

Prehospital Canadian
Triage & Acuity Scale

Prehospital CTAS
Field Reference Guide

Version 1.0

Ministry of Health and Long-Term Care
Emergency Health Services Branch



Please refer to the *Prehospital CTAS Guide* for additional details.

The following are excerpts from the *Prehospital CTAS Paramedic Guide* to serve as a quick reference in the field.

CTAS Rules

The following rules must be considered by paramedics when assigning CTAS levels to patients.

Rule #1

A minimum of two (2) CTAS scores will be applied to each patient.

Rule #2

The CTAS level reported to the receiving institution is the level at departure from the scene (Departure CTAS) or if the patient's condition deteriorates after transport has been initiated.

Rule #3

When taking into consideration the patient's response to treatment, subsequent CTAS levels assigned must not be any greater than two (2) levels below the pre-treatment acuity (Arrival CTAS).

Rule #4

For a patient who is VSA on arrival and who is resuscitated, the CTAS must stay as a CTAS 1.

Rule #5

If paramedics receive a Termination of Resuscitation (TOR) order while managing a patient, the CTAS level assigned for the patient and documented on the ACR is based on the status of the patient on arrival and departure (if applicable) from the scene.

Rule #6

In cases where it is determined on arrival that a patient is "obviously dead", no CTAS level (Arrival or Departure) is required to be assigned and documented as a zero (0) on the ACR.

Canadian Emergency Department Information System (CEDIS) and the Presenting Complaint

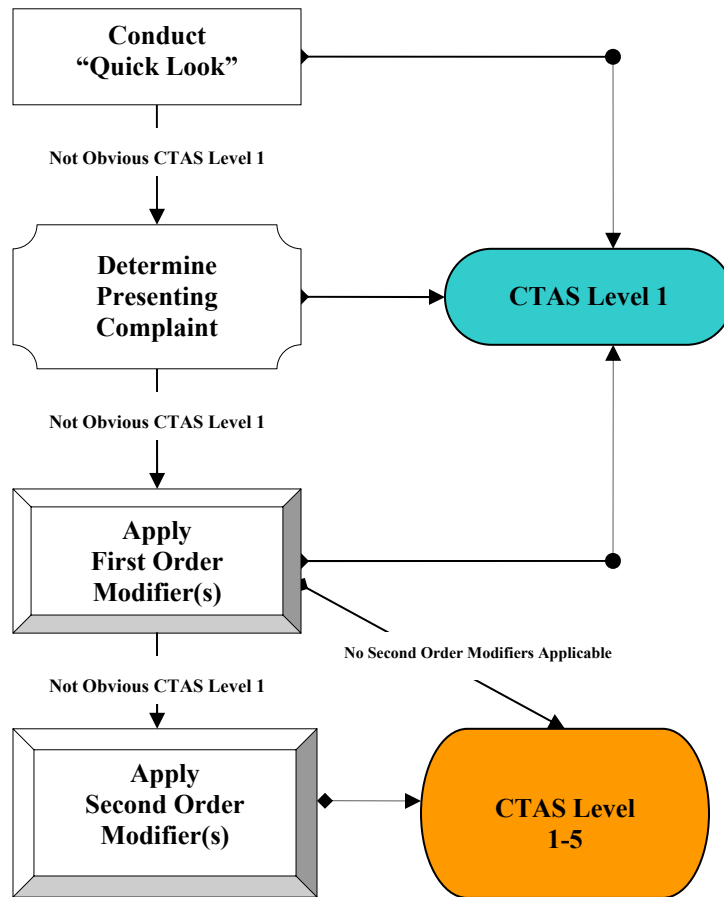
Once the applicable CEDIS category is determined, a presenting complaint can be determined from the list of presenting complaints that are associated with each CEDIS category.

These presenting complaints are essentially the same as those used by triage nurses in the ED, but have been modified to be more applicable to the prehospital setting.

By using the CEDIS and the presenting complaints list to assess and categorize patients, paramedics will be speaking the “same language” as the ED, thereby optimizing the communication between the prehospital environment and the ED.

