

Title: Gastric Point-of-Care Ultrasound (POCUS) at the Time of Procedural Sedation in the Pediatric Emergency Department: Often "Full Stomach" Despite the Wait

Introduction: There is little evidence that fasting prior to urgent procedural sedation ensures an "empty stomach." We used gastric POCUS to evaluate the prevalence of "full stomach" at the time of procedural sedation in the Pediatric Emergency Department (PED).

Methods: This was a prospective study of patients age 2-17 years fasting prior to procedural sedation. A single sonographer (JL) scanned patients' gastric antrum in 2 positions: supine with upper body elevated (SUBE) and right lateral decubitus (RLD). Gastric content (empty, liquid, or solid) was noted (**Figure 1**). Antral volume was graded qualitatively (0: empty in both SUBE and RLD; 1: empty in SUBE, fluid in RLD; 2: fluid in both SUBE and RLD). Stomach content categories were defined as "empty" if grade 0, "low liquid content" if grade 1, "high liquid content" if grade 2 and "solids" if solid content was seen. The latter two categories were termed "full stomach."

Results: 116 patients were enrolled, and of these, 110 (95%) had evaluable scans (**Table 1**). Mean (SD) patient age was 8.4 years (4.0). Seventy-six patients, (69%, 95% CI: 60, 77) had a "full stomach" (71 of 76 with solids present) at the time of sedation. There was a moderate inverse correlation between contents category and fasting time (Kendall's tau = -0.25, p= 0.0009).

Figure 2 illustrates the decreasing, albeit substantial probabilities of "full stomach" status as a function of fasting time.

Discussion: Many patients had a "full stomach" based on gastric POCUS at the time of sedation, despite prolonged fasting times. While a "full stomach" may not preclude the use of sedation, these findings may inform risk-benefit considerations when planning the timing and medication choice for procedural sedation.