

are given a whole sachet (dissolved in warm water), those between 4 and 6 years half a sachet, and those between 1 and 4 years a quarter of a sachet. We do not use Picolax in infants aged less than 1 year, in whom successful bowel preparation is usually possible with a fluids only diet for 24 hours. In addition to Picolax, one dose of senna syrup (X-Prep, Napp) 1 ml/kg is given 18 hours before endoscopy. All children are encouraged to drink copiously to avoid dehydration.

With this regimen total examination of the colon to the ileocaecal valve was possible in 91% of the 534 procedures. Only 0.7% were abandoned because of failed bowel preparation; cleansing was considered to have been unsatisfactory in a further 4.1% of cases (mainly owing to poor compliance), although it was sufficient to allow an adequate examination to take place. No children suffered unacceptable complications related to bowel preparation—this included the 287 children with chronic inflammatory bowel disease proved by biopsy, most of whom received the full regimen of Picolax and senna syrup. A few children with severe diarrhoea at the time of endoscopy were given a more limited preparation consisting of fluids only for 24 hours beforehand and a rectal washout 30 minutes before the procedure. No children have been identified in whom the bowel preparation described has resulted in a relapse of their inflammatory bowel disease.

We conclude that Picolax is a safe, effective bowel cleansing agent in children undergoing fiberoptic colonoscopy, including those with chronic inflammatory bowel disease. Care is required, however, to ensure that the child remains well hydrated, and it should be emphasised that the regimen described above is contraindicated in patients with suspected toxic dilatation of the colon in whom a limited endoscopy is being considered for histological diagnosis.

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Symptoms of oestrogen deficiency in women with oestradiol implants

SIR,—In reply to the report by Mr K Gangar and colleagues of the return of symptoms of oestrogen deficiency despite supraphysiological serum oestradiol concentrations in postmenopausal women given oestradiol implants,¹ Dr G I M Swyer and Drs J H Tobias and T J Chambers suggest that such sustained levels of oestradiol may be harmful.^{2,3} We describe a case that supports this and also highlights a potential and often overlooked problem.

A 51 year old woman had had a bilateral salpingo-oophorectomy at the time of hysterectomy for severe endometriosis 28 years before. She immediately developed severe menopausal symptoms, which were treated initially with oral oestrogen and later with oestradiol implants. Over eight years the duration of symptomatic relief with the implants progressively shortened, and she requested repeat insertions with increasing frequency until eventually she was receiving a new implant every four weeks. At this time her symptoms changed to include pronounced swelling of the fingers, severe migraine headaches, and abdominal bloating. These were thought to be the result of oestrogen excess, and the implants were discontinued. The new symptoms subsided,

but menopausal flushes returned. Her peak oestrogen concentration was not determined, but 12 months after the last insertion her serum oestradiol concentration was 1211 pmol/l. She was referred to our clinic with the diagnosis of a suspected tumour producing oestrogen. When she was seen 18 months after receiving the implant her serum oestradiol concentration had fallen to 673 pmol/l, but it fell to only 169 pmol/l at 30 months.

This woman seemed to develop symptoms of oestrogen excess during a time of frequent insertion of oestradiol implants. Fortunately the symptoms were not severe and quickly diminished, but the menopausal flushes returned after a few months, though her oestrogen levels remained above the physiological range for more than 18 months. This is much longer than the normally recognised functional life of oestradiol implants and has important implications for women stopping this type of treatment who still have their uterus. Work by Paterson and colleagues on endometrial histology related to treatment with unopposed oestrogens showed that 24 of 43 women treated with oestradiol implants developed endometrial hyperplasia if cyclical progestogen treatment was discontinued for two months or more.⁴

Sustained supraphysiological concentrations of oestradiol would be expected to lead to an even higher incidence with a corresponding increase in the risk of endometrial carcinoma. This important aspect of management is easily forgotten when treatment is stopped. Indeed, it was not referred to by Mr Gangar and colleagues nor by Barlow *et al* in their reports of treatment with long term hormone implants.⁵ We advise most strongly that women with an intact uterus who stop treatment with oestradiol implants should continue to receive cyclical progestogen as prophylaxis against potentially serious endometrial disease. The return of their climacteric symptoms is not a reliable guide to oestrogen state, and progestogen should therefore be given until serum concentrations of oestradiol fall into the postmenopausal range or, if such monitoring is impractical, for at least 18 months and preferably for two years.

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Body mass index and diastolic blood pressure

SIR,—We would like to add our experience on the relation between body weight and blood pressure to that of Dr Stig Sonne-Holm and colleagues,¹ using data from our previous study.² We recently reviewed the relation between sitting diastolic blood pressure and body mass index in 4152 patients with essential hypertension. Mean diastolic blood pressure was 104.2 (SD 5.8) mm Hg and mean body mass index was 27.1 (4.9) kg/m²; they had a weak positive correlation ($r=0.076$, $p=0.0001$). An increase in body mass index of 1 kg/m² was associated with a rise in diastolic blood pressure of approximately 0.09

mm Hg. The population in the study by Dr Sonne-Holm and colleagues was more obese, having a body mass index of ≥ 31 kg/m². We did not discriminate between obese and non-obese patients, and the relation between body mass index and diastolic blood pressure was, at best, weak in our study.

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Treatment of benign prostatic hyperplasia

SIR,—Professor G D Chisholm describes a discouraging situation in his reply¹ to Dr Klim McPherson's call for a prospective comparative trial to test a suggestion from observational evidence that there is an excess risk of serious complications after transurethral resection compared with open surgery for benign prostatic hyperplasia.² Professor Chisholm implies that transurethral resection is so popular (the procedure was performed about 16 times more frequently than open surgery in Scotland in 1987) that it will be extremely difficult to obtain approval for the conduct of a randomised trial. "Meanwhile," he notes, "the important advantages of a transurethral resection compared with open surgery remain true."³

The disturbing impasse reminds me of John Stuart Mill's comments on the toleration of dissent: "There is the greatest difference between presuming an opinion to be true, because with every opportunity for contesting it, it has not been refuted, and assuming its truth for the purpose of not permitting its refutation."⁴

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Immunisation: causes of failure and strategies for success

SIR,—Dr A Nicoll and colleagues conclude that the 90% target for childhood immunisation can be achieved only by enthusiastic professionals committed to immunisation with adequate back up.¹

In March this year I conducted a survey to look at the uptake of pertussis immunisation in 201 children in a practice population who had attained the age of 2 years in the previous 12 months. If the rate fell below the 90% target proposed in the new general practitioner contract² I sought to determine whether it was possible to achieve this and what effort would be necessary to do so.

Of the 201 children, 169 had completed immunisation. I sent the parents of the remaining 32 children questionnaires about pertussis immunisation, 16 of which were returned within three weeks. The rest (16 families) were visited at home by me or a health visitor. Four families needed more than one visit, and two were never contacted despite four visits to both family homes. Of the 30 children whose parents were contacted, two had completed immunisation recently but the informa-