EMERGENCY MEDICINE
UNIVERSITY OF OKLAHOMA

Evidence-Based Clinical Pathway: Treatment of Severe Sepsis and Septic Shock

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Primary Sources:www.survivingsepsis.org. Society of Critical Care Medicine. 2010. Dellinger, et. al. Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock: 2008 Intensive Care Med. 2008 January; 34(1): 17–60. HMC Severe Sepsis/Septic Shock Orderset, updated 01/11

Primary goals (to be achieved in first 6 hours):
- MAP ≥ 65
- CVP 8-12 mm Hg*
- Urine output > 0.5ml/kg/hr
- Central venous oxygen saturation > 70%
- ABX given within one hour

* 12-15 mm Hg for patients on positive pressure ventilation

Pathway applicability:
Adults with severe sepsis or septic shock
(see Severe Sepsis Screening Tool)

Diagnostics/Monitoring:
- Peripheral blood culture x2, culture potential sources (e.g. indwelling catheter)
- CBC, CMP, Mg, PO_4, iCa, UA + C&S, PT/PTT, ABG, Type and Screen, EKG, CxR
- Serum lactate q2h until <4 mmol/L
- Further testing as indicated by history and physical
- Triple lumen central venous catheter (subclavian or IJ unless contraindicated) or PICC
- Arterial line for patients requiring vasopressors or frequent arterial blood sampling
- Foley catheter, nasogastric tube, etc. as indicated

Antibiotic administration:
Refer to institutional recommendations

Source Control:
Replace/remove indwelling catheters

Optimize Oxygenation:
Consider supplemental oxygen, PPV, or intubation with lung-protective ventilation strategy

Suggested Fluid Responsiveness
Any of following?
MAP < 65
SBP < 90
CVP < 8
Collapsible IVC

Yes

NS 1500ml bolus **(over 10 mins)** *plus*
500ml bolus q20m until *any* of following:
- CVP > 8
- MAP > 65
- SBP > 90
- Non-collapsible IVC

MAP < 65

Pressors/Adjuncts:
Norepinephrine* 1mcg/min, titrate to MAP >65
If > 20mcg/min, consider addition of vasopressin 0.04 units/min

*Norepinephrine should be administered centrally, and patients should have arterial catheter placed as soon as practical

Consider hydrocortisone 100mg IV for hypotension refractory to fluids and norepinephrine

No

Continued treatment and disposition, with additional considerations:
- If central venous O2 saturation <70%: consider PRBC transfusion to Hct >30% or inotropic support
- Replace K, Mg, PO_4 iCa as needed
- If in the ED for extended period, consider:
  - Ulcer prophylaxis (famotidine 20mg IV q12h)
  - DVT prophylaxis (enoxaparin 40mg SC daily or heparin 5000 units SC bid)

Admission to ICU