This study examined the characteristics and disposition of children following IO needle placement by prehospital and emergency room teams before being transported to a children’s hospital” Reuter-Rice et al (2015).

Abstract:

Intraosseous (IO) access is a standard of care for pediatric emergencies in the absence of conventional intravenous access. Intraosseous needles provide access for resuscitation fluids and medications and are often placed in the emergency department. However, there are no studies to date that describe the characteristics of pediatric IO needle recipients or their dispositions and outcomes.

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This study examined the characteristics and disposition of children following IO needle placement by prehospital and emergency room teams before being transported to a children’s hospital. We conducted a retrospective descriptive analysis of pediatric patients who had an IO needle placed as a part of their transport care. Data was extracted from a Level 1 trauma tertiary care children’s hospital transport database from 1993 to 2009. We measured diagnosis, insertion reason, insertion time (day vs. night shift), complications, and disposition of patients after IO needle placement. There were 143 eligible patients in the study; 65% were males. Mean patient’s age was 1.2 years (range: 0.01-13 years).
Intraosseous needles were placed most often for patients with cardiopulmonary compromise. Of the 143 patients transported, 53% (n = 76) were placed for no intravenous access and 34% (n = 49) were placed for nonperfusing rhythm. The majority of the IO needles were placed during the daytime (0700-1900 hr), and most patients experienced no complications (n = 67; 47%). However, of those who experienced a complication, 27% were due to infiltration of the IO needle. Of those admitted to hospital, 58% (n = 83) were ultimately discharged home. Intraosseous access provides a safe and reliable method for rapidly achieving a route for administration of medications, fluids and blood products. It is a lifesaving measure with most IO needles successfully placed by referring facilities prior to transport, with few reported complications.

Reference: