PostScript

LETTERS

Acetone-free nail polish remover pads: toxicity in a 9-month old

Acetone-free nail polish removers are widely used and perceived as safe. However, an ingredient γ -butyrolactone (GBL) is readily converted into γ -hydroxybutyrate (GHB), which has well-known toxic effects. A previously well 9-month-old child was found sucking on two nail polish remover pads. The period the pads were in his mouth did not exceed 1 min. Within 15 min, he vomited and became drowsy; after 30 min he was in a coma with a Glasgow Coma Score (GCS) of 3. Oxygen was administered while he was transported to the emergency department by ambulance.

On arrival at the emergency department, 60 min post ingestion, his GCS had improved to 6. He had hypotension, bradycardia and was in shock. Blood gases showed a mild respiratory acidosis. Biochemistry was normal. He responded well to fluid resuscitation. By 90 min, his GCS had recovered to 12. This progressed to hyperalertness and extreme giddiness that persisted for several hours. His pupils, which were initially constricted and poorly reactive, became more responsive. The child made a complete recovery within 8 h of ingestion.

This child developed coma and cardiorespiratory compromise after briefly sucking on two nail polish remover pads. We presume that this was due to rapid absorption of ingredients of this product through buccal, sublingual and oral routes. Conditioning nail polish remover pads contain the following as principal ingredients: GBL (84%), butoxyethanol (10%), diethylene glycol (2%), panthenol (1%) and propylene glycol (1%). GBL is rapidly metabolised to GHB, which causes a pattern of toxicity similar to that seen here.

Another case of poisoning and severe toxicity in a 15-month-old child who sucked on an identical product was reported. He became comatose with cardiorespiratory collapse requiring ventilation and intensive care, but made a complete recovery.¹ When contacted after the incident, the manufacturers responded: "as a cautionary measure, action has been taken to reformulate the products to add a material called Bitrex that makes it more unpalatable and further reduces the risk of unintentional ingestion, a keep out of reach of children message is to be included on the packaging".

Acetone-free nail polish removers are widely used and were perceived as safe. Our case highlights the dangers of GBL-containing products when ingested.

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Reference

- 1 Brown JJ, Nanayakkara CS. Acetone free nail polish removers: are they safe? *Clin Toxicol* 2005;43:297–9.

TW2 and TW3 bone ages: time to change?

In 1983, the Tanner–Whitehouse 2nd edition (TW2) system of bone ageing was published and has remained the most widely used system in the UK.¹ Several studies have shown that children are maturing more rapidly and reaching a given skeletal maturity score (SMS) at an earlier chronological age.² In view of this finding, Tanner and colleagues published a revised 3rd edition for bone ageing in 2001 (TW3).³ This updated the relationship of the SMS to bone age to deal with the secular trend that had occurred in skeletal maturation since the previous edition. However, this new version has received little publicity and does not seem to be widely used in the UK.

To explore the changes that have occurred between these two publications, we retrospectively compared TW2 RUS (radius, ulna and short bones) and TW3 RUS bone age assessments in 142 children in two diagnostic groups

(idiopathic short stature or constitutional delay in growth and puberty and congenital adrenal hyperplasia) with a range of bone ages from delayed to advanced.

The descriptions and manual ratings remain the same for TW2 and TW3, and the calculation of the SMS is the same. However, the centile charts for RUS SMS against age have changed between versions 2 and 3.

TW3 estimates of bone age were younger than TW2, and both were delayed compared with the chronological age in children with idiopathic short stature and constitutional delay in growth and puberty (table 1). For children with congenital adrenal hyperplasia, TW3 estimates of bone age were younger than TW2, and both were advanced compared with chronological age. TW2 and TW3 estimates of bone age are not interchangeable. Figure 1 shows how the differences between the two versions change with increasing maturity score for boys and girls.

