LETTERS TO THE EDITOR

Evaluation of a district growth screening programme: the Oxford growth study

EDITOR,—We would like to point out the danger inherent in using a Minimetre, the height measuring instrument recommended by Ahmed et al. A recent spot check of 55 similar instruments in use in one health district revealed that 10 were giving readings that were a centimetre or more out. The newly developed Leicester Height Measure is also an inexpensive portable instrument, designed for use in the community, but the fact that it is self-calibrating means that inaccurate measurements from careless installation cannot arise.

We welcome the authors’ recommendation that growth problems be identified at an early age in a community height screening programme. Once screening has been carried out on initial height however, there is little to be gained from waiting a year and screening on velocity using the 25th centile as a cut off, as in the Oxford study. First, the normal short child, on the third centile for height, only requires an average velocity on the 25th centile for steady growth, and single estimates of velocity will fluctuate around this point, with as many below as above. It has been shown that while the proportion of short children growing below the 25th centile remains constant from year to year, the identity of the children inevitably changes. The imprecision of the height measurement itself is such that it is rarely possible to label a child’s rate of growth, after only one year, as good or poor. A child who is very short must already have sustained a considerable period of slow growth—any further delay is therefore unnecessary.

Ideally, we should be monitoring the long term growth of every child in the community, regardless of height, but we have shown that the shorter the child, the more likely an uncorrected velocity is. Where resources are limited therefore, we would suggest the routine investigation of all exceptionally short children, as soon as they are identified.

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Ms Ahmed and colleagues comment: We accept the criticisms that Linda Voss makes regarding the inherent dangers in the installation of the Minimetre. The aim of our study, however, was to establish a district wide screening service involving 360 general practitioners, 125 health visitors, 30 school nurses, and various other nurses and doctors who might be involved in the primary care of the children. In order to do this we needed a cheap, portable, easy to use device and at the time of the start of our programme (1988) the Minimetres were felt to be the most appropriate instruments. The Leicester Height Measure was not (to our knowledge) available then.

We agree with Linda’s first comment regarding the lack of correlation from year to year of a child’s height velocity, this was established many years ago by J. Tanner. We did not delay the referral of any child merely to acquire additional information. All ‘exceptionally short’ children—that is height SD score < -3 were referred immediately to the paediatric endocrinologist. Equally all children whose height SD score decreased significantly between 3 and 4.5 years (even if they were still within the centiles) were reviewed by the auxologist.

Those children whose heights were < -2 SD scores but > -3 SD scores were felt not to warrant immediate referral. Although perhaps in an ideal world it may be desirable to refer all short children, in a district the size of Oxford (population ~550 000, birth rate ~7500/year) it would mean the annual referral rate to a growth clinic would be over 200/year for short stature alone using the new UK growth charts. To avoid overwhelming the growth clinics with normal children who are essentially normal individuals from short families or children with constitutional delay we advocate the use of a triage system of assessment such as we have employed. Indeed before any of the children seen by the auxologist, the child’s general practitioner had been contacted and pathology which had already been identified was highlighted.

We feel we have established an efficient and inexpensive growth screening service in our district.


Breathing expired gases from bedding

EDITOR,—We were interested in the paper by Bolton et al and surprised to find that the carbon dioxide concentrations rose to the levels reported (up to 10%). In our opinion these raised levels are artefactual and result from the unphysiological nature of the model used.

The figure illustrates the accumulation of carbon dioxide which occurs in a realistic scenario. The recording in the lower panel is from a healthy 6 week old boy who had a