CEDIS Categories	
<ul style="list-style-type: none">• Cardiovascular• ENT• Environmental• Gastrointestinal• Genitourinary• Mental Health• Neurologic• Obstetrics/Gynecology (OB/GYN)	<ul style="list-style-type: none">• Ophthalmology• Orthopedic• Pediatric• Respiratory• Skin• Substance Misuse• Trauma• General and Minor

Organized Approach to CTAS Determination – Adult



Adult CTAS Modifiers

The HIGHEST CTAS level must be assigned using ALL applicable modifiers

First Order Modifiers

Group One

1. **Respiratory Distress** - Airway
 - Breathing
2. **Hemodynamic Status** - Circulation
3. **Level of Consciousness** - Deficits
4. **Temperature**

Group Two – related to specific conditions

1. **Pain Score**
2. **Bleeding Disorder**
3. **Mechanism of Injury**

ADULT *First Order Modifiers, Group One*
Respiratory Distress

Table 1

Level of Distress	Oxygen Saturation	CTAS Level
Severe: Fatigue from excessive work of breathing, cyanosis, single-word speech, unable to speak, upper airway obstruction, lethargic or confused	<90%	1
Moderate: Increased work of breathing, speaking phrases or clipped sentences, significant or worsening stridor but the airway protected.	<92%	2
Mild/Moderate: Dyspnea, tachypnea, shortness of breath on exertion, no obvious increased work of breathing, able to speak in sentences, stridor without any obvious airway obstruction	92-94%	3
None	≥94%	4, 5

**ADULT First Order Modifiers, Group One
Hemodynamic Stability**

Table 2

Hemodynamic Status	CTAS Level
<p>Shock. Evidence of severe end-organ hypoperfusion: Marked pallor, cool skin, diaphoresis, weak or thready pulse, hypotension, postural syncope, significant tachycardia or bradycardia, ineffective ventilation or oxygenation, decreased level of consciousness. Could also appear as flushed, febrile, toxic, as in septic shock.</p>	1
<p>Hemodynamic Compromise. Evidence of borderline perfusion: pale, history of diaphoresis, unexplained tachycardia, postural hypotension (by history), feeling faint on sitting and standing, or suspected hypotension (lower than normal blood pressure or expected blood pressure for a given patient).</p>	2
<p>Vital signs at the upper and lower ends of normal as they relate to the presenting complaint, especially if they differ from the usual values for the specific patient.</p>	3
<p>Normal Vital signs</p>	4, 5

ADULT *First Order Modifiers, Group One*
Level of Consciousness

Table 3

Status – Level of Consciousness	GCS	CTAS Level
Unconscious: Unable to protect airway, response to pain or loud noise only and without purpose, continuous seizure or progressive deterioration in level of consciousness	3 - 9	1
Altered level of consciousness: Response inappropriate to verbal stimuli, loss of orientation to person, place or time, new impairment of recent memory, altered behaviour	10 - 13	2
Normal: Other modifiers are used to define	14 - 15	3, 4, 5

ADULT *First Order Modifiers, Group One*
Temperature

Table 4

Temperature $\geq 38.5^{\circ}$	CTAS Level
Immunocompromised: neutropenia (or suspected), chemotherapy or immunosuppressive drugs including steroids	2
Looks septic: patient has evidence of infection, has 3 SIRS criteria positive, or shows evidence of hemodynamic compromise, moderate respiratory distress or altered level of consciousness	2
Looks unwell: patient has <3 SIRS criteria positive but appears ill-looking (i.e. flushed, lethargic, anxious or agitated)	3
Looks well: patient has fever as their only positive SIRS criteria and appear to be comfortable and in no distress	4

Severity	Location	Duration	CTAS Level
Severe (8 – 10/10)	Central	Acute	2
		Chronic	3
	Peripheral	Acute	3
		Chronic	4
Moderate (4 – 7/10)	Central	Acute	3
		Chronic	4
	Peripheral	Acute	4
		Chronic	5
Mild (0 – 3/10)	Central	Acute	4
		Chronic	5
	Peripheral	Acute	5
		Chronic	5

Bleeding Site	CTAS Level
<ul style="list-style-type: none">• Head (intracranial) and neck• Chest, abdomen, pelvis, spine• Massive vaginal hemorrhage• Iliopsoas muscle and hip• Extremity muscle compartments• Fractures or dislocations• Deep lacerations• Any uncontrolled bleeding	2
<ul style="list-style-type: none">• Moderate, minor bleeds• Nose (epistaxis)• Mouth (including gums)• Joints (hemarthroses)• Menorrhagia• Abrasions and superficial lacerations	3

