encircles 80% or 100% of the circumference of the arm can be significant, especially in obese children.

Secondly, we were surprised to see that the authors had redefined hypertension to be above the 98th centile compared to the commonly used 95th centile without any explanation. The definition of hypertension is clearly much more complex in children compared to in adults. Children, so far, lack long-term prospective outcome data showing which blood pressure is optimal for each age and the definition is thus strictly statistical. We do not dispute that the 98th centile might well be a better definition than the 95th. However, the international agreement that is followed by most doctors treating children with hypertension refers to the 95th centile not the 98th.

Thirdly, the blood pressure values shown in the new graphs are clearly much higher than those commonly used,[2] even if they are difficult to compare as different centiles are given. As an example, a 17-year-old boy of median height would be defined as hypertensive at 136 mm Hg in the old charts and at 143–144 mm Hg in the new. This is also a clinically very significant difference. One reason for this could be the well-known difference between manual and automated blood pressure measurements.

We would strongly suggest that the authors use their important data to set reference levels outlining the 95th centile for age and height centiles in children. Such graphs would be invaluable in clinical practice particularly where automated machines are the only available option for monitoring blood pressure in children.

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Competing interests: None declared.

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Blood pressure centiles for Great Britain: can they be safely applied to clinical practice?

The study by Jackson *et al*[1] attempts to fill a gap in our knowledge in a very important area. Paediatricians in the United Kingdom have traditionally not included a blood pressure measurement as part of routine clinical assessment, as hypertension is not generally considered to be a common paediatric problem. Those who did check blood pressure had to rely on normal values derived from European and North American studies. The provision of blood pressures centiles for Great Britain is therefore a big step in the right direction and this is warmly welcomed. The data have been pooled from large representative samples and the methodology appears to be robust. The authors have chosen the well tested traditional nine-centile system, which all British health professionals are familiar with. However, a number of issues should be raised.

Firstly, the observed blood pressure appears to be remarkably high in a significant proportion of the paediatric population. This is most obvious in the pubertal boys, nearly quarter of whom would be labelled as hypertensive according to the definition suggested by the British Hypertension Society (BHS). In fact, the BHS classification of blood pressure level states that the optimal blood pressure for adults is a value of <120 mm Hg systolic and <80 mm Hg diastolic. Although <130mm Hg and <85mm Hg may be accepted as normal, any value above 130/85mm Hg is at least high normal if not hypertensive.[2] This is not concordant with the international definition of high blood pressure as suggested by World Health Organization and International Society of Hypertension. In our own cardiology practice we struggle to see such high blood pressure values even in patients with coarctation of the aorta who have undergone surgery! Moreover, if the author's suggested definition of hypertension (blood pressure above the 98th centile) is applied, many children currently labelled as hypertensive would fall into the category of high normal/normal blood pressure. For any clinician this is a challenging conundrum. One has to ask if it is wise to label these children as normotensive when clearly a few years down the line they may be classified as hypertensive by our adult physician colleagues. Does accepting this new definition of hypertension inevitably mean that we are choosing to ignore an opportunity to identify and influence an important risk factor for future coronary heart disease? There is a growing body of evidence to suggest that risk factors for coronary artery disease may be present in fetal life. Tireless efforts by professional bodies to prevent risk factors for ischaemic heart disease have encouraged attempts to achieve even lower blood pressure values in adults. Consequently, adopting higher normal blood pressure values in adolescence is going to be difficult to justify and is likely to lead to confusion, let alone a reduction in future risk of coronary artery disease.

Secondly, the BHS guidelines for the management of hypertension recommend that younger patients (aged <20 years) should not be presumed to have essential hypertension and should be investigated for an underlying cause. In the light of the current dataset, this would mean that a quarter of British pubertal males need investigation for an underlying problem, and if they are not investigated, are we choosing to ignore a potential renal/renovascular condition?

Thirdly, by adopting a new centile system for defining normal and high blood pressure we are choosing to differ from both our American and European counterparts. This is at a time when there is universal agreement on the definition of hypertension in adults. The blood pressure centiles in the North American population are based on more recent data (1999–2000 National Health and Nutrition Examination Survey) and in view of the ongoing obesity epidemic, a much lower cut-off value for defining hypertension was recommended.[3] It was also suggested that high normal blood pressure, which is an indication for lifestyle changes, should be relabelled as prehypertension in order to promote preventive measures such as healthy diet and activity. Admittedly these centiles are somewhat labour intensive and time consuming to use in routine clinical practice. In fact, for the busy clinician the formula suggested by Somu *et al*[4] may prove to be an easier and quicker tool to identify children with hypertension while remaining within accepted norms.

Incorporating the new British blood pressure centiles into clinical practice effectively translates into ignoring a substantial number of children who would otherwise be a target for lifestyle and perhaps medical interventions. This is contrary to the recommendations made by British Hypertension Society and endorsed by National Institute for Health and Clinical Excellence.[5] We do not therefore feel comfortable in adopting the new blood pressure centiles or definitions of normal and high blood pressure values in children. We call for an open debate regarding the right way forward.

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Nasal swabs for detection of respiratory syncytial virus RNA

Nasal swabs offer a sensitive sampling method for the detection of respiratory viruses in children. Respiratory syncytial virus (RSV) is an exception and it is detected more often in nasopharyngeal aspirates (NPA) than in nasal swabs when it is searched for using immunoassays or viral culture.[1 2] Therefore, more laborious and painful NPA have been the first-choice specimen for high-yield recovery of RSV by conventional methods. We wanted to examine whether the use of reverse transcription-polymerase chain reaction (RT-PCR) increases the usefulness of nasal swabs by comparing the performance of nasal swab-RT-PCR with NPA-immunoassays in the detection of RSV infections in children.

We studied 112 children admitted to the Department of Paediatrics, Turku University Hospital, Turku, Finland between November 2003 and February 2004 when there was an RSV epidemic in Finland. The committee on

Table 1 Detection of RSV by various methods

Results obtained				
Swab-RT-PCR	**NPA-TR-FIA**	**NPA-POC**	**NPA-RT-PCR**	**No. of results**
Positive	Positive	Positive	Not done	67
Positive	Positive	Not done	Positive	4
Positive	Positive	Negative	Positive	8
Positive	Negative	Negative	Positive	2
Negative	Positive	Positive	Positive	1
Negative	Negative	Not done	Positive	1
Negative	Negative	Negative	Negative	18
Negative	Negative	Not done	Negative	6
Negative	Negative	Positive	Negative	5

Nasal swab specimens were tested using reverse transcription-polymerase chain reaction (Swab-RT-PCR, n = 112) and corresponding nasopharyngeal aspirates from the same patients were tested using time-resolved fluoroimmunoassay (NPA-TR-FIA, n = 112), immunochromatographic point-of-care test (NPA-POC, n = 101) and RT-PCR (NPA-RT-PCR, n = 45).

Table 2 Stability of the nasal swab

Interval (days)	No. of patients	No. of positive swabs	No. of positive NPAs
0	44	30	30
1	42	30	32
2–5	26	21	21
Total	112	81	83

The interval is the time between collection and freezing of the swab. The swabs were stored frozen at −70°C for 1–6 months until tested for RSV using reverse transcription-polymerase chain reaction (RT-PCR). The positive findings were compared with those in corresponding nasopharyngeal aspirates (NPAs) tested using time-resolved immunoassay (TR-FIA) and/or RT-PCR.

ethics of the hospital district approved the study protocol, and informed consent was obtained from the parents of all participating children.

