Module 2

Applying Pre-CTAS to Adults

Assigning Pre-CTAS Scores Using CEDIS Chief Complaint and Modifiers

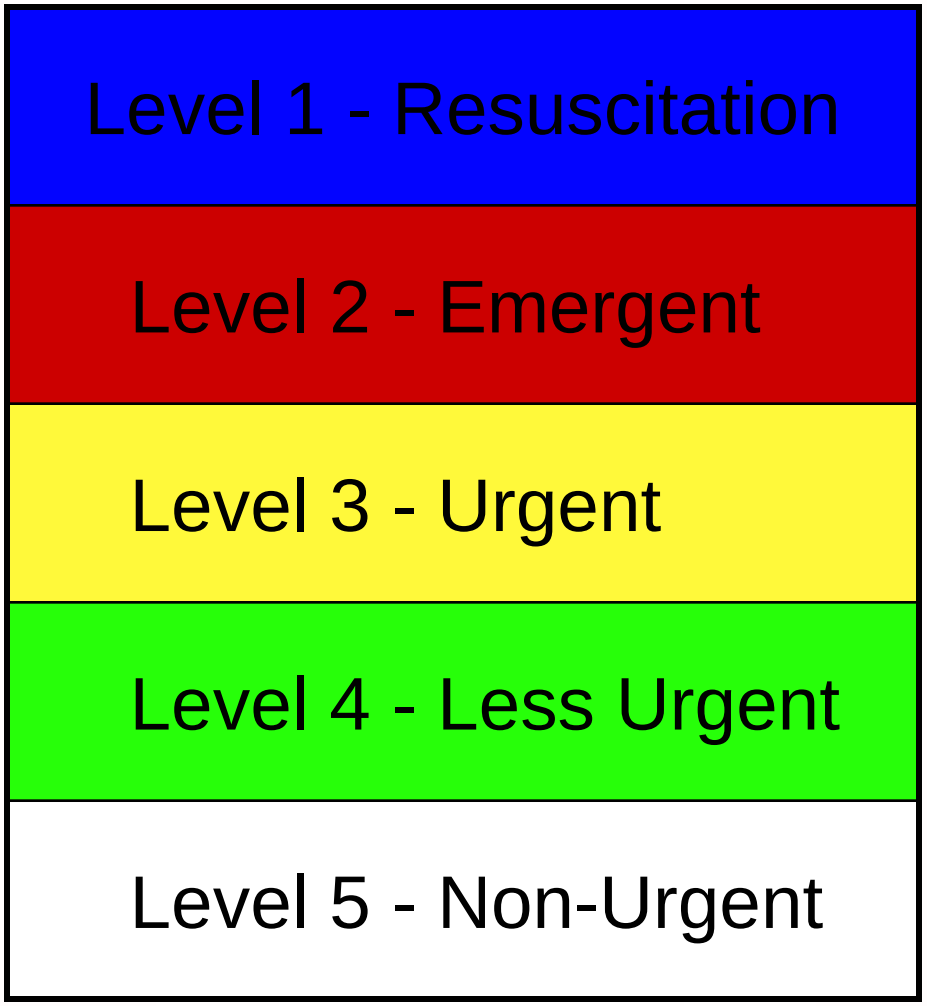
Version 1.5, 2014

CTAS National Working Group

Module 2 - Objectives

- Define the 5 Pre-CTAS levels
- Apply the CEDIS list of presenting complaints
- Apply 1st & 2nd order modifiers
- Describe reassessment frequencies
- Apply Pre-CTAS learning to case scenarios

CTAS/Pre-CTAS Five Level Acuity



Assessing Pre-CTAS Acuity

Critical Look - rapid visual assessment

Infection Control

Presenting Complaint

1st Order Modifiers

2nd Order Modifiers

Pre-CTAS Level – Assign Acuity Level

Reassessment

The Pre-Hospital Process

Establish Scene Safety

Critical Look - rapid visual assessment

Infection Control

Assess Patient

Stabilize Patient

Determine Scene Pre-CTAS Level

Transfer / Reassessment

Determine Hospital Arrival Pre-CTAS Level

Level 1 - Resuscitation

"Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate aggressive interventions."

