I am sure this communication problem has been aired in these columns before but it seems to have done little good.

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Prevalence of primary and secondary hypertension

SIR,—We have read with interest the report of Dr Göran Berglund and others (4 September, p 554). While agreeing with the sentiments expressed in this article concerning hypertensive men in the middle age group, we believe that the methods employed in the investigation and the data from which the conclusions were drawn are open to question.

(1) Screening for renal artery stenosis was performed on 287 men, with four cases diagnosed, giving a prevalence of 1.4% in the screened group, not 0.6% as stated.

(2) Despite the statement that "renography as a screening instrument for renovascular hypertension cannot be recommended" this technique was used as the primary means of investigation for renal artery disease. Isotope renography at best diagnoses only 85% of these lesions.¹ Thus in a group of 689 patients up to 103 may have false-negative results, or in 287 patients 43 cases may be missed. While not suggesting that these figures are likely, we wish to illustrate the possible statistical error in the methods used.

(3) We agree, although not from the data presented by the authors, that population screening for renal artery disease is unwarranted² but agree with McNeil and Adelstein³ that "there is some potential benefit to the identification and surgical treatment of patients with renovascular disease. . . . The patients who appear most likely to benefit from surgical treatment are those not likely to follow a medical regimen." Surgical management also is of value to patients unresponsive to a medical regimen and to those with severe stenosis or severe hypertension.⁴ When reviewing statistical data one must not ignore the potential benefits of a positive diagnosis and effective management to the individual patient.

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¹ McNeil, B J, et al, *New England Journal of Medicine*, 1975, **293**, 216.

² Ferguson, R K, *Annals of Internal Medicine*, 1975, **82**, 761.

³ McNeil, B J, and Adelstein, S J, *New England Journal of Medicine*, 1975, **293**, 221.

⁴ Hunt, J C, and Strong, C G, *American Journal of Cardiology*, 1973, **32**, 562.

Plasma cyclic AMP response to glucagon in liver disease

SIR,—We read with great interest the paper by Dr T F Davies and others (17 April, p 931) on the role of cyclic adenosine-3', 5'-monophosphate (cAMP) in differentiating surgical from non-surgical jaundice.

We have had the opportunity to study the levels of cAMP in newborn infants with abnormally high plasma bilirubin concentrations. These levels proved to be unreasonably high and considerably greater than those of non-jaundiced newborns.¹ The method we

used was that of Gilman,² a competitive protein-binding method similar to the method used by Dr Davies and his colleagues. We have further investigated the effect of bilirubin on protein kinase activity³ and found that bilirubin inhibits the binding of cAMP to protein kinase. This inhibitory effect of bilirubin has been proved to be competitive.

To comment on the work of Dr Davies and his colleagues, we wonder if the high basal values of plasma cAMP and the abnormal response to glucagon reported were the results of increased plasma bilirubin values. Table I of their paper shows that all their patients had abnormally high levels of bilirubin. We have found (unpublished data) that high values of cAMP are constantly found in the plasma of patients with high levels of bilirubin. When the bilirubin has been extracted with ether, however, levels of cAMP are found which are within normal limits (see figure).

Levels of plasma cAMP of full-term and premature newborn infants with different concentrations of bilirubin.

Conversion: SI to traditional units—cAMP: 1 nmol/l $\approx$ 0.03 μ g/100 ml. Bilirubin: 1 μ mol/l $\approx$ 0.058 mg/ml.

In conclusion we would suggest that further investigations must be carried out on the patients studied by Dr Davies and his colleagues before the abnormal cAMP response to glucagon can be established as a diagnostic test in differentiating surgical and non-surgical jaundice.

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¹ Constantopoulos, A, Karaboula, K, and Matsaniotis, N, *Archives of Disease in Childhood*, In press.

² Gilman, A G, *Proceedings of the National Academy of Sciences of the USA*, 1970, **67**, 305.

³ Constantopoulos, A, and Matsaniotis, N, *Cytobios*, In press.

Treatment of axillary hyperhidrosis

SIR,—Further to Dr I B Sneddon's letter (11 December, p 1447) I would like to confirm the efficacy of 20% aluminium chloride hexahydrate solution as a treatment for axillary hyperhidrosis. There are at least 10 patients at the Liverpool Royal Infirmary who have benefited from this application following failure of other standard methods.

However, these patients were all successfully

treated without the need for polyethylene occlusion. Twice-daily topical application for one week decreasing to once or twice weekly has produced satisfactory results in all patients to date. A primary irritant eruption is a common complaint in the first days, but this does not usually recur following a 48-h break in therapy.

G A R PRICE

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Tetracyclines in the elderly

SIR,—With reference to your expert's answer to the question on tetracyclines in geriatrics (4 December, p 1378) am I wrong in believing that the physiological deterioration of renal function in the elderly makes the tetracyclines—with the exception of doxycycline—undesirable if not contraindicated in a geriatric ward?

