### Non-Invasive Protocol

#### Who
- Septic Patient with Lactate ≥ 4 or MAP < 65 after 2 liters crystalloid
- Goals of care are curative

#### Initial Resus
- Administer 20-30 ml/kg isotonic **crystalloid bolus** over 20 minutes
- Send **cultures** of any possible source
- Think of **source control** (Infected catheter? Operative intervention for infection? Drainable pus?)
- **Administer antibiotics** to cover any possible source (See abx rec sheet)

#### SpO2
- If patient’s O2 saturation is < 90% on supplemental oxygen, consider intubation and switch to invasive strategy

#### Fluids
- **Choose 1 Strategy**
  - **Best:** Dynamic IVC Ultrasound-Keep giving 500-1000 ml boluses of isotonic crystalloid until there is < 30 % change in IVC size with insp. (See IVC UTS training sheet)
  - **OK:** Empiric Fluid Loading-Most patients with severe sepsis/septic shock will require at least 6 liters of fluid during their ED stay

#### Recheck MAP
- If MAP is < 65 after adequate fluid loading, switch to invasive strategy

#### Tissue Ox
- Send repeat lactate
- If lactate has dropped by ≥ 10 %, go to disposition
- If lactate is rising or has cleared by < 10%,
  - **Choose 1 Option:**
    - **If Hb < 7:** transfuse 1 unit of PRBC
    - **Additional Fluids:** if patient had empiric fluid loading, give an additional liter of crystalloid
    - **Inotropes:** especially if heart appears hypodynamic on echo. If calcium is low, replete that first. If not, administer dobutamine 5-20 mcg/kg/min.
    - **If Hb 7-10:** consider transfusion. Especially in elderly patients or patients with coronary artery disease
      - Send repeat lactate, if it still has not cleared by >10%, continue with the above, trending lactates every 1-2 hours or switch to the invasive strategy

#### Dispo
- Patients may usually be admitted to Non-ICU monitored bed if lactate is clearing
- Periodically recheck patient for MAP > 65, good mental status, and good urine output
- Consider trending lactate every Q 2-4 hours. If it starts rising again, restart protocol