DEFINITIONS:

SYSTEMIC INFLAMMATORY RESPONSE SYNDROME (SIRS)\(^1\)
- Temperature > 38\(^\circ\) C or < 36\(^\circ\) C
- Heart rate greater than 90 beats/min except in patients with a known physiologic condition preventing tachycardia
- Respirations > 20 breaths/min or a PaCO\(_2\) < 32 mm Hg or the use of mechanical ventilation for an acute respiratory process
- WBC > 12,000/mm\(^3\) or < 4,000/mm\(^3\) or a differential > 10% bands

SEPSIS\(^1\)
- A known or a syndrome consistent with infection of any type: bacterial, viral, fungal, parasitic (not restricted to blood)
- 2 of 4 signs of SIRS

SEVERE SEPSIS\(^1\)
- Sepsis associated with signs of least once acute organ dysfunction, hypoperfusion, or hypotension

SEPTIC SHOCK\(^1\)
- Sepsis with the patient’s inability to maintain a SBP > 90 mm Hg or a MAP > 70 mm Hg for 1 hour despite receiving intravenous replacement fluids and vasopressor therapy

MULTIPLE ORGAN DYSFUNCTION SYNDROME (MODS)\(^1\)
- Cardiovascular- SBP < 90 mm Hg or a MAP < 70 mm Hg despite intravenous fluids or vasopressors
- Renal- urine output < 0.5 ml/kg for 1 hour despite adequate fluid resuscitation pt or doubling of baseline creatinine
- Lung- PaO\(_2\)/FiO\(_2\) < 250 in the presence of other organ dysfunctions or PaO\(_2\)/FiO\(_2\) < 200 if the lungs are the only organ dysfunction
- Acid-Base- metabolic acidosis with pH < 7.30 with a base deficit > 5 mmol/L or a lactate level > 5 mmol/L
- Hematological- platelet count < 80,000/mm\(^3\) or 50% decrease in platelets from highest value in last 3 days
- Altered consciousness
- Hepatic- serum bilirubin > 2 mg/dL for 2 days or increase in glutamate dehydrogenase greater than 2x upper limit of normal

References
7. Cooper MS, Stewart PM. Corticosteroid insufficiency in acutely ill patients. NEJM 2003;348:727-34.
**Hemodynamic and Metabolic support**

**Glucose control**
- Blood glucose < 110 mg/dL
  - Yes: Continue monitoring
  - No: continuous insulin infusion goal BG 80-110 mg/dL

**Xigris candidate?**
- APACHE II Score
  - Yes: (Consider pulmonary artery catheter placement)
    - Initiate vasopressors
  - No: Continue support

**Identification of adrenal insufficiency**
- Random cortisol level
  - Yes: Start dexamethasone 2 mg IV q 6h
    - Cortisol > 15 mg/DL: Cosyntropin 250 mcg IV test
      - If cortisol ↑ 9 mcg/dL, d/c dexamethasone
      - If cortisol does not ↑ 9 mcg/dL, change dexamethasone to hydrocortisone 50 mg IV q6h x 7 days
    - Cortisol < 15 mg/dL: Change dexamethasone to hydrocortisone 50 mg IV q6h x 7 days
  - No: Norepinephrine 1-30 mcg/min, Phenylephrine 10-300 mcg/kg/min, Vasopressin 0.01-0.04 Units/min
    - If < 70% transfuse PRBC until HCT > 30%; start dobutamine 2.5 mcg/kg/min

**Diagnosis of sepsis**
- Monitor vital signs, laboratory data, cardiac monitoring, pulse oximetry, urinary catheterization, arterial and central venous catheterization.
  - MAP < 60 mm Hg
    - Septic shock
      - Fluid replacement with normal saline or lactated ringer’s 500 mL boluses every 30 minutes until CVP 8-12 mm Hg or crackles auscultated on physical exam
  - MAP < 60 mm Hg after fluid replacement
    - Yes: Initiate vasopressors
    - No: Continue support

**Goals:**
- CVP 8-12 mm Hg
- MAP > 60 mm Hg
- CI > 2.5 L/min/m²
- ScvO₂ > 70%