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.1 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.2 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 resulting 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.3 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.4 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 unequal distribution of growth over time.5 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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References


In their Oxford screening programme, Ahmed et al assess short children’s progress by comparing their velocities with the 25th centile one year after screening at the nominal third centile point for height.1 Such an ad hoc procedure has its origin in the fact that the difference between two heights, a year apart, on the third centile of a height chart lies on about the 25th centile of a velocity chart. In reality, children with heights on the third centile have an average velocity over the ensuing year that is nearer the 30th centile in view of a slight regression back to the population mean. The details may be found in Bailey.2

Ahmed et al found that the proportion of children with heights below -2 SD scores was 3-3%, a figure in close agreement with this study. For normal 3 year olds this short, the mean annual velocity lies on about the 27th centile of a standard, that is conditional (population = 550 mm), while for 4-5 year olds the mean lies on about the 21st centile. The authors’ finding of only 28 children out of 80 (presumably of both initial ages 3 and 4-5 years) with annual velocities greater than the 25th centile is consistent with these expectations once the known cases of pathology (seven so far) are removed.

It must be emphasised that the object, that is formal, method for assessing a child’s growth after he or she has been first selected on the basis of height is to consider subsequent heights and velocities conditional on that initial height. Such methods have previously been explored by Cameron1 and will be found in Bailey.2

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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%).1 In our opinion these raised levels are artefactual and result from the unphysiological nature of the model.

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...

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*Arch Dis Child* 1994 70: 354
doi: 10.1136/adc.70.4.354

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