Level 1 - Presentations

- Cardiac arrest
- Seizures (actively seizing)
- Respiratory arrest
- Major trauma (in shock)
- Shortness of breath (severe)
- Unconscious (GCS 3-9)

Level 1 - Case Example

CEDIS Presenting Complaint – Cardiac Arrest

- Dispatched to a 68 year old female
- History of severe chest pain and shortness of breath for 4 hours
- Collapses to the floor after meeting you at the door
- Vital Signs Absent

Level 2 - Emergent

"Conditions that are a potential threat to life, limb or function, requiring rapid intervention"

Level 2 - Presentations continued

- Shortness of breath (moderate respiratory distress)
- Altered Level of Consciousness (GCS 10-13)
- Abdominal pain (severe acute pain 8/10)
- Fever (>38C), Looks septic (3 SIRS criteria)

Level 2 - Presentations

- Chest pain with cardiac features
- Chest pain, non cardiac features (other significant chest pain ripping or tearing)
- Hypertension (SBP >220 or DBP >130 with symptoms)
- Hypothermia (core temperature <32C)
- Headache (sudden, severe, worst ever)

Level 2 - Case Example

CEDIS Presenting Complaint – Chest Pain, cardiac features

- 52-year old male smoker called to his work place
- Reports a 1 hour history of heavy, central substernal chest pain, which has now resolved; thinks may have been indigestion.
- Vital signs: RR 20, HR 68, BP 132/76

Level 3 - Urgent

"Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affecting ability to function at work or activities of daily living."

Level 3 - Presentations

- Shortness of breath (mild respiratory distress)
- Abdominal pain (moderate acute pain 4 - 7/10)
- Seizures (resolved, normal level of alertness)
- Diarrhea (uncontrolled bloody diarrhea)

Level 3 - Presentations continued

- Hypertension (SBP >220 or DBP >130 with no symptoms)
- Headache (moderate acute pain 4 - 7/10)
- Extremity injury (obvious deformity)

Level 3 - Case Example

CEDIS Presenting Complaint – Abdominal pain

- 62 - year old male calls 911
- States has lower abdominal pain worsening over the past 12 hours to 5/10
- On arrival his vital signs are stable, HR 100, temp 37.6C

Level 4 - Less Urgent

"Conditions that relate to patient age, distress, or potential for deterioration or complications, which would benefit from intervention or reassurance within 1-2 hours."

Level 4 - Presentations

- UTI complaints/symptoms (with mild dysuria)
- Constipation (with mild pain)
- Confusion (chronic, no change from usual state)

Level 4 - Case Example

CEDIS Presenting Complaint – Laceration

- Called to a warehouse for a 35 year old worker
- He has a 5 cm laceration on right palm, accidently cut with his utility knife
- Bleeding controlled, pain 3/10
- Vitals signs normal
- Requires sutures

Level 5 - Non-Urgent

"Conditions that may be acute but non-urgent, as well as conditions which may be part of a chronic problem, with or without evidence of deterioration. The investigation or interventions for some of these illnesses or injuries could be delayed or even referred to other areas of the hospital or health care system."

"I think you're after me."

Level 5 - Presentations

- Diarrhea (mild, no dehydration)
- Minor bites (+/- mild acute peripheral pain)
- Dressing changes (uncomplicated)
- Medication request
- Laceration/puncture (no sutures required)

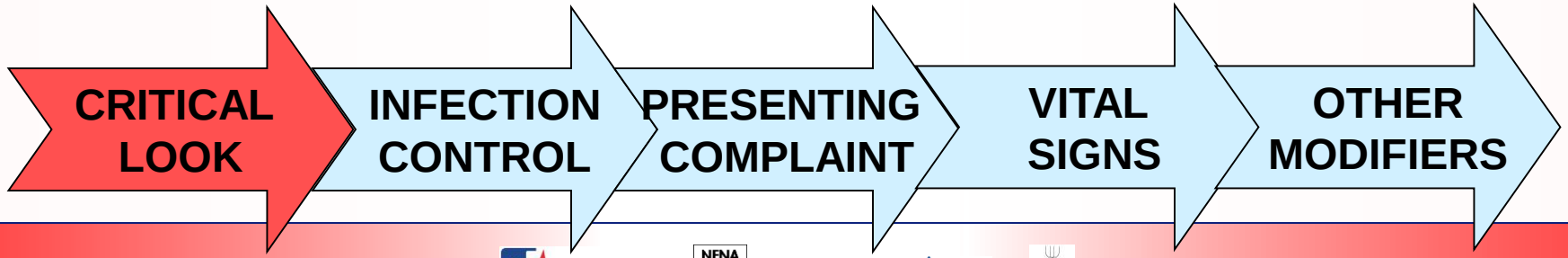
Level 5 - Case Example

CEDIS Presenting Complaint – Dressing change

- 911 call from a pay phone complaining of an arm infection and recent open repair of a mid forearm fracture
- Patient is a 34 year old otherwise healthy homeless man, requesting a dressing change.
- No other issues identified

