

Definitions**SIRS**

- Temperature $\geq 100.4^{\circ}\text{F}$ or $\leq 96.8^{\circ}\text{F}$ ($\geq 38^{\circ}\text{C}$ or $\leq 36^{\circ}\text{C}$)
- Heart rate ≥ 90 beats/min.
- Tachypnea, as manifested by a respiratory rate ≥ 20 breaths/min. or hyperventilation, as indicated by a $\text{PaCO}_2 \leq 32$ mmHg
- Alteration of white blood cell count $\geq 12,000$ cells/mm³, $\leq 4,000$ cells/mm³, or the presence of $>10\%$ immature neutrophils

SEPSIS

- Sepsis is defined by the American College of Chest Physicians/Society of Critical Care Medicine (ACCP/SCCM) as SIRS resulting from infection (bacterial, viral, fungal, or parasitic).
- SIRS plus a documented or suspected infection.

SEVERE SEPSIS

- **Sepsis plus Organ Dysfunction, Hypoperfusion or Hypotension:**

- **Organ dysfunction variables:**

- Acute alteration in mental status
- Arterial hypoxemia ($\text{PaO}_2/\text{FIO}_2 < 300$)
- Acute oliguria ($\text{UOP} < 0.5 \text{ mL} \cdot \text{kg}^{-1} \cdot \text{hr}^{-1}$ or 45 mmol/L for 2 hrs.)
- Creatinine $> 2.0 \text{ mg/dL}$
- Coagulation abnormalities ($\text{INR} > 1.5$ or $\text{aPTT} > 60$ secs)
- Thrombocytopenia (platelet count $< 100,000 \mu\text{L}^{-1}$)
- Hyperbilirubinemia (total bilirubin $> 2.0 \text{ mg/dL}$ or 35 mmol/L)

- **Lactate ($> 4 \text{ mmol/L}$)**

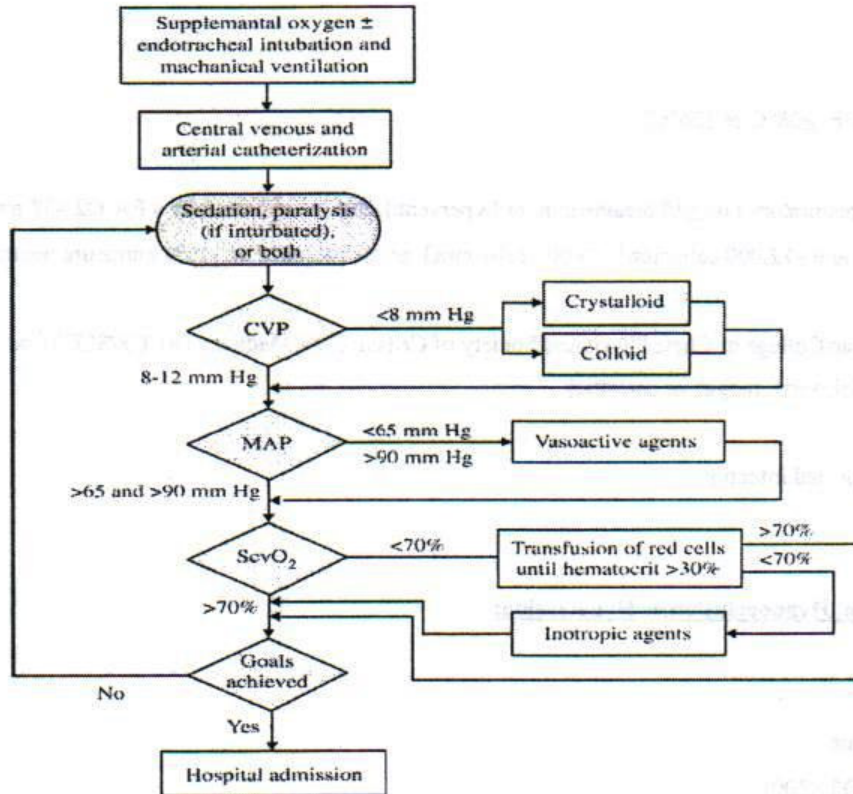
- **Hemodynamic variables:**

- Arterial hypotension ($\text{SBP} < 90 \text{ mm Hg}$, $\text{MAP} < 65$, or SBP decrease $> 40 \text{ mm Hg}$)
- "Severe Sepsis" Definition

SEPTIC SHOCK

- Septic shock occurs when sepsis-induced hypotension persists despite adequate fluid resuscitation.

Patient Monitoring



CVP (Central Venous Pressure)

- You need to use a triple lumen catheter.
- Subclavian or internal jugular placement, can be done with femoral but by the time you found one long enough your patient would be dead.

MAP (Mean Arterial Pressure)

- $MAP = [(2 \times \text{diastolic}) + \text{systolic}] / 3$
- Put down your calculators all of our monitors in the ED automatically calculate it for you.
- It is located just below the BP numbers

ScvO2 (Central venous oxygen saturation)

- You need to use a triple lumen catheter
- The monitors in room 9, 10, and 11 will calculate this for you.

Treatment

Crystalloid

- NS or LR

Vasoactive agents

- Dopamine 2-20 mcg/kg/min
- Norepinephrine 0.5-1.5 mcg/kg/min
 - Will require placement of Arterial line

Inotropic agents

- Dobutamine 2-20 mcg/kg/min