EDITOR—Further to Foëx’s historical note on the intraosseous route for fluid administration1 and Lavis’s recommendations regarding its use in extreme circumstances in adults,2 we would like to mention our previously reported experience where use of an intracalcaneal infusion proved very successful in the resuscitation of a seriously ill child.3 In our opinion, this case questions the assumption that it is necessary to have a functioning medullary cavity in the bone where an intracalcaneal needle is used. Could it just be that a bone is a well defined container that provides an easier target than a vein for a needle in the haemodynamically shutdown patient, and that once the intracalcaneal pressure is increased by fluid infusion, the pressure is lowered by squeezing the fluid into the circulation via emissary veins? Many haemodynamically shutdown trauma patients are at high risk of having sustained major pelvic trauma. This reduces the certainty of access to an intact venous circulation via lower limb or pelvic intraosseous routes. If it were to be shown to be the case that penetration of bones other than those with functioning medullary cavities facilitates fluid resuscitation, it raises the possibility of using relatively easily accessible proximal sites, such as the radial styloid or greater trochanter, in extreme circumstances—more research needed.

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2 Lavis M. Pre-hospital adult intraosseous infusion. Pre-hospital Immediate Care 1999;8:89–92.

The author’s reply
McCarthy and Buss raise an interesting point. The essential premise for intraosseous infusion is a functioning medullary cavity. Toscanins et al commented “In infants under 3 years of age the marrow cavity of the sternum is not large enough to permit its use for the purpose.”1 They also described an adult patient in whom the intraosseal infusion was unsuccessful. At necropsy the sternal stenosis was found to be unusually dense. To them an adequate medullary cavity appeared essential. The experience of McCarthy and Buss with an intracalcaneal route suggested otherwise.2

The problem of an intact venous circulation from the lower limb after a significant pelvic injury may necessitate use of the upper limb. Toscanins and O’Neill investigated the use of the humerus. In one of their 1941 papers they included a photograph of a newborn infant in whom mercury was injected into the lower humerus (and upper ends of the tibias).3 This clearly shows the metal passing through the emissary veins and into the general circulation. The humerus would seem to be an alternative to the upper tibia or lower femur.

While the radial styloid is very accessible and safe, and may yet prove to be effective, if the circumstances are so extreme why not use the proven sternal route? If alternative sites are to be used the more research is needed.

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Does intrasosseous have to mean intramedullary?

EDITOR—Further to Foëx’s historical note on the intraosseous route for fluid administration1 and Lavis’s recommendations regarding its use in extreme circumstances in adults,2 we would like to mention our previously reported experience where use of an intracalcaneal infusion proved very successful in the resuscitation of a seriously ill child.3 In our opinion, this case questions the assumption that it is necessary to have a functioning medullary cavity in the bone where an intracalcaneal needle is used. Could it just be that a bone is a well defined container that provides an easier target than a vein for a needle in the haemodynamically shutdown patient, and that once the intracalcaneal pressure is increased by fluid infusion, the pressure is lowered by squeezing the fluid into the circulation via emissary veins?

1 Toscanins L, O’Neill J, Jones H. Infusions of blood and other fluids via the bone marrow. Application in pediatrics. JAMA 1941;117:1229–34.

BOOK REVIEW


Rosen’s Emergency Medicine is the gold standard against which all other textbooks in our specialty are compared. The current weighty and authoritative three volume, 3000 page text is now available as a single CD-ROM. The disk also contains three other Mosby products supplying prescriptions, drug interaction data, and patient handouts for prescribed drugs. These, however, will be of little interest to a UK audience.

Most readers will be familiar with the excellence of the content and comprehensive coverage provided by the printed text. It is particularly worth noting that this is the fourth edition of the text in the space of 16 years. This demonstrates not only the rapidly expanding nature of the specialty but a commitment by the editors to provide the clinician with up to date and relevant information. It is also noteworthy that this is a text written entirely by emergency physicians for emergency physicians. There are of course portions of the text that are specific to American practice but these do not detract from its value to a UK readership.

In this review I will largely deal with the way that the printed version has been translated into electronic format. Requirements for installation onto a PC are for a 486 running Windows 3.1 (or a more recent version) with 16 MB RAM and a minimum of 60 MB of hard disk space. Full installation to allow use of the program without the CD in the computer requires 150 MB of hard disk space. The electronic text runs within the internet browser Netscape Navigator (a copy of which is supplied). Installation was accomplished without problems in less than five minutes.

The browser allows the reader rapid access to the required information via hypertext links and the browser’s search capability. All diagrams and illustrations are present as thumbnails, which can be enlarged and printed with excellent definition. Other functions allow regularly visited parts of the text to be saved and accessed rapidly. Text can also be copied to other Windows applications.

My only criticism is that the text box within the browser occupies less than half the screen, resulting in the need to scroll the text repeatedly or jump to and from figures and illustrations. This is, however, a minor problem. The printed version of Emergency Medicine is physically cumbersome but this CD-ROM makes the text accessible to the emergency physician on the “shop floor”. I would therefore recommend the CD-ROM as being essential to any accident and emergency department’s electronic library.

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