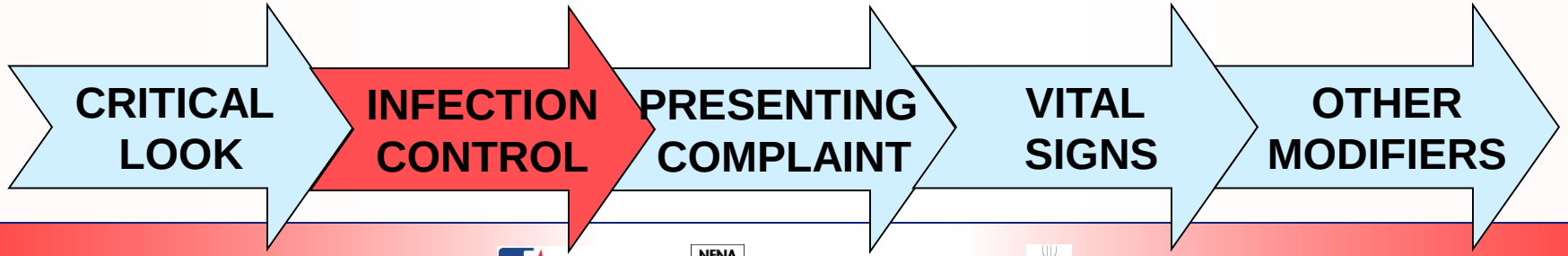
Caveat - “First Look”

- All patients in respiratory or cardiac arrest, severe respiratory distress, shock, or unconscious require immediate resuscitation
  - Pre-CTAS scoring and documentation completed later
- Unstable patients with moderate respiratory distress, hemodynamically unstable, or altered level of consciousness should have
  - Pre-CTAS can be assessed during stabilization, documented later
- Apparently stable patients have Pre-CTAS acuity determined as part of the initial assessment
  - Unless instability identified or occurs during evaluation



Importance of Infection Control

- Patients should be assessed for communicable disease risk
  - Coughing, vomiting = droplet precautions
  - Diarrhea, weeping wounds = contact precautions
- Important, as a service, to have a process for unstable patients to protect providers caring for potentially contagious patients



Canadian Emergency Department Information System (CEDIS) Complaint List

- Endorsed by CAEP, NENA, CPS, AMUQ
- Standardized presenting complaint list
- 17 categories
- 168 different complaints
  - Short list available for services who feel the full list too onerous

The CEDIS Categories

Cardiovascular (CVS)

ENT – Ears (ENT-E)

ENT – Mouth, throat, neck (ENT-MTN)

ENT – Nose (ENT-N)

Environmental (ENV)

Gastrointestinal (GI)

Genitourinary (GU)

Mental Health (MH)

Neurologic (CNS)

OB – GYN (OB-GYN)

Opthamology (OPTH)

Orthopedic (ORTHO)

Respiratory (RESP)

Skin (SKIN)

Substance Misuse (SUBST)

Trauma (T)

General and Minor (GEN)

Selecting a Presenting Complaint

- Many patients have multiple complaints
  - Select a complaint that will enable the assignment of the highest appropriate acuity level
- Sometimes it is difficult to understand what the patient is complaining of
  - This is part of the ‘art of assessment’
  - Interpret presenting findings into best guess CEDIS complaint

Presenting Complaint Example 1

- 75 year old male
- Strength and ability to ambulate has declined
- Sleeps continuously

CEDIS Presenting Complaint?

Presenting Complaint Example 2

- 42 year old male found unresponsive on floor
- Moderate respiratory distress
- Skin pale, cool and moist

CEDIS Presenting Complaint?

Presenting Complaint Example 3

- 18 year old female found in garage with door closed and engine running
- No eye contact, will not answer questions

CEDIS Presenting Complaint?

Presenting Complaint Example 4

- 53 year old female receiving IV antibiotics for osteomyelitis
- Calls 911 on Saturday evening because her line is plugged
- Unable to contact the home care nurse

CEDIS Presenting Complaint?

Presenting Complaint Example 5

- 68 year old female
- Severe chest pain and shortness of breath for 4 hours

CEDIS Presenting Complaint?

Presenting Complaint Example 6

- 28 year old female
- 8 weeks pregnant
- Vaginal bleeding and abdominal pain

CEDIS Presenting Complaint?

Presenting Complaint Example 7

- 30 year old female
- Single vehicle MVC
- Sore neck and vague abdominal pain

CEDIS Presenting Complaint?

Presenting Complaint Example 8

- 66 year old woman
- Sharp pain in head before she collapsed
- Actively seizing

CEDIS Presenting Complaint?

Presenting Complaint Example 9

- 17 year old female
- Itchy all over, throat tight, but can swallow
- Breathing tight, feels dizzy
- Face swollen, red and has blotchy rash

CEDIS Presenting Complaint?

Presenting Complaint Example 10

- 24 year old female
- Abdominal pain
- Had unprotected sexual intercourse 2 months ago

CEDIS Presenting Complaint?

Determining the Pre-CTAS Level

- The CEDIS presenting complaint, together with additional assessment information gained from the critical look and by applying modifiers, determine the appropriate Pre-CTAS level to assign

First Order Modifiers

Vital Signs

Respiratory Distress…….....**A**irway

……**B**reathing

Hemodynamic Status……**C**irculation

Level of Consciousness…….**D**isability

Temperature

Other

Pain Score

Bleeding Disorder

Mechanism of Injury

Respiratory Distress

Level of Respiratory Distress	O_2 Sat	PEFR predicted	Pre-CTAS Level
Severe: Fatigue from excessive work of breathing, cyanosis, single-word speech, unable to speak, upper airway obstruction, lethargic or confused, apnea, intubated or requiring assisted breathing.	<90%	-	1
Moderate: Increased work of breathing, speaking phrases or clipped sentences, significant or worsening stridor but airway protected.	<92%	<40%	2
Mild: 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%	40 - 60%	3

Hemodynamic Stability

Circulatory Status	**Pre-CTAS Level**
Shock: evidence of **severe end-organ hypoperfusion**: weak or thready pulse, hypotension, significant tachycardia or bradycardia, decreased level of consciousness. Could also appear as flushed, febrile, toxic, as in septic shock	1
Hemodynamic compromise: evidence of **borderline perfusion**; unexplained tachycardia, postural hypotension (by history), or suspected hypotension (lower than normal or expected blood pressure for a given patient)	2
Vital signs at the **upper and lower ends of n**ormal as they relate to the presenting complaint, especially if they differ from the patient's normal values	3
Normal vital signs.	4 & 5

Level of Consciousness

Status	GCS	Pre-CTAS Level
Unconscious: unable to protect airway, continuous seizure or progressive deterioration in level of consciousness	3 – 9	1
Altered level of consciousness: loss of orientation to person, place or time; new impairment of recent memory; new onset confusion, agitation	10 – 13	2
Normal: Use other modifiers to define CTAS	14 – 15	3, 4 or 5

Temperature

Fever >38C (age ≥17 years)	**CTAS Level**
Immunocompromised: neutropenia (or suspected), chemotherapy or on immunosupressive drugs including steroids.	2
Looks septic: has 3 positive SIRS criteria*	
Looks unwell: &/or has 1 or 2 positive SIRS criteria	3
Looks well: has fever as the only positive SIRS criterion	4

*patients with a fever or history of fever presenting with:

‘moderate respiratory distress’
‘hemodynamic compromise’ or
‘altered level of consciousness’

are not only automatically assigned a CTAS level 2, but need to be considered high risk for ***severe sepsi***s

Fever Definitions

1. **SIRS** is the systemic inflammatory response to a variety of severe clinical insults. The response is manifested by 2 or more of the following criteria: temperature >38C or <36C; heart rate >90 beats/minute; respiratory rate >20 breaths/minute or $PaCO_2$ <32 torr (<4.3 kPa); WBC >12000 cells/mm^3, <4000 cells/mm^3 or >10% immature (band) forms.
2. **Sepsis** is defined as the systemic response to infection, manifested by 2 or more of the SIRS criteria as a result of infection.
3. **Severe sepsis** is defined as sepsis associated with organ dysfunction, hypoperfusion or hypotension; hypoperfusion and perfusion abnormalities may include, but are not limited to, lactic acidosis, oliguria or an acute alteration in mental status.

Pain Severity

- Pain Score (10 - point Likert scale)
- Central versus Peripheral
- Acute versus Chronic

Pain Definitions

- Central pain originates within a body cavity or organ and may be associated with life- or limb-threatening conditions.
- Peripheral pain originates in the skin, soft tissues, axial skeleton or superficial organs where dangerous diagnoses are less likely to be missed.
  - *Caveat: A patient presenting with apparent peripheral pain in whom the triage nurse suspects a life or limb threatening condition should score based on “central” pain.
- Acute pain is a new onset pain and is more likely to prove dangerous (prior to a diagnostic work-up) than chronic pain.
- Chronic pain is a well-recognized continuing or recurring pain syndrome manifesting the same pattern (**changes in pattern or severity = acute**).

Pain Severity

Severity & Score	Location	Acute/Chronic	Pre-CTAS Level
Severe **8 - 10**	Central	Acute	2
		Chronic	3
	Peripheral	Acute	3
		Chronic	4
Moderate **4 - 7**	Central	Acute	3
		Chronic	4
	Peripheral	Acute	4
		Chronic	5
Mild **1 - 3**	Central	Acute	4
		Chronic	5
	Peripheral	Acute	5
		Chronic	5

Bleeding Disorder

	Moderate/Minor Bleed
Pre-CTAS level 2	*Pre-CTAS level 3*
Head (intracranial) & neck	Nose (epistaxis)
Chest, abdomen, pelvis, spine	Mouth (including gums)
Massive vaginal hemorrhage	Joints (hemarthroses)
Iliopsoas muscle & hip	Menorrhagia
Extrem. muscle compartments	Abrasions
Fractures & dislocations	Superficial lacerations
Deep lacerations	
Any uncontrolled bleeding	

*Patients with bleeding disorders presenting with significant bleeds require rapid factor replacement or other relevant interventions.

