

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

**Introduction:**

Fever and Systemic Inflammatory Response Syndrome (SIRS) are very common in acutely traumatized or critically ill patients; most do not have infection (roughly 20% of patients with SIRS have infection). Data suggests that delay in therapy for patients whose only signs or symptoms of infection are fever and leukocytosis is not deleterious.

SIRS Criteria is defined as two or more of the following criteria:

<i>Criteria</i>	<i>Value</i>
Temperature	> 38.5°C or <36°C
Heart Rate	>90 beats per minute
Respiratory Status	Respiratory Rate >20/minute or pCO <sub>2</sub> <32mmHg
White Blood Cell Count	>12,000cells/mL or <4,000cells/mL or >10% bands

**Evaluation of Suspected Infection and Sepsis:**

The most frequent causes of sepsis in acutely ill surgical patients (up to 90%) are:

1. Pneumonia (risk increases exponentially with time of intubation)
  - a. 40-50% of ventilated patients who have clinical signs and symptoms will have pneumonia using quantitative culture techniques
  - b. Bacteria within tracheobronchial secretions correlate poorly with the presence and cause of ventilator-associated pneumonia (VAP)
2. Surgical or traumatic site infection
3. Bacteremia, particularly related to vascular access (75-90%)
  - a. If only SIRS without hemodynamic changes or + BC, re-wire vs. new stick should be considered.
  - b. Please refer to Central Venous Access Guidelines.

It is important that work up of this patient population be focused on these three sources first then expanded if negative (refer to 'Initial Evaluation and Management' flowchart).

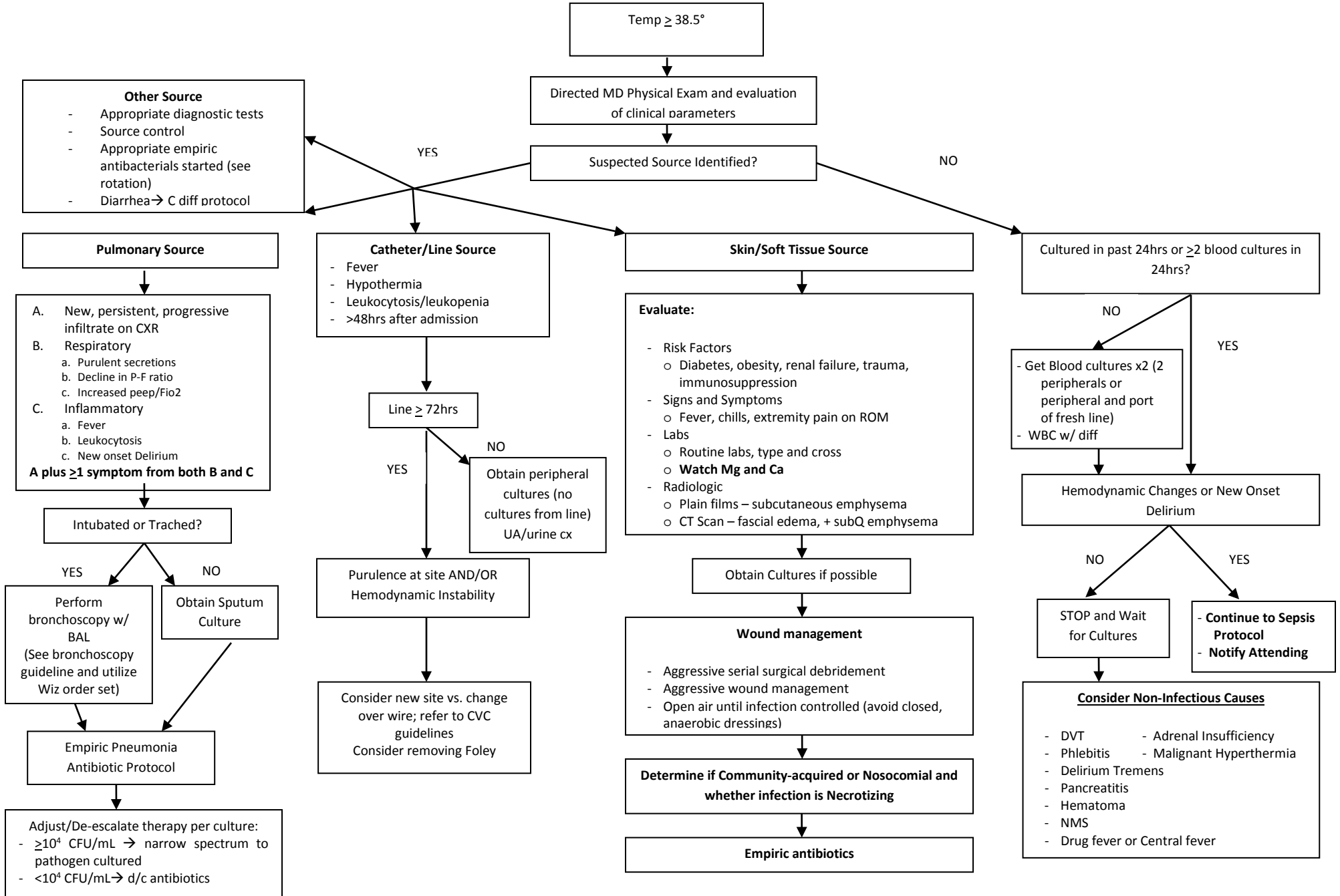
**Empiric Antibiotic Therapy for Sepsis Protocol:**

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. Antibiotics should be started immediately after obtaining culture data. 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.

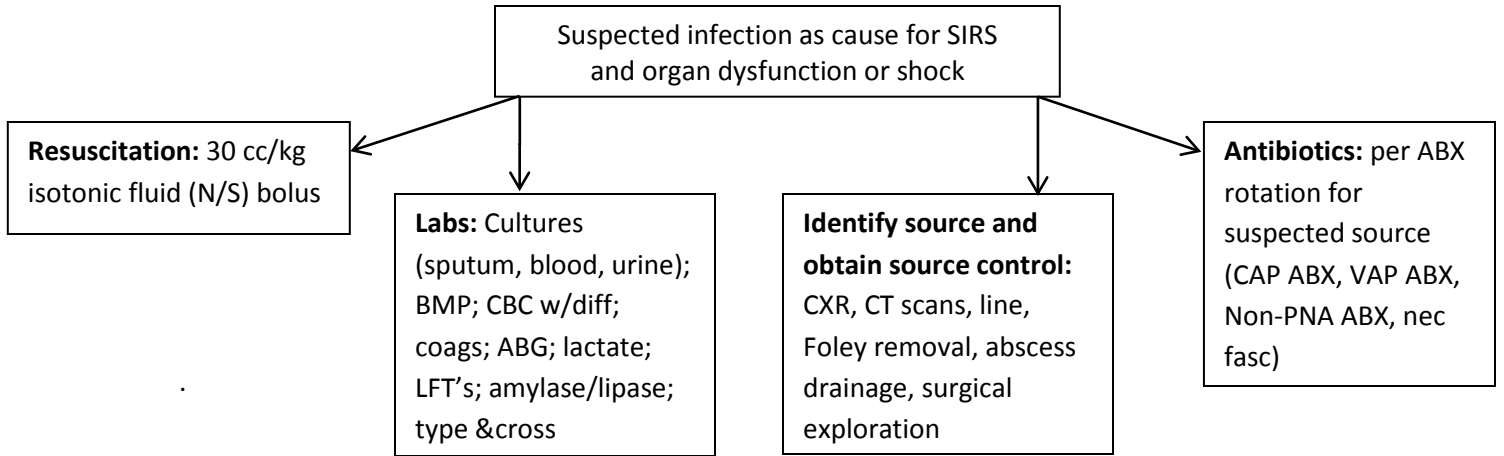
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## I. Initial Evaluation and Management