MOI	CTAS Level 2
General Trauma	<p>Motor Vehicle Collisions Ejection (partial or complete) from vehicle Rollover Extrication time ≥ 20 minutes Significant intrusion into passenger's space (≥ 0.3 metres occupant site; ≥ 0.5 metres any site, including roof) Death in the same passenger compartment Impact ≥ 40 km/h (unrestrained) or impact ≥ 60 km/h (restrained)</p> <p>Motorcycle Collision Impact with a vehicle ≥ 30 km/h, especially if rider is separated from motorcycle</p> <p>Fall From ≥ 6 metres (one storey is equal to 3 metres)</p> <p>Penetrating Injury to head, neck, torso or extremities proximal to elbow and knee</p>
Head Trauma	<p>Motor Vehicle Collision Ejection (partial or complete) from vehicle Unrestrained passenger striking head on windshield</p> <p>Pedestrian Struck by vehicle</p> <p>Fall From ≥ 1 metre or 5 stairs</p> <p>Assault with blunt object other than fist or feet</p>
Neck Trauma	<p>Motor Vehicle Collision Ejection (partial or complete) from vehicle Rollover High speed (especially if driver unrestrained)</p> <p>Motorcycle Collision</p> <p>Fall From ≥ 1 metre or 5 stairs</p> <p>Axial Load to the Head</p>

Second Order Modifiers, Complaint Specific

To be applied after the presenting complaint is determined and the First Order Modifiers have been applied.

Type 1

- Blood Glucose
- Hypotension
- Dehydration
- Selected Adult Second Order Modifiers

Type 2

- Obstetrics ≥ 20 weeks Gestation
- Mental Health

ADULT *Second Order Modifiers, Type 1*
Blood Glucose Level

Table 8

Blood Glucose Level	Symptoms	CTAS Level
<3 mmol/L	Confusion, seizure, diaphoresis, behavioural change, acute focal deficits	2
	None	3
≥18 mmol/L	Dyspnea, tachypnea, dehydration, thirst, weakness, polyuria	2

ADULT *Second Order Modifiers, Type 1*
Hypertension/Blood Pressure

Table 9

Blood Pressure	Symptoms	CTAS Level
Systolic Blood Pressure ≥220 or Diastolic Blood Pressure ≥130	Any other symptoms (e.g. headache, chest pain, shortness of breath or nausea).	2
Systolic Blood Pressure ≥220 or Diastolic Blood Pressure ≥130	No symptoms.	3
Systolic Blood Pressure 200 - 220 or Diastolic Blood Pressure 110 - 130	Any other symptoms (e.g. headache, chest pain, shortness of breath or nausea).	3
Systolic Blood Pressure 200 - 220 or Diastolic Blood Pressure 110 - 130	No symptoms	4, 5

Dehydration	CTAS Level
Severe Dehydration: marked volume loss with classic signs of dehydration and signs and symptoms of shock.	1
Moderate Dehydration: dry mucous membranes, tachycardia, plus or minus decreased skin turgor and decreased urine output.	2
Mild Dehydration: stable vital signs with complaints of increasing thirst and concentrated urine and a history of decreased fluid intake or increased fluid loss or both.	3
Potential Dehydration: no symptoms of dehydration, presenting with fluid loss ongoing or difficulty tolerating oral fluids.	4

ADULT *Second Order Modifiers, Type 1*
Selected Second Order Adult Modifiers

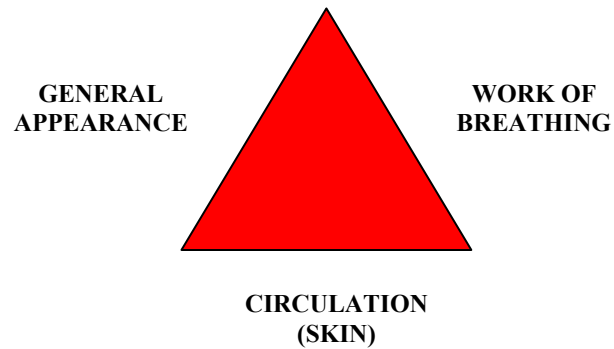
Table 11

Presenting Complaint	Revised Modifier	CTAS Level
Chest pain, non cardiac features	Other significant chest pain (ripping or tearing)	2
Extremity weakness / symptoms of CVA	Time of onset of symptoms <3.5 hours.	2
	≥3.5 hours or resolved	3
Difficulty swallowing/dysphagia	Drooling or stridor, hoarseness or dysphagia	2
	No distress but with difficulty swallowing	3
Upper or lower extremity	Obvious deformity	3

