

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	<ul style="list-style-type: none"> 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 O ₂ saturation is $< 90\%$ on high fiO ₂ supplemental oxygen (non-rebreather mask), consider intubation and switching to invasive strategy.
FLUIDS	<p style="text-align: center;">Choose 1 Strategy</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> If MAP is < 65 after adequate fluid loading: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 $\geq 10\%$ (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: <ul style="list-style-type: none"> If Hb < 7: transfuse 1 unit of PRBC <li style="text-align: center;">or Additional Fluids: if patient had empiric fluid loading, give an additional liter of crystalloid <li style="text-align: center;">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. <li style="text-align: center;">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 $\geq 10\%$, 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	<ul style="list-style-type: none"> 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