BC Sepsis Network

Emergency Department Sepsis Guidelines

The provincial Sepsis Clinical Expert Group developed the BC Emergency Department Sepsis Guidelines, taking into account the most up-to-date literature (references below) and expert opinion.

For more information about the guidelines, and to join the BC Sepsis Network, visit www.BCsepsis.ca.

GUIDELINES

All patients with two out of four SIRS (HR > 90, RR > 20, temperature ≥ 38 °C or < 36 °C, altered mental state) and suspected infection and one of the following risk factors should be considered at risk of sepsis:

- Looks unwell
- Age > 65 years
- Recent surgery
- Immunocompromised (AIDS, Chemotherapy, neutropenia, asplenia, transplant, chronic steroids)
- Chronic illness (diabetes, renal failure, hepatic failure, cancer, alcoholism, IV drug use)

All patients with two out of four SIRS and suspected infection (with above risk factor):

- ABG venous lactate measurement within 30 minutes of presentation to triage should be taken with initial blood draw. This will require access to an ABG machine (or other rapid lactate testing device) with rapid turn around time (approximately 30 minutes)
- If initial lactate is elevated have a repeat venous lactate measurement drawn in next 2-4 hours

If at presentation systolic blood pressure is < 90 mmHg or patient presents with two out of three qSOFA (altered mental state, respiratory rate > 20/min, systolic blood pressure < 100 mmHg):

- Broad spectrum IV antibiotics within 1 hour
- Blood culture before IV antibiotics
- Complete crystalloid fluid bolus (30 cc/kg) within first 3 hours (balanced crystalloid preferred)

If initial lactate result is ≥ 4 mmol/L:

- Broad spectrum IV antibiotics within 1 hour of measurement of elevated lactate
- Blood culture before IV antibiotics
- Complete crystalloid fluid bolus (30 cc/kg) within first 3 hours (balanced crystalloid preferred)

If systolic blood pressure > 90 mmHg at presentation and initial lactate is < 4 mmol/L but patient is admitted to the hospital and received IV antibiotics:

- Broad spectrum IV antibiotics within 3 hours
- Blood culture before IV antibiotics
ADDITIONAL RECOMMENDATIONS

- Early investigations to determine infectious source (radiologic, surgical, other cultures i.e. CSF, joint aspiration) and early source control within 6-12 hours through appropriate consultation and using the least invasive technique.
- Consult ICU early (either locally or through the BC Patient Transfer Network) if you have early knowledge that patient will need higher level of care.
- Encourage a ‘culture of lactate’ where any nurse or physician is empowered to check a lactate if concerned. Check early and check often (if lactate elevated or patient unwell).
- We suggest guiding resuscitation to normalize lactate in patients with elevated lactate as a marker of tissue hypoperfusion.

If hypotensive despite fluid bolus (30 cc/kg) or lactate fails to improve 10% after 2\textsuperscript{nd} reading (at least two hours after initial measurement) we suggest:

- Placing central venous catheter and arterial catheter, continue fluid resuscitation while assessing for fluid responsiveness and initiate norepinephrine or epinephrine (+/- vasopressin 0.03 units/minute as vasopressor sparing agent) to maintain mean arterial pressure of > 65 mmHg.
- Using further hemodynamic assessment (such as assessing cardiac function) to determine the type of shock if the physical exam does not lead to a clear diagnosis.
- Using dobutamine as needed if evidence of sepsis induced myocardial suppression (determined by ECHO, low ScvO2 or physical exam). Continue to assess response.
- Using albumin in addition to crystalloids for initial resuscitation and subsequent intravascular volume replacement in patients with sepsis and septic shock when patients require substantial amounts of crystalloids.
- If you are unable to restore hemodynamic stability with fluid resuscitation and vasopressors we suggest adding IV hydrocortisone at a dose of 50 mg IV q6h.
- Consultation with critical care services or transfer to ICU (either locally or through BC Patient Transfer Network).
GUIDELINE REFERENCES


ADDITIONAL REFERENCES:


