tion as verified by tests of pituitary function. Most tests of growth hormone secretion are performed to satisfy this condition of the product licences. Although such tests are of dubious value in selecting patients for growth hormone treatment,⁴ occasionally pharmacological tests may still be indicated to assess the hypothalamic-pituitary-adrenal axis.

A recent letter from the chief medical officer to all paediatricians stating that insulin tolerance tests are being restricted to specialised centres has been a helpful guideline.⁵ Before Price's hope is realised and the insulin tolerance test and other pharmacological tests can become obsolete,¹ however, a change is necessary in the conditional clause requiring pituitary function tests before growth hormone is given.

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Drug treatment for acute upper gastrointestinal bleeding

SIR,—Colin Brown and W D W Rees's editorial highlights current morbidity and mortality from upper gastrointestinal bleeding related to ulcers.¹ This is despite the adoption of team approaches and audit of different strategies for managing such bleeding. The continuing problem of rebleeding associated with ulcers owes much to the failure of potent acid inhibitory drugs such as H₂ antagonists and proton pump inhibitors, which might have been expected to offer therapeutic benefit.

Consequently, we wish to draw attention to two double blind studies with the analogue of prostaglandin E₁ misoprostol, which indicate potential therapeutic benefit in preventing upper gastrointestinal rebleeding associated with ulcers.^{2,3} The first study was a multicentre comparison of misoprostol and placebo in 377 patients.² It assessed prevention of rebleeding over the first four days after admission to hospital for endoscopically proved upper gastrointestinal bleeding due to gastric or duodenal ulceration. On an intention to treat basis the rebleeding rates were 16% in the misoprostol group and 23.9% in the placebo group ($p=0.059$). The difference was significant in the predetermined evaluable cohort ($n=307$), the rebleeding rates being 14% and 24% respectively ($p=0.016$, using χ^2 for treatment differences and a log linear model that included effects of treatment and centre and their interaction).

In the second, single centre study, of 150 patients, the same design of reduction in rebleeding was seen (25% to 15% in the intention to treat analysis), although the difference did not achieve significance in either the intention to treat or evaluable cohorts owing to the smaller sample size.³ There was, however, a significant reduction in the amount of fluid required for transfusion and a trend towards earlier discharge from hospital in the group who received misoprostol.

These positive effects have not been seen with other agents and are in contrast to results of studies of famotidine and omeprazole.^{4,5} The differences between the results obtained with misoprostol and those obtained with other agents suggest that misoprostol exerts its beneficial effects through

actions other than, or in addition to, inhibition of acid. The underlying mechanism may be the effect misoprostol exerts on epithelial repair, which is not seen with omeprazole⁶ and could be related to the action that misoprostol is known to have on mucosal blood flow. Obviously, detailed scrutiny of the data must await full publication of the results, but further investigation seems to be warranted in the light of these promising results.

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SIR,—We appreciate the difficulty that Colin Brown and W D W Rees had in covering such a vast topic as gastrointestinal haemorrhage comprehensively but thought that the section of their editorial dealing with somatostatin and octreotide was inadequate and partly incorrect.¹

We agree that in clinical trials in which all patients with upper gastrointestinal haemorrhage have been included neither somatostatin nor octreotide has had a significant effect on bleeding, the need for surgical intervention, or mortality. These observations are not surprising because of the heterogeneous source of the bleeding and the natural course of gastrointestinal haemorrhage. Thus the need for surgical intervention and death (mortality 10-15%) are largely confined to a high risk group of patients (about 20%) who continue to bleed, show signs of early recurrent haemorrhage, or are bleeding from multiple sites. Any possible beneficial effects of somatostatin in controlling haemorrhage could therefore be masked in trials in which all patients with haematemesis or melaena are included.

This suggestion is supported by two controlled trials in high risk patients in which somatostatin was shown to be significantly more effective than ranitidine or placebo in controlling the bleeding and reducing the need for surgical intervention.^{2,3} Furthermore, we have found somatostatin and octreotide to be effective in controlling severe upper gastrointestinal haemorrhage in patients in whom operation is hazardous because of bleeding from multiple peptic lesions, further complicated in some by intercurrent disease, age, or previous surgery.⁴ Clearly, further controlled trials are necessary to establish the role of somatostatin and octreotide in managing upper gastrointestinal bleeding in high risk patients.

