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Thermometers and rectal perforations in the neonate

Sir,

The traumatic origin of many 'spontaneous' perforations of the alimentary canal is worthwhile emphasising (*Archives*, 1978, **53**, 824). Two similar patients were reported previously from Great Ormond Street (Young, 1965) and were described at the Royal Society of Medicine. In the discussion that followed an experienced paediatrician commented, 'This seems to explain the reason why I have intermittent bursts of infants with rectal bleeding as, on reflection, this seems to occur each time we have a new batch of nurses in the nursery'. The presumed cause of this bleeding was from mucosal tear caused by the passage of a thermometer to the rectum.

Perforation of the rectum by thermometers or tubes is more common than reports suggest. Stomach tubes can also be implicated as the cause of some of the 'spontaneous' perforations of that organ.

In an article (Young, 1965), the importance of instruction to nurses was emphasised: 'Instruction to nurses on the anatomy of the rectum must be clear, and to take a rectal temperature the thermometer should be inserted into the anal canal and then advanced at an angle of 30° backwards, not straight into the rectum parallel to the cot as one so often sees'.

In the editorial comment on Frank and Brown's paper (*Archives*, 1978, **53**, 824) your experienced paediatricians give no reasons for the perpetuation of the widespread practice of taking temperatures per rectum. Could we have the reasons for continuing this, or a clear statement that it does not have inherent merit and does have a small but definite risk?

Reference

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Estimation of gestational age at birth—comparison of two methods

Sir,

The Short Report by Serfontein and Jaroszwicz (*Archives*, 1978, **53**, 509) in which the method of Robinson for estimating gestational age was compared with that of Dubowitz contains several errors in both methodology and inference.

After regressing the Robinson gestational age on that by the Dubowitz method they state that 'the 95% confidence interval for a single estimation of gestational age . . . is + 1 week'. (It is curious that this figure is only given to one significant figure whereas the slope of their regression line has 3 and the intercept 7). Confidence intervals derived from regression lines are smallest at the mean (of X) and increase as X gets further from the mean. It is not possible to give a single figure, in this case ± 1 week, for the 95% confidence limits for a single estimation of gestational age. Furthermore, their figure of ± 1 week looks surprisingly small, even assuming it refers to the confidence limits at the mean. In any case, since the objective was to see if Robinson's method could replace the Dubowitz method, the Dubowitz age should have been regressed on the Robinson age; that is, the regression should have been performed the other way round.

The authors state that the Robinson method compares 'very favourably' with the Dubowitz scoring system. This vague statement is presumably based on the observed correlation between the two sets of gestational ages of 0·85. A correlation of this magnitude means that one method explains less than three-quarters ($0{\cdot}85^2$) of the variability of the other, which in this context is not especially good. They then say that 'both (methods) were found to be accurate between the ages of 29 and 37 weeks', and it is stated that all the mothers were reasonably sure of the dates of their last menstrual periods. However, definitions of 'accurate' and 'reasonably sure' are not given, and no comparison is presented between the 'true' gestational ages and those calculated by either of the two methods under discussion, so that the assertion about accuracy is unsupported.

A final criticism, concerning the design of their investigation, is that it appears that each assessment was carried out by a different person. If this is so, any inherent differences between the two observers are confounded with differences between the two methods, so that the two effects cannot be separated and it is impossible to make a true comparison.

The question which the authors should be asking is 'Do the two methods give comparable results?' and the