Presenting Complaint	CTAS Level
Presenting fetal parts or prolapsed umbilical cord.	1
Vaginal bleeding in the third trimester (other than show).	1
Active labour (contractions < 2 minutes apart).	2
No fetal movement or no fetal heart sounds.	2
Complex hypertension +/- headache, +/- edema, +/- abdominal pain.	2
Post delivery (mother and infant).	2
Active labour (contractions ≥ 2 minutes apart).	3
Possible leaking amniotic fluid (≥ 24 hours).	3

Presenting Complaint	Description	CTAS Level
Depression/Suicidal or deliberate self harm.	Attempted suicide, clear plan.	2
	Active suicide intent.	2
	Uncertain flight or safety risk.	2
	Suicidal ideation, no plan.	3
	Depressed, no suicidal ideation.	4
Anxiety/Situational Crisis	Severe anxiety/agitation.	2
	Uncertain flight or safety risk.	2
	Moderate anxiety/agitation.	3
	Mild anxiety/agitation.	4
Hallucinations or Delusions	Acute psychosis.	2
	Severe anxiety or agitation.	2
	Uncertain flight or safety risk.	2
	Moderate anxiety or agitation or with paranoia.	3
	Mild agitation, stable.	4
	Mild anxiety or agitation, chronic hallucinations.	5
Insomnia	Acute	4
	Chronic	5
Violent or Homicidal Behaviour	Imminent harm to self or others, or specific plan.	1
	Uncertain flight or safety risk	2
	Violent or homicidal ideation, no plan.	3
Social Problem	Abuse physical, mental, high emotional stress.	3
Bizarre Behaviour	Uncontrolled	1
	Chronic, non-urgent	5

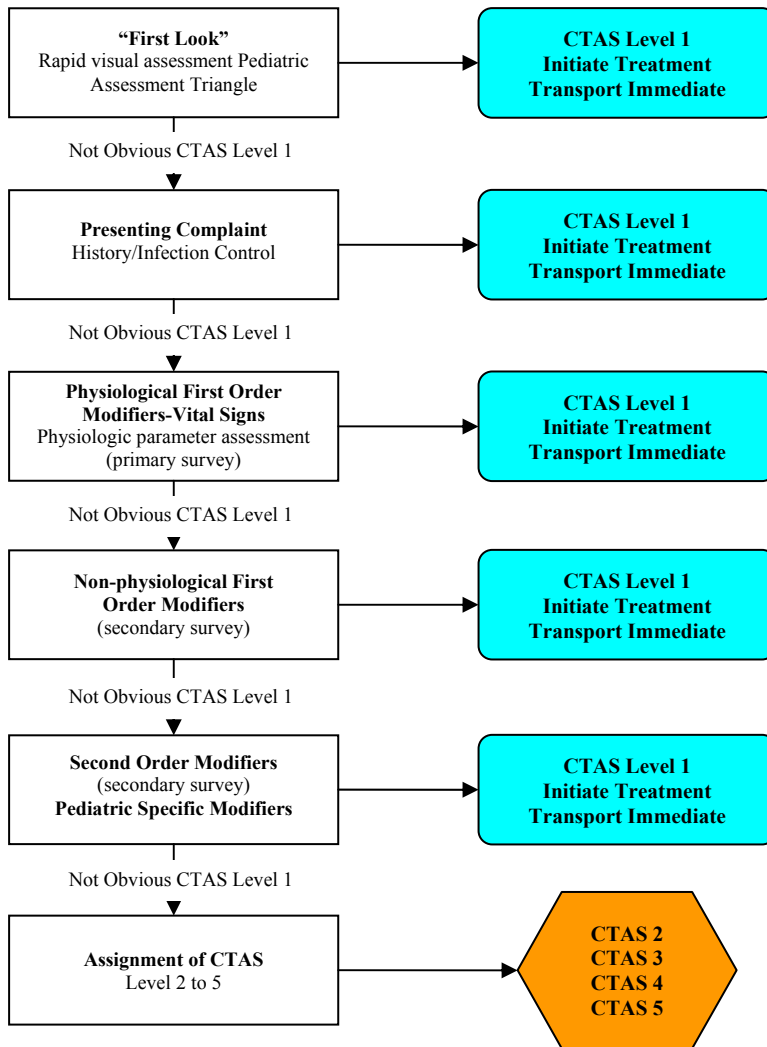
Pediatric Assessment Triangle (PAT)



