, **1**, 865.

⁵ Coronary Drug Project Research Group, *Journal of Chronic Diseases*, 1974, **27**, 267.

⁶ Berglund, G., et al., *Lancet*, 1978, **1**, 1.

⁷ Wilhelmsen, C., et al., *Lancet*, 1974, **2**, 1157.

⁸ Wilhelmsen, L., Vedin, A., and Wilhelmsen, C., *Cardiovascular Medicine*. In press.

Chronic bronchitis and emphysema

SIR,—I am a little disappointed that an author as competent as Dr Anne E Tattersfield (29 April, p 1123) does not know of a more effective mucolytic agent against tenacious sputum than steam inhalation or a hot drink. I have used potassium iodide 8%, which was recommended by Strümpell 100 years ago, in many hundreds of patients successfully (two tablespoons twice daily for four successive days, followed by a three-day interval). True, its taste is beastly, but tolerable in milk, orange juice, or beer and washed down with it. The effect lasts for 24-48 h after the last dose, so that the three-day interval permits one to judge the positive effect. If there is none the dose must be doubled or trebled. As some of the iodide is excreted in the saliva its taste may affect the appetite and, rarely, after long periods of medication, it may cause myxoedema.¹

And why has ephedrine been omitted as a remedy for breathlessness on exertion? It acts much longer than the new beta-agonists salbutamol and terbutaline, up to 8 h. If taken 1 h before rising in the morning and in the early afternoon no tolerance develops. The first dose to try is 30 mg, but this should be increased up to 60 mg if no palpitations or excitement occurs.

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¹ Bernecker, C., *Acta Allergologica*, 1969, **24**, 216.

Schumann's hand injury

SIR,—The operation which Mr J C Ballantyne mentions (29 April, p 1142) was described by Batty-Smith,¹ who had the procedure carried out twice on his own hand in order

to improve performance. Commenting on this work, a well-known surgeon wrote, "I personally regard this as an operation every hand surgeon does once and then regrets for ever after." Designed to improve ring-finger extension, the procedure would not have helped Schumann, whose second and third fingers were affected. Curiously enough, there is a completely unsubstantiated story that the composer carried out this operation on himself, an unlikely tale which Professor Ulrich and I (8 April, p 900) decided not to publicise.

The idea that Schumann's hand problem derived from his own technique shortcomings demands consideration, but we would find it hard to make a retrospective diagnosis of psychogenic finger paralysis to account for the medical findings in 1841-2. Recognition of psychogenic paralysis is difficult and dangerous enough in contemporary practice.

I am grateful to Professor Adrian Flatt, University of Iowa Medical School, who drew the reference to my attention.

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¹ Batty-Smith, C. G., *British Journal of Surgery*, 1942, **29**, 397.

Help for parents of the handicapped

SIR,—I am a member of a Wandsworth self-help group for families with handicapped children, "Make Children Happy." The letter from Professor R W Beard and others on "Help for parents after stillbirth" (21 January, p 172) has led me to the conclusion that there are many similarities in the needs of parents of the stillborn and of parents of handicapped children.

Parents in our group are very much in favour of having written information concerning their child's condition. The need for this stems from the difficulties of the situation in which the initial diagnosis is made known to the parents. In the period leading up to this point parents have very often built up a very strong suspicion that all is not well, a suspicion which may be based on their own observation of the child and of the unusual amount of attention given to it by medical and nursing staff. This feeling may develop into a state of anxiety heightened by frustrated attempts at obtaining information. When an explanation is actually given the resulting state of shock prevents comprehension. Parents may leave the consultation remembering very little, and if both parents were present they may later describe different versions of what the doctor said. Perhaps this is sometimes why parents claim that they have been misinformed. To have something in writing would allow time for consideration in a more relaxed frame of mind and discussion as to what further information was needed. Fathers, who are not always able to meet the doctor, would be put more fully into the picture.

Many of the questions in the proposed stillbirth leaflet relate very closely to those raised by parents of the handicapped. Others could be added: Is there any treatment? How long will he live? What will happen when he is older? To what services can I turn for help? These generalised questions require particular answers which could not be given in leaflet form.

Although it is realised that a precise diagnosis can be difficult, parents are emphatic that maximum information should be shared. Vague fears are far more distressing than a frank discussion of possibilities. In attempting to protect parents from diagnoses which they see as too ill defined, incomprehensible, or just too awful, doctors leave parents to the ravages of their imaginations. A leaflet could be issued to concerned professionals listing the generalised questions commonly raised and providing guidelines for specific verbal and written answers. (Written information would be a supplement to, not a substitute for, good face-to-face communication.) A written report, tailored to the child's condition and to parental characteristics, would represent a significant advance in professional-client communication. The proposal is appropriate for parents of both the stillborn and the handicapped, sharing a profound grief. For the latter it is a chronic grief, reinforced by the child's very presence, and it is therefore essential to consider all means of alleviating the pain.

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Dental caries and between-meal snacks

SIR,—The timely letter from Drs A R P Walker and P E Cleaton-Jones (11 February, p 361) highlights important issues: firstly, the role of between-meal sugary foods in the aetiology of dental caries and, secondly, the confusion which exists in the interpretation of the available data.

If sugar is extremely cariogenic, as it is,¹ then its effect is likely to be exerted most when it has the possibility of remaining in the mouth relatively undisturbed. A few sweets regularly consumed slowly several times daily may be more cariogenic than a larger amount of total sugar in foods eaten at normal mealtimes followed by consumption of unsweetened foods and adequate oral hygiene. Nearly three-quarters of a century ago Wallace² observed that cooks and confectioners, who frequently taste the foods they are preparing, as a rule have carious teeth. This is seen currently wherever consumption of cakes and sweet pastries between meals is common.³ Nevertheless, several human studies^{4,5} have shown that the cariogenic challenge from sugar in our foods can be modified by other items of non-cariogenic foods eaten at the same time, some of which are included in the list given by Drs Walker and Cleaton-Jones. Yet they apparently disregard the sequence of distribution of sugary and non-sugary snacks in the diet of the subjects they investigated.

Moreover, the difference in caries experience among children in Johannesburg may be related to a difference in their resistance against dental caries. Although comparative studies have shown clearly that race or heredity is of little significance in the development of dental caries when compared with environmental influences, it is evident that factors such as consumption of unrefined foods, maturation of enamel with age, and fluorides in the diet increase the resistance of teeth against dental caries. The variability of net cariogenic influence dependent on these factors has been discussed elsewhere.⁶ Nevertheless, it does not absolve between-meal sugary foods of their cariogenic potential, which could be of major importance.

The association of such indiscriminate consumption of sugar with dental caries is not due to a mere emotive obsession, as Drs Walker and Cleaton-Jones would have us believe. It is a fact established by centuries of careful observation and decades of patient research. It is the acceptance of this fact which has given an impetus to further research in the quest for factors which can raise the resistance of tooth enamel and oral environment against dental caries.⁷ The elegant primate studies⁸ at the Royal College of Surgeons of England are but one testimony to this assertion. Until such work can suggest other safe and certain preventive measures we have, in the dietary control of sugar, an excellent way of combating this most prevalent of all diseases. It should be widely appreciated that it is possible for all children, as some have done even in Britain, to grow up free of dental caries by judiciously controlling the consumption of sugar. It is sad that our attention is being continuously diverted into relatively unproductive lines by the failure of some to accept that, in the fight against dental caries, we have reached a stage when the paramount need is to search for means to limit the local hazards of sugar and to search for a way of persuading people to use sugar sparingly and sensibly.

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¹ Jenkins, G N, *International Dental Journal*, 1972, 22, 350.

² Wallace, J S, *The Cause and Prevention of Decay in Teeth*. London, Churchill, 1900.

³ *Confectionery and the Statistics of Dental Caries*. London, Cocoa, Chocolate and Confectionery Alliance, 1974.

