

prescription of human growth hormone, even for this indication, should be controlled by those practitioners experienced in paediatric endocrinology.

- (2) The treatment of patients with other indications should be restricted to carefully designed protocols, within academic units experienced in such research.
- (3) In order to allow long term surveillance of all patients treated with human growth hormone it is desirable that a mechanism to identify all such recipients be set in place such that they will be identifiable in a national register for the foreseeable future.

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ciently with other disciplines and offer training to primary care teams?

- The content of service delivery—are we emphasising prevention sufficiently, and do we work with deprived communities to meet their needs for health care?
- The outcome—do we attempt to measure the effect of our services on deprived populations and provide feedback to those who collect the data?

It would be tragic if the 1980s pass without paediatricians as a group making a concerted response to child poverty and health inequality.

References

- ¹ Wadsworth MEJ. Inequalities in child health. *Arch Dis Child* 1988;**63**:353-5.
- ² Health Education Authority. *The health divide—inequalities in health in the 1980s*. London: Health Education Council, 1987.
- ³ BMA Board of Science and Education. *Deprivation and ill-health*. London: British Medical Association, 1987.
- ⁴ Townsend P, Phillimore P, Beattie A. *Inequalities in health in the Northern region*. Newcastle upon Tyne: Northern Regional Health Authority, 1986.

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Inequalities in child health

Sir,

We turned with excitement to Michael Wadsworth's annotation¹ having awaited a response in the BPA's Journal to the recent reports which have highlighted the dramatic differences in children's health across the social classes and the increasing severity of child poverty in the United Kingdom.²⁻⁴ We were impressed with the evidence of the wide range of measures of health in childhood related to social background that have long term implications. We were disappointed, however, not to find guidance for paediatricians on the causes of the inequalities and on the action we should take individually and as an organisation to redress them.

It will be important to provide accurate evidence of demographic changes in child health, particularly as they affect child nutrition and growth so that the effects of interventions can be evaluated. But surely paediatricians should also look to their response to inequalities now. We suggest that though action should be political and the BPA should make its views clear to government, this is not enough. We must respond through the health service by analysing:

- The structure of our service—is it accessible and meeting people's needs? Do we collaborate suffi-

Phototherapy and the use of heat shields

Sir,

We read with interest the study of Dr Stutchfield and colleagues on the reduction of irradiance which occurs when heat shields are used.¹ In our own unit we had observed the apparently poor response to phototherapy of infants being nursed under transparent thermal blankets ('plastic bubble blanket'), and we therefore carried out measurements of the optical transmission characteristics of three types of bubble plastic including one in regular clinical use.

The measurements were made using a Perkin-Elmer 330 spectrophotometer in combination with an integrating sphere. In the wavelength range 350-700 nm we measured directly transmitted light, scattered transmitted light, absorbed light, and reflected light. The total light transmitted varied from 71% at 350 nm to 77% at 700 nm. At 450 nm, an effective wavelength for the photocatabolism of bilirubin, 74% of the light was transmitted, 26% being lost by absorption or reflection. This reduction in transmitted light is more than twice that reported by Stutchfield *et al.* Possibly, differences in our respective samples could account for this, although it should be borne in mind

that our measurements were obtained under closed cell conditions in which there was no possibility of contamination by daylight entering at the blanket's edge. Our measurements also showed that of the 74% of light transmitted by our samples, approximately 46% was scattered light which, due to its angle of incidence with the infant's skin, would be less effective than that normally incident at 90 degrees. Our findings lead us to concur with Dr Stutchfield and colleagues that thermal blankets will significantly reduce the effective irradiance of a phototherapy source.

Commercial phototherapy units vary widely in their outputs in the 420–480 nm range, and these outputs are generally suboptimal.^{1,2} Many of these older phototherapy units are still in use. We suggest the use of more modern light sources, which do reliably achieve the recommended minimum irradiance of 1 mW/cm², together with the avoidance of bubble plastic and other heat shields, whenever bilirubin concentrations are approaching exchange transfusion levels in very low birthweight babies. Heat and evaporative losses can be reduced instead by humidification.³

References

- 1 Stutchfield PR, Modi N, Weindling AM. Phototherapy and the use of heat shields in very low birthweight infants. *Arch Dis Child* 1988;**63**:552–4.
- 2 Modi N, Keay AJ. Phototherapy for neonatal hyperbilirubinaemia: the importance of dose. *Arch Dis Child* 1983;**58**:406–9.
- 3 Harpin VA, Rutter N. Humidification of incubators. *Arch Dis Child* 1985;**60**:219–24.

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Diarrhoea due to breast milk: case of fucose intolerance?

Sir,

We read with interest the report by Barfoot *et al.*¹ Firstly, we would question whether five watery stools a day in a normally growing breast fed baby is abnormal. If the pressure from the parents to do something was so great that a formula change was necessary, however, we accept that Pregestimil, and subsequently SMA, at least benefited the parents.

Secondly, the authors recommend that 'sugar chromatography should be carried out on the stools of all infants with unexplained diarrhoea before changes are made in the diet.' We suggest this is impracticable, for the following reasons. The stool obtained must be liquid, and must be frozen within 15 minutes of leaving the rectum; this

presents difficulties within a routine clinical setting, such as a district general hospital in England. In addition, the test may not be available at all centres. If the suggestion were followed to the letter, even the best organised laboratory would be inundated with tests.

It is true that in the patient described, using only the result of a test for stool reducing substances (Clinitest tablets) could have resulted in the mistaken diagnosis of lactose intolerance. The appropriate lesson from this report is that the diagnosis of lactose intolerance in a breast fed baby should not be accepted without question. It is of physiological interest that loose stools in breast fed babies may be due to oligosaccharides and their breakdown products, but the stool consistency tends to improve with time, and should not in general be taken as an indication to stop breast feeding.

Reference

- 1 Barfoot RA, McEnery G, Ersser RS, Seakins JW. Diarrhoea due to breast milk: case of fucose intolerance? *Arch Dis Child* 1988;**63**:311.

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Diarrhoea due to breast milk: case of fucose intolerance

Sir,

I was interested to read the case report from Barfoot *et al* on fucose as a possible cause of diarrhoea in a breast fed baby. The authors finish by saying 'This type of intolerance to human milk is rare, and we could find no previously published reports'. Just 10 years ago in the same journal Whyte *et al* published a short report on exactly the same finding.² They went further than the current authors in identifying oligosaccharides including particularly fucosyl lactose in the stools of 85% of healthy breast fed infants.

Barfoot *et al* offer no supportive evidence for their contention that their finding represents intolerance. It is common for healthy breast fed babies to have loose stools, and five a day is not that rare. As this baby was said to be gaining weight satisfactorily it could be argued that they did this baby a disservice by changing her to artificial feeds. Perhaps if they had read Whyte's paper this baby's mother would have been allowed to continue breast feeding and the effort involved in publishing their report avoided.

References

- 1 Barfoot RA, McEnery G, Ersser RS, Seakins JW. Diarrhoea due to breast milk: case of fucose intolerance? *Arch Dis Child* 1988;**63**:311.
- 2 Whyte RK, Homer R, Pennock CA. Faecal excretion of