

Child Health BC Provincial Pediatric Sepsis Toolkit Frequently Asked Questions (FAQ's)

The [Child Health BC Provincial Emergency Department Tiers of Service](#) surveys identified a need for pediatric sepsis guidance across the province. The intent of the Child Health BC Provincial Pediatric Sepsis Toolkit for is to:

- Provide evidenced based, best practice recommendations to guide best practice for recognition and initial treatment of pediatric sepsis, suspected sepsis or septic shock
- Support standardized practice of pediatric sepsis care across British Columbia
- Provide parent/caregiver resource materials when a child is suspected of having, or diagnosed with sepsis
- Support public education of pediatric sepsis

BACKGROUND

Who is Child Health BC?

Child Health BC (CHBC) is a Health Improvement Network within the Provincial Health Services Authority (PHSA). Our partners include: BC's health authorities, three key child-serving ministries, health professionals, academic partners and other provincial partners dedicated to improving the health status and health outcomes of BC's children and youth.

SCOPE

Is the guideline for all children presenting to the Emergency Department (ED), Urgent Care setting or admitted to an inpatient area?

Yes it is intended for all children with the exception of patients who are:

- pre-term infants or those cared for in the Neonatal Intensive Care Unit (NICU)
- immunocompromised and/or at high risk for multidrug-resistant pathogens
- followed by oncology

This resource should be used to guide best practice rather than to define a standard of care. We acknowledge that variation within and across health authorities and regions will determine the practical application of these guidelines. It cannot replace clinical observation and judgement in patient treatment and management.

Should I use the pediatric or the adult guidance?

The CHBC Provincial Pediatric Sepsis Toolkit is recommended for use with children up to their 17th birthday (16 years + 364 days) and children receiving ongoing care: Up to a child's 19th birthday (18 years + 364 days).¹

CLINICAL GUIDANCE

What are the significant changes to the recommended clinical management for pediatric sepsis?

The [Surviving Sepsis Campaign \(SSC\)](#)² released updated, evidence-based, clinical guidelines for the management of pediatric sepsis in January 2020. We have aligned our treatment recommendations with this guidance.

Timely Intervention

The 2020 pediatric SCC guidelines strongly recommend starting antimicrobials and fluid resuscitation **as soon as possible** in children with septic shock; at least within 1 hour of recognition. The guidance demonstrates that the outcomes from sepsis improve with early treatment.²

Type of Fluid

The 2020 SSC guidelines suggest the use of balanced isotonic solutions.² This guideline recommends sodium chloride 0.9% as it is easily accessible in all clinical settings across the province.

Amount of Fluid

Excessive fluid resuscitation can be harmful, causing additional risks to the child and complexities in their management. The conservative recommendation to administer Sodium Chloride 0.9% 10-20 mL/kg over 5-30 minutes allows providers to cautiously proceed with initial resuscitation and monitor for signs of fluid overload. **This is a change from previous fluid**

management guidance for pediatric sepsis.

If clinical improvement is seen by the time the initial bolus is completed and there are no signs of fluid overload, an additional 10-20 mL/kg bolus may be repeated. Fluid should be titrated to clinical response while continually monitoring for signs of fluid overload (e.g. increased work of breathing, crackles on auscultation, hepatomegaly) or signs of cardiogenic shock (e.g. murmur, persistent shock despite fluids)^{2,3} Pediatric consultation should occur if a total of more than 40mL/kg of fluid is required.

A **maximum** of 60mL/kg within the first hour can be provided if no signs of fluid overload.²

This sepsis guideline does not differentiate fluid management recommendations based on access to a Intensive Care Unit as outlined in the Surviving Sepsis Campaign.² This is because in British Columbia, every facility caring for pediatric patients has access to a PICU/NICU consultant via the Patient Transfer Network (PTN).