The SMS on which the bone age is based is the fundamental unit of measurement for bone maturity assessment, and should be considered alike any other anthropometric measure, such as height or weight. As such, the SMS centile charts require periodic updating if they are to be used to assess development.^{4,5} Our results show that TW3 bone age differed from TW2 bone age in the two diagnostic groups studied, with the differences becoming more marked with increasing maturity. This suggests that the currently widely used TW2 bone age may not reflect an accurate skeletal maturity

Figure 1 Difference between Tanner–Whitehouse 2nd edition (TW2) and TW3 against maturity score for girls and boys. Points represent individual patients.

Table 1 Mean (standard error of mean) Tanner–Whitehouse 2nd edition (TW2) compared with TW3 bone age estimates for children with idiopathic short stature/constitutional delay in growth and puberty and congenital adrenal hyperplasia

	ISS/CDGP		CAH	
	Girls	Boys	Girls	Boys
n	24	45	37	36
Chronological age (years)	10.2 (0.8)	11.3 (0.7)	8 (0.5)	9.9 (0.6)
TW2 bone age (years)	9 (0.8)	9.9 (0.6)	9.1 (0.7)	11.5 (0.7)
TW3 bone age (years)	8.5 (0.8)	9.3 (0.6)	8.4 (0.6)	10.7 (0.6)

CAH, congenital adrenal hyperplasia; CDGP, constitutional delay in growth and puberty; ISS, idiopathic short stature; TW2, Tanner–Whitehouse 2nd edition; TW3, Tanner–Whitehouse 3rd edition.

assessment of today's child (particularly around the pubertal age range), and we would advocate the use of the revised TW3 version. In fact, to continue using TW2 bone ages is akin to using the 1966 height and weight charts instead of the more recent 1995 versions.

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References

- 1 **Tanner JM**, Whitehouse RH, Cameron N, *et al*. *Assessment of skeletal maturity and prediction of adult height (TW2 Method)*, 2nd edn. London, UK: Academic Press, 1983.
- 2 **Vignolo M**, Naselli A, Magliano P, *et al*. Use of the new US90 standards for TW-RUS skeletal maturity scores in youths from the Italian population. *Horm Res* 1999;**51**:168-72.
- 3 **Tanner JM**, Healy M, Goldstein H, *et al*. *Assessment of skeletal maturity and prediction of adult height (TW3 Method)*, 3rd edn., London: WB Saunders, Harcourt Publishers Ltd 2001.
- 4 **Cox LA**. The biology of bone maturation and ageing. *Acta Paediatr Suppl* 1997;**423**:107-8.
- 5 **Tanner J**, Oshman D, Bahhage F, *et al*. Tanner-Whitehouse bone age reference values for North American children. *J Pediatr* 1997;**131**(Pt 1):34-40.

Compliance with inhaled corticosteroids is important when considering adrenal suppression

We read with interest the article by Paton *et al*¹ reporting the results of low-dose Synacthen tests in children prescribed fluticasone propionate. The finding of flat adrenal responses in 2.8% of the children tested (all prescribed ≥ 1000 μ g of fluticasone propionate per day) provides further evidence of the potential dangers of high doses.

We recently published the results of standard-dose Synacthen tests in children recommended ≥ 1000 μ g of fluticasone propionate per day. Of the 29 children tested, 3 were found to have complete adrenal suppression.² In his editorial, Russell³ highlights compliance with the treatment as likely to be important, given the fact that not all patients taking high-dose fluticasone propionate have adrenal failure. In our study, the first of its kind to our knowledge in this context, we examined compliance in terms of the actual amount of fluticasone propionate prescribed over the past year in primary care relative to that recommended by the hospital specialist. The three children with adrenal suppression had actually been prescribed only a median of 493 μ g fluticasone propionate per day over the past year, compared with a median of 433 μ g in the normal group. Overall, there was an inverse correlation between the actual prescribed daily dose of fluticasone propionate and the peak cortisol response to Synacthen ($r = -0.44$, $p = 0.03$).²

Our study was relatively small in size and used a pragmatic measure of compliance; however, the results suggest that compliance with treatment should be considered and that in reality children with adrenal suppression may be receiving smaller doses of fluticasone propionate than we think.

