

**CAPHC**



**ACCSP**

**CANADIAN ASSOCIATION OF PAEDIATRIC HEALTH CENTRES  
ASSOCIATION CANADIENNE DES CENTRES DE SANTÉ PÉDIATRIQUES**

**ADVERSE EVENT DETECTION IN  
HOSPITALIZED CHILDREN:  
CAPHC-Paediatric Trigger Tool  
(CPTT) ©**



## INTRODUCTION

The total burden of harm related to the care of hospitalized children has not definitively been studied. One reason has been the absence to date of a single validated tool designed to detect harm of all types (i.e. those related to medications, and surgery, and healthcare associated infection etc...) in all paediatric patient populations (i.e. neonates and adolescents, those requiring intensive care as well as those on the hematology-oncology ward).

The Canadian Association of Paediatric Health Centre's Trigger Tool or CPTT is a robust tool that has been validated for use in children less than 18 years of age (excluding patients discharged with an obstetrical or primary psychiatric diagnosis) hospitalized in acute care settings. This trigger tool builds on the methodology and experience of many individuals and groups worldwide that have used screening criteria to characterize the incidence of adverse events in hospitalized patients through retrospective chart review. We are indebted to the pioneering work done by them all.

The 35-trigger CPTT is designed for two stage review. The tool was validated in 591 patient charts in centers across Canada by nurses who reviewed the charts for triggers and physicians who examined all the charts for adverse events. Nurses and physicians agreed on the presence of an adverse event only 83% of the time. Using the physician review as the gold standard, the sensitivity of the CPTT for detecting adverse events was 0.88 (95% CI 0.79-0.94) and the specificity 0.44 (95% CI 0.39-0.48)(full manuscript submitted).

The format of the CPTT is similar to the IHI- Global Trigger Tool, with some unique features:

1. Despite its modular format, the CPTT should be considered a single unified tool, where four modules (Care, Medications, Laboratory and Other) are used all the time. The surgical module need only be added if the patient had surgery, and the ICU module need only be added if the patient was in the paediatric ICU (not the NICU). In other words, none of the modules should be used alone, and
2. A comprehensive laboratory module, facilitates chart review for laboratory triggers.

For further information about the CPTT, go to [www.caphc.org](http://www.caphc.org).

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Canadian Paediatric Trigger Tool-35		Reviewer ID:	Date of Review:
Date of Admission:		PATIENT ID:	
Enter a checkmark in the checkbox to the left of each trigger that applies to this case. All cases with at least one trigger selected should be sent forward for physician review.			
<b>CARE MODULE</b>			
<input checked="" type="checkbox"/>	Trigger #	Trigger Description	Comments as required
<input type="checkbox"/>	C 01	Transfusion/ use of blood products	
<input type="checkbox"/>	C 02	Any code or arrest (successfully resuscitated)	
<input type="checkbox"/>	C 03	Unplanned admission (including readmission) as a result of any health care management within the 3 months prior to OR after discharge from the index hospitalization.	
<input type="checkbox"/>	C04	Infection of any kind	
<input type="checkbox"/>	C 05	In hospital stroke	
<input type="checkbox"/>	C 06	Transfer to higher level of care	
<input type="checkbox"/>	C 07	Catheter infiltration/burn	
<input type="checkbox"/>	C 08	Complication related to Central Venous Catheter (CVC)	
<input type="checkbox"/>	C 09	Necrotizing Enterocolitis (NEC)	
<input type="checkbox"/>	C 10	Cranial imaging in infants $\leq$ 3 mos.	
<input type="checkbox"/>	C 11	Extreme temperature - $\leq$ 35 degrees Centigrade (35oC) <b>OR</b> $\geq$ 40 degrees Centigrade (40oC)	
<input type="checkbox"/>	C 12	Intubation / reintubation / Accidental extubation	
<input type="checkbox"/>	C 13	Emergent C-section delivery (Neonate Only)	
<input type="checkbox"/>	C 14	Dissatisfaction with care documented in the medical record and/or evidence of complaint lodged (including documented complaint, conflict between patient/family and staff, discharged against medical advice / Documentation or correspondence indicating litig	
<input type="checkbox"/>	C 15	Unexpected Death	
<b>ICU MODULE</b>			
<input checked="" type="checkbox"/>	Trigger #	Trigger Description	Comments as required
<input type="checkbox"/>	I 1	Readmission to ICU	
<input type="checkbox"/>	I 2	In Unit Procedure	
<input type="checkbox"/>	I 3	Failed ETT	
<b>LABORATORY MODULE</b>			
<input checked="" type="checkbox"/>	Trigger #	Trigger Description	Comments as required
<input type="checkbox"/>	L 01	Abrupt drop $\geq$ 25% Hgb or Hct	
<input type="checkbox"/>	L 02	Platelet count $<$ 50,000/mm <sup>3</sup> (50 X 10 e9L)	
<input type="checkbox"/>	L 03	PTT $>$ 100 secs or INR $>$ 6	
<input type="checkbox"/>	L 04	D-dimer (positive by local lab normal)	
<input type="checkbox"/>	L 05	Sodium: 120 mmol/L $>$ Na $>$ 150 mmol/L	
<input type="checkbox"/>	L 06	Potassium: 3.0 mmol/L $>$ K $>$ 6.0 mmol/L	
<input type="checkbox"/>	L 07	Rising BUN/Creat $>$ 2 x baseline	
<input type="checkbox"/>	L 08	Hypoxia: O <sub>2</sub> Sat $<$ 75%	
<input type="checkbox"/>	L 09	Positive blood culture	
<input type="checkbox"/>	L 10	Gentamicin/Tobramycin: (except CF patients) Trough $<$ 2 mg/L or Peak $>$ 10mg/L	
<b>MEDICATION MODULE</b>			
<input checked="" type="checkbox"/>	Trigger #	Trigger Description	Comments as required
<input type="checkbox"/>	M 01	Vitamin K (excluding newborns)	
<input type="checkbox"/>	M 02	Heparin or Low Molecular Weight Heparin	
<b>SURGICAL MODULE</b>			
<input checked="" type="checkbox"/>	Trigger #	Trigger Description	Comments as required
<input type="checkbox"/>	S 01	Unplanned or Return To surgery	
<input type="checkbox"/>	S 02	Intra-operative IV Epinephrine, Norepinephrine, Naloxone, Flumazenil	
<input type="checkbox"/>	S 03	Removal / injury or repair of organ	
<input type="checkbox"/>	S 04	Wrong site / wrong procedure / wrong patient	
<b>OTHER MODULE</b>			
<input checked="" type="checkbox"/>	Trigger #	Trigger Description	Comments as required
<input type="checkbox"/>	O1	Other / Any other undesirable outcomes not covered above	