An NPA and a nasal swab were obtained from opposite nostrils.[1] NPAs were tested for RSV antigen at the point-of-care (POC, n = 101) using the Novitec RSV Rapid Test (Hiss Diagnostics, Freiburg, Germany) and in the laboratory using time-resolved fluoroimmunoassay (TR-FIA, n = 112).[3] Swabs were stored frozen at −70℃ until the end of the study period, when they were subjected to RT-PCR[4] and a fluorometric hybridisation assay with a sequence specific probe (n = 112). All NPAs from patients with a negative or missing result in any of the above assays (n = 45) were tested using RT-PCR. The gold standard was defined as a concordant positive result by immunoassays or, when at least one of them was negative, the result of RT-PCR in NPA.

A result indicating confirmed RSV infection was obtained in 83 of the 112 patients (table 1).

One patient was positive by RT-PCR in NPA only; he was the twin brother of a girl with both samples positive for RSV. Apparent false-positive POC test results were obtained in five samples, all yielding other viral agents in the laboratory testing (data not shown). The sensitivity, specificity, positive predictive value and negative predictive value were 98%, 100%, 100% and 94% for the nasal swab-RT-PCR, 96%, 100%, 100% and 91% for the NPA-TR-FIA, and 87%, 78%, 93% and 64% for the NPA-POC, respectively. In agreement with earlier results,[1 2] nasal swabs tested for RSV by TR-FIA showed only 50% sensitivity (data not shown). The overall agreement between the nasal swab-RT-PCR and the gold standard was 98%, with a κ value of 0.95 which indicates excellent agreement beyond chance. In 20 children with the nasal swab obtained on the day following the NPA, the results were in total agreement. The RT-PCR results were not affected by the interval between collecting and freezing the swab (table 2).

The collection of a nasal swab is simple and well tolerated for repeated sampling. Our study demonstrates that it is useful for the specific diagnosis of RSV infection when a sensitive amplification method is used for the detection of viral RNA.

Acknowledgements

We thank Anne Nurmi, RN, for taking care of the patients and Johanna Vänni for technical assistance.

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doi: 10.1136/adc.2006.113514

Published Online First 11 July 2007

Funding: This work was supported by the Paediatric Research Foundation, Finland.

Competing interests: None.

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Children with Down syndrome and OSA do not necessarily snore

We read with interest the article ''Severity of obstructive apnoea in children with Down syndrome who snore'' by Fitzgerald *et al*.[1] Fitzgerald *et al* reported that 97% of children with Down syndrome (DS) who snored had obstructive sleep apnea (OSA). In light of the limited access to sleep polysomnography (PSG) in children,[2] it would seem appropriate that children with DS who have tonsil hypertrophy and who snore be offered tonsillectomy and adenoidectomy without the need for PSG, if the findings by Fitzgerald *et al* are confirmed by other studies. However, other existing studies not quoted by Fitzgerald *et al* reported a much lower prevalence. The study by de Miguel-Diez *et al*[3] assessed 108 consecutive 1–18-year-old children with DS and showed that the prevalence of PSG confirmed OSA in children with DS was 54.6%. Another study by Shott *et al*[4] enrolled 56 younger children with DS and showed that the prevalence of OSA was 57%. The case controlled study conducted in our department[5] showed that the prevalence of OSA in a group of 22 children with DS recruited from the community was 59%. The above three studies showed a much lower prevalence than that demonstrated in the study by Fitzgerald *et al*, probably because the patients reported by Fitzgerald *et al* were enrolled from a sleep clinic and all the enrolled patients with DS were snorers. In our study,[5] we showed that out of 13 children with DS and OSA, only five were habitual snorers. Hence, we agree with Shott *et al* that routine baseline PSG should be provided to all children with DS and not just snoring children with DS as suggested by Fitzgerald *et al*, in light of the poor correlation between parental perception of symptoms during sleep and PSG abnormalities. Another problem in the study by Fitzgerald *et al*[1] was the inappropriate use of the normal value of arousal index of 5 for the whole study group aged from 0.2 to 19 years when the normal values of arousal index change with age as follows: infants: 7–9 per hour; prepubertal children: 7 ± 2 per hour; adolescents: 14 ± 2 per hour; young adults: 16–18 per hour.[6 7] The authors should also report the wake time after sleep onset (WASO) that may be related to daytime symptoms.

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