

# The Prevalence of Hyperglycemia in Non Diabetic Emergency Department Patients

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## **Study Objectives:**

Hyperglycemia is linked with poor outcomes in neurological emergencies and its aggressive management is associated with improved outcomes in the critically ill. We sought to determine the prevalence of hyperglycemia in non-diabetic adult patients who presented to an academic, tertiary care emergency department (ED) [annual volume ~47,000] with non-glucose related complaints.

## **Methods:**

We identified all ED patients over the age of 18 who had a glucose level obtained by finger stick and/or serum during January 2005. Any glucose level >109mg/dl was considered hyperglycemia. Medical records for hyperglycemic patients were evaluated for prior history of diabetes, age, gender, chief complaint, ED diagnosis, admission vs. discharge, discharge diagnosis, and length of hospital stay if admitted. Patients determined to have a history of diabetes or a glucose-related chief complaint were excluded.

## **Results:**

Of 2,473 adult patients who presented in the study period, 512 patients (20.7%) had a glucose level greater than 109mg/dl (31 had a glucose level greater than 180mg/dl). There were 273 patients with hyperglycemia without prior history of diabetes (11.0% of the ED population; 53.3% of those with hyperglycemia); only one of those patients presented with a glucose-related complaint.

## **Conclusion:**

Glucose was evaluated for approximately 40% of our adult patient population and of these 51% were found to be hyperglycemic. More than half of these patients had no known history of diabetes and were being seen for a non-glucose related complaint. Acuity in these patients was high, with more than two-thirds requiring admission. The reasons for this increased prevalence of hyperglycemia in the ED population and its impact on the immediate and long-term health of ED patients is unclear. Determination as to whether ED intervention in such patients would be helpful remains an unanswered question.