With respect to variceal haemorrhage some of the information on somatostatin is incorrect and does not reflect adequately the efficacy and safety of the drug in this important indication. Of the two placebo controlled trials of somatostatin,^{5,6} only

one⁶—not both as Brown and Rees state—showed any significant benefit of the drug in controlling variceal bleeding. In addition, the results of these two trials and eight other controlled studies indicate that somatostatin or octreotide controls variceal bleeding in about 70% of patients and no major complications have been associated with use of the drugs.⁷

Finally, somatostatin has also been shown to be effective in controlling haemorrhage after injection sclerotherapy—from the varices themselves⁸ or from oesophagitis and oesophageal ulceration.⁹ Our recent experience with octreotide suggests that it is as good as somatostatin for these indications. In conclusion, therefore, if the controlled clinical trials currently under way in the United Kingdom confirm the efficacy of somatostatin and octreotide in controlling acute variceal bleeding, thereby facilitating subsequent sclerotherapy and preventing early haemorrhage after injection, there would be a good case for recommending their routine use in all patients presenting with variceal bleeding.

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Swimming and grommets

SIR,—M B Pringle discusses whether children with grommets should be allowed to swim.¹ Certainly, most patients with grommets are advised to avoid getting water in their ears and diving significantly increases the risk of getting a middle ear infection,² though Chapman and Smelt and Yeoh found that the rate of otorrhoea was lower in those who swam than in non-swimmers.^{3,4} If penetration of water into the ear canal is the main factor leading to otorrhoea in patients with grommets the rate of infection will increase with the number of baths. To our knowledge few authors have attempted to correlate the risk of otorrhoea with the amount of swimming done.

We conducted a study last summer to assess the risk of swimming for patients with grommets. To minimise any bias due to social class or regional differences the study was performed by five independent ear, nose, and throat surgeons in France. All our patients had T tubes, which are ventilation tubes with long shafts. They were allowed to swim, bathe, and shower without protecting their ears. During a follow up visit in September or October the child or parent was asked how many times the child had swum in the Atlantic or in a pool and

whether any otorrhoea had occurred. No attempt was made to correlate the otorrhoea to swimming activity or upper respiratory infection.

We studied 210 children (mean age 6 years). At the beginning of the summer the tubes had been in place for a mean of six months (range one to 24 months). Purulent discharge developed in 40 patients, 20 of whom had not been swimming. The incidence of otorrhoea was lower in the 142 children who had swum during the summer (13%) than in the 68 children who had not (31%) ($p=0.005$, χ^2 test). The incidence of infection in the group who had not swum was not significantly different from that in the 27 children who had swum one to five times (33%) but was significantly higher than that in the 41 children who had gone swimming six to 20 times (12%, $p=0.01$) and in the 71 children who had gone swimming more than 20 times (7%, $p<0.001$).

Our conclusions are the same as those of Pringle¹: children with grommets should be allowed to swim. Penetration of water into the ear canal is not the main factor leading to otorrhoea in patients with grommets.

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Measles, mumps, and rubella vaccination

SIR,—Notification of measles in Somerset has progressively declined from 568 cases in 1988 to 65 cases last year. Our immunisation rate for measles is currently 96%.

During the first eight weeks of 1992 there were 69 notified cases, of which 17 were in people who had been immunised. Of particular interest is the change in the age distribution (table), which has shifted towards a group that has historically lower immunisation rates: the measles immunisation rate for the cohort born in 1980 in Somerset is 79%. This shift is occurring elsewhere in the United Kingdom (H Carter and D Gorman, personal communication).

Number (percentage) of cases of measles by age in 1989 and first eight weeks of 1992

	Age (years)			
	0-4	5-9	10-14	≥15
1989	72 (51)	37 (26)	16 (11)	17 (12)
1992 (first 8 weeks)	24 (35)	18 (26)	22 (32)	5 (7)

This could be overcome by a two stage immunisation regimen for measles, mumps, and rubella for all children, with the second dose replacing the current rubella immunisation for teenage girls, as Harden Carter and Dermot Gorman suggest.¹ This is routine in Scandinavia,² has been recommended in the United States,³ and has been suggested previously in the United Kingdom.⁴ The matter

needs to be reconsidered urgently by the Joint Committee on Vaccination and Immunisation.

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Transvaginal ultrasonography

SIR,—R K Goswamy's editorial on the usefulness of transvaginal ultrasonography clearly and simply outlined the advantages of transvaginal scanning.¹ Several points, however, require clarification.

