1. **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 at triage or at any later point prior to physician assessment with standard orders to initiate appropriate evidence based clinical care.

2. **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
- SV₀₂ 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 vasopressors 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 At the time of triaging a patient, a qualified triage nurse is to identify and document any signs of sepsis or septic shock by:

1) Utilizing the triage system modifiers and/or,

2) Identifying the presence of 2 or more of the following SIRS criteria, along with a source of infection:
SIRS Criteria
• Temperature greater than 38 degrees Celsius oral
• Temperature less than 36 degrees Celsius oral
• WBC less than 4 x 10E9/L
• WBC greater than 12 x 10E9/L
• 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 (blood glucose greater than 7.7 mmol/l) in the absence of diabetes

5.2 When the patient has been identified as having a suspected Sepsis, the patient will be placed immediately in a monitored treatment area where the WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol will be initiated.

5.3 The nurse shall document all sepsis indicators identified at triage by ticking the boxes (√) at the top of the form.

5.4 The triage nurse will communicate to the receiving nurse that the patient has a suspected sepsis and the WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol has been or is requiring implementation.

5.5 The nurse receiving the patient will immediately notify the Emergency Room Physician (ERP) of the need to assess the patient as soon as possible.

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

5.7 All orders that have a clear box (□) will require a physicians order prior to administration.

5.8 Blood cultures are to be drawn prior to administering antibiotics unless it will cause delay in the 30 minute goal of time to antibiotics administration.

5.9 Upon completion of each order, the nurse will write her initial and time the order was initiated.

5.10 The ERP and the Nurse will print their names, along with signature, date and time at the bottom of the form.

5.11 Consider progression to the WRHA Emergency Program Clinical Management of Sepsis and Septic Shock- Septic Shock Protocol. If the patient has persistent hypotension (Systolic blood pressure less than 90 mmHg, Mean arterial pressure less than 70mmHg, or decrease of Systolic blood pressure greater than 30 mmHg from patient’s baseline), despite adequate volume resuscitation (20 mL/kg for previously healthy patient).
5.12 When Piperacillin/Tazobactam 4.5g Intravenous was given using the WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol order form, the nurse is to tick (✓) the box on the WRHA Emergency Program, Septic Shock Protocol order form along with the date, time and nurse’s initial indicating that Piperacillin/Tazobactam has already been given.

6.0 FILING/ROUTING INSTRUCTIONS:

6.1 The WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol order sheet is filed in the Physician order section of the Emergency visit.

7.0 APPENDICIES:

7.1 Form #1 - WRHA Emergency Program Management of Suspected Sepsis – Nurse Initiated Protocol

8.0 CONTACT: Exie Bosma, WRHA Quality Process Improvement Coordinator

9.0 REFERENCES:


