

An inexpensive and edible aid for the diagnosis of puberty in the male: multispecies evaluation of an alternative orchidometer

Poonam Bhalla, Sally, Pippa, Gareth Williams

Diabetes and Endocrinology Research Group, Department of Medicine, University Hospital Aintree, Liverpool L9 7AE

Poonam Bhalla
British Heart Foundation junior research fellow

Sally
canine chocolate connoisseur

Pippa
junior canine chocolate connoisseur

Gareth Williams
professor of medicine

Correspondence to: G Williams
garethw@liv.ac.uk

BMJ 2001;323:1486

Increasing testicular volume—a useful index of puberty in the male—is measured with an orchidometer, a graded series of ovoid beads on a string.¹ This instrument is reliable, but at £28.50 (\$43.00) it is prohibitively expensive, and it is usually unobtainable when needed.²

Deeply concerned by the national shortage of orchidometers, two of us (PB and GW) made a serendipitous discovery that led to this study. Briefly, Teasers and Truffle, two chocolates in the Celebrations assortment (Mars UK, Slough), are uncannily similar in size and shape to the 8 ml orchidometer bead (figure). This observation presented a timely opportunity to cut clinic waiting times and costs, two problems that continue to dog the NHS. We therefore compared the conventional orchidometer with its chocolate surrogates, focusing on the key properties of reliability, durability, and palatability.

Participants, methods, and results

Five paediatricians (three male, two female) were blindfolded and given, in random order, a Teaser or an 8 ml orchidometer bead in a Teaser wrapper and asked to size the other beads as larger or smaller than the reference. (Real testicles were not used because the image of the medical profession is already bad enough.) Participants were 100% accurate in sizing the beads against both the Teaser and the reference.

To simulate typical outpatient conditions in Liverpool, Teasers (n=6) and an 8 ml orchidometer bead (n=1) were hit smartly with a 454 g hammer and carried in a pocket (by PB) into a sauna. The orchidometer bead survived both tests whereas the Teasers yielded to a single blow of the hammer and ruined a perfectly good bathrobe.

The ability to rescue staff weakened by hunger at the end of a long clinic is an important bonus for any item of medical equipment. Intuitively, chocolate has more

potential in this respect than the Swedish birch of the conventional orchidometer. Regrettably, GW was unable to persuade PB that proving this point could be important for her career; accordingly, S and P were recruited to the research team. Teasers (n=5) and Truffles (n=5; all unwrapped) and 10 orchidometer beads were scattered randomly 30-40 cm away from P and S, who had recently been fed (Burns Canine Maintenance; Burns Pet Nutrition, Kidwelly, Dyfed; about 600 kcal) so that there would be some chance of seeing what was happening. About 17 seconds later all that remained were 10 orchidometer beads and some saliva. We regard this as evidence that Teasers and Truffles are more palatable than conventional orchidometer beads.

Comment

A testicular volume greater than 8 ml can be judged just as accurately with a Teaser or Truffle as with the conventional orchidometer. Moreover, the alternative orchidometer had the advantage of edibility, although its working life would probably be short. A testicular volume of 8 ml corresponds to the 50th centile at 13 years of age¹; thus puberty is proceeding satisfactorily if the testes progress from smaller than to the same size as and finally bigger than a Teaser.

We believe that we have found a viable substitute for the time honoured but outrageously overpriced orchidometer. We do not wish to diminish the contribution of Prader, father of the orchidometer, nor to impoverish the wood turners who craft its beads with such skill.³ However, the low cost of our alternative orchidometer (6p (10¢)) must endear itself to healthcare systems that are strapped for cash.

Finally, we reject any allegation that this paper is another gratuitous attempt by dogs to get themselves on to Medline.^{4,5} We do, however, acknowledge that this research was basically a load of balls.

Readers of a robust disposition might be interested in the outcome of a pilot palatability study conducted by P and S (see bmj.com). The orchidometer can be obtained from the Child Growth Foundation, London W4 1PW; Teasers and Truffles are widely available.

Contributors: GW and PB designed the study, PB did all the hard work, and P and S got excited and barked a lot. GW and PB will act as guarantors.

Funding: The orchidometer was provided by Pharmacia and Upjohn.

Competing interests: Squirrels (P and S).



Conventional 8 ml orchidometer bead (top) and Teaser in wrapped and unwrapped state (bottom)



A figure showing the pilot study appears on bmj.com

- 1 Tanner JM, Whitehouse RH. Clinical longitudinal standards for height, weight velocity and stages of puberty. *Arch Dis Child* 1976;51:170-9.
- 2 Chipkevitch E, Nishimura RT, Tu DG, Galea-Rojas M. Clinical measurement of testicular volume in adolescents: comparison of the reliability of 5 methods. *J Urol* 1996;156:2050-3.
- 3 Prader A. Testicular size: assessment and clinical importance. *Triangle* 1966;7:240-3.
- 4 Williams TM, Kim, Williams G. Excessive impertinence or a missed diagnosis? *BMJ* 1995;311:1700-1.
- 5 Chen M, Daly M, Williams N, Williams S, Williams C, Williams G. Non-invasive detection of hypoglycaemia using a novel, fully biocompatible and patient friendly alarm system. *BMJ* 2000;321:1565-6.