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* * * Our expert writes: "Your correspondent is right in that doxycycline is the only tetracycline which does not raise the blood urea and may be safely given to those with renal failure. Other tetracyclines cause elevation of the blood urea level by increasing the rate of breakdown of protein. In a few rather rare cases, usually associated with degraded tetracycline, a Fanconi-like syndrome has been noted. Although many old people have decreased renal function, they do not all have incipient renal failure and it would be going too far to say that doxycycline is the only safe tetracycline for the elderly. Most physicians will have had experience of the widespread safe use of tetracycline, particularly in the early 1960s, but the point made by your correspondent is, in general, valid."—Ed, *BMJ*.

Microbiological samples from the vulva

SIR,—The polystyrene foam sponge used by Professor W Brumfitt and his colleagues in their study of the vulval flora (18 December, p 1471) is undoubtedly an excellent microbiological sampling material. Using a similar method for specimen collecting in female genital infections my colleagues and I found that the sponge absorbed at least three times as much secretion as ordinary swabs; in addition, delicate organisms such as gonococci survived considerably longer than on charcoal-coated swabs.¹

However, Professor Brumfitt and his colleagues describe a contact-transfer procedure using this material, and both the advantages and disadvantages of such procedures must be fully appreciated. They are well adapted to qualitative studies and provide valuable "maps" of surface organisms in their original spatial relationship. Apart from plastic sponge, velvet pads, agar discs, and adhesive cellulose tape (the latter being suitable only for the drier and more resilient skin surface) have all given useful qualitative information in this way.² Unfortunately, the statement by Professor Brumfitt and his colleagues that their sponge transfers allow bacteria to be adequately quantified is unlikely to be borne out by detailed comparative studies. The yield of micro-organisms from such a transfer is very low; the closely comparable velvet pad, when moistened, transfers to a nutrient agar surface

less than 0.1% of the organisms originally present on the test surface in the case of skin.² Although a moist mucosal surface should transfer a higher proportion of organisms to the sponge, the subsequent liberation of these organisms is necessarily inefficient in any contact-transfer procedure.

If its serious quantitative limitations are borne in mind this procedure should prove a very convenient aid in ecological studies of accessible mucosal surfaces. Certainly this important area of investigation at present lags far behind the flourishing field of skin ecology.

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¹ Oates, J K, Selwyn, S, and Breach, M R, *British Journal of Venereal Diseases*, 1971, 47, 289.

² Selwyn, S, and Ellis, H, *British Medical Journal*, 1972, 1, 136.

Compulsory fluoridation

SIR,—Because almost all of the personal views put forward in your article about priorities (25 December, p 1548) are plainly sensible and excellent I consider it to be a pity that you allowed one of them to be weakened by a comment derisive of those with whom you clearly disagree. Personally I accept the evidence of the beneficial effects of fluoride on dental health, but, scrannel pipe or not, I oppose the compulsory fluoridation of drinking water supplies and I think that there are acceptable alternatives.

Surely our duty is to advise and not to compel? It is simple enough to follow the advice of our dental colleagues and to recommend the consumption of an appropriate dose of fluoride for so long as is necessary—inexpensive supplies are easily obtained from pharmacies. If we can convince people to believe sufficiently in the benefits of fluoride it would be comparatively inexpensive for the Department of Health and Social Security to provide fluoride tablets and, as with contraceptives, the cost of supply would be far less than the cost of failing to supply them in terms of expense to the National Health Service. What price must be paid to add fluoride to drinking water supplies where this is indicated when most of it would be wasted and how does the cost compare with that of, for example, making fluoride tablets freely available to those who need them? Compulsory fluoridation of drinking water supplies seems to suffer from many disadvantages apart from the obvious one of *compelling* people, in what is said to be a democratic society, to take steps to look after their own health. The dose would be imprecise: some would consume very little water and others (I recall a former patient with diabetes insipidus) a very great deal. Why is it sensible to add fluoride to the water in which one bathes (or have I overlooked evidence of percutaneous absorption?) or with which one washes one's car, waters one's garden, or supplies to edentate people or to birds and animals?

You very properly point out the advantages of fluoride and you equally properly state that we need public co-operation and a much more informed population. The remedy for dental health is simple: people should be encouraged to look after their own health and just as they should avoid cigarettes and corpulence so too ought they to ensure that they, and more

especially their children, consume an appropriate quantity of fluoride. It is easy to give advice to a most receptive audience at ante-natal clinics and simple to recommend fluoride as well as iron. I submit that the artificial, compulsory fluoridation of drinking water supplies is not the obvious answer to the need for fluoride, that there are strong and reasonable arguments against it, that there is a satisfactory alternative, and that you are being less than fair to those from whom you differ.

