APPENDIX H:
SEVERE SEPSIS RESUSCITATION PROTOCOL: NON-INVASIVE

Greater New York Hospital Association/United Hospital Fund Quality Initiatives

STOP SEPSIS COLLABORATIVE

SEVERE SEPSIS RESUSCITATION PROTOCOL: NON-INVASIVE

WHO	Septic Patient with Lactate ≥ 4 mmol/L or MAP < 65 after 2 liters crystalloid **and** goals of care are curative.
INITIAL RESUSCITATION	• Administer 20–30 ml/kg isotonic crystalloid bolus over 20 minutes. • Send cultures of all likely sources of infection. • Think of source control. (Infected catheter? Operative intervention for infection? Drainable pus?) • Administer antibiotics to cover all likely sources of infection.
SpO2	If patient's O2 saturation is < 90% on high fiO_2 supplemental oxygen (non-rebreather mask), consider intubation and switching to invasive strategy.
FLUIDS	Choose 1 Strategy: • DYNAMIC IVC ULTRASOUND: Keep giving 500–1000 ml boluses of isotonic crystalloid until there is < 30% change in IVC size with inspiration. • EMPIRIC FLUID LOADING: Patients with severe sepsis/septic shock may require at least 6 liters of fluid during their acute resuscitation (first 6 hours of care).
RE-CHECKING MAP	• If MAP is < 65 after adequate fluid loading: ◦ Place a full sterile central line in the IJ or SC vein (femoral site only if neck line not feasible); ◦ Start vasopressors; titrate to a MAP ≥65; ◦ Consider switching to invasive protocol.
TISSUE OXYGENATION	• Send repeat lactate when above goals are accomplished (send a 2nd lactate at 3-hour mark, if not already sent). • If lactate has cleared by ≥ 10 % (or is not rising if original lactate was ≤ 2 mmol/L), go to disposition. • If lactate is rising or has cleared by < 10%, choose 1 option: ◦ IF HB < 7: transfuse 1 unit of PRBC **or** ◦ ADDITIONAL FLUIDS: if patient had empiric fluid loading, give an additional liter of crystalloid **or** ◦ INOTROPES: especially if heart appears hypodynamic on echo. If calcium is low, replete that first. If not, administer dobutamine 5–20 mcg/kg/min **or** ◦ IF HB 7–10: consider transfusion. Especially in elderly patients or patients with coronary artery disease. • Send 3rd lactate, if it still has not cleared by ≥10%, continue with the above, trending lactates every 1–2 hours until these two goals are met or switch to invasive strategy (send 3rd lactate at the 6-hour mark, if not already sent).
DISPOSITION	• Patients should get ICU consultation. If not an ICU candidate, should go to appropriately monitored bed. • 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.