

### Early Report on Emergency Sternal Intraosseous Infusion in Adults

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**Purpose:** Intraosseous (IO) infusion into the adult sternum is possible with the F.A.S.T.1™ Intraosseous Infusion System (Pyng Medical Corp., Vancouver British Columbia, Canada). We are evaluating success rates, insertion times, and complications.

**Method:** Six emergency departments and 5 prehospital sites in Canada/US provided data on the use of the IO system. Indications included: 1) age  $\geq 18$  years; 2) urgent fluid or medication need; and 3) unacceptable delay or inability to achieve standard vascular access.

**Results:** Success rate overall was 84%, 74%, and 95% respectively for first-time and experienced users. Of 8 insertion failures, 5 were for patients described subjectively as "very obese", 1 had had 3 previous sternotomies, and 2 had failure to penetrate the bone. Mean time-to-vascular access overall was 83, 91, and 72 seconds respectively for first-time and experienced users. Flow rates up to 80 ml/minute were reported for gravity drip, and 150 ml/minute by bolus. No complications or complaints were reported at 2 month follow-up (n = 11). Conscious patients who had IO insertion using a lidocaine protocol (n = 11) reported little or no pain during the insertion.

**Conclusions:** These early data indicate that sternal IO infusion using the new F.A.S.T.1 IC System provides rapid, safe, and effective vascular access, and is a useful technique to reduce unacceptable delays in the provision of emergency treatment.

**Keywords:** access, vascular; complications; insertion times; intraosseous infusion; fluid administration; new technology; sternum

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### What We Have Learned from a Disaster Drill : A Questionnaire Study for Simulated Victims and Hospital Personnel

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A disaster drill was performed at the Osaka City General Hospital (OCGH) in March, 1999. The scenario was a "train crash" at the station near OCGH, where 30 student nurses were made up as victims. After the completion of the drill, a questionnaire regarding triage, routing instructions, informed consent, and mental care for the patients was done for both the simulated patients and the OCGH personnel.

Judging from the results of this questionnaire, a lack of mental care for the victims and their families predominated, albeit in a situation of a massive influx of mock patients.

We have to put this awareness to use in daily hospital activities, since the mental care support system has not been developed completely in Japanese hospitals.

**Keywords:** disaster drill; exercise; mental care; questionnaire; simulated victims; support system

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