

GUIDELINE FOR THE EVALUATION, DIAGNOSIS, AND EMPIRIC TREATMENT OF INFECTION

Introduction:

Fever, infection, and subsequent organ dysfunction are very common in acutely traumatized or critically ill patients, with sepsis now being considered the leading cause of death from infection. Sepsis is now defined as life-threatening organ dysfunction due to a dysregulated host response to infection. Organ dysfunction is now the distinguishing clinical indicator that delineates an uncomplicated infection from sepsis. The suggested method to assess for organ dysfunction put forth by the Society of Critical Care Medicine (SCCM) is the Sequential (Sepsis-Related) Organ Failure Assessment (SOFA). For clinical purposes, organ dysfunction can be represented by an increase in the SOFA score of 2 points or more from baseline in the presence of infection, which is associated with in-hospital mortality > 10%. Septic shock is defined as a subset of sepsis in which profound circulatory, cellular, and metabolic abnormalities are present, and is associated with an in-hospital mortality of >40%. Septic shock can be identified in patients with a vasopressor requirement to maintain a MAP of 65 mm Hg or greater and serum lactate level greater than 2 mmol/L (>18 mg/dL) despite adequate volume resuscitation.

SOFA Score				
Variables/Points	1	2	3	4
Neurological Coma Score: Glasgow	13-14	10-12	6-9	< 6
Pulmonary PaO ₂ (mmHg) / FIO ₂	< 400	< 300	< 200 with respiratory support	< 100 with respiratory support
Cardiological Mean Systolic Arterial Pressure (mmHg)	< 70	Dopamine ≤ 5 or Dobutamine (whatever dose)	Dopamine > 5 or Adrenaline ≤ 0.1 or Noradrenaline ≤ 0.1	Dopamine > 15 or Adrenaline > 0.1 or Noradrenaline > 0.1
Renal Blood creatinine μmol/L (mg/L) or Diuresis mL/day	110-170 (1.2-1.9)	171-299 (2.0-3.4)	300-440 (3.5-4.9) or < 500	> 440 (> 5.0) or < 200
Haematological Platelets 10 ⁹ /L	< 150	< 100	< 50	< 20
Hepatic Blood bilirubin μmol/L (mg/dL)	20-32 (1.2-1.9)	33-101 (2.0-6.9)	102-204 (6.0-11.9)	> 204 (> 12.0)

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For patients who are not critically ill, the quickSOFA, or qSOFA, was developed to help facilitate clinicians to more quickly recognize those who are at risk for sepsis.

- I. An alteration in mental status
- II. A decrease in systolic blood pressure of less than 100 mm Hg
- III. A respiration rate greater than 22 breaths/min

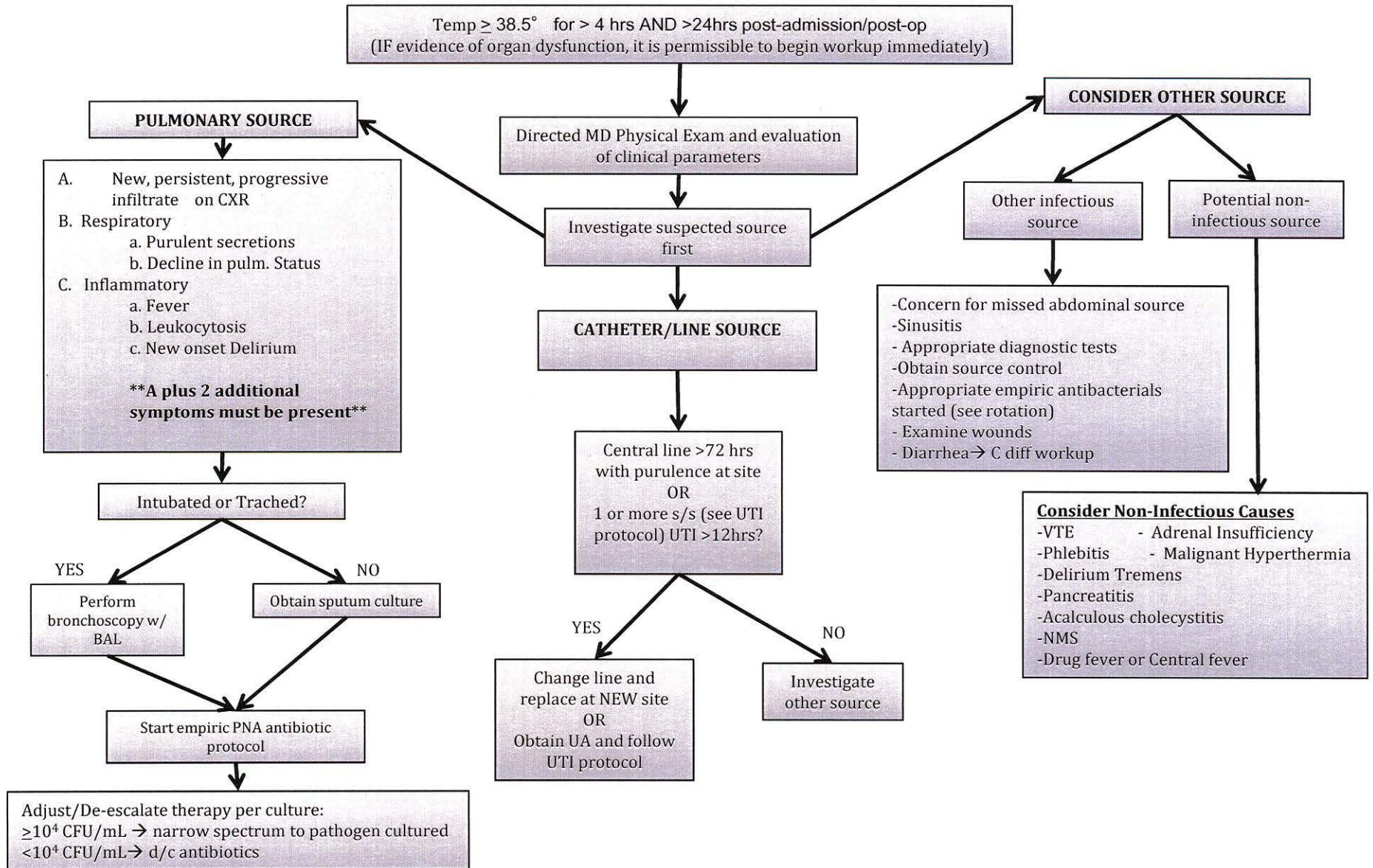
Patients with two or more of these criteria are more at risk to have a prolonged ICU stay or to die in the hospital, and should be examined for organ failure.

Empiric Antibiotic Therapy for Sepsis Protocol:

Patients with signs and symptoms identifying a likely source of sepsis or with hemodynamic changes associated with fever should be treated empirically with antibiotics as directed by the Quarterly Antibiotic Rotation specified in the Antibiotic Stewardship Program guideline found on the MDSCC website. The appropriate regimen should be initiated based on suspected site of infection (either pneumonia or non-pneumonia).

- 1) A quarterly rotation schedule has been specified and information is distributed to all personnel. This rotation includes a class of medications to be avoided for the quarter and adherence to this protocol is very important.
- 2) Antibiotics should be de-escalated as soon as culture data is available.
- 3) For pneumonia, treatment should continue for a total of 7 days except for cases where the causative organism is a multi-drug resistant organism in which case a longer duration of therapy may be considered.

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****Blood cultures should only be obtained when other potential sources have been ruled out****