In Dr Moëll's series of cases there was no increase in weight velocity when steroids were omitted from reinduction therapy. Their attained height (-0.06 standard deviation score) and weight (-0.03 standard deviation score) at diagnosis were comparable. Weight velocity remained normal during maintenance therapy, whereas height velocity was reduced. Consequently, by the stopping of treatment there was some evidence of increased weight-for-height (height -0.86 standard deviation score; weight -0.33 standard deviation score). This trend concurs with our findings in a larger group of patients where portraying the results as changes in percentage weight adjusted for height clearly shows the excessive weight gain starting during treatment. Although prednisolone reinduction almost certainly has an influence on weight gain, this may not account for all the changes observed. A prolonged interval before weight returned to normal and no adverse effect of spinal irradiation on final height attained are further examples of similar results obtained in both studies.

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Chronic lung disease—home management with an oxygen concentrator

Sir,

The reduced mortality seen in ventilated very low birth-weight infants has led to an increase in the incidence of chronic lung disease and the need for prolonged supplemental oxygen. Such infants require lengthy hospital stays, leading to inhibition of their physical and emotional development. Recently, the administration of low flow oxygen through a nasal catheter has been shown to be effective in the home management of these babies, but such a system is dependent on oxygen cylinders.¹ The use of an oxygen concentrator is established in adult practice but has not been described in the management of the chronically oxygen dependent infant.

A survivor of a twin pregnancy born at 25 weeks' gestation was discharged from hospital after a prolonged and complicated stay, assisted ventilation having been necessary for a number of months. Low flow continuous oxygen was begun through a size 6FG feeding catheter, and after a period of adjustment based on clinical and transcutaneous oxygen monitoring he was discharged

home on 0.5 l/minute. No hospital admissions have been necessary for the last five months and developmental catch up is being achieved. Supplemental oxygen was stopped after 161 days.

As the 'Concentrator' (DeVilbiss DeVo/44 Oxygen Concentrator, DeVilbiss Health Care Division, Feltham, Middlesex) is on wheels it could be moved easily about the house, although with suitable lengths of oxygen tubing this became unnecessary. The changing of filters was undertaken by the parents, who found this system more acceptable than one requiring cylinders. A small back up oxygen cylinder was needed, however, for possible breakdowns and hospital and social visits.

The cost of an oxygen concentrator is considerable (£966 excluding VAT); nonetheless its capital cost, installation, and maintenance would be offset after 75 days of continual use when compared with the average cost of cylinder oxygen at 68 pence/hour.² In our patient there was a saving of roughly £1400 over a five month period.

I suggest that oxygen concentrators should be considered for the home management of oxygen dependent infants not only because of their convenience but also from the considerable savings resulting from their use.

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DAVID J LLOYD
Department of Neonatal Paediatrics,
Aberdeen Maternity Hospital,
Aberdeen AB9 2ZA,
Scotland

Secular trends in head growth

Sir,

The paper from Dr Ounsted and her colleagues¹ prompted us to examine whether secular trends in head growth had also taken place in Hong Kong children.

Two sets of data from children aged 7 to 18 years were compared. The first was a mixture of cross-sectional and longitudinal data collected between 1961 and 1965 by Chang and his colleagues of several thousand children from schools and colleges in Hong Kong.² (These data, along with those for weight and height, continue to be widely used as growth reference standards in Hong Kong.) The second were very recently published data from Fung and his colleagues from about 2500 normal children from schools on Hong Kong island and the Kowloon peninsula.³ There is a pronounced positive secular trend in both sexes. In boys, this difference is greatest between 10 and 13 years; in girls between 7 and 10 years. The pattern of head growth is different in both sexes with girls reaching their maximum head growth velocity before boys in keeping with Oun-

624 Correspondence

sted's suggestion. It also appears that children measured now are developing earlier than a generation ago, the most likely explanation for the downward shift across the centiles during the latter years of childhood.

In both Hong Kong studies the children investigated were principally Southern Chinese in origin and can therefore be assumed to have an unchanged genetic growth potential. There is no reason to suspect that the methods of measurement were not the same. We conclude therefore, along with Ounsted and her colleagues, that the increase in head size that has taken place is real. But why? Whenever secular changes are discussed in relation to weight and stature the assumption is that nutrition has played an important part. Applying this argument to head growth, does this mean that brains are now being better fed than they were? Are there any neuropsychological associations? (We are unaware of any.) Might there be some other explanation? These issues are of considerable biological interest and deserving of further investigation.

Standards must be regularly updated. We have recently seen several children referred to a hospital outpatient clinic with a big head and an anxiety expressed by the referring doctor about possible intracranial disease. Using our more recent reference standards their head circumferences were well within the contemporary normal range.

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D P DAVIES and S F LEUNG
Prince of Wales Hospital (Chinese University
of Hong Kong),
Shatin,
Hong Kong,
and S P LAU
Baptist Hospital,
Kowloon,
Hong Kong

Figure Mean curve of head circumference in Chinese boys and girls (●—●) measured in 1985³ compared with centile standards derived from data collected 20-25 years ago.²