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**Over-Utilization of Prehospital  
Rapid Blood Glucose Measurements***Edward A. Michelson, MD, FACEP,\* Kenneth S. Pearlman, MD,  
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**Purpose:** Determination of rapid blood glucose (RGB) by colorimetric stick test aids in the prehospital identification and treatment of hypoglycemia. The test may be applied unnecessarily to patients not at risk for, and in clinical situations not associated with hypoglycemia. We attempted to estimate the rate of over-utilization of RGB in a large urban EMS setting.

**Methods:** All run sheets during a one week period from 7 sites providing radio command to both city and private EMS units serving a large urban population were screened. Those runs including RGB determination were further classified for presence or absence of a test indication. RGB was considered indicated with history or finding of: altered mental status, decreased level of consciousness, seizure, syncope and near syncope, generalized weakness or dizziness, with or without a history of diabetes.

**Results:** 613 RGB determinations were identified during one week (annual rate = 31,876). 371 (61%) met indication criteria for test performance, and 242 (39%) failed to meet criteria. The patient complaint in cases not meeting criteria included; cardiac - 80, respiratory distress - 66, trauma - 38, abdominal pain - 15, burns - 12, OB - 8, CVA - 6. Moreover, among these patients fewer than half had a history of diabetes. If this rate of over-utilization were maintained for one year, in excess of 12,500 extra tests would be performed in this system.

**Conclusions:** RGBs were significantly over-utilized in the prehospital setting. Such use had no beneficial impact on patient management, yet is associated with materials, cost and potential transport delays. Further studies are warranted to see how prevalent this practice is and to assess need for both EMS and medical command provider's education.