www.hemophilia.ca/emergency

LIFE OR LIMB-THREATENING BLEEDS

- Head (intracranial) and neck
- Chest, abdomen, pelvis, spine
- Iliopsoas muscle and hip
- Massive vaginal hemorrhage
- Extremity muscle compartments
- Fractures or dislocations
- Any deep laceration
- Any uncontrolled bleeding

MODERATE/MINOR BLEEDS

- Nose (epistaxis)
- Mouth (including gums)
- Joints (hemarthroses)
- Menorrhagia
- Abrasions and superficial lacerations

TREATMENT FOR LIFE OR LIMB-THREATENING BLEEDS

PATIENT MUST RECEIVE PRODUCT URGENTLY

Hemophilia A: (all severities)
Recombinant factor VIII concentrate 40-50 units/kg

Hemophilia B: (all severities)
Recombinant factor IX concentrate 100-120 units/kg >15 yrs
Recombinant factor IX concentrate 135-160 units/kg <15 yrs
The dosage for recombinant factor IX is substantially higher because of its lower recovery, particularly in children.

Von Willebrand Disease:
A VW factor containing factor VIII concentrate such as Humate-P 60-80 Ristocetin cofactor units/kg

It is critical to raise the factor level to 80-100% urgently for all life or limb-threatening bleeds.

TREATMENT FOR MODERATE/MINOR BLEEDS

PATIENT MUST RECEIVE PRODUCT WITHIN 30 MINUTES WHENEVER POSSIBLE

Hemophilia A: (severe/moderate)
Recombinant factor VIII concentrate 20-30 units/kg

Hemophilia A: (mild)
Desmopressin (Octostim/DDAVP) 0.3 mcg/kg (max. 20 mcg)–SC/IV

Hemophilia B: (severe/moderate/mild)
Recombinant factor IX concentrate 35-50 units/kg >15 yrs
Recombinant factor IX concentrate 50-70 units/kg <15 yrs
The dosage for recombinant factor IX is substantially higher because of its lower recovery, particularly in children.

Von Willebrand Disease:
Type 1 and Type 2A or 2B known to have used desmopressin safely and effectively – (Octostim/DDAVP) 0.3 mcg/kg (max. 20 mcg)–SC/IV

For patients not responding to desmopressin (such as Type 3 or Type 2B) use Humate-P 40-60 Ristocetin cofactor units/kg

For mucosal bleeds in all above add:
Tranexamic Acid (Cyklokapron) 25 mg/kg po tid 1-7 days (contraindicated if hematuria)

Dosages are patient specific – these are general guidelines only. Round doses up to the nearest vial.
If the products listed are not available, please call the nearest Canadian Blood Services or Héma-Québec Centre.

GUIDELINES FOR EMERGENCY MANAGEMENT OF HEMOPHILIA AND VON WILLEBRAND DISEASE

FactorFirst

Canadian Hemophilia Society
Help Stop the Bleeding

AHCDC Association of Hemophilia Clinic Directors of Canada

www.hemophilia.ca/emergency

Remember... FactorFirst

PROMPT INFUSION will halt bleeding, minimize long-term complications and can save life. If bleeding persists, follow the guidelines for life or limb-threatening bleeds and call the:

Hemophilia Treatment Centre

Physician: _____

Nurse: _____

Day Phone: _____

Night Phone: _____

This treatment card is not intended to replace comprehensive guidelines developed by the Association of Hemophilia Clinic Directors of Canada (AHCDC)
www.ahcdc.ca/publications.html

Delay in the restoration of hemostasis to the patient with hemophilia or von Willebrand disease may be life or limb-threatening.

- **PROMPT TRIAGE AND ASSESSMENT.**
- Determine the severity of the bleed.
- Recognize that bleeding in the head, spine, abdomen or pelvis may initially be occult and potentially life-threatening.
- **TREAT FIRST AND INVESTIGATE LATER – "FACTOR FIRST".**
- Avoid invasive procedures such as arterial punctures unless the patient has factor replacement.
- **NO** IM injections and **NO** ASA.
- The patient or guardian may be your most important resource, so do ask about specific treatment protocols.
- Contact the patient's Hemophilia Treatment Centre where a hematologist is always on call.
- Provide clear discharge instructions and arrange a follow-up plan or admit to hospital if necessary.

Use Universal Precautions

Patient Information:

Name: _____

Date of Birth: _____

Diagnosis: _____

Severity: _____ Level: _____

Response to desmopressin (DDAVP): ☐ no ☐ yes to _____ %

Inhibitors: ☐ no ☐ yes

Other Medical Information: _____

Date of Recommendation: ____/____/____

Signature of Physician _____

Recommended Treatment:

Product and Dose/kg for Life or Limb-threatening Bleeds:

Product and Dose/kg for Moderate/Minor Bleeds:

Patient Information:

Name: _____

Date of birth: _____

Diagnosis: _____

_____

_____

Severity: _____ Level: _____

Other medical information: _____

_____

_____

_____

Date of recommendation: ____/____/____

Signature of physician: _____

Recommended Treatment:

Product and dose/kg for life or limb-threatening bleeds:

_____

_____

_____

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Product and dose/kg for moderate/minor bleeds:

_____

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GUIDELINES FOR EMERGENCY MANAGEMENT OF RARE BLEEDING DISORDERS

TreatFirst

Canadian Hemophilia Society
Help Stop the Bleeding

AHCDC Association of Hemophilia Clinic Directors of Canada

www.hemophilia.ca/emergency

Remember... TreatFirst

PROMPT TREATMENT will halt bleeding, minimize long-term complications and can save life. If bleeding persists, follow the guidelines for life or limb-threatening bleeds and call the:

Bleeding Disorder Treatment Centre

Hospital: _____

Physician: _____

Nurse: _____

Day Phone: _____

Night Phone: _____

DELAY IN THE RESTORATION OF HEMOSTASIS TO THE PATIENT WITH A RARE BLEEDING DISORDER MAY BE LIFE OR LIMB-THREATENING.

- **PROMPT TRIAGE AND ASSESSMENT.**
- Determine the severity of the bleed.
- Recognize that bleeding in the head, spine, abdomen or pelvis may initially be occult and potentially life-threatening.
- **TREAT FIRST AND INVESTIGATE LATER.**
- Avoid invasive procedures such as arterial punctures unless the patient has received treatment.
- **NO** IM injections and **NO** ASA.
- The patient or guardian may be your most important resource, so do ask about specific treatment protocols.
- **CONTACT THE PATIENT'S BLEEDING DISORDER TREATMENT CENTRE WHERE A HEMATOLOGIST IS ALWAYS ON CALL.**
- Provide clear discharge instructions and arrange a follow-up plan or admit to hospital if necessary.

Use Universal Precautions

LIFE OR LIMB-THREATENING BLEEDS

PATIENT MUST RECEIVE TREATMENT URGENTLY

- Head (intracranial) and neck
- Chest, abdomen, pelvis, spine
- Iliopsoas muscle and hip
- Massive vaginal hemorrhage
- Extremity muscle compartments
- Fractures or dislocations
- Any deep laceration
- Any uncontrolled bleeding

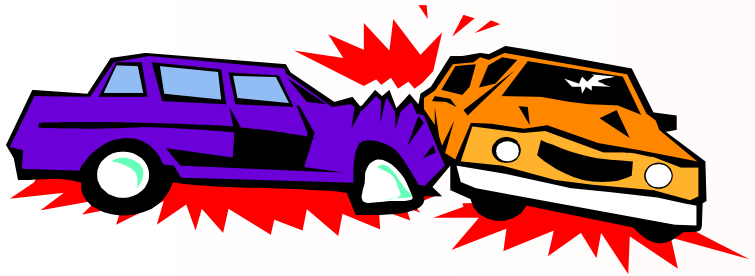
MODERATE/MINOR BLEEDS

PATIENT MUST RECEIVE TREATMENT WITHIN 30 MINUTES WHENEVER POSSIBLE

- Nose (epistaxis)
- Mouth (including gums)
- Joints (hemarthroses)
- Menorrhagia
- Abrasions and superficial lacerations

Mechanism of Injury

- The mechanism of injury itself can determine the Pre-CTAS Level.
- High-risk mechanism of injury patients are assigned to Pre-CTAS Level 2
- Lower-risk patients assessed with other modifiers



Mechanism of Injury

MOI	Pre-CTAS Level 2
General Trauma	**MVC**: Ejection from vehicle, rollover, extrication time>20 minutes, significant intrusion into passenger's space, death in the same passenger compartment, impact >40 km/h (unrestrained) or impact>60 km/h (restrained) **MCC**: Where impact with a car>30 km/hr, especially if rider is separated from motorcycle **Pedestrian or bicyclist:** Run over or struck by vehicle at >10 km/h **Fall:** of >18 ft (>6 m) **Penetrating injury:** To head, neck, torso or extremities proximal to elbow and knee
Head Trauma	**MVC**: ejection from vehicle, unrestrained passenger striking head on windshield **Pedestrian:** struck by vehicle **Fall:** from >3 ft (>1 m) or 5 stairs **Assault:** With blunt object other than fist or feet
Neck Trauma	**MVC**: ejection from vehicle, rollover, high speed (esp. if driver unrestrained) **MCC** **Fall:** from >3 ft (>1 m) or 5 stairs **Axial load to the head**

Definition

- 2nd Order Modifiers are specific to a limited number of complaints and
  - may be required to supplement 1st Order Modifiers to ensure the patient is assigned an appropriate acuity score or
  - may be an absolute requirement to assign an acuity score for patients with certain complaints where1st Order Modifiers are either irrelevant or totally inadequate to assign acuity.
  - Examples:
    - Blood glucose level
    - Degree of dehydration
    - Hypertension

