In Dr Moell'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.

References
1 Sainsbury CP0, Newcombe RG, Hughes IA. Weight gain and height velocity during prolonged first remission from acute lymphoblastic leukaemia. Arch Dis Child 1985;60:832–6.

Chronic lung disease—home management with an oxygen concentrator

Sir,
The reduced mortality seen in ventilated very low birthweight 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. 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/min. 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' (DeVibiss DeV0/44 Oxygen Concentrator, DeVibiss 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. 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.

References

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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-