



The College of Emergency Medicine

CEM Clinical Audits 2011-12

Severe Sepsis & Septic Shock

Executive Summary

Introduction

This report summarises the results of the 2011 CEM national audit Severe Sepsis & Septic Shock (referred to as SS throughout this document). It has been produced by the Clinical Effectiveness Committee of the College as part of a continuing focus on quality of care for patients. This is the first time sepsis has been audited, so trend data is not available.

The audit was conducted against the standards of the College of Emergency Medicine which were first published in May 2009 by the Standards and Audit Subcommittee. The Standards are based on the guidelines and care bundles published by the Surviving Sepsis Campaign.

In 2011, 160 Emergency Departments (EDs) in the UK (74% of EDs in England and Wales) participated in the audit. The audit period ran from 1st August 2011 to 31st January 2012. On 18th May 2012 each participating Trust was sent an individualised report containing their audit results and direct comparisons with national results so their performance could be clearly seen.

An overall report with full findings is available at:

<http://www.collemergencymed.ac.uk/Shop-Floor/Clinical Audit/Previous Audits/>

Key findings:¹

Recording of vital signs

- 81% of the SS patients audited had all their vital signs measured on arrival and recorded in the ED notes.
- In 99% of audited cases vital signs were partially recorded.
- The CEM standard is that 95% of these patients should have all vital signs measured and recorded. 32% of responding EDs achieved this standard.

Comment: The reception of patients and the initial encounter with clinical staff is where the patient journey begins. Clinical priority is determined by the presenting symptoms, the recording of vital signs and pain score, and this is a foundation on which the quality of care for all patients builds. This is particularly pertinent for the SS patient.

¹Results quoted in the body of this summary are average (mean) values or totals calculated over all audited patients unless stated otherwise.

Oxygen prescription

- High flow O₂ was initiated for 51% of audited cases. In a further 14% the reason why it was not given was recorded in the notes.
- In the remaining 35% of cases there was no comment recorded in the notes.
- In 33% of cases high flow O₂ was initiated within 1 hour of arrival, and 37% within two hours.

Blood cultures

- In 58% of audited cases blood cultures were obtained before an antibiotic was administered, but this was not done in 12% of cases. In the remaining 30% it was not possible to determine from the records if the antibiotic was administered before or after the cultures were taken.
- In 64% of EDs it was possible to deduce from the records that blood cultures had been obtained in at least half of audited cases before antibiotic administration.
- In 72% of all audited cases, blood cultures were obtained before the patient left the ED.

Administration of antibiotics

- The CEM standard is that in all cases antibiotics should be administered before the patient leaves the ED. This was achieved in 89% of cases.
- In 50% of patients this should be within one hour of arrival, and in 90% within two hours. In this audit antibiotics were administered to 28% of patients within one hour of arrival, and to 56% within two hours.
- Three participating EDs met the CEM standard in full.

Initial fluid bolus

- The CEM standard is that there should be documented evidence that a first intravenous crystalloid fluid bolus (up to 20mls/kg) was given before the patient left the ED. This was achieved in 81% of cases.
- In 75% of patients this bolus should be within one hour of arrival, and in 90% within two hours. In this audit a first fluid bolus was given before hospital arrival in 3%, and to a further 40% of patients within one hour. In 59% of patients it was given within two hours.
- In 16% of patients fluid administration was not recorded in the notes.

Serum Lactate measurement

- In 95% of cases there should be documented evidence that serum lactate was measured before the patient left the ED. This occurred in 76% of all audited cases.
- Serum lactate was measured within 1 hour in 46% of patients, and within 2 hours in 60%.
- Results varied significantly between responding departments.

Urine output

- In 90% of cases there should be documented evidence that urine output measurements were instituted before the patient left the ED. This occurred in 33% of cases.

- Urine output measurement was instituted within 1 hour in 9% of audited patients, and within 2 hours in 17% of patients.
- A urinary catheter was inserted in 33% of audited cases. In 7% the reasons why this was not done were documented, but in the remaining 60% it was not clear from the notes.

Measurement of capillary blood glucose

- 77% of audited patients had their capillary blood glucose measured and recorded in the ED notes. The CEM standard is 95%.
- In 62% this measurement was done within 20min of the patient's arrival.

Recommendations:

Recommendation 1: 74% of departments submitted data, which is higher than expected for a first national audit. It is clear from the audit results that some departments have successfully implemented a sepsis pathway, but other departments have not done so yet. If an ED has not put in place a system which identifies the septic patient on arrival this should be introduced at the earliest opportunity to prevent lives from being lost unnecessarily.

Recommendation 2: Once a septic patient has been identified they should be managed as a priority, ensuring early delivery of intravenous fluids and antibiotics. This should occur within one hour of arrival wherever possible.

Recommendation 3: Prescription of oxygen and the initiation of urine output measurement are well below the required standard across EDs. This should be emphasised in training programmes and departmental protocols.

Recommendation 4: The CEC recommends that this audit is repeated in 2 years.



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