



Fig 2—Immunofluorescent staining of synapses and neuromuscular junctions (arrows) around the extrinsic nerve fibre bundles (NB) of aganglionic intestines.

Dense but localised synapse formation pattern (original magnification $\times 20$); B, scattered synapse formation pattern (magnification about $\times 10$).

proliferated extrinsic nerve-fibre bundles between the inner circular and the outer longitudinal muscle layers (fig 2A, B). Thus, the smooth muscles of aganglionic segment seemed to be almost denervated.

We conclude that hyperinnervation of the intestinal smooth muscles with extrinsic nerves is probably not the main cause of intestinal constriction in Hirschsprung's disease.

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PERNASAL VITAMIN C AND THE COMMON COLD

SIR,—In 1973 Olav J. Braendon, then at the UN Narcotics Laboratory in Geneva, published a ten-year study on Norwegian lumberjacks who did not have colds during periods spent in the mountains but were as susceptible as everyone else when they returned to the valleys.¹ The preventive factor was found to lie in reducing substances emanating from the pinewood burnt in the primitive stoves in the cabins, and further research showed isotonic sodium ascorbate to be the most effective anti-toxidant when applied locally to the mucous membrane of the nose.

After discussion with a physiologist who suggested that the way to take vitamin C when you have a cold is to stuff it up your nose—I decided to put it to the test. At the beginning of what showed signs of becoming an especially nasty cold, I put some ascorbic acid powder up each nostril and sniffed in hard, to get it to the back of the nose and palate. Within 5 minutes the accumulated mucus turned

liquid and had to be blown out. I then repeated the treatment and went to bed. After half an hour I felt queasy. Matters improved during the night and in the morning I repeated the treatment twice; by lunchtime I felt fine with little trace of the cold.

Perhaps this observation, if confirmed under more scientific conditions, might put an end to the 20-year-old argument about ascorbic acid and the common cold.

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DIAGNOSIS OF BACTERIAL MENINGITIS

SIR,—Dr Burans and colleagues (July 15, p 158) compare latex agglutination and other tests in the diagnosis of bacterial meningitis. We agree that a gram-stained smear of the cerebrospinal fluid (CSF) is a sensitive and rapid technique for diagnosing these infections. However, in our hands, it was not more sensitive or specific than culture, latex, or counterimmunoelectrophoresis (CIEP) in 190 patients with acute bacterial meningitis:

	Percentage CSF samples positive:			
	Gram stain	Culture	Latex	CIEP
<i>N meningitidis</i> (no of patients 140)	68	72	70	60
<i>S pneumoniae</i> (no of patients 30)	87	88	77	60
<i>H influenzae</i> (no of patients 20)	90	60	90	89

This finding was not only true for *Neisseria meningitidis* but also for *Streptococcus pneumoniae* and *Haemophilus influenzae*. The sensitivity of these tests in our studies was much higher than that observed by Burans et al: with the latex agglutination test for the diagnosis of *N meningitidis* we obtained 70% positive results compared with their 44%.

Several factors may account for these differences. The nature of the antibody in the test-kit may have been more refined in the kit we used ('Slidex Meningite', Biomerieux) than in the kit Burans and colleagues used ('Directigen', Hynson Westcott and Dunning). The more refined the reagents used, the more accurate are the results, and this is shown by the difference in positivity rates seen with the various CSF samples examined, where the test was much more sensitive with *H influenzae* than with *N meningitidis*. Further, the increased use of antibiotics before admission tends to alter the results of the test, and we have reported¹ that patients in whom the latex test was positive on admission proved to be negative 24-36 h from initiation of the appropriate treatment. Lastly, the prevalent serogroup of *N meningitidis* in the Sudan was not the same as that used in the test kit.

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RESPIRATORY SYNCYTIAL VIRUS SUBGROUPS AND PNEUMONIA IN CHILDREN

SIR,—Dr Taylor and colleagues (April 8, p 777) report a difference in virulence between antigenic subgroups of respiratory syncytial virus (RSV), more severe infections being associated with subgroup A. In Uruguay RSV is active during the colder months and is the most frequent cause of admission for infants and young children with lower respiratory tract infection (bronchiolitis and pneumonia).

A prospective study since 1987 of infants and young children in hospital with pneumonia gave us the opportunity to examine RSV subgroups¹ and their clinical characteristics. Slide preparations of cells from nasopharyngeal secretions were processed by indirect immunofluorescence with a panel of monoclonal antibodies¹ to RSV subgroups. Patients were recruited from the emergency ward and the diagnosis of pneumonia was confirmed by radiology.