Advisory 20-15: Scene Time for Suspected Stroke

To: All Providers

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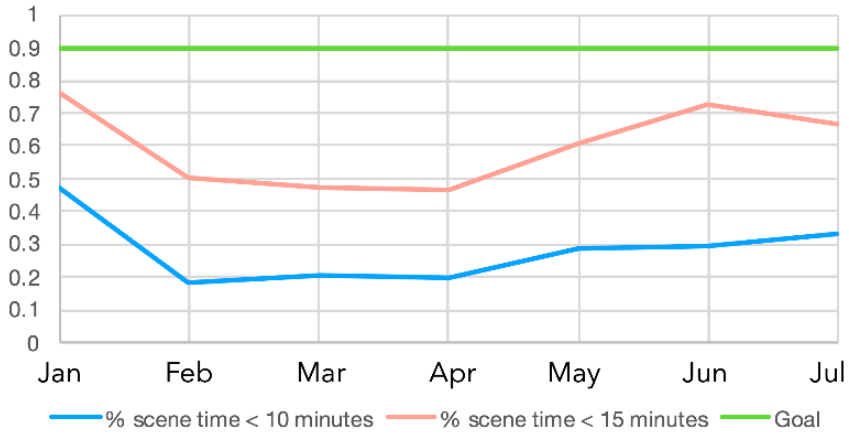
Focusing on Priorities: Reducing Scene Time for Suspected Strokes

Scene time is a stroke quality measure with a regional goal of < 10 minutes when possible. Regionally, we exceed this the majority of the time. The greatest modifiable contributor to reducing scene time in suspected stroke appears to be unnecessary on-scene procedures, such as 12-lead ECG and intravenous access when not clinically indicated. Providers should consider whether a procedure or test will positively impact patient care in such a way that initiation of transport should be delayed; if it will not, defer until after transport has been initiated or indefinitely. The hallmark of good prehospital stroke care remains good BLS care.

Regional Improvement in Stroke Care: A Focus on Scene Time

The adage "Time is Brain" is more than a catchy phrase – indeed, time to reperfusion is a key factor in determining patient outcome following ischemic stroke. Time to reperfusion is a complex measure that is ultimately a byproduct of a number of factors: time to recognition and activation of emergency response, prehospital scene time, hospital and stroke team prenotification and emergency department processes. EMS plays a key role in reducing time to reperfusion, not just through stroke recognition and hospital prenotification, but via scene time minimization.

As part of the recent Regional Quality Improvement Academy, scene times for patients with suspected stroke were evaluated on a regional level. The goal scene time based on the MLREMS regional rubric is 10 minutes or less. We found that while the median scene time was just shy of this at 14 minutes, there was significant variability in scene times with the goal of scene time < 10 minutes being met only 26% of the time and scene time < 15 minutes being met 59% of the time for the time period between January – July 2020 (see Figure).



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Extended scene times could be due to multiple factors such as delayed stroke recognition because of difficulty obtaining patient history or atypical presentation, patient extrication, or the performance of unnecessary procedures prior to initiation of patient transport. Several members of the quality academy evaluated the contribution of such factors by taking a closer look at stroke patient care records where the scene time exceeded 20 minutes. They found that while only about 1/3 of these cases were dispatched as a likely stroke, delayed recognition was a factor in extended scene times only in minority of cases, and that the majority of the time there was a second party to provide clinical history. Extrication delay was documented in only 25% of these cases.

As far as procedures unlikely to impact patient outcome, 12 lead ECG was performed before leaving the scene in approximately 1/3 of cases. Intravenous access was also performed prior to leaving the scene in approximately 1/3 of cases, though primarily for the purpose of obtaining blood for blood glucose measurement in only a minority of the time. Blood glucose measurement was also commonly performed on scene (52% in patients without diabetes). While blood glucose measurement is a key component of prehospital stroke care, it is unlikely to change on scene management in a patient without a history of diabetes and could be appropriately delayed until after transport has been initiated. Thus, reduction in unnecessary on-scene procedures is likely the most immediately modifiable factor in reducing regional scene times for suspected stroke.

Take home:

Intravenous access and 12 lead ECGs are indicated only in the rare minority of suspected stroke cases, but take up valuable minutes that can be used to move the patient towards reperfusion therapy. Before performing either of these prior to initiating transport, strongly consider whether they are likely to change your patient management in any meaningful way. If the answer is no, then defer at least until transport has been initiated. Rarely will 12 lead ECGs be indicated. Intravenous access is useful as it permits more timely performance of imaging modalities requiring intravenous contrast administration.

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