Improving Door-to-EKG time for patients presenting with chest pain in the adult emergency department

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The American Heart Association/ American College of Cardiology guidelines recommend rapid door-to-electrocardiography (EKG) times for patients who present with chest pain. Reducing EKG-to-door time is important so that health care providers adhere to the recommended door-to-balloon times (≤ 90 minutes) for patients who present with ST-segment elevation myocardial infarction (STEMI). The objective of this quality improvement project was to meet the standard for EKG-to-door time of less than 10 minutes upon patients’ arrival to the emergency department (ED).

Introduction

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Materials and Methods

We implemented a door-to-EKG protocol that included moving the EKG station to a specialized area in triage, where patients can quickly receive an EKG upon arrival to the ED. Patients who presented to the ED with complaints of chest pain were provided with a red heart symbol as an indicator for clinical technicians to identify those in need of an EKG, and process them quickly. Pre- and post-intervention data was collected over a six-month period.

Results

Prior to the intervention, the mean door-to-EKG time was 21 minutes among (N=292) patients over three months. After the intervention, the mean door-to-EKG time for (N=701) patients over the next 3 months. Initially, the percentage of compliance with door-to-EKG standard was 26% and improved to 73% after implementation of the door-to-EKG protocol. We found that door-to-EKG times for patients who walked in to the ED were relatively shorter than those who arrived via ambulance.

Conclusion

The overall door-to-EKG compliance improved by 47% in the post intervention period. By implementing a door-to-EKG protocol, we not only improved door-to-EKG-times, but also door-to-balloon times for patients who presented with STEMI. Door-to-EKG times may vary among method of arrival. Further investigation is warranted to evaluate door-to-balloon times for patients with STEMI, and for development of strategies to improve door-to-EKG times for patients arriving via ambulance.

References:


