1.0 PURPOSE:

1.1 The Emergency Program supports early recognition and intervention of sepsis through the use of a WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol that can be implemented by emergency nurses at triage or at any later point prior to a physician assessment with standard orders to support appropriate evidence based clinical care.

1.2 The Emergency Program supports early recognition and intervention of sepsis and septic shock through the use of a standard evidenced based protocol, WRHA Emergency Program Clinical Management of Sepsis and Septic Shock – Septic Shock Protocol

2.0 DEFINITIONS:

2.1 Sepsis: Is an infection or suspected infection with two or more of the following:

- Temperature greater than 38 degrees Celsius oral
- Temperature less than 36 degrees Celsius oral
- Heart rate greater than 90 beats per minute
- Respiratory rate greater than 20 breaths per minute or PACO₂ less than 32 mm/Hg on Arterial blood gas.
- Altered mental status from baseline
- Significant edema or positive fluid balance greater than 20 mL/kg over 24 hours
- Hyperglycemia greater than 7.7 mmol/l in the absence of diabetes
- SV₀ greater than 70%
- WBC less than 4 x 10E9/L
- WBC greater than 12 x 10E9/L
- Normal WBC count with greater than 10% immature band forms

2.2 Severe Sepsis: Is sepsis associated with organ dysfunction, hypoperfusion or hypotension evidenced by:

- 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.
- Elevated lactate (greater than 2 mmol/L)
- Decreasing oxygen saturation, with arterial hypoxemia (PaO₂/FIO₂ less than 300)
- Acute oliguria (urine output less than 0.5 mL/kg/hour, or 45 mmol/L for at least 2 hours)
- Creatinine greater than 177 mmol/L
- Coagulation abnormalities (INR greater than 1.5 or a PTT greater than 60 seconds)
- Thrombocytopenia (platelets less than 100/L)
- Hyperbilirubinemia (total bilirubin 35 mmol/L)

2.3 **Septic Shock**: Is severe sepsis with acute circulatory failure, evidenced by persistent hypotension:

- 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.

3.0 **USED BY**:

3.1 Registered Nurses
3.2 Physicians
3.3 Nurse Practitioners
3.4 Physician Assistants

4.0 **GUIDING PRINCIPLES**:

4.1 All patients presenting to the Emergency Department are assessed for signs of sepsis at triage (*WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol*). If infection is evident, patients should be assessed for signs of sepsis in the initial assessment and in all subsequent reassessments. If indicators of sepsis are present, but an infection is not identified, patients should be assessed for possible sources of infection.

4.2 All Nurses who complete the Emergency Program General Orientation are educated on sepsis and septic shock, with a focus on early recognition of sepsis, and the sepsis protocol for treatment of sepsis.

4.3 Sepsis is considered a medical emergency, with the treatment goal of intervening rapidly to prevent patient deterioration.

4.4 All WRHA Emergency Departments use the *WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol* and the *WRHA Emergency Program Clinical Management of Sepsis and Septic Shock- Septic Shock Protocol*, or protocols consistent with these evidence based tools to promote early recognition of suspected sepsis and timely treatment of sepsis and septic shock.

4.5 In using these standard protocols, all WRHA Emergency Departments collect required lab work and cultures on a “STAT” basis.

4.6 All sites consult ICU for management and admission of patients in septic shock requiring system support with vasopressor medication and/or ventilation. Ongoing septic shock management should be treated in an ICU.

4.7 All sites consult Infectious Diseases within 24 hours of diagnosis of Sepsis or Septic Shock.
5.0 GUIDELINE:

5.1 In making the decision to initiate the WRHA Emergency Program Clinical Management of Sepsis and Septic Shock- Septic Shock Protocol the physician will complete the Criteria for Septic Shock section on the back page by ticking (√) all boxes that pertain to the patient.

5.1.1 All of the following criteria must be met for diagnosis of Septic Shock:

- Documented or suspected infection.
- Persistent/recurrent hypotension not resolved with 500-1000 mL of normal saline or equivalent over 15-30 minutes.
- No clear alternate explanation for hypotension.

5.1.2 If the nurse has utilized the WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol order form, the Criteria for Septic Shock section will be completed on the back of the WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol order form by the physician, along with signature, date and time.

5.1.3 If the WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol has not been utilized, the Criteria for Septic Shock section on the back of the “Septic Shock Protocol” form is to be completed and signed by the physician, along with the appropriate date and time.

5.2 When the physician has been notified of a suspected sepsis patient, he/she will make every attempt to assess the patient as soon as possible.

5.3 When it has been confirmed that a patient is in septic shock, the physician will initiate the WRHA Emergency Program Clinical Management of Sepsis and Septic Shock- Septic Shock Protocol and communicate his/her plan to the nurse caring for the patient.

5.4 All orders that have a black box (■) can be initiated by the emergency nurse using best clinical judgment without the order of a physician.

5.5 All orders that have a clear box (□) will require the physicians to initiate the order by ticking the appropriate box (✓) before the order can be activated.

5.6 The physician will use a hospital physician order sheet for any additional antibiotic or other medications orders and for patients with allergies or unique circumstances.

5.7 The physician will print their name, date and time and sign their name at the bottom of the order sheet.
6.0 **FILING/ROUTING INSTRUCTIONS:**

6.1 The WRHA Emergency Septic Shock Protocol order sheet is too filed in the Orders section of the Emergency visit.

7.0 **APPENDICIES:**

7.1 **Form #1 - WRHA Emergency Program Clinical Management of Sepsis and Septic Shock- Septic Shock Protocol**

8.0 **CONTACT:** Exie Bosma, Quality Process Improvement Coordinator

9.0 **REFERENCES:**


Winnipeg Regional Health Authority. (2009). *WRHA critical care program quality team: Severe sepsis management guidelines.*