WRHA Emergency Program
Septic Shock Protocol
Standard Orders for Adult Patients
(age greater than 16 years)

These orders are to be used as a guideline to support clinical judgement and professional practice standards. Drug allergies and contraindications must be considered when initiating these orders.

DRUG ALLERGIES:

**MEDICATION ORDERS**

- **Piperacillin/Tazobactam 4.5 g Intravenous STAT given under “Nurse Initiated Suspected Sepsis Protocol”**
  - Date/Time Administered: ____________________________ 24 HOUR
  - OR:
  - **Piperacillin/Tazobactam 4.5 g Intravenous STAT times 1 dose now (within 30 min of order).** Recommended for all septic shock patients unless serious allergy to penicillins or cephalosporins; should be administered ahead of other antibiotics if possible then:
  - **Piperacillin/Tazobactam ____ grams IV every ____ hours for 24 hours, then reassess.** Usual dose for septic shock patients:
    - For CrCl greater than 40 mL/min: 4.5 grams IV Q6H
    - For CrCl 20 - 40 mL/min: 3.375 grams IV Q6H
    - For CrCl less than 20 mL/min: 2.25 grams IV Q6H

- Consider addition of **Levofloxacin** if:
  - Serum Creatinine greater than 240 mg/dL; OR
  - Pneumonia is most likely source of sepsis

- **Levofloxacin 750 mg Intravenous times 1 dose STAT OR**
  - Consider addition of **Tobramycin** if:
    - Serum Creatinine less than 240 mg/dL; and
    - Pneumonia NOT likely source of sepsis

- **Tobramycin ____ mg Intravenous times 1 dose STAT** (Usual 6 mg/kg for single dose)
  - If moderate to severe renal impairment, or if functionally anuric, use 2 mg/kg IV dose or use Levofloxacin

- **Add Vancomycin if patient is known to be MRSA positive OR soft tissue infection OR nosocomial pneumonia OR catheter related septic shock:**
  - Vancomycin ____ grams Intravenous every ____ hours times ____ dose(s), then reassess. Give first dose now. Usual dose for weight and creatinine clearance For Weight:
    - Less than 76 kg: 1 g IV
    - Greater than 60 mL/min: Q12H x 3 doses
    - 76-90 kg: 1.25 g IV dose
    - Less than or equal to 60 mL/min: Q24H x 1
  - Greater than 90 kg: 1.5 g IV
  - **Consult pharmacist for subsequent doses.**

- Add for patients at high risk for yeast-associated septic shock (i.e. multiple candida isolates, prolonged multiple antibiotics, greater than 7 days in ICU or with central venous catheter, TPN, hemodialysis, organ transplantation, neutropenia and/or hematologic malignancy) add:
  - **Fluconazole 400 mg Intravenous single dose OR**
  - **Amphotericin B 0.5 mg Intravenous single dose** (Usual dose: 0.5 mg/kg [individual intravenous dose]).

If systolic BP less than 80 or Mean Arterial Pressure (MAP) less than 65, consider

- **Dopamine 5 mcg/kg/min Intravenous and titrate to MAP greater than 65** (normal dose range max 20 mcg/kg/min)
- **Norepinephrine 0.01 mcg/kg/min Intravenous and titrate to MAP greater than 65 mmHg** (normal dose range max 0.2 mcg/kg/min)

**ORDERS FAXED TO PHARMACY by:**

**Date/Time:**

**Legend**

- **ID** - Infectious disease
- **PPV** - Partial thromboplastin time
- **Q6H** - Every 6 hours
- **PTT** - Partial thromboplastin time
- **Q12H** - Every 12 hours
- **Q24H** - Every 24 hours
- **CrCl** - Creatinine clearance
- **MAP** - Mean Arterial Pressure
- **SvO2** - Mixed venous oxygen saturation
- **MRSA** - Methicillin-resistant
- **TTP** - Total Parenteral Nutrition
- **mg/kg** - Milligram per kilogram
- **ml** - Milliliter
- **μg/L** - Micromoles per litre

**Physician Printed Name:**

**Physician Signature:**

**Date:** ______/______/______ 24 HOUR

**FORM # XXXX** Revised January 3, 2012
For Physician Completion: Initiating this order sheet indicates the patient is in septic shock. All of the following criteria must be met for diagnosis of septic shock.

Criteria for Septic Shock (please check all that apply. All elements required for septic shock diagnosis):

1. Documented or suspected infection, specify suspected site(s).

2. Persistent/recurrent hypotension (not resolved with 500 - 1000 millilitres saline or equivalent over 15 - 30 minutes).
   Hypotension is a systolic blood pressure (SBP) less than or equal to 90 mmHg, a mean arterial pressure (MAP) less than or equal to 70 mmHg, or a drop in systolic blood pressure (SBP) of 40 mmHg.
   Time/date first documentation of hypotension

3. No clear alternate explanation for hypotension.

Physician Printed Name: ________________________________
Physician Signature: ________________________________ Date: _________________ Time: _________________

- Broad spectrum antimicrobial therapy must be started within 30 minutes of the onset of hypotension (or diagnosis of septic shock). Required cultures should always be drawn before antimicrobial administration. However, antimicrobial administration is the priority: therefore inability to obtain cultures must not delay antimicrobial (i.e. antibiotic) therapy.

- Broad spectrum therapy should be closely assessed for de-escalation no later than 48 - 72 hours after initiation, assuming isolation of a pathogen or clinical improvement.

- For serious penicillin/cephalosporin allergies (anaphylaxis, urticaria, angioneurotic edema), substitute Levofloxacin, Vancomycin, and either Clindamycin or Metronidazole.

- Nosocomial septic shock in patients who have had prolonged courses of therapy with piperacillin/tazobactam should be treated with Meropenem in place of Piperacillin/Tazobactam in the initial empiric regimen.

The Bundle of Interventions for Initial Treatment of Septic Shock includes:
- Serum Lactate Measured
- Blood Cultures Obtained Prior to Antibiotic Administration
- Broad-Spectrum Antibiotics within one hour
- Treat Hypotension and/or Elevated Lactate with Fluids
- Use Vasopressors for Ongoing Hypotension
- Maintain Adequate Central Venous Pressure
- Maintain Adequate Central Venous Oxygen Saturation