Blood Glucose Level

CEDIS Presenting Complaint	Blood Glucose Level	Symptoms	Pre-CTAS Level
Altered level of consciousness; Confusion; Hyperglycemia; Hypoglycemia	<3mmol/L	Confusion, diaphoresis, behavioral change, seizure	2
		None	3
	>18mmol/L	Dyspnea, dehydration, weakness	2
		None	3

Dehydration Severity

CEDIS Presenting Complaint	Second Order Modifier	Pre-CTAS Level
Vomiting and/or nausea; Diarrhea; General Weakness	***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 & a history of decreased fluid intake or increased fluid loss or both	3
	Potential dehydration: no symptoms of dehydration but presenting cause of fluid loss ongoing or difficulty tolerating oral fluids	4

Adults - Hypertension

Blood Pressure	Symptoms	Pre-CTAS Level
SBP >220 or DBP >130	**Any** other symptoms	2
SBP >220 or DBP >130	**No** other symptoms	3
SBP 200 - 220 or DBP 110 - 130	**Any** other symptoms	3
SBP 200 - 220 or DBP 110 - 130	**No** other symptoms	4 & 5

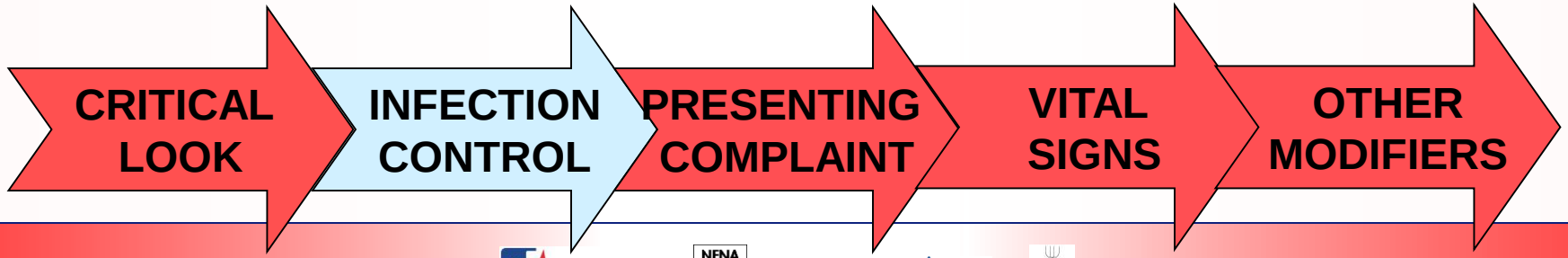
- 1st order modifiers not applicable in these patients, unless “symptomatic”

Selected 2nd Order Modifiers

Presenting Complaint	Revised Modifier	Pre-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 < 4.5 hrs	2
	> 4.5 hrs or resolved	3
Difficulty swallowing / dysphagia	drooling or stridor	2
	possible foreign body	3
Upper or Lower extremity injury	obvious deformity	3

Determining the Pre-CTAS Level

1. Select appropriate CEDIS complaint
2. Apply appropriate 1st order modifiers
3. Select relevant complaint-specific 2nd order modifiers
4. Apply judgment to ensure Pre-CTAS guided level supports patient's illness severity, before assigning final level



Case Scenarios

1. Review your assigned case
2. Determine the triage level
3. Present your rationale

Adult Case 1

- 75 year old male
- 3 day history of general malaise, headache, fever, but appears well
- Mild respiratory effort, slight cough
- RR 18, HR 98 and regular, BP 140/80, O_2 Sats 94%
- Temp 38.5C
- GCS of 14

Adult Case 2

- 42 year old
- Unresponsive male in
- Moderate respiratory distress (RR 10), O_2 Sat not providing readable wave form
- Skin pale, cool and moist
- Pulse weak and thready, HR and BP unmeasurable
- GCS 6
- Mechanism of injury - not known

Adult Case 3

- A 26 year old male calls complaining of 6/10 elbow pain for the past 3 hours
- No obvious evidence of swelling or deformity and no trauma history but patient states he is a hemophiliac and needs treatment
- Does not have his Factor First card with him
- Vital signs are normal and he is afebrile
- Hand is normal color and function & good distal pulses

Adult Case 4

- 33 year old female sitting on the curb with crutches and a note from the urgent care clinic physician requesting an air splint for a reported undisplaced fracture of the base of her 5th metatarsal
- Normal vital signs
- Complaining of mild pain (3/10)
- No redness, obvious bruising or swelling of the foot

Adult Case 5

- 68 year old female with
- Severe substernal chest pain, radiating up to anterior neck
- Shortness of breath, increased work of breathing, and speaking in clipped sentences
- RR 24, HR 86, BP 112/78
- O_2 Sat 91%
- Pain scale 9/10