Antimicrobials

Gentamycin is **NOT** recommended as an antimicrobial choice in this sepsis guideline because the scope of the guideline is limited to the initial management for suspected sepsis. Until blood cultures are analyzed, antimicrobials must provide coverage for a central nervous system (CNS) infection. Gentamycin does not cross the blood brain barrier; is associated with long-term adverse events; increasing number of organisms are resistant to the ampicillin/gentamycin combination.

Cefotaxime provides coverage for e-coli and other gram-negative strains of organisms. Once a CNS infection is ruled out, antimicrobial management can be adjusted accordingly.

Inotropes

The use of inotropes is **NOT** outlined in this sepsis guideline. If inotropes are required, consultation with a Pediatric/ Neonatal Intensive Care Unit (PICU/NICU) via PTN is recommended prior to initiation.

What is the prompt for starting a patient on the CHBC Provincial Pediatric Sepsis Clinical Care Algorithm?

If you think there is **ANY** possibility your patient could have sepsis, complete the sepsis screening. Immediately notify the Most Responsible Physician (MRP) and follow the recommendations in the [CHBC Provincial Pediatric Sepsis Clinical Care Algorithm](#). Initiate droplet and contact infection control measures (and airborne if indicated) as per your health authority or agency guidelines.⁴

Ask yourself:

- Has there been a change in vitals?
- Unexpected and unexplained deterioration?
- Are there changes in behaviour?
- Do you have a 'gut feeling' that something is not quite right?
- Are there parent/caregiver concerns?

The key is early recognition and escalation of care **before** the development of septic shock - Could It Be Sepsis?⁴

How often should I be screening a patient for sepsis?

Each pediatric patient should be screened for sepsis at triage or primary assessment, on admission or transfer between care areas or if prompted by PEWS during reassessment using the [CHBC Provincial Pediatric Sepsis Screening Tool](#) or equivalent electronic screening tool and BC Pediatric Early Warning System (BC PEWS)¹. There is no mandated time for how often re-screening should occur. Frequency after the initial screening should combine the screening tool findings and clinical judgement. There are many possible scenarios that would prompt a re-screen. See below for a few examples which may prompt you to screen, however the list is not exhaustive:

- A child that has deteriorated
- A child was screened many hours ago and deemed sepsis unlikely; something has now changed, or the patient has not improved despite earlier interventions
- The clinical picture is evolving which gives you a 'gut feeling' or clinical intuition. You may be unsure if the working diagnosis fits with the signs and symptoms your patient may be displaying. Remember with pediatric sepsis the signs and symptoms can be subtle and mimic simple, uncomplicated conditions⁴

Does BC PEWS prompt screening for sepsis?

Yes, BC PEWS will screen for sepsis if ONE of the following are present:

- Critical heart rate
- PEWS score increases by 2
- Temperature is less than 36° Celsius or above 38° Celsius

The screening tool should be used as a prompt to escalate care at any stage of the patient journey.

Is the screening tool available in the electronic health record?

Some health authorities have built, or will be building a screening tool into their electronic health record systems. Check with your health authority pediatric leads if this is available in your health authority.

PARENT/CAREGIVER RESOURCES

What resources have been developed for parents/caregivers?

A parent/caregiver information booklet, "[When Your Child has Sepsis: Information about Sepsis, Care and Recovery](#)" was developed through the collaboration with patient partners (BC Patient Voices Network and Sepsis Canada).

In addition, a one-page infographic titled "[Could It Be Sepsis?](#)" is available for use in clinical spaces or on social media platforms.

Both resources can be downloaded from the [Child Health BC Provincial Pediatric Sepsis Toolkit](#) webpage.

We have also collaborated with Sepsis Alliance to utilize their child focused resources:

[You have Sepsis. Now What? Your guide to what you may see and feel while in hospital](#)

[You Can Help Stop Germs From Making You Sick](#) (Text based version for children with neurodiversity)

[You Can Help Stop Germs From Making You Sick](#) (Visual based version for children with neurodiversity)

Supplement to above resources for health care providers:

[Using Visual and Text Guides When Talking to Patients with Intellectual and Developmental Disabilities](#)

IMPLEMENTATION

What resources are available in the CHBC Provincial Pediatric Sepsis Toolkit for education and implementation?