Pediatric Modifier Considerations

- Presenting Complaint
 - Fever
 - Respiratory difficulties
 - Injuries
 - Changes in behaviour
 - Vomiting and/or diarrhea (dehydration)
- Pediatric History - Subjective Data
- Vital Signs
- Fever
- Pain

Organized Approach to CTAS Determination – Pediatric



PEDIATRIC Reference Information
Normal Vital Signs

Table 14

Age	Normal Range Respiratory Rate	Normal Range Heart Rate
0 – 3 months	30 – 60	90 – 180
3 months – 6 months	30 – 60	80 – 160
6 months – 1 year	25 – 45	80 - 140
1 year – 3 years	20 – 30	75 – 130
6 years	16 – 24	70 – 110
10 years	14 – 20	60 – 90

PEDIATRIC First Order, Physiological Modifiers
Respiratory Rates

Table 15

Physiologic Range Respiratory Rate							
Level	1	2	3	4/5	3	2	1
0 – 3 months	<10	10-20	20-30	30-60	60-70	70-80	>80
3 – 6 months	<10	10-20	20-30	30-60	60-70	70-80	>80
6 – 12 months	<10	10-17	17-25	25-45	45-55	55-60	>60
1 – 3 years	<10	10-15	15-20	20-30	30-35	35-40	>40
6 years	<8	8-12	12-16	16-24	24-28	28-32	>32
10 years	<8	8-10	10-14	14-20	20-24	24-26	>26

Level of Distress	Oxygen Saturation	CTAS Level
Severe: Fatiguing from excessive work of breathing. Signs may include cyanosis; lethargy, confusion, inability to recognize caregiver, decreased response to pain; single word or no speech; tachycardia or bradycardia; tachypnea or bradypnea, apnea, irregular respirations; exaggerated retractions, grunting; signs of upper airway obstruction.	<90%	1
Moderate: Increased work of breathing, restlessness, anxiety, or combativeness; tachypnea; hyperpnea; mild increased use of accessory muscles, retractions, speaking phrases or clipped sentences, prolonged expiratory phase.	<92%	2
Mild: No obvious increase in work of breathing. Signs may include tachypnea; mild shortness of breath on exertion; able to speak in sentences.	<92 – 94%	3
None	≥94%	4, 5

Physiologic Range Heart Rate							
Level	1	2	3	4/5	3	2	1
0 – 3 months	<40	40-65	65-90	90-180	180-205	205-230	>230
3 – 6 months	<40	40-63	63-80	80-160	160-180	180-210	>210
6 – 12 months	<40	40-60	60-80	80-140	140-160	160-180	>180
1 – 3 years	<40	40-58	58-75	75-130	130-145	145-165	>165
6 years	<40	40-55	55-70	70-110	110-125	125-140	>140
10 yrs	<30	30-45	45-60	60-90	90-105	105-120	>120

Hemodynamic Stability	CTAS Level
<p>Shock: Evidence of severe end-organ hypoperfusion such as marked pallor, cool skin, diaphoresis, weak or thready pulse, hypotension, postural syncope, significant tachycardia or bradycardia, ineffective ventilation or oxygenation, decreased level of consciousness; could also appear as flushed, febrile toxic, as in septic shock.</p>	1
<p>Hemodynamic compromise: Delayed capillary refill, tachycardia, decreased urine production and skin changes suggest poor tissue perfusion; vomiting and diarrhea secondary to gastrointestinal infection are a common etiology; the signs of dehydration are not always reliable, particularly in younger patients; hemorrhage in moderate trauma may be masked by the child's ability to maintain his or her blood pressure.</p>	2
<p>Volume depletion with abnormal vital signs</p>	3
<p>Normal Vital Signs</p>	4, 5

PEDIATRIC Reference Information
Pediatric Coma Scale (PCS)