Adult Case 6

- 24 year old male called EMS following a knife fight outside a bar.
- He has a bandage around his left upper arm with bleeding obviously controlled and a reported puncture wound just medial to his left scapula.
- Looks well, good color, no complaints of shortness of breath, alert
- RR 18, HR 86, BP 130/82
- No complaints of pain
- Has strong left radial pulse and normal function

Adult Case 7

- 30 year old female, collared and boarded
- Mechanism of injury - motor vehicle traveling at 100 km/hr, struck a telephone pole and rolled.
- Mild respiratory distress
- Skin pale, cool, moist
- RR 24, HR 130, BP 104/78, O_2 Sat 94%
- Temp 36.8C
- GCS 15, no reported loss of consciousness.
- Complains of sore neck and vague abdominal pain, pain score 5/10

Adult Case 8

- 42 year old female
- Complaining of redness, and discomfort (up to 6/10) with use, over her dorsomedial right distal forearm
- RR 17, HR 77, BP 140/89
- Temp 36.8C
- Pain 2/10 at rest

Adult Case 9

- 32 year old male's right thigh was pinned against a palate of lumber at work by a forklift
- Though no obvious deformity his thigh is very painful (8/10) and swollen, and any passive movement of the foot makes his thigh pain worse
- RR 21, HR 104, BP 152/92, O_2 Sat 98%
- He hands you his Factor First card indicating he has Von Willebrand's disease

Adult Case 10

- 24 year old female
- Nausea and excruciating abdominal pain
- Unprotected sexual intercourse 2 months ago
- Mild respiratory distress
- RR 24, HR 120, BP 90/60
- O_2 Sat of 94%
- GCS 15
- Pain 9/10

Adult Case 11

- 60 year old female with fever for 2 hours
- Last chemotherapy 2 days ago
- No respiratory distress
- Skin flushed, warm and dry, looks unwell
- RR 19, HR 102, BP 110/80, O_2 Sat 96%
- Temp 39C
- GCS 15
- No pain, no history of injury

Adult Case 12

- 32 year old male with a puncture wound right, distal forearm. No bleeding
- No respiratory distress, Skin warm and dry,
- In no pain
- Vital Signs: RR 16, P 69, BP 110/70, GCS 15, Temp 36.8C O_2 Sat 98%
- MOI - brushed his arm against a dry wall screw

Adult Case 13

- 75 year old female slipped on wet floor and fell
- Complains of right hip pain
- Did not hit her head
- Right leg is shortened and externally rotated
- Pedal pulse is present
- Vital Signs normal, alert, pain score 8/10

Adult Case 14

- 72 year old male with shortness of breath.
- Developed cold with cough, sputum and fever.
- Known patient
- No more distressed than usual
- RR 26, HR 89, BP 135/85, O_2 Sat is 93%
- Temp 38.5C
- Alert and no pain.

Adult Case 15

- Called to back alley where a 22 year old female is found unresponsive; needle tracks noted u
- Unable to start IV
- On O_2 via NRB mask, reportedly protecting airway
- RR 10, HR 44, BP 110/70
- Temp 35.2C
- GCS 9-10; does not open eyes, groans and appears to localize pain, pupils small and sluggish.

Adult Case 16

- 42 year old male complains of lower abdominal pain and an intermittent swelling in his right groin for 7 months.
- No vomiting or constipation.
- The swelling goes away if he lies down.
- RR 18, P 72, BP 138/94
- T 36.7C
- He indicates the pain is always 6 or 7 out of 10, but may go up to 8 or 9.
- He moves readily and appears comfortable.

Adult Case 17

- 66 year old female complains of fatigue, chills and left lower posterior chest pain.
- She looks tired and somewhat apathetic and her oral intake has been poor for 24 hours.
- On thiazide diuretic and captopril for hypertension, no other co-morbidities.
- RR 24, HR 96, BP 114/76, O_2 Sat 94%
- T 38.7C

Adult Case 18

- 64 year old, chronically bed bound, male presented to rural ED with left lower quadrant abdominal pain and bloating
- Your EMS crew is requested to transfer the patient to the city for a CT abdomen
- Looks well, no vomiting or diarrhea; pain and abdominal bloating has largely resolved
- RR 18, P 90, BP 130/78, GCS 15, O_2 Sat 97%
- Temp 36.8C

Adult Case 19

- 46 year old female
- History of frequent headaches
- Headache, pain 8/10, with nausea, and light sensitivity, however, pattern & severity same as usual presentation
- Vital signs normal
- No injury history

Reassessments

- Pre-CTAS reassessment primarily for delayed EMS offloads or long transfers
- Reassess recommendations based on acuity:
  - Level 1 - continuous EMS care
  - Level 2 - every 15 minutes
  - Level 3 - every 30 minutes
  - Level 4 - every 60 minutes
  - Level 5 - every 120 minutes
- More frequent evaluations for Pre-CTAS levels 3, 4, & 5 during transport may be appropriate

Module Two - Review

Questions?