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| **SEVERE SEPSIS DEFINITION** | **SEPTIC SHOCK DEFINITION** |
| SEVERE SEPSIS PRESENT WHEN ALL THREE are met within *6 hours of each other:*1. Documentation of infection/suspected infection
2. Two or more manifestations of SIRS criteria,

(*considered new to patien*t) which are:* T > 38.3 C/100.9 F or < 36.0 C/96.8 F
* HR > 90
* R R > 20 per minute
* WBC > 12,000 or < 4,000 or > 10% bands
* Acutely altered mental status
* Hyperglycemia (glucose >140 ) in the absence of diabetes
1. One or more signs of Organ dysfunction

*(considered new to the patient)** Hypotension\*
* Cr > 2.0
* Urine output < 0.5 mL/kg/hour x 2 hours
* Bilirubin > 2 mg/dL
* Platelet count < 100,000
* INR > 1.5
* PTT > 60 sec
* Lactate > 2 mmol/L
* Acute Respiratory Failure *(new requirement vent/bipap)*
 | Septic shock present when BOTH of the following are met *within 6 hours of each other*:* Patient meets Severe Sepsis Definition
* Either:
* Persistent hypotension\*\* OR
* Lactate level is >= 4 mmol/L
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| **Notes*** If clinical criteria for Severe Sepsis/Septic Shock are not met Physician/APN/PA documentation of Severe Sepsis/Septic Shock will be designated as the PRESENTATION TIME.
* If Clinical criteria are met prior to Physician/APN/PA documentation, the PRESENTATION TIME will be the time the time the last clinical criteria is met.

\*\*Persistent Hypotension: two or more consecutive hypotensive BP  readings In the hour following administration of 30 ml/kg bolus  crystalloid fluids \*Hypotension= SBP < 90 or • MAP < 65 or • a decrease in SBP > 40  points from the last previously recorded SBP considered normal for  the patient\*\*\*Fluid Bolus: 1L/30”(ie)3L/90”=100kg x:30ml/kg ; 2 large bore IV’s/IOs, pressure bags or dual pumps |
| **TREATMENT OVERVIEW** |
| **After identification of Severe Sepsis and/or Septic Shock, patient receives ALL of the following: Within 3 hours of presentation time*** **Lactic Acid** – *initial/baseline specimen obtained*
* **Blood cultures** - *prior to IV antibiotics*
* **IV Antibiotics initiated** - *see attached acceptable antibiotic table*
* **Crystalloid Fluid bolus** *(\*\*\*30ml/kg Normal Saline or Lactated Ringers administered*)

– if hypotension\* present and/or initial lactic acid >4**Within 6 hours of presentation time*** **Repeat lactic acid –** *if initial level >2*
* **Crystalloid fluid bolus -** *if not**already admin/indicated*
* **Vasopressors *-*** *If Septic Shock identified*

*(requires : complete fluid bolus admin prior to initiation and persistent hypotension or lactic acid >4)*must select one/more of the following:* *Norepinephrine, (LEVOPHED), phenylephrine(NEOSYNEPHRINE), dopamine (INOTROPIN), vasopressin (PITRESSIN)*
* **Documentation**
* **Repeat volume status and tissue perfusion assessment consisting of either:**

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| A focused exam documented by MD or IAHP including: | **OR** | Any two of the following four documented by an MD or IAHP: |
| * **Vital signs review**, &
* **Cardiopulmonary exam**, &
* **Capillary refill evaluation**, &
* **Peripheral pulse evaluation**, &
* **Skin examination**

(dot phrase to be developed) | * **Central venous pressure measurement**

 *(CVP or RAP/right atrial pressure)** **Central venous oxygen measurement**

 *(SVO2, ScvO2 or oxygen saturation via central catheter)** **Bedside Cardiovascular Ultrasound**

*(echo, trans-thoracic echo, TTE, TEE, IVC ultrasound, 2D echo, Doppler echo, Echocardiogram with Doppler, Doppler US of the heart)** **Passive Leg Raise Exam or Fluid Challenge given**
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| **BROAD SPECTRUM ANTIBIOTICS** |
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| **Antibiotic Monotherapy (table 5.0)** |
| Invanz/ErtapenemImipenem/CilastatinMeropenem/MerremPrimaxinImipenem/CilastatinCefotaxime/ClaforanCeftazidime/FortazCeftriaxone/RocephinCefepime/MaxipimeLevaquinAugmentinUnasynZosyn – Piperacillin/tazobactam DoripenemCeftaroline fosamilMoxifloxacinGatifloxacinAmoxicillin/clavulanate Ampicillin/sulbactamTicarcillin/clavulanate  |

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| **Combination Antibiotic Therapy (table 5.1)** |
| **Column A**Aminoglycosides (Amikacin/Gent/Tobra/Kanamycin)ORAztreonam OR Ciprofloxacin | **+** | **Column B**Cephalosporins (Ancef/cefoxitin/Ceftin) ORClindamycin ORDaptomycin/Cubicin ORGlycopeptides (Vanco, Teicoplanin, Telavancin) ORLinezolid/Zyvox ORMacrolides (Azithromycin, Erythromycin, Telithromycin) ORPenicillins (Ampicillin/Nafcillin/Penicillin G, Oxacillin) |

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| **Requirement documentation of focused exam components within six hours of the presentation of septic shock and must include each of the following:** 1. **Vital signs** (including temperature, heart rate, blood pressure, respiratory rate (all four must be present)
2. Presence of a **cardiopulmonary exam (**typically documented as “HEART” **and** “LUNGS”)

*Documentation examples:* HEART- “RRR,” “Irregular,” “S1, S2, S3, S4”, “murmur;”  LUNG - “clear,” “crackles,” “diminished,” “dull,” or other language 1. Presence of **peripheral pulses** examination ( typically “PULSES:”)

*Documentation examples:*“1+,” or “2+,” or “absent,” 1. Presence of documentation of **capillary refill**

*Documentation examples*: “brisk,” “< 2 seconds,” “> 2 seconds,” 1. Presence of a **skin examination**

*Documentation examples:*“mottled,” “not mottled,” “knee caps clear/mottled,”  | **Targets for quantitative resuscitation included:**1) CVP of greater than or equal to 8mm Hg2) ScvO2 of greater than or equal to 70 percent,3) and normalization of lactate, < 2 -**Passive leg raise:**1. required Patient is seated at 45 degrees head up semi-recumbent position
2. Patient’s upper body is lowered to horizontal and

 legs passively raised to 45 degrees up 1. Maximal effect occurs at 30–90 seconds
2. Definitional, reflects a positive test:
3. stroke volume
4. 10% increase in stroke volume

as documented on a cardiac output monitor or 1. 9% increase in stroke volume has 86% sensitivity and 90%

specificity 1. Pulse Pressure
2. a 10% increase in pulse pressure

as documented via an arterial line has a 79% sensitivity and 85% specificity  |
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