Table 19

Pediatric Coma Scale		
Eye Opening	Verbal Response	Motor Response
4 Spontaneous	5 Coos or babbles	6 Obeys commands
3 To speech	4 Irritable/constantly cries	5 Withdraws from touch
2 To pain	3 Cries to pain	4 Withdraws from pain
1 None	2 Moans to pain	3 Flexion to pain
	1 None	2 Extension to pain
		1 None

PEDIATRIC First Order, Physiological Modifiers
Level of Consciousness

Table 20

Level of Consciousness	PCS	CTAS Level
Unconscious: Unresponsive; responds to pain or loud noise only without purpose; flexion or extension position; continuous seizing; progressive deterioration in level of consciousness; unable to protect airway.	3-9	1
Altered LOC: A change from one's "normal" level of consciousness; lethargic; obtunded; localizes to painful stimulus; irritable; agitated or combative; inconsolable, poor feeding in an infant; able to protect their airway; alert with minor behavioral or vital sign alterations from normal.	10-13	2
Normal: A state of awareness, implying orientation to person, place and time; interacts appropriately for age (e.g. infant coos and babbles); consolable. Other modifiers are used to define the CTAS level.	14-15	3, 4, 5

PEDIATRIC *First Order, Physiological Modifiers*
Temperature <36°C

Table 21

Age	Temperature	CTAS Level
0 – 3 months	<36°C	2
≥3 months	<32°C	2
≥3 months	32°C – 35°C	3

Note: Fever and hypothermia are defined using an oral reading. In general, axillary temperatures are 1° less than oral, and rectal temperatures are 1° higher.

PEDIATRIC *First Order, Physiological Modifiers*
Elevated Temperatures

Table 22

Age	Temperature	CTAS Level
0 – 3 months	≥38°C	2
3 months–3 years	≥38.5°C Immunocompromised (e.g. neutropenia, transplant steroids)	2
	≥38.5°C Looks unwell.	2
	≥38.5°C Looks well.	3
≥3 years	≥38.5°C Immunocompromised (e.g. neutropenia, transplant steroids)	2
	≥38.5°C Looks unwell (consider heart rate and respiratory rate).	3
	≥38.5°C Looks well.	4

PEDIATRIC *First Order, Non-Physiological Modifiers* Table 23
Pain

Severity	Duration	CTAS Level
Severe (8 – 10/10)	Acute	2
Moderate (4 – 7/10)	Acute	3
Mild (0 – 3/10)	Acute	4

**PEDIATRIC *First Order, Non-Physiological Modifiers* Table 24
Mechanism of Injury (MOI)**

MOI	CTAS Level 2
General Trauma	<p>Motor Vehicle Collisions Ejection (partial or complete) from vehicle Rollover Extrication time ≥ 20 minutes Significant intrusion into passenger's space (≥ 0.3 metres occupant site; ≥ 0.5 metres any site, including roof) Death in the same passenger compartment Impact ≥ 40 km/h (unrestrained) or impact ≥ 60 km/h (restrained)</p> <p>Motorcycle Collision Impact with a vehicle ≥ 30 km/h, especially if rider is separated from motorcycle</p> <p>Fall From ≥ 6 metres (one storey is equal to 3 metres)</p> <p>Penetrating Injury to head, neck, torso or extremities proximal to elbow and knee</p>
Head Trauma	<p>Motor Vehicle Collision Ejection (partial or complete) from vehicle Unrestrained passenger striking head on windshield</p> <p>Pedestrian Struck by vehicle</p> <p>Fall From ≥ 1 metre or 5 stairs</p> <p>Assault with blunt object other than fist or feet</p>
Neck Trauma	<p>Motor Vehicle Collision Ejection (partial or complete) from vehicle Rollover High speed (especially if driver unrestrained)</p> <p>Motorcycle Collision</p> <p>Fall From ≥ 1 metre or 5 stairs</p> <p>Axial Load to the Head</p>

Pediatric Second Order Modifiers

To be applied after the First Order Modifiers, usually during the Secondary Survey.