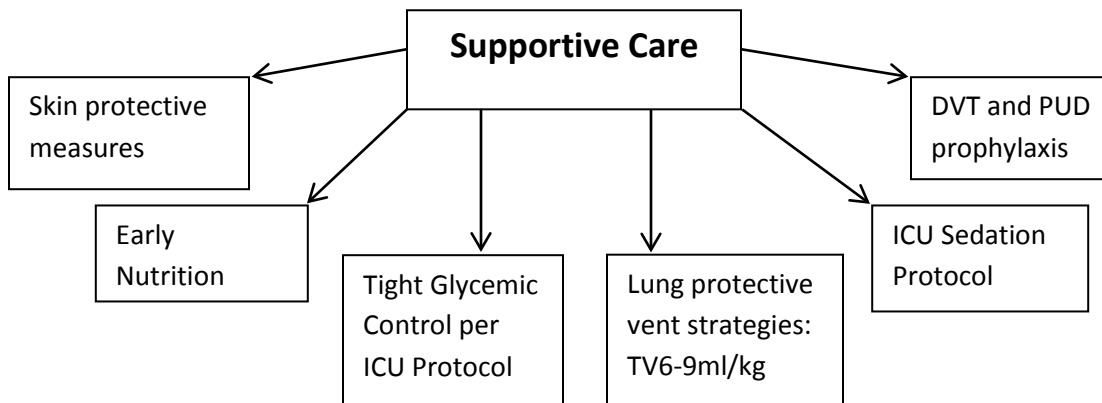
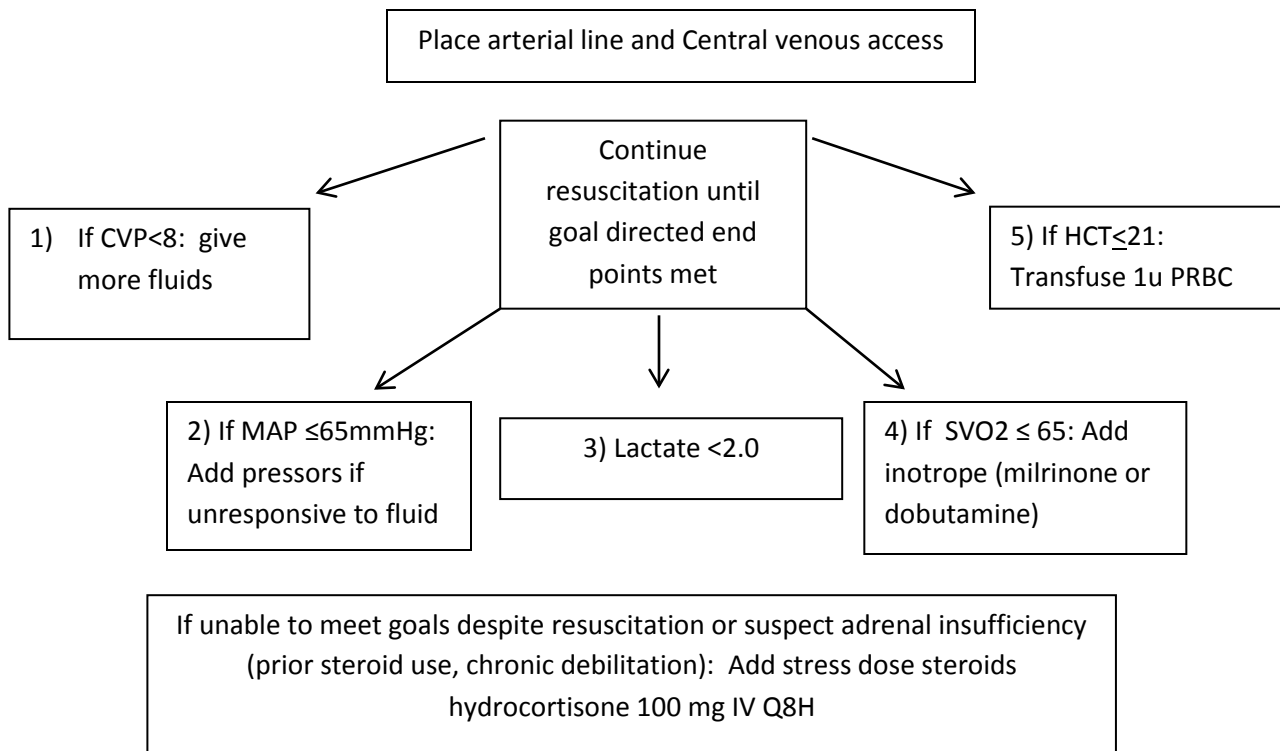


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**II. Management of Severe Sepsis and Septic Shock**



**Ongoing resuscitation for severe sepsis/septic shock**



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