Several resources may be utilized for education and implementation of the [CHBC Provincial Pediatric Sepsis Toolkit](#). This includes:

- Recorded webinar with Dr. Garth Meckler, Pediatric Emergency Physician, BC Children's Hospital
- Simulation scenarios for ED and inpatient settings
- A huddle facilitator guide
- Pediatric Sepsis Toolkit Factsheet
- Patient journey videos created by our national partners
- Links to other relevant pediatric sepsis resources available from international partners

When can I start using the CHBC Provincial Pediatric Sepsis Toolkit in my practice?

The CHBC Provincial Pediatric Sepsis Toolkit for ED and Urgent Care Centers was finalized in May of 2023 with additional resources to support implementation in the inpatient care setting added in September 2023. Revisions based on a six month evaluation were made in February 2024. They are available on the CHBC website and have been shared widely with pediatric partners across BC.

Discuss with your CHBC Regional Coordinator or health authority pediatric leads about its implementation in your health authority.

How do I access printed materials from the CHBC Provincial Pediatric Sepsis Toolkit?

The [CHBC Provincial Pediatric Sepsis Toolkit](#) webpage allows you to download, print or email all the sepsis resources. We encourage you to access materials directly from the website to ensure the latest versions are always utilized.

I have some questions about the CHBC Provincial Pediatric Sepsis Toolkit and would like support – who do I contact?

Child Health BC is committed to supporting your service to adopt the CHBC Provincial Pediatric Sepsis Toolkit and improve outcomes for families and children. Resources are available on our website including education resources and material to assist with implementation. If you require further support email CHBCEducation@phsa.ca

What if I have feedback to provide about the CHBC Provincial Pediatric Sepsis Toolkit?

CHBC will be evaluating the provincial implementation of the toolkit and will be collecting feedback over the next 6 months to support the evaluation. Please send feedback via email to CHBCEducation@phsa.ca

Who did CHBC collaborate with to develop the CHBC Provincial Pediatric Sepsis Recognition and Emergency Management Guideline and accompanying toolkit resources?

The CHBC Provincial Pediatric Sepsis Recognition and Emergency Management Guideline is based on international best practice and incorporates input from a broad range of pediatric clinicians across BC. Both the guideline and toolkit resources were developed in collaboration with the following partners:

- BC Patient Voices Network
- BC Patient Safety & Quality Council
- BC Sepsis Network
- Center for International Child Health
- CHBC Provincial Pediatric Sepsis Advisory & Working Group
- Hamilton Health Services
- PHSA Health Literacy Language Specialist
- Queensland Paediatric Sepsis Program, Children's Health Queensland Hospital and Health Services
- Sepsis Alliance
- Sepsis Canada
- University of British Columbia Action on Sepsis Research Cluster

A full list of partners can be found in Appendix E of the CHBC Provincial Pediatric Sepsis Recognition and Management Guideline.

REFERENCES

1. Child Health BC. (2021, July 2). British Columbia Pediatric Early Warning System (BC PEWS) Clinical Decision Support Tool. Retrieved from <https://childhealthbc.ca/media/243/download>
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3. Translating Emergency Knowledge for Kids (TREKK). (2018, December). Pediatric Severe Sepsis Algorithm. Retrieved from https://cms.trekk.ca/wp-content/uploads/2023/11/2018-12-17_Sepsis_algorithm_v_2.2.pdf
4. Queensland Paediatric Sepsis Program, Children's Health Queensland Hospital and Health Service Australia. (2023, February). Revised Paediatric Sepsis Clinical Pathway Frequently Asked Questions (FAQ) Guide V2. Retrieved from <https://clinicalexcellence.qld.gov.au/sites/default/files/docs/clinical-pathways/paed-sepsis-pathway-faqs.pdf>