Applying CTAS to Adults

Assigning CTAS Scores Using CEDIS
Chief Complaint and Modifiers

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CTAS National Working Group
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Module 2 - Objectives

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

Critical Look - rapid visual assessment

Infection Control

Presenting Complaint

1st Order Modifiers

2nd Order Modifiers

CTAS Level – Assign Triage Level

Reassessment
CTAS Five Level Triage

- Level 1 - Resuscitation
- Level 2 - Emergent
- Level 3 - Urgent
- Level 4 - Less Urgent
- Level 5 - Non-Urgent
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
- Respiratory arrest
- Major trauma (in shock)
- Shortness of breath (severe respiratory distress)
- Altered level of consciousness (unconscious, GCS 3-9)
Level 1 - Case Example

CEDIS Presenting Complaint – Cardiac Arrest

- 68 year old female
- Severe chest pain and shortness of breath
- Collapses to the floor
- Vital Signs Absent
Level 2 - Emergent

“Conditions that are a potential threat to life, limb or function, requiring rapid intervention”
Level 2 - Presentations

- Shortness of breath (*moderate respiratory distress*)
- Vomiting blood (*dizzy on sitting up*)
- Hypertension (*SBP >220 or DBP >130 with symptoms*)
- Altered Level of Consciousness (*GCS 10-13*)
- Fever (*>38C, looks septic*) (*3 SIRS criteria*)
Level 2 - Presentations continued

- Chest pain, cardiac features
- Chest pain, non cardiac features (other significant chest pain ripping or tearing)
- Abdominal pain (severe acute pain 8/10)
- Headache (sudden, severe, worst ever)
- Major trauma - blunt, no obvious injury, (pedestrian struck by car travelling at speed)
Level 2 - Case Example

CEDIS Presenting Complaint – Chest Pain, cardiac features

- 52-year old male
- Reported a 1 hour history of heavy, central substernal chest pain, which has now resolved
- 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**)
- Hypertension (**SBP >220 or DBP >130 with no symptoms**)
- Vomiting &/or nausea (**mild dehydration**)


Level 3 - Presentations continued

- Abdominal pain (moderate acute pain 4 - 7/10)
- Headache (moderate acute pain 4 - 7/10)
- Diarrhea (uncontrolled bloody diarrhea)
Level 3 - Case Example

CEDIS Presenting Complaint – Abdominal pain

- 62 - year old male
- States pain worsening to 5/10 over last 12 hours
- Vital signs 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

- Confusion (chronic, no change from usual state)
- UTI complaints/symptoms (with mild dysuria)
- Constipation (with mild pain)
Level 4 - Case Example

CEDIS Presenting Complaint – Laceration

■ 35 year old worker in warehouse
■ 3 cm laceration on right palm cut with a utility knife
■ Not actively bleeding, pain 4/10
■ 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.”
Level 5 - Presentations

- Diarrhea (mild, no dehydration)
- Minor bites (+/- mild acute peripheral pain)
- Dressing changes (uncomplicated)
- Medication request
Level 5 - Case Example

CEDIS Presenting Complaint – Dressing change

- A 34 year old otherwise healthy patient presents requesting a dressing change.
- No other issues identified
Caveat - “First Look”

- All patients in respiratory or cardiac arrest, severe respiratory distress, shock, or unconscious go directly to resuscitation
  - Institution-based triage documentation completed later
- Obviously unstable patients with moderate respiratory distress, hemodynamically unstable, or altered level of consciousness should have
  - Triage performed at the bedside whenever possible
- Apparently stable patients have the triage process initiated & completed at triage
  - Unless instability identified during triage
Importance of Infection Control

- Patients stable enough to triage should be assessed for communicable disease risk
  - Coughing, vomiting = droplet precautions
  - Diarrhea, weeping wounds = contact precautions
- Important, as a department, to have a process for unstable patients sent directly to treatment area without time for screening
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 triage’
  - Interpret presenting findings into best guess CEDIS complaint
Canadian Emergency Department Information System (CEDIS)

- Endorsed by CAEP, NENA, CPS, AMUQ
- The objective of the CEDIS working group is to develop a comprehensive national ED data set that meets the information needs of Canadian EDs.
- Such a data set will enable regional, provincial and national comparisons, for evaluation, quality improvement and research applications in both rural and urban settings.
- The eventual CEDIS goal is not to insist that all EDs capture mandatory data elements by a particular date, but rather to establish a standard so that, as ED information systems evolve, they do so in a convergent rather than divergent fashion, striving for the same information goal, albeit at different rates.
CEDIS Complaint List

- Standardized presenting complaint list
- 17 categories
- 167 different complaints
The CEDIS Categories

Substance Misuse (SUBST)  Gastrointestinal (GI)
Mental Health (MH)  OB – GYN (OB-GYN)
Neurologic (CNS)  Genitourinary (GU)
Opthalmologic (OPTH)  Orthopedic (ORTHO)
ENT – Nose (ENT-N)  Trauma (T)
ENT – Ears (ENT-E)  Environmental (ENV)
ENT – Mouth, throat, neck  Skin (SKIN)
(ENT-MTN)  General and Minor (GEN)
Respiratory (RESP)
Presenting Complaint Example 1

- 75 year old male
- Strength and ability to ambulate has declined
- Sleeps more than usual

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

- Patient returning to ED for U/S test

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?
The CEDIS presenting complaint, together with additional assessment information gained from the critical look and by applying modifiers, determine the appropriate CTAS level to assign.
First Order Modifiers

**Vital Signs**
- Respiratory Distress..................**Airway**
  ......................**Breathing**
- Hemodynamic Status.............**Circulation**
- Level of Consciousness..........**Disability**
- Temperature

**Other**
- Pain Score
- Bleeding Disorder
- Mechanism of Injury
# Respiratory Distress

<table>
<thead>
<tr>
<th>Level of Respiratory Distress</th>
<th>$O_2$ Sat</th>
<th>PEFR predicted</th>
<th>CTAS Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Severe:</strong> Fatigue from excessive work of breathing, cyanosis, single-word speech or unable to speak, upper airway obstruction, lethargic or confused, intubated or requiring assisted breathing</td>
<td>$&lt;90%$</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td><strong>Moderate:</strong> Increased work of breathing, speaking phrases or clipped sentences, significant or worsening stridor, but airway protected</td>
<td>$&lt;92%$</td>
<td>$&lt;40%$</td>
<td>2</td>
</tr>
<tr>
<td><strong>Mild:</strong> Dyspnea, tachypnea, shortness of breath on exertion, no obvious increased work of breathing, able to speak in sentences, stridor without any obvious airway obstruction</td>
<td>92 - 94%</td>
<td>40 - 60%</td>
<td>3</td>
</tr>
</tbody>
</table>
## Hemodynamic Stability

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

<table>
<thead>
<tr>
<th>Status</th>
<th>GCS</th>
<th>CTAS Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unconscious</strong>: unable to protect airway, continuous seizure or progressive deterioration in level of consciousness</td>
<td>3 – 9</td>
<td>1</td>
</tr>
<tr>
<td><strong>Altered level of consciousness</strong>: loss of orientation to person, place or time; new impairment of recent memory; new onset confusion, agitation</td>
<td>10 – 13</td>
<td>2</td>
</tr>
<tr>
<td><strong>Normal</strong>: Use other modifiers to define CTAS</td>
<td>14 – 15</td>
<td>3, 4 or 5</td>
</tr>
</tbody>
</table>
*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 sepsis**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>CTAS Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fever &gt;38C (age ≥17 years)</strong></td>
<td>2</td>
</tr>
<tr>
<td><em>Immunocompromised:</em> neutropenia (or suspected), chemotherapy or on immunosuppressive drugs including steroids.</td>
<td></td>
</tr>
<tr>
<td><strong>Looks septic:</strong> has 3 positive SIRS criteria*</td>
<td></td>
</tr>
<tr>
<td><strong>Looks unwell:</strong> &amp;/or has 1 or 2 positive SIRS criteria</td>
<td>3</td>
</tr>
<tr>
<td><strong>Looks well:</strong> has fever as the only positive SIRS criterion</td>
<td>4</td>
</tr>
</tbody>
</table>
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 >38°C or <36°C; heart rate >90 beats/minute; respiratory rate >20 breaths/minute or PaCO₂ <32 torr (<4.3 kPa); WBC >12000 cells/mm³, <4000 cells/mm³ 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*).
<table>
<thead>
<tr>
<th>Severity &amp; Score</th>
<th>Location</th>
<th>Acute/Chronic</th>
<th>CTAS Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe 8 - 10</td>
<td>Central</td>
<td>Acute</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Peripheral</td>
<td>Acute</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic</td>
<td>4</td>
</tr>
<tr>
<td>Moderate 4 - 7</td>
<td>Central</td>
<td>Acute</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Peripheral</td>
<td>Acute</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic</td>
<td>5</td>
</tr>
<tr>
<td>Mild 1 - 3</td>
<td>Central</td>
<td>Acute</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Peripheral</td>
<td>Acute</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic</td>
<td>5</td>
</tr>
</tbody>
</table>
## Bleeding Disorder

<table>
<thead>
<tr>
<th>Life or Limb Threatening Bleed</th>
<th>Moderate/Minor Bleed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CTAS level 2</strong></td>
<td><strong>CTAS level 3</strong></td>
</tr>
<tr>
<td>Head (intracranial) &amp; neck</td>
<td>Nose (epistaxis)</td>
</tr>
<tr>
<td>Chest, abdomen, pelvis, spine</td>
<td>Mouth (including gums)</td>
</tr>
<tr>
<td>Massive vaginal hemorrhage</td>
<td>Joints (hemarthroses)</td>
</tr>
<tr>
<td>Iliopsoas muscle &amp; hip</td>
<td>Menorrhagia</td>
</tr>
<tr>
<td>Extrem musc compartments</td>
<td>Abrasions</td>
</tr>
<tr>
<td>Fractures &amp; dislocations</td>
<td>Superficial lacerations</td>
</tr>
<tr>
<td>Deep lacerations</td>
<td></td>
</tr>
<tr>
<td>Any uncontrolled bleeding</td>
<td></td>
</tr>
</tbody>
</table>

*Patients with bleeding disorders presenting with significant bleeds require rapid factor replacement or other relevant interventions. Therapy usually takes precedence over investigations.  
[www.hemophilia.ca/emergency](http://www.hemophilia.ca/emergency)  [www.hemophilia.ca/urgence](http://www.hemophilia.ca/urgence)*
GUIDELINES FOR EMERGENCY MANAGEMENT OF HEMOPHILIA AND VON WILLEBRAND DISEASE

TREATMENT FOR LIFE OR LIMB-THREATENING BLEEDS

PATIENT MUST RECEIVE PRODUCT URGNTLY

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 WF factor containing factor VIII concentrate such as Humate-P 60-80 Units/caf

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

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 (AHDCX) www.ahcdx.ca/publications.html

Use Universal Precautions

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 (Octadase/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 safety and effectively – (Octadase/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 30-60 Units/caf

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 Hemma-Quebec Centre.

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 (AHDCX) www.ahcdx.ca/publications.html

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: ________________________________

Recommended Treatment:

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

________________________________________________________

Product and Dose/kg for Moderate/Minor Bleeds:

________________________________________________________

Date of Recommendation: ________________________
Signature of Physician _____________________________
Remember...

Treat First

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.

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

Treat First and Investigate Later.

- No M injections and no NSAIDs, the patient or guardian may be your most important resource, so do ask about specific treatment protocols.
- Avoid invasive procedures such as arterial punctures unless the patient has received treatment.
- Recognize that bleeding in the head, spine, abdomen, pelvis, and joints may be occult and potentially life-threatening.
- The patient is often in shock and not able to provide clear discharge instructions and arrange a follow-up plan or admit to hospital if necessary.

GUIDELINES FOR EMERGENCY MANAGEMENT OF RARE BLEEDING DISORDERS

LIFE OR LIMB-THREATENING BLEEDS

- Any uncontrolled bleeding
- Any deep laceration
- Extremity muscle compartments
- Lipoaasia muscle and hip
- Massove vaginal haemorrhage
- Massive abdomen, pelvis, spine
- Severe head injury

MODERATE/MINOR BLEEDS

- Any uncontrolled bleeding
- Any deep laceration
- Any lacerations
- Any superficial lacerations
- Aversion
- Nose (epistaxis)
- Joint (hemarthroses)
- Blood or dark stools
- Black and blue bruising

INFLICT TREATMENT WITHIN 5 MINUTES WHERE POSSIBLE

INFLICT TREATMENT WITHIN 3 MINUTES WHERE POSSIBLE
The mechanism of injury itself can determine the CTAS Level.

- **High-risk** mechanism of injury (MOI) patients are assigned to CTAS Level 2

- Lower-risk (MOI) patients assessed using other modifiers
# Mechanism of Injury

<table>
<thead>
<tr>
<th>MOI</th>
<th>CTAS Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Trauma</strong></td>
<td><strong>MVC:</strong>&lt;br&gt;<strong>MCC:</strong>&lt;br&gt;Pedestrian or bicyclist:&lt;br&gt;Fall: From &gt;18 ft (&gt;6 m)&lt;br&gt;Penetrating injury: To high risk anatomical regions</td>
</tr>
<tr>
<td><strong>Head Trauma</strong></td>
<td><strong>MVC:</strong>&lt;br&gt;Pedestrian: struck by vehicle&lt;br&gt;Fall: from &gt;3 ft (&gt;1 m) or 5 stairs&lt;br&gt;Assault: With blunt object</td>
</tr>
<tr>
<td><strong>Neck Trauma</strong></td>
<td><strong>MVC:</strong>&lt;br&gt;<strong>MCC:</strong>&lt;br&gt;Fall: From &gt; 3ft (1 m) or 5 stairs&lt;br&gt;<strong>Axial load</strong> to the head</td>
</tr>
</tbody>
</table>
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 a triage score for patients with certain complaints where 1st Order Modifiers are either irrelevant or totally inadequate to assign acuity.

- **Examples:**
  - Blood glucose level
  - Degree of dehydration
### Blood Glucose Level

<table>
<thead>
<tr>
<th>CEDIS Presenting Complaint</th>
<th>Blood Glucose Level</th>
<th>Symptoms</th>
<th>CTAS Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altered level of consciousness; Confusion; Hyperglycemia; Hypoglycemia</td>
<td>&lt;3mmol/L</td>
<td>Confusion, diaphoresis, behavioral change, seizure</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>&gt;18mmol/L</td>
<td>Dyspnea, dehydration, weakness</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
## Dehydration Severity

<table>
<thead>
<tr>
<th>CEDIS Presenting Complaint</th>
<th>Second Order Modifier</th>
<th>CTAS Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vomiting and/or nausea; Diarrhea; General weakness</td>
<td><strong>Severe dehydration:</strong> marked volume loss with classic signs of dehydration and signs and symptoms of shock</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Moderate dehydration:</strong> dry mucous membranes, tachycardia, plus or minus decreased skin turgor and decreased urine output</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Mild dehydration:</strong> stable vital signs with complaints of increasing thirst and concentrated urine &amp; a history of decreased fluid intake or increased fluid loss or both</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Potential dehydration:</strong> no symptoms of dehydration but presenting cause of fluid loss ongoing or difficulty tolerating oral fluids</td>
<td>4</td>
</tr>
</tbody>
</table>
### Adults - Hypertension

<table>
<thead>
<tr>
<th>Blood Pressure</th>
<th>Symptoms</th>
<th>CTAS Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBP &gt;220 or DBP &gt;130</td>
<td><strong>Any</strong> other symptoms</td>
<td>2</td>
</tr>
<tr>
<td>SBP &gt;220 or DBP &gt;130</td>
<td><strong>No</strong> other symptoms</td>
<td>3</td>
</tr>
<tr>
<td>SBP 200 - 220 or DBP 110 - 130</td>
<td><strong>Any</strong> other symptoms</td>
<td>3</td>
</tr>
<tr>
<td>SBP 200 - 220 or DBP 110 - 130</td>
<td><strong>No</strong> other symptoms</td>
<td>4 &amp; 5</td>
</tr>
</tbody>
</table>

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

- 66 year old female
- Presents with a sore right lower leg and ankle with swelling and redness. No injury reported and the patient is otherwise asymptomatic.
- Pain is 6/10
- Vital Signs: RR 21, HR 92, BP 222/130, Temp 37.4°C
**Selected 2nd Order Modifiers**

<table>
<thead>
<tr>
<th>Presenting Complaint</th>
<th>Revised Modifier</th>
<th>CTAS level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest pain, non cardiac features</td>
<td>other significant chest pain (ripping or tearing)</td>
<td>2</td>
</tr>
<tr>
<td>Extremity weakness / symptoms of CVA</td>
<td>time of onset of symptoms &lt; 4.5 hrs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>&gt; 4.5 hrs or resolved</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty swallowing / dysphagia</td>
<td>drooling or stridor</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>possible foreign body</td>
<td>3</td>
</tr>
<tr>
<td>Upper or Lower extremity injury</td>
<td>obvious deformity</td>
<td>3</td>
</tr>
</tbody>
</table>
Determining the CTAS Level

1. Select appropriate CEDIS complaint
2. Apply appropriate 1st order modifiers
3. Select relevant complaint-specific 2nd order modifiers
4. Apply nursing judgment to ensure CTAS guided level support patients illness severity, before assigning final level
Case Scenarios

1. Review your assigned case
2. Determine the triage level
3. Present your rationale
4. **Recommend confirm using COT**
   - COT stands for Complaint Oriented Triage and refers to an electronic support reference freely available on the CAEP website
   - Created in power point, can be housed on any computer for quick reference
Adult Case 1

- 75 year old male
- 3 day history of general malaise, headache, fever, but appears well
- Mild respiratory effort, slight cough
- HR 98 (regular), BP 140/80
- Temp 38.5C
- O₂ Sat 94%
- GCS of 14
Adult Case 2

- 42 year old male
- Unresponsive
- Moderate respiratory distress, RR 10, O$_2$ Sat deferred
- Pulse weak and thready, heart rate and BP deferred
- Skin pale, cool and moist
- GCS 6
- Mechanism of injury - not known
Adult Case 3

- 26 year old male presents 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 need 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
- Sent in 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

- 61 year old female vomited coffee ground emesis, has upper abdominal pressure and bloating, and decreased oral intake
- No diarrhea, no melena, but increasingly thirsty
- Skin pale, warm, dry
- RR 20 (no distress noted), HR 100, BP 102/70, $O_2$ Sat 98%, GCS 15
- Temperature 37°C
- Pain 3/10
Adult Case 6

- 68 year old female
- Severe substernal chest pain, radiating up to anterior neck
- Shortness of breath, increased work of breathing, clipped sentences
- RR 24, HR 86, BP 112/78
- O2 Sat 91%
- Pain Scale 9/10
Adult Case 7

- 24 year old male brought in by 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 and not complaining of pain.
- RR 18, HR 86, BP 130/82
- Has strong left radial pulse and normal function.
Adult Case 8

- 30 year old female, collared and boarded
- Complains of sore neck and vague abdominal pain, pain score 5/10
- Mild respiratory distress
- Skin pale, cool, moist
- RR 24, HR 130, BP 104/78, O₂ Sat 94%
- GCS 15, no loss of consciousness
- Temperature 36.8°C
- Mechanism of injury - motor vehicle traveling at 100 km/hr, struck a telephone pole and rolled.
Adult Case 9

- 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, T 36.8°C
- Pain at rest is only 2/10
Adult Case 10

- 20 year old female
- Vaginal bleeding
- Mild abdominal pain, score 3/10
- LMP was 7 days ago, periods irregular
- Not sexually active or pregnant
- RR 18, HR 89, BP 110/70, Temp 37°C, O₂ Sat 99%
Adult Case 11

- 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, O2 Sat 98%
- EMS hand you his Factor First card indicating he has Von Willebrand’s disease.
Case 12

- 76 year old male developed sudden right arm weakness and slurred speech 5 hours ago
- Denies chest pain or other symptoms
- No history of hypertension, no meds
- RR 19, HR 107/min, Temp 37°C, BP 146/92, O₂ Sat 94%, GCS 15
Adult Case 13

- 24 year old female
- Abdominal pain, excruciating, score 9/10
- Nausea
- Unprotected sexual intercourse 2 months ago
- Mild respiratory distress
- HR 120, BP 90/60
- \(O_2\) Sat of 94%
- GCS 15
Adult Case 14

- 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, Temp 39°C, O₂ Sat 96%
- GCS 15
- No pain, no history of injury
Adult Case 15

- A 77 year old woman is brought to the ED with a history of falling yesterday and injuring her right arm.
- She is alert and not complaining of any pain, however, there is an obvious deformity above her wrist splinted with a magazine.
- Perfusion to her hand and sensation are normal.
- RR 18, HR 62, BP 132/86, GCS 15.
Adult Case 16

- 32 year old male with a puncture wound right, distal forearm. No bleeding
- No respiratory distress
- Skin warm and dry
- RR 16, HR 69, BP 110/70, Temp 36.8C, O₂ Sat 98%
- GCS = 15
- No pain
- MOI - brushed his arm against a dry wall screw
Adult Case 17

- 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 18

- 72 year old male complaining of increasing shortness of breath
- Developed cold with cough, sputum and fever
- RR 26, HR 74, BP 136/84, Temp 38.5°C, O₂ Sat 93%
- Patient known to staff and appeared no more distressed than usual
- Alert and no pain
Adult Case 19

- 22 year old female brought in by EMS
- Found unresponsive in a back alley; needle tracks noted
- EMS unable to start IV
- On O2 mask, reportedly protecting airway
- Does not open eyes, groans and appears to localize pain, pupils small and sluggish.
- GCS 9-10
- RR 10, HR 44, BP 110/70, T 35.2C
Adult Case 20

- 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, HR 72, BP 138/94, Temp 36.7C
- He indicates the pain is always 6 or 7 out of 10 but may go up to 8 or 9
- He has helped himself to cookies and juice while waiting. He does not appear to be in pain or distress
Adult Case 21

- 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, Temp 38.7°C, O₂ Sat 94%,
Adult Case 22

- 64 year old male
- Seen yesterday for lower left quadrant abdominal pain and bloating
- Returned for CT abdomen
- Looks well, pain in the abdomen and bloating has resolved
- No nausea, vomiting or diarrhea
- RR 18, HR 90, BP 130/78, Temp 36.8°C, O₂ Sat 97%, GCS 15
Adult Case 23

- 18 year old male with 3-4 day history of sore throat, hoarse voice and runny nose
- Used cold remedies, no relief of symptoms
- Looks well, voice a little hoarse
- No stridor, no drooling, swallowing well
- No obvious lymph swelling in neck, no foul odor in his breath
- RR 18, HR 87, BP 113/76, Temp 37.4°C, O₂ Sat 98%, GCS 15, Pain 1/10
Adult Case 24

- 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

- Advise patients to return to triage if their condition changes while waiting.
- Reassess waiting patients within the following time frames:
  - Level 1 - continuous nursing care
  - Level 2 - every 15 minutes
  - Level 3 - every 30 minutes
  - Level 4 - every 60 minutes
  - Level 5 - every 120 minutes
- Document reassessments & acuity changes - but never change the original CTAS Level.
Module Two - Review

Questions?