It is vital that emergency physicians be aware of the adverse effects of semi-automatic IO devices, including dermal abrasion, which has not been reported previously” Overbey and Kon (2016).

Abstract:
BACKGROUND: In 2007, an update was released to the pediatric and neonatal septic shock guidelines, which emphasized early use of therapies, specifically, first-hour fluid resuscitation and inotrope therapy. This has led to increased use of intraosseous (IO) access as a source of vascular access.

Previously, IO access could be obtained only via a manual IO placement. New semi-automatic devices, such as EZ-IO® (Vidacare, Shavano Park, TX), allow for safer and quicker IO access. Data support the use of semi-automatic devices during the acute resuscitation period.

CASE REPORT: The patient was a 7-month old girl with VACTERL association (Vertebral defects, Anal atresia, Cardiac defects, Tracheo-Esophageal fistula, Renal anomalies, Limb abnormalities) and complex past medical history. The patient experienced a “choking episode,” which led to subsequent apnea and cyanosis. The patient presented in shock to a local pediatric emergency department. After multiple unsuccessful intravenous line attempts, IO access was obtained using the EZ-IO®. Once in the pediatric intensive care unit with venous access, the IO device was removed and the site had “red bulls-eye target shape” damage to the skin, which appeared consistent with the EZ-IO® flange.

WHY SHOULD AN EMERGENCY PHYSICIAN BE AWARE OF THIS?: IO device use is increasing due to the most recent pediatric and neonatal septic shock guidelines, which emphasize first-hour fluid resuscitation and inotrope therapy. It is vital that emergency physicians be aware of the adverse effects of semi-automatic IO devices, including dermal abrasion, which has not been reported previously. With proper training and familiarity, it is possible to avoid dermal abrasion as an adverse effect of the semi-automatic IO device.

Reference:

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