of which none had received head wrapping, and 3 had been treated by shunt procedures in the neonatal period. In these 3 shunt failure was thought to have antedated the hydromyelia.

There is at present no evidence that head wrapping has caused any cases of hydromyelia. Even if it did develop in a few cases, it would be unlikely to produce symptoms for some years: the youngest patient reported by Hall *et al.* was aged 3 and the eldest 16 at the onset of symptoms. By then patients would be outside the age range at which ventriculoperitoneal shunt complication rates are maximal (Stark *et al.*, 1974), so that a shunt for the few patients needing one might then be a satisfactory proposition. Like Epstein, I do not suggest that head wrapping is a panacea for hydrocephalus, but only that in cases fulfilling the selection criteria it may prove more satisfactory than shunt procedures.

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Usefulness of the xylose test for coeliac disease

Sir,

We have read with interest the discussion in the *Archives* (1975, **50**, 748) by Rolles *et al.*, and Lamabadusuriya *et al.* following the communications of Lamabadusuriya, Packer, and Harries (1975) and Rolles, Anderson, and McNeish (1975).

During a 1½-year period in 1972–73 we performed 93 xylose tolerance tests on 75 children as a screening procedure (Ose and Fluge, 1974). 57 duodenal biopsies were also performed on 48 patients. Before biopsy, D-xylose (0.5 g/kg) was given as a 5% solution, and capillary specimens were collected before, and at ½, 1, and 2 hours after. Whenever possible a 5-hour urine collection was completed. Urine and blood xylose were measured using o-toluidine (Ose, 1973).

The 1-hour blood xylose value was maximal in most tests, and 12 of 79 children showed 1-hour values below 20 mg/100 ml. Of these 12 with reduced absorption of xylose, 4 patients had untreated coeliac disease, and 1 infant had cow's milk intolerance and a flat duodenal mucosa. In the remaining 7 cases there were 5 with enteritis, 1 with pneumonia, and 1 child with suspected coeliac disease but with normal histology on a normal

diet. Thus an abnormal xylose test indicated gluten-associated mucosal changes in the small intestine in only 4 of 12 cases.

Introduction of gluten for a period of 1–3 months in 6 patients with proven coeliac disease resulted in a decrease of the mean 1-hour xylose value from 49–19 mg/100 ml. The overall reduction was most pronounced 1 hour after loading (range 10–50 mg/100 ml). 3 of the 6 patients, however, had 1-hour values above 20 mg/100 ml, though in all 6 patients the mucosa had changed from normal to partial or subtotal villous atrophy. We concluded that during gluten challenge the test is only useful when the prechallenge value is known. Even so, a decrease in the 1-hour value is not diagnostic of coeliac disease.

The xylose tolerance tests were grouped according to clinical symptoms and final diagnosis, but only untreated coeliac patients showed significantly reduced absorption. The test was of no use in evaluation of 16 patients with silent relapse on gluten-containing diet, as in older children with untreated coeliac disease (Visakorpi, 1972). Though all those patients had mucosal changes, the xylose absorption did not differ from the controls.

The results of the xylose tests were also compared on the basis of mucosal appearance on light microscopy. No differences could be shown between patients with normal duodenal mucosa and those with partial villous atrophy. The absorption was decreased only in patients with subtotal or total villous atrophy.

During the last 2 years 17 new patients with coeliac disease have been diagnosed. The xylose test was done in 14, and the mean 1-hour xylose concentration was 9 mg/100 ml serum (range 1–24 mg/100 ml). Two patients aged 5 and 6 years both had a 1-hour value of 24 mg/100 ml—close to the mean—2 SD (22 mg/100 ml) in 15 controls aged 4–11 years—though in both biopsy showed subtotal villous atrophy. In a few cases where intestinal biopsy has been taken on account of reduced xylose absorption the biopsy has proved normal.

A 5-hour urine xylose test could only be completed in 59 of 79 patients as part of the diagnostic work up. The difficulties in obtaining accurately timed urine collections resulted in urine only from 1 of 4 untreated coeliac children during the years 1972–73. We agree that the urinary xylose test should be abandoned as a screening test in the paediatric population, but find that the blood xylose tolerance test is of value if one is aware of its limitations.

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Screening test for coeliac disease

Sir,

In the paper by Challacombe *et al.* (1975) concerning urinary 5-hydroxyindoleacetic acid (5-HIAA) in coeliac disease, it is stated that the urinary 5-HIAA:creatinine ratio may be useful as 'an aid in the diagnosis of coeliac disease'. The critical question is, Does the finding of a normal urinary 5-HIAA:creatinine ratio justify the omission of jejunal biopsy when the diagnosis of coeliac disease is being considered? Since their own data indicate that more than half (10/18) of patients with coeliac disease have values for this ratio within the normal range, the answer appears to be no. Though the reported findings are interesting in themselves, the authors' claim that the test has diagnostic value is difficult to justify. As with other 'screening' tests for coeliac disease which have been proposed in the past, the discriminating power of this ratio is unacceptably low. The only safe rule continues to be: when in doubt—biopsy.

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Dr. D. N. Challacombe comments:

The letter by Dr. Haycock poses two interesting questions which have both been answered in the text of our paper (Challacombe *et al.*, 1975). The finding of a normal urinary 5-HIAA creatinine ratio does not justify the omission of jejunal biopsy when the diagnosis of coeliac disease is under consideration. However, it remains a useful aid in deciding whether small intestinal biopsy should be performed. Overlap of the data mentioned by Dr. Haycock and shown in Fig. 2 was almost entirely due to an age-related change in the ratio. Fig. 1 shows that 'when coeliac disease results were compared with results from control children of similar age only one was exceeded by a control value'.

Study of 5-HIAA excretion in coeliac disease is continuing and results still indicate that the 5-HIAA creatinine ratio is a useful aid in the diagnosis of coeliac disease.

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Technique for obtaining jejunal biopsies in children

Sir,

Recently we have modified our technique for obtaining jejunal biopsies from children, as we have found that the presence of gas in the stomach may delay the passage of the biopsy capsule through the pylorus. This is a particular problem in infants if they have been crying and swallowing air before the procedure. To overcome this problem, we thread a Ryle's tube (size CH. 12) over the tubing of a Watson Paediatric Biopsy Capsule in the following way. The distal end of the Ryle's tube is cut off and a small hole made in the side, 7.5–10 cm (3–4") from the proximal end. The tubing of the capsule is then threaded up the Ryles' tube and pushed out through the hole made near the proximal end, an airtight seal being effected with surgical tape (Fig.) We then use the Ryle's tube to aspirate gas from the stomach. The relatively stiff Ryle's tubing also allows

FIG.—Biopsy technique using Ryle's tube.