Firstly, transvaginal scanning should be used as a supplementary procedure after an initial transabdominal survey of the pelvis. Because of the inaccuracy of digital examination it is crucial to survey the area from the umbilicus to the symphysis pubis and laterally to both flanks. This survey cannot be completed with a high frequency (5.0-7.5 MHz) transvaginal probe because of the lack of penetration and small footplate.

Secondly, the limited field of view with transvaginal probes (a) cannot accommodate longitudinal measurements of the uterus, which are often needed for baseline and follow up studies; (b) means that large masses cannot be viewed; and (c) does not permit assessment of associated pathology—for example, liver metastases, ascites, lymphadenopathy, and hydronephrosis.

Thirdly, occasionally ovaries are sited high in the pelvis and cannot be viewed transvaginally.

Fourthly, acceptability to patients, especially elderly people, virgins, and people from ethnic groups, must be considered.

Most importantly, I wish to raise the issue of gynaecologists having a transvaginal scanner in their consulting rooms. Ultrasonography requires detailed academic and practical training. Subtle differences in echo patterns can be recognised only after hours of practical experience. Scanning is three dimensional, and not everyone can master the skill necessary for that. I do not believe that gynaecologists could dedicate time to learn this special technique in their overstretched schedules. In NHS hospitals it seems unrealistic, even if doctors have the ability, to expect them to perform routine scanning within clinics. Though I agree that transvaginal scanning is important in the management of ectopic pregnancies, I find it worrying that Goswamy should suggest that a laparoscopy should be performed on the basis of a negative finding by an inexperienced operator. The skills of an experienced sonographer must never be underestimated.

How much knowledge about the safety of ultrasound does a gynaecologist possess? A large part of the qualification in ultrasonography is concerned with the physics and the safety aspects of ultrasound. It is essential to minimise exposure to ultrasound and, hence, the potential hazard. Students must be closely supervised so that correct settings for power, overall gain, time gain compensation, and processing are selected. Equipment must be tested and quality assured regularly. Owing to the high power levels during Doppler studies (especially transvaginally, when the probe is close to the organs and possibly a developing fetus), cavitation, non-linear propagation, thermal effects, microstreaming, and radiation pressure can occur. Inexperienced operators should not dabble in this work. Doppler must be used only when the result of the study will be of clear benefit to the patient.

Finally, the latest view is that ovarian screening

is not cost effective or successful (study day of British Medical Ultrasound Society, London, October 1991).

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Diagnosing bronchioloalveolar carcinoma

SIR,—In their paper on the relation of bronchioloalveolar carcinoma to tobacco Alfredo Morabia and Ernst L Wynder underestimate the problem of distinguishing these tumours from other forms of adenocarcinoma.¹ They argue that the frequency of histological misclassification of these tumours is so small as to be insignificant as a source of error in their study. In fact this histological diagnosis can rarely be made with complete certainty as the same pattern can be seen in metastatic adenocarcinoma in the lung (particularly pancreatic carcinoma)² and at the periphery of conventional primary adenocarcinomas of the lung.³

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Underreporting of pedestrian accidents

SIR,—David Teanby has calculated that pedestrian accidents are underreported by 16% in the United Kingdom.¹ Figures from a comprehensive survey that Kjellstrom and I carried out in Auckland, New Zealand, over 10 years, showed that reporting ratios for pedestrian accidents decreased from 75% to 48%, with a similar decrease in underreporting of injured car drivers and passengers.² This decrease in reporting of accidents by police was partly explained by a decrease in the number of traffic police from six officers per 10 000 cars in 1975 to five per 10 000 in 1982.

A breakdown of the figures for preschool children (age 0-4 years) showed that 77% of accidents that occurred on roads were reported but only 3% of those that occurred off the road were reported (for example, a parent backing a car over a child in the driveway or a car rolling down a slope because the handbrake had not been applied). Figures for cyclists were greatly underreported (20% in 1975, decreasing to 15% in 1982).

These ratios correlated well with figures from Sweden, Denmark, and the United Kingdom. Our conclusions were that police accident figures (with the exception of figures on fatal accidents) were unreliable as many accidents were not attended by the police even when serious injury had been inflicted. The likelihood of police reporting an accident clearly depends on the type of accident: there is no legal obligation to report some accidents, and people attending to victims rarely report the accident to the police. Often the people involved may not be aware who is responsible for reporting the accident, and if they are they may not want the police to be involved.

Central registration of accidents with a merging of statistics compiled by the Ministry of Transport