⁴ Rugg-Gunn, A J, et al, *British Dental Journal*, 1975, 139, 351.

⁵ Imfeld, T, Hirsch, R S, and Mühlemann, H R, *British Dental Journal*, 1978, 144, 40.

⁶ Adatia, A K, in *Refined Carbohydrate Foods and Disease*, ed D P Burkitt and H C Trowell. London, Academic Press, 1975.

⁷ Lehner, T, *Journal of the Royal Society of Medicine*, 1978, 71, 161.

⁸ Bowen, W H, et al, *British Dental Journal*, 1975, 139, 45.

Choice of contraceptive method in teenage girls

SIR,—The '70s have seen an increasing availability of contraceptive services for the single teenage girl. The introduction of newer intrauterine contraceptive devices (IUCDs), with more doctors being trained to insert them, has led to a growing tendency to use this method in teenage girls. This is especially favoured in those who are poorly motivated to use other methods effectively or have a history of one or more unwanted pregnancies.

Although there is generally a greater awareness of the need to guard against pregnancy, there is a lesser awareness of the still increasing risk of sexually transmitted infection, especially gonorrhoea. The table shows the changes in contraceptive habits in women attending this clinic with gonorrhoea in 1972 and 1976. There was no significant increase

overall in the proportion fitted with IUCDs, but there was a significant increase in their use by those who had repeated gonococcal infection in 1976. Seven of 43 "repeaters" (16.3%) compared with 17 of 373 girls (4.6%) with single infections had an IUCD ($\chi^2=7.7$; $P<0.02$). Teenage girls were responsible for almost half of all female gonococcal infections and were three times as likely as those aged over 24 to have repeated infection in the same year.

Because the increased risk of pelvic inflammatory disease (PID) in those with IUCDs, especially with gonorrhoea, and the increased risk of treatment failure it is our practice to remove them as soon as the condition is diagnosed. Should PID already have occurred there is a high risk of permanent infertility, knowledge of which in the teenage girl can be a severe handicap and lead to long-standing emotional disorders. When more permanent relationships have been established in future years expensive infertility investigation may be required if the history of gonococcal infection is concealed from the spouse and her doctors.

Teenage girls, therefore, need to be counselled that pregnancy is not the only risk of intercourse. Those who provide contraceptive services need to be aware of the marked overlap in those teenage girls who are at risk from repeated unwanted pregnancy and repeated gonococcal infection and should weigh the potentially increased risk of permanent infertility and its consequences before an IUCD is inserted.

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Heart-rate response to standing as a test for autonomic neuropathy

SIR,—Using the technique of routine ECG analysis reported by Dr D J Ewing and others (21 January, p 145) the heart rate response to standing has been examined in nine normal young controls and 11 elderly subjects. It was found that the "30:15 ratio" as described by Dr Ewing and his colleagues was not necessarily the most appropriate measurement to take in all cases, for although in all nine of the young controls (mean age 24 years) the overall pattern of response was normal, in three the ratio was less than 1.03 and thus abnormal. Moreover, in these young controls sinus arrhythmia was noticeably present, as can be seen in the figure, and this can lead to great variations in the 30:15 ratio. Thus this is not such a simple definitive screening test, and by alteration in the pattern of breathing it may be possible for the subject to alter the value obtained.

Of the 11 old people living in their own homes (mean age 75 years) none showed postural hypotension, but in all the heart rate

Contraceptive methods in women presenting with gonorrhoea

	Total	Pill (%)	IUCD (%)	Tubal ligation (%)	Barrier methods or none (%)	Pregnant (%)
1972	239	85 (37.1)	12 (5.2)	14 (6.1)	101 (45.1)	17 (7.4)
1976	416	235 (56.5)*	24 (5.5)	13 (3.1)	126 (30.3)+	18 (4.3)

* $\chi^2=21.4$; $P<0.001$. + $\chi^2=11.8$; $P<0.001$. χ^2 values given at one degree of freedom using Yates's modification.