We believe that the most dramatic effect of preoperative and postoperative 1 α HCC in primary hyperparathyroidism is in the management of those few patients with really severe bone disease whose postoperative management in previous times remained stormy over several months. We have been accustomed to seeing about one such patient per year at Glasgow Royal Infirmary and believe that at least five of our 15 patients mentioned above would have fallen in this category (all had serum alkaline phosphatase and parathyroid hormone levels (where measured) some 10 times higher than the upper limits of normal). Such patients may not be encountered in Birmingham but still unfortunately turn up in Glasgow.

A body of evidence now exists³⁻⁵ to suggest that vitamin D deficiency may play a role in the genesis of the bone disease in these severe cases. On the one hand the vitamin D deficiency may cause an increase in parathyroid hormone secretion, while on the other hand the primary hyperparathyroidism may cause an increased requirement for vitamin D, possibly through the increased renal turnover of 25-hydroxy vitamin D₃. On this basis one might anticipate some amelioration of the clinical problem by giving 1 α HCC before operation, and in a few cases we have indeed demonstrated some reduction in the serum parathyroid hormone level. In addition, the prophylaxis of paraesthesiae and tetany, even in the less severe cases, seems preferable to awaiting their postoperative appearance, and preoperative administration of 1 α HCC for three or four days, in addition to continuing it postoperatively for a similar period, usually achieves this aim as well as probably contributing to bone healing.

Our present treatment schedule for 1 α HCC administration in primary hyperparathyroidism varies with the severity of the bone disease—1 or 2 μ g daily for five to 10 days preoperatively followed by 1 or 2 μ g daily for five to 50 days postoperatively.

As Dr Heath's series demonstrates, one must monitor serum calcium daily to identify any idiosyncratic sensitivity to 1 α HCC. It would be a great pity if the occurrence of hypercalcaemia in the one patient were to deprive the group with severe bone disease of the potential benefits of this therapy.

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Diet, sunlight, and 25-hydroxy vitamin D

SIR,—We read with interest the article by Dr E M E Poskitt and others (27 January, p 221) in which they discuss possible mechanisms for physiological control of circulating 25-hydroxy vitamin D (25-OHD). Bhattacharya and De Luca¹ showed evidence of suppression of hepatic D₃-25-hydroxylase in the rat liver and Haddad *et al*² proposed the same mechanism in humans.

We have reported previously on the use of vitamin D supplements and ultraviolet light in old age.³⁻⁴ In 15 subjects on supplements there was, after one month of treatment, a strong negative correlation between the initial plasma 25-OHD levels and the change in this ($r = -0.484$). In 12 subjects treated with ultraviolet light for one month there was a

similar association between the two variables ($r = -0.589$).

We would suggest that this provides further evidence of product inhibition in the control of hepatic D₃-25-hydroxylase in humans. It should be noted that the regulatory system appears to operate only for physiological amounts of vitamin D. The toxic effects from large doses of vitamin D are well recognised.

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Registers for the prevention of genetic disease

SIR,—We read your leading article (27 January, p 215) with interest, and share your concern about confidentiality of genetic registers and the apprehension about "authoritarian intervention in this area." You very aptly stressed the great importance of support for affected families to whom we are the harbingers of bad tidings, saying that our "Genetic counselling should be a humane and cost-effective way of preventing intractable disease."

In the area of Huntington's disease, we wish to point out that although no preventive measures are currently available a register of affected families should be maintained for both research and a service commitment. In our seven years' experience of conducting a Huntington's disease clinic we have found in the register an invaluable clinical tool in the diagnosis and management of this disorder. Your argument that "some heterozygotes may take no notice of genetic counselling: they tend to be defiant towards the disorder, often refusing to let it interfere with their lives or their procreation" takes no real account of the empathetic process of genetic counselling and belies your advocacy of support for these families, as well as being contrary to the principle of families' affliction with severe genetic disorders. There has been a growth of public and family concern in this field. The concept of cost-effectiveness should be viewed in terms of alleviation of human suffering and assisting families to cope constructively, rather than just reducing the prevalence of the disorder in the future.

A properly maintained register, we have found, not only assists in the diagnosis of the disease by clinicians: it also provides valuable data in the planning of management now and in the future. It has provided us with a view of the family network system, from which we can begin to plan to make full use of family resources by support for the ill members of the family. The marshalling of supportive resources in the nuclear and extended family network is an integral part of counselling services for Huntington's disease families.¹

We therefore support the establishment of genetic registers for Huntington's disease by specialised units, with built-in, stringent safe-

guards in confidentiality and accountability, for both research and service commitments.

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- ¹ Chiu, E, and Teltscher, B, *Medical Journal of Australia*, 1978, 2, 394.

Management of refractory oedema

SIR,—Dr J McCormack writes on the trick of combining a thiazide diuretic with a loop diuretic (10 February, p 412). I have also found this combination very useful (and effective in producing hypokalaemia).

Trials with combinations of diuretics made by Olesen and Sigurd have demonstrated the very impressive natriuresis and diuresis achieved when a small dose of bendrofluzide is added to frusemide and spironolactone, or bumetanide.^{1,2} For example, in patients with congestive heart failure given 3 g sodium chloride in their diet and a fluid intake of 1500 ml, bumetanide, 4 mg, and spironolactone, 100 mg, gave a natriuresis of 81 ± 13 mmol(mEq)/24 hours and a diuresis of 1628 ± 131 ml.² Doubling the dose of bumetanide did not increase diuresis. In contrast, combining bendrofluzide, 5 mg, increased natriuresis and diuresis significantly to 209 ± 50 mmol and 2533 ± 437 ml/24 h.

This effect is ascribed to loop diuretics supplying ample sodium at the distal sites of the nephron, inducing an accelerated reabsorption at these sites—which is effectively depressed by a thiazide.

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Tuberculin testing

SIR,—Dr H G Calwell's observation (3 February, p 345) on the use of Heaf testing as an alternative to tine and Mantoux tests is noted with interest.

After 36 years' experience of a variety of tuberculin tests in chest clinics and hospital staff health departments (approximately 700 a year) I agree that the multiple puncture (Heaf test) is the method of choice. It is quick, painless, and easily administered even in struggling babies. If accurately used it is consistently reliable in its interpretation, differentiating clearly between non-specific (grade 1), post-BCG-positive, acquired immunity (grade 2), and possible occult infection.

The article by Drs J A Lunn and A J Johnson (3 June 1978, p 1451) and subsequent letters have indicated that the tine test produces false-negative results but have not clarified the reasons for this. In my experience the tines are often blunted at the tips and are not always at right angles to the base. Very firm pressure is therefore necessary to obtain adequate skin puncture. In a small series of 35 routine tuberculin tests on hospital staff, I used Heaf and tine tests on opposite arms. The comparative results were identical in every case. In some tests I purposely induced excessive bleeding from the tine punctures to exclude "washing out" the purified protein