Let us have a scrannel pipe for compulsion and a diapason for information and encouragement towards self-help.

R N PALMER

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Femoral neck fractures

SIR,—In the report of their regional survey of femoral neck fractures (18 December, p 1496) Mr S C Gallannaugh and his colleagues remind us again of the heavy demand for hospital beds made by patients with this condition. The fact that the majority of cases occur in the over-75 age group must prompt great concern in face of the expected increase in numbers in that age group over the next 10-15 years.

The report is slightly less helpful than it might have been, however, for providing the incidence rate of fracture of the femoral neck which might be expected in the population. The authors show that they are aware that hospital discharge rates do not necessarily equate with true incidence rates even for a condition with a very high, if not total, rate of hospitalisation like fracture of the neck of the femur. There is, as they say, the inflationary effect of inter-hospital transfers, but whereas they dismiss this as small and occurring mainly in the elderly, they give no actual estimate of the effect. In the Trent Region in 1975, as the accompanying table shows, approximately one in five spells of hospital stay for fracture of the neck of the femur were the result of transfers from other NHS hospitals. As the table also shows, approximately 5% of admissions were by prior arrangement after a waiting time. These are patients who are admitted for revision of the internal fixation originally applied to the joint during the acute episode. It is arguable whether such cases should still be labelled as fracture of the neck of the femur, but the practice may exist in the SW Thames Region as in Trent.

Another possible source of inaccuracy is the positioning in the list of diagnoses on form HMR1, used for data collection in Hospital Activity Analysis, of fracture of the neck of the femur. If it was the main cause of admission to hospital it should occupy the first, or primary, diagnostic position on the form. Experience in this region has shown that this convention

is not always followed. As the table shows, the diagnosis appeared in a secondary position in about one in 10 cases. In many of these the primary position is occupied by "bronchopneumonia," a condition which developed postoperatively in hospital and which in some cases resulted in the patient's death. Reference to the report of the Hospital In-patient Enquiry (HIPE) for 1971¹ shows that in the SW Metropolitan Hospital Region, the predecessor of the SW Thames Health Region, 269 beds were occupied daily by patients with fracture of the neck of the femur, a similar number to that estimated by Mr Gallannaugh and his colleagues. The Hospital In-patient Enquiry uses only the primary diagnosis on the HMR1 forms, which suggests that, unless NHS reorganisation radically altered the number of hospital beds available in that region in 1974, the authors have also used only the primary diagnosis.

Moreover the 1971 HIPE report shows that the discharge rate for fracture of the neck of the femur in the SW Metropolitan Region (8.6 per 10 000 population) was the highest among all the regions (lowest 3.9; average 6.4). Regional populations are not sufficiently different in structure to explain these disparities, nor is it likely that there are great differences in the proportions of patients who fracture a femur who are admitted to hospital. It is possible, therefore, that transfer between hospitals occurs on quite a large scale in that region.

One other cautionary word is called for before using the data presented in the article for comparison with incidence rates from other sources, whether true incidence rates or those based on hospital discharges. The incidence rates per 1000 population quoted in table I of the article are based on the population aged 45 years and over and not the *total* population. This has to be deduced from the text.

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¹ Department of Health and Social Security, *Report of the Hospital In-patient Enquiry for 1971*. London, HMSO, 1973.

SIR,—Mr S C Gallannaugh and his colleagues, in drawing attention to the problems presented to the Health Service by patients with fractures of the femoral neck (18 December, p 1496), give age-specific "incidence" rates for this injury. In order to avoid confusion it is worth emphasising that their figures are in fact hospital admission rates and not incidence rates. As they point out, their admission rates are higher than the widely accepted incidence rates found by Knowelden *et al.*¹ When applied to the population of England and Wales in 1971 the rates of Mr Gallannaugh and his colleagues give a total of 28 700 hospital admissions among people aged 65 or more, while those of Knowelden *et al* give a total of 21 500 cases of fracture of the neck of the femur. This difference is explained by the fact that, in hospital discharge statistics, the same person with the same injury is counted more than once when he is transferred between hospitals or readmitted. For fractures of the neck of the femur transfers and waiting-list admissions constitute 25% of the total admissions,² which is sufficient to account for most of the difference. Furthermore, the incidence rates found by Knowelden *et al* were confirmed in a report by the Oxford

Fracture of neck of femur (ICD 820): number of discharges by source of admission, Trent Region, 1975 (Source: Hospital Activity Analysis)

Source of admission	Fracture of neck of femur	
	Primary diagnosis	Non-primary diagnosis
Waiting list ..	64	9
Booked or planned ..	64	28
Immediate ..	2237	199
Transferred from other NHS hospitals ..	551	106
Total ..	2916	342