MONTHLY FEATURE CPG SOPR SUMMARY – November 2021

CPG Citation: Evans L, Rhodes A, Alhazzani W, Coopersmith CM, French C et al. Survivng Sepsis Campaign International Guidelines for the Management of Sepsis and Septic Shock 2021. Crit Care Med 2021; 49(11): e1063-e1143
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Scope of Guideline: This guideline is intended for clinicians who manage sepsis/septic shock in adult patients.

Inclusion: Adults with sepsis/septic shock.
Exclusion: Pediatric sepsis/septic shock.

Key Recommendations: *Each recommendation is accompanied by the "strength" of recommendation and the level of evidence (LoE) supporting that recommendation*

Recommendations	Strength (LoE)
FOR Clinical Action	
Start vasopressor Rx with Norepinephrine for fluid-resistant shock.	Strong (High)
For septic ARDS, use lower tidal volume ventilation strategy (6ml/kg).	Strong (High)
Initiate fluid resuscitation with balanced crystalloids (not saline?)	Strong (Mod)
Hospitals should develop sepsis performance improvement programs.	Strong (Mod)
For vasopressor Rx, target a MAP of 65mmHg.	Strong (Mod)
For mod/severe ARDS, use an upper plateau pressure of 30cm H_2O.	Strong (Mod)
For mod/severe ARDS, aim for prone ventilation <12hrs/day.	Strong (Mod)
When considering blood transfusion, use a restrictive strategy.	Strong (Mod)
For fluid and vasopressor-refractory shock, start IV corticosteroids.	Weak (Mod)
Start antimicrobial Rx within 1hr if high suspicion of sepsis.	Strong (Low)
NEUTRAL Clinical Action	
Measure initial and monitor serial lactate levels as a marker of tissue reperfusion.	Weak (Low)
For NE-resistant septic shock, use vasopressin as 2nd-line vasopressor.	Weak (Low)
Start vasopressors through a peripheral IV line if needed (do not delay for a central line).	Weak
AGAINST Clinical Action	
Don't use colloid starches for fluid resuscitation.	Strong (High)
Don't use qSOFA over SIRS, NEWS or MEWS scores.	Strong (Mod)
Don't use procalcitonin as a sepsis marker.	Weak (V. Low)

Benefits of Recommendations: These recommendations update prior recommendations for managing severe sepsis/septic shock patients in the ED. While there are few substantial changes for ED interventions, there are some subtle shifts in recommendation strength (LoE). The major themes relevant for ED resuscitation (early recognition, crystalloid fluid resuscitation, lactate monitoring, early broad-spectrum antibiotics, use of vasopressors and steroids in fluid-refractory shock) are still present and largely unchanged. There is a de-emphasis of using the qSOFA scores over SIRS, NEWS or MEWS scores for sepsis screening, and use of these scores in conjunction with clinical judgement is warranted.

Harms/Adverse Effects of Recommendations: There is reinforcement of avoiding colloid starches (and gelatins) in fluid resuscitation phases, which is rarely warranted in the ED setting; it may be reasonable to consider use of albumin in high-crystalloid volume situations.

Barriers to Uptake: There are no clinical algorithms/pathways to facilitate immediate ED adoption/adaptation into practice, so individual ED departments may need to modify their own pathways/order sets to incorporate this new evidence. There are no specific QI performance metrics suggested for audit-feedback monitoring, but it would be reasonable to build sepsis QI programs based on Strong (High LoE) recommendations above (especially those that allow for easy access to administrative or laboratory data sources). Management of ventilated patients in smaller/rural ED's may still be a challenge.

Facilitators of Uptake: Recommendations are easily identifiable in summaries at the beginning of the documents. There are few ED-relevant recommendations that should not be achievable in smaller/rural departments, as most ED-based care is now not centrally invasive (eg. central/arterial lines, $SVCO_2$ monitors).

CLINICAL COMMENTARY: Sepsis remains a common time-dependent emergency that has high mortality with delayed treatment. Early recognition and intervention remain the cornerstone of morbidity/mortality reduction, and this starts in the Emergency Department. De-emphasis of dogmatic clinical scores and integration of clinical judgement will likely intuitively serve most ED physicians well. Reinforcement of balanced crystalloid-based fluid resuscitation, followed by vasopressors (norepinephrine, vasopressin; avoid dopamine) and corticosteroids is likely already common practice for most ED physicians. Use of peripheral IV lines for fluid/vasopressor administration is encouraged. Ongoing use of serum lactate as an initial screening and ongoing resuscitation marker is still recommended; use of procalcitonin is not. As always, early initiation (within 1hr) of broad-spectrum antibiotics should be based on clinical source suspicion and local antibiograms.

Funding reported: None.

Grading System Used: GRADE

Institute of Medicine 2011 Trustworthiness Standards

Rating Domain	Rating (Good/Fair/Poor)
Establishing transparency	Good
Managing conflict of interest in CPG development group	Good?
Group composition (range of stakeholders involved)	Good; no patient/public stakeholders
Critical evaluation of supporting evidence	Good
Framing recommendations based on supporting evidence	Good
Clear articulation of recommendations	Good
External review by relevant stakeholders/ organizations	Poor
Updating schedule	N/A