Allison Houston
CAT Block 11
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Article: Singer, A. EtAl. Quick SOFA Scores Predict Mortality in Adult Emergency Department Patients
With and Without Suspected Infection. Annals of Emergency Medicine. 2017; 69 (4): 474-479.

Objective: This study was done to look at the association between Quick Sequential Organ Failure
Assessment (qSOFA) score and outcomes (in hospital mortality, hospital admission, ICU admission, and
total hospital length of stay) in adult emergency department patients with and without suspected infection.

Study Type: Single site, retrospective review

Methods: An electronic ED database at a suburban academic medical center was utilized. Data extracted
from visits occurring between January 2014 and March 2015.
Inclusion criteria included: adult patients (>18 years) in whom a qSOFA score (composed of respiratory
rate > 22 breaths/min, systolic blood pressure < 100 mmHg, and altered mental status) could be calculated
with simultaneous reporting of vital signs and a Modified Early Warning System score (a tool used at this
institution to help nurses monitor their patients and have a warning of sudden decline, tool is based on
RR, HR, temp, pulse ox, SBP, LOC and is supposed to be documented on every patient at this facility).
Exclusion criteria: patients triaged to fast-track, dentistry, psychiatry, and labor and delivery. Patients in
whom adequate data was unavailable to calculate qSOFA.
Patients were categorized as having suspected infection if they were given antibiotics in the ED.
Univariate and multivariate analyses were performed to determine association between qSOFA score and
in hospital mortality, hospital admission, ICU admission and total hospital length of stay.

Results: There were 67,475 ED visits meeting study criteria initially extracted from the database. 3,569
were excluded because no Modified Early Warning System score was documented. 41,376 were excluded
because time between documentation of vital signs and the Modified Early Warning System score was
too long (>2 minutes). The remaining 22,530 encounters formed the dataset analyzed.
The average age of study patients was 54 years (SD 21 years), 47% were men, 45% were admitted, 7%
were admitted to an ICU, and inhospitable mortality rate was 1.6%. Eighteen percent of patients (4,149)
had a suspected infection; the remaining 82% were without a suspected infection.
The study patients had the following qSOFA scores:
16,507 (73%) had a qSOFA of 0
5,290 (23%) had a qSOFA of 1
649 (3%) had a qSOFA of 2
84 (0.4%) had a qSOFA of 3
As qSOFA score rose, percentage of men rose, as did age.
With rising qSOFA score, in hospital mortality, hospital admission, ICU admission, and total hospital
length of stay rose by statistically significant rates.
The correlation between qSOFA score, primary and secondary outcomes was not effected by suspected
infection or no suspected infection.

Discussion:
This study presents interesting, though retrospective, data regarding a seemingly easy to use score. From
this data it appears the qSOFA may be a quick and helpful prognostication when patients arrive in triage.
However, this study has some significant limitations including single site, retrospective (selection bias,
problems with possible documentation and data entry errors). So, as always, more research is needed.