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References

- 1 **Paton J**, Jardine E, McNeil E, *et al*. Adrenal responses to low dose synthetic ACTH (Synacthen) in children receiving high dose inhaled fluticasone. *Arch Dis Child* 2006;**91**:808-13.
- 2 **Brodlie M**, McMurray A, Crofton PM, *et al*. Strategies to screen for adrenal suppression in children with asthma should take account of compliance with inhaled corticosteroids. *Eur J Pediatr* [Epub ahead of print]. Doi: 10.1007/s00431-006-0260-7.
- 3 **Russell G**. Very high dose inhaled corticosteroids: panacea or poison? *Arch Dis Child* 2006;**91**:802-3.

A view from the other side of the table

The transition from specialist trainee to consultant is an important one. Many newly appointed consultants feel inadequately prepared to deal with new management roles such as sitting on an interview panel.^{1,2} Conducting an interview can be as challenging as attending one. One has to exercise keen judgement to separate the cream out of the multitude of applicants. Courses to hone individuals' techniques for conducting interviews are run by most trusts. However, experience from courses is nowhere as close to the real-life experience of conducting interviews. I recently had the opportunity of being part of an esteemed panel of interviewers. The post in question was that of specialist registrar in paediatrics in the northern deanery.

Seven members were present on the panel, of whom I was the only registrar, but my role was as important as that of anyone else. My first task was to produce a short list of applicants. After getting a grasp of the person specification, which helps to identify the essential and desirable criteria of each candidate, I went through each application carefully. In effect, candidates were not shortlisted if they did not meet all essential criteria. Desirable criteria included experience of research, publications, certificate in medical education, prizes and other achievements, or specialist clinical experience—for instance, echocardiography. The more of these a candidate possessed, the better their chances of making it to the short list. I scored each application independently and so did all the other panel members. The scores were then

totalled and a merit list created. We aimed at producing a candidate short list, the number of candidates included on it being double the number of posts being contested. If a wide variation in scores between panelists was noticed for any individual candidate, the applicants' credentials were re-evaluated and discussed, and decision made by consensus.

I prepared for the interview, to ask questions, rather than answer them. Scoring was carried out based on structured guidelines. This, for me, was an excellent learning experience. I had the opportunity to learn different methods of questioning and to gain insight into how responses are assessed. I am now wiser about what impresses panelists and what does not. This will no doubt enrich my own interviewing skills and prove invaluable when I compete for posts in the future. After the last candidate was interviewed, scores from the panelists were compared. I was pleased (and relieved) to discover that my scoring of candidates was in agreement with that of most other panel members.

I strongly feel that deaneries and trusts should try this system more often to provide their future consultants with a taste of the process of candidate selection. The success of this exercise, if indeed adopted, will depend on whether or not the trainees participate alongside other panel members in the entire process of job selection, right from short listing to ultimately deciding on the successful candidates.

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References

- 1 **Beckett M**, Hulbert D, Brown R. The new consultant survey 2005. *Emerg Med J* 2006;**23**:461-3.
- 2 **Paice E**, Ginsburg R. Specialist registrar training: what still needs to be improved? *Hosp Med* 2003;**64**:173-6.

High-dose inhaled fluticasone, adrenal crisis and a fatal accident inquiry

Russell, in his editorial "Very high-dose corticosteroids: panacea or poison?",¹ speculates about the reasons why "the practice of using increasingly high doses of inhaled corticosteroid therapy, particularly of fluticasone, became commonplace in the UK." He blames doctors: "it appears that better disciplined clinicians elsewhere in the world were less willing to stray beyond licensed dosages" and also the raising of the licensed dose of fluticasone propionate in children, from 200 to 400 μ g/day, although this happened in 2001, at least 5 years after this prescribing practice became commonplace.²