

## LETTERS

## INTRAOSSIOUS ACCESS IN INFANTS

## Safety of power driven devices for intraosseous access in infants

Ashley Reece *consultant paediatrician*, Anthony Cohn *consultant paediatrician*

Department of Paediatrics, Watford General Hospital, Watford, Hertfordshire WD18 0HB, UK

Taylor and Clarke report amputation secondary to compartment syndrome after power driven intraosseous needle insertion in two infants.<sup>1</sup> We know of another case; the three children in these cases were all under 2 years old.

To our knowledge, the power assisted devices use weight adjusted needles. However, the smallest and shortest needle with one device is designed for children weighing between 3 kg and 39 kg. With the 50th centile of a male growth chart as reference, this needle could be used for children from the newborn period to 12 years of age. Therefore it may simply be too long for smaller children.

Young children may be vulnerable to compartment syndrome and amputation owing to factors such as bone size and biomechanics, the needle penetrating through the tibia and leading to extravasation. Obtaining intraosseous access can be life saving, but inserting intraosseous needles manually may be safer in younger children.

The number of young children included in studies of power driven devices, including paediatric studies, is small.<sup>2-4</sup> Further evidence may be helpful to make informed decisions about their correct application. We are seriously considering their use in our department, and encourage others to do the same.

Competing interests: None declared.

- 1 Taylor CC, Clarke NMP. Amputation and intraosseous access in infants. *BMJ* 2011;342:d2778. (27 May.)
- 2 Horton MA, Beamer C. Powered intraosseous insertion provides safe and effective vascular access for pediatric emergency patients. *Ped Emerg Care* 2008;24:347-50.
- 3 Frascone RJ, Jensen J, Wewerka SS, Salzman JG. Use of the pediatric EZ-IO needle by emergency medical services providers. *Ped Emerg Care* 2009;25:329-32.
- 4 Gazin N, Auger H, Jabre P, Jaulin C, Lecarpentier E, Bertrand C, et al. Efficacy and safety of the EZ-IO intraosseous device: out-of-hospital implementation of a management algorithm for difficult vascular access. *Resuscitation* 2011;82:126-9.

Cite this as: *BMJ* 2011;343:d4362