- Glucose Determination
- Pediatric Specific Modifiers
 - Concern for Patient's Welfare
 - Disruptive Behaviour
 - Stridor
 - Apneic Spells in Infants
 - Floppy Child
 - Pediatric Gait Disorder/Painful Walking
 - Congenital Disorders

PEDIATRIC *Second Order Modifier*
Blood Glucose Level

Table 25

Blood Glucose Level	Symptoms	CTAS Level
<3 mmol/L	Confusion, seizure, diaphoresis, behavioural change, seizure or infant <1 year.	2
	None	3
≥18 mmol/L	Dyspnea, dehydration, weakness.	2

PEDIATRIC *Second Order, Pediatric Specific Modifiers* **Table 26**
Concern for Patient's Welfare

Concern for Patient's Welfare	CTAS Level
Conflict or unstable situation.	1
Risk of flight or ongoing abuse.	2
Physical or sexual assault.	3
History/signs of abuse or maltreatment.	4

PEDIATRIC *Second Order, Pediatric Specific Modifiers* **Table 27**
Disruptive Behaviour

Disruptive Behaviour	CTAS Level
Uncertain flight or safety risk/family distress.	2
Acute difficulties with others/environment.	3
Persistent problematic behaviour.	4
Chronic unchanged behaviour.	5

PEDIATRIC *Second Order, Pediatric Specific Modifiers* Table 28
Stridor

Stridor	CTAS Level
Airway compromise.	1
Marked stridor.	2
Audible Stridor.	3

PEDIATRIC *Second Order, Pediatric Specific Modifiers* Table 29
Apneic Spells in Infants

Apneic Spells in Infants	CTAS Level
Apneic episode on presentation.	1
Recent spell consistent with apnea or respiratory compromise.	2
History of spell consistent with apnea.	3

PEDIATRIC *Second Order, Pediatric Specific Modifiers* Table 30
Inconsolable Crying in Infants

Inconsolable Crying in Infants	CTAS Level
Inconsolable infant - abnormal vital signs.	2
Inconsolable infant – stable vital signs.	3
Irritable but consolable.	4

**PEDIATRIC *Second Order, Pediatric Specific Modifiers* Table 31
Floppy Child**

Floppy Child	CTAS Level
No tone, unable to support head.	2
Limited/less than expected muscle tone.	3

**PEDIATRIC *Second Order, Pediatric Specific Modifiers* Table 32
Gait Disorder/Painful Walking**

Gait Disorder/Painful Walking	CTAS Level
Gait or limp problems with fever.	3
Caregivers identifying need for care, walking with difficulty.	4

**PEDIATRIC *Second Order, Pediatric Specific Modifiers* Table 33
Congenital Problems in Children**

Congenital Problems in Children	CTAS Level
Conditions/protocol letters identifying concerns for rapid deterioration or need for immediate therapy.	2
Vomiting/diarrhea in a child with inherited metabolic disease, Type 1 diabetes or adrenal insufficiency.	
Caregivers identifying need for care.	3
Stable child with congenital disease with potential for problems.	4

List of Abbreviations

The following abbreviations, in alphabetical order, appear in the CTAS Paramedic Guide.

ALS PCS	Advanced Life Support Patient Care Standards
ABCDs	Airway, Breathing, Circulation and Deficits
ACO	Ambulance Communications Officer
ACR	Ambulance Call Report
BLS PCS	Basic Life Support Patient Care Standards
BPM	Breaths Per Minute
BVM	Bag Valve Mask
CEDIS	Canadian Emergency Department Information System
CPAS	Canadian Prehospital Acuity Scale
COPD	Chronic Obstructive Pulmonary Disease
CTAS	Canadian Triage and Acuity Scale
CVA	Cerebral Vascular Accident
DBP	Diastolic Blood Pressure
ED	Emergency Department
ENT	Ear, Nose and Throat
GCS	Glasgow Coma Scale
GI	Gastrointestinal
INR	International Normalized Ratio
kPa	Kilopascal

List of Abbreviations (continued)

LOC	Level of Consciousness
LPM	Litres per minute
MCI	Multiple Casualty Incidents
MOI	Mechanism of Injury
MVC	Motor Vehicle Collision
NWG	National Working Group
OB/GYN	Obstetrics/Gynecology
O ₂	Oxygen
PaCO ₂	Arterial Blood Gas Carbon Dioxide
PAT	Pediatric Assessment Triangle
PCS	Pediatric Coma Scale
PT	Prothrombin Time
PTT	Partial Thromboplastin Time
PVC	Premature Ventricular Contraction
ROSC	Return of Spontaneous Circulation
RUQ	Right Upper Quadrant
SBP	Systolic Blood Pressure
SIRS	Systemic Inflammatory Response Syndrome
SOB	Shortness of Breath
TOR	Termination of Resuscitation
WBC	White Blood Cell

