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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 |
| **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:**  |  |  |  | | --- | --- | --- | | 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** | | | |
| **BROAD SPECTRUM ANTIBIOTICS** | | | |
| |  | | --- | | **Antibiotic Monotherapy (table 5.0)** | | Invanz/Ertapenem  Imipenem/Cilastatin  Meropenem/Merrem  Primaxin  Imipenem/Cilastatin  Cefotaxime/Claforan  Ceftazidime/Fortaz  Ceftriaxone/Rocephin  Cefepime/Maxipime  Levaquin  Augmentin  Unasyn  Zosyn – Piperacillin/tazobactam  Doripenem  Ceftaroline fosamil  Moxifloxacin  Gatifloxacin  Amoxicillin/clavulanate  Ampicillin/sulbactam  Ticarcillin/clavulanate | | |  |  |  | | --- | --- | --- | | **Combination Antibiotic Therapy (table 5.1)** | | | | **Column A**  Aminoglycosides (Amikacin/Gent/Tobra/Kanamycin)  OR  Aztreonam OR Ciprofloxacin | **+** | **Column B**  Cephalosporins (Ancef/cefoxitin/Ceftin) OR  Clindamycin OR  Daptomycin/Cubicin OR  Glycopeptides (Vanco, Teicoplanin, Telavancin) OR  Linezolid/Zyvox OR  Macrolides (Azithromycin, Erythromycin, Telithromycin) OR  Penicillins (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 Hg  2) 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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