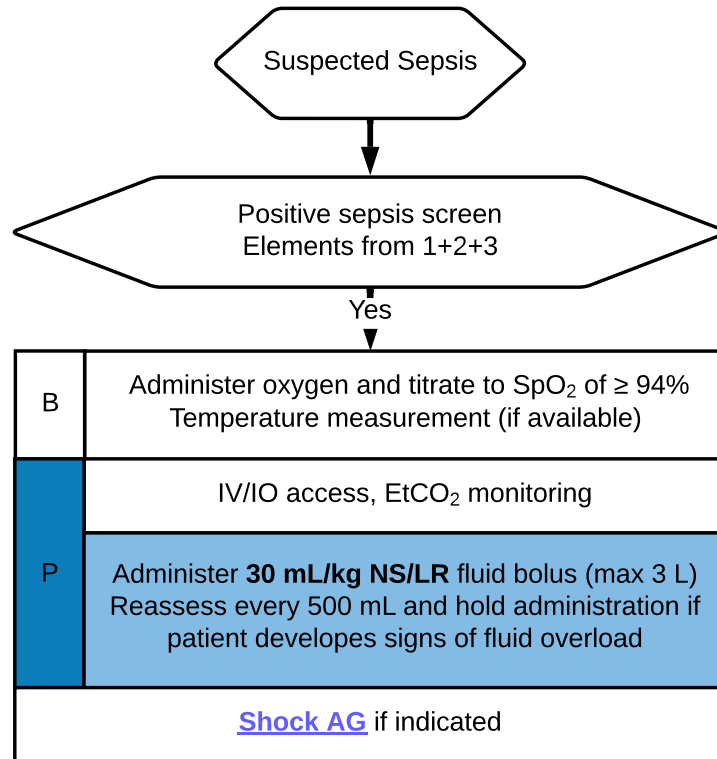


Sepsis Administrative Guideline



History <ul style="list-style-type: none"> • Duration and severity of fever • Past medical history • Medications/recent antibiotics • Immunocompromised (transplant, HIV, diabetes, cancer) • Last acetaminophen or ibuprofen 	Signs and symptoms <ul style="list-style-type: none"> • Fever/chills • Altered mental status • Delayed capillary refill • Chest pain, cough, headache, abdominal pain, dysuria • Nausea, vomiting, diarrhea 	Differential <ul style="list-style-type: none"> • Infection - pneumonia, UTI, cellulitis, abscess, gastrointestinal • Malignancy • Heat related illness • Hyperthyroid • Meningitis • Hyperglycemia/hypoglycemia • Overdose (sympathomimetic, anticholinergic)
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Sepsis Screen															
1	<u>Suspected Infection or immunosuppression</u> <u>High Risk Pediatric Patients</u>														
2	<p><u>Two or more markers of Systemic Inflammatory Response Syndrome (SIRS):</u></p> <table border="1"> <tr> <td>Temp ≥ 100 or ≤ 97</td> <td><u>Pediatric</u></td> </tr> <tr> <td>HR ≥ 90</td> <td>0-2 yr >190 2-10 yr >140 10-14 yr >100</td> </tr> <tr> <td>RR ≥ 20</td> <td>HR >50 >34 >30</td> </tr> <tr> <td>Glucose > 140 in non-diabetic</td> <td>Capillary refill delayed > 2 sec</td> </tr> <tr> <td>Altered mental status</td> <td>Mental status: decreased arousability, irritable</td> </tr> </table>	Temp ≥ 100 or ≤ 97	<u>Pediatric</u>	HR ≥ 90	0-2 yr >190 2-10 yr >140 10-14 yr >100	RR ≥ 20	HR >50 >34 >30	Glucose > 140 in non-diabetic	Capillary refill delayed > 2 sec	Altered mental status	Mental status: decreased arousability, irritable				
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3	<p><u>Findings of Shock:</u></p> <table border="1"> <tr> <td>SBP <90 or MAP < 65 or SBP drop of 40 mmHg from prior baseline</td> <td><u>Pediatric</u></td> </tr> <tr> <td>EtCO₂ ≤25</td> <td>SBP <70 + (age in yr x 2)</td> </tr> <tr> <td>O₂ sat ≤ 92% on RA</td> <td>3 or more exam criteria</td> </tr> <tr> <td>Mottled or cold extremities</td> <td>2 or more exam criteria in high risk patient</td> </tr> <tr> <td>Central cap refill ≥3 seconds</td> <td></td> </tr> <tr> <td>Purpuric rash</td> <td></td> </tr> <tr> <td>No radial pulse</td> <td></td> </tr> </table>	SBP <90 or MAP < 65 or SBP drop of 40 mmHg from prior baseline	<u>Pediatric</u>	EtCO ₂ ≤25	SBP <70 + (age in yr x 2)	O ₂ sat ≤ 92% on RA	3 or more exam criteria	Mottled or cold extremities	2 or more exam criteria in high risk patient	Central cap refill ≥3 seconds		Purpuric rash		No radial pulse	
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Education/Pearls

Sepsis is a life-threatening condition in which the body's immune response to infection injures its own tissues and organs. When this occurs, the body generates an inflammatory reaction, which is called Systemic Inflammatory Response Syndrome (SIRS), defined by vital sign abnormalities. Tachypnea or tachycardia may precede shock and AMS. Suspect sepsis in the elderly with AMS or hypothermia, post-operative patients with worsening pain or malaise, or unwell-appearing patients with fever. Fever may be absent in immunocompromised patients. See the table below for other high-risk scenarios that should increase your suspicion for sepsis.

Sepsis is categorized the following ways:

- Sepsis - a suspected infection with 2 or more SIRS criteria (tachypnea, tachycardia, abnormal temperature, and a white blood cell abnormality on lab draw)
- Severe sepsis - sepsis with the presence of organ dysfunction, such as AMS or hypotension. Lactate, a consequence of tissue metabolism, rises when organ dysfunction is present. Severe sepsis is responsive to fluid resuscitation.
- Septic shock - severe sepsis and poor perfusion, unimproved after fluid bolus.

Sepsis can be monitored and treated:

- Quantitative waveform capnography - can be used as a surrogate for lactate monitoring in detecting metabolic acidosis. $\text{EtCO}_2 < 25$ mm Hg are associated with serum lactate levels > 4 mmol/L, indicating severe sepsis/septic shock.
- IV access - 2 large bore (18 gauge) IVs are preferred for patients with shock. Do not delay transport if unsuccessful in obtaining IV access.
- IV fluid - suspected septic patients should receive repeated fluid boluses while being checked frequently for signs of pulmonary edema (particularly in dialysis and CHF patients). Stop fluid infusion in the setting of pulmonary edema; re-evaluate lung exams every 500 mL of fluid.
- Supplemental oxygen - titrate to oxygenation saturation $\geq 94\%$. Septic patients are especially susceptible to traumatic lung injury and ARDS.
- Airway management - If artificial ventilation is necessary, avoid ventilating with excessive tidal volumes. If CPAP is utilized, airway pressure (PEEP) should be limited to 5 cmH₂O

Risk factors for developing sepsis

Open wounds, sores, or cellulitis
 Active infections (UTI, pneumonia, meningitis)
 Indwelling medical devices (ports, stents, hardware)
 Recent surgery or procedure
 Chemotherapy in the past 6 weeks
 Immunosuppression (chronic steroid use, diabetes, untreated HIV)
 IV drug use

Pediatric risk factors:

Malignancy
 Asplenia/sickle cell disease
 Bone marrow transplant
 Indwelling medical device
 Solid organ transplant
 Severe intellectual disability
 Immunocompromise