Implementation Guidelines for The Canadian Emergency Department Triage & Acuity Scale (CTAS).

Endorsed by the Canadian Association Of Emergency Physicians (CAEP), the National Emergency Nurses Affiliation of Canada (NENA), and L'association des médecins d'urgence du Québec (AMUQ).

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Canadian ED Triage & Acuity Scale

1) INTRODUCTION & BACKGROUND

What is Triage and why do we do it?
What is a Triage & Acuity Scale? Is that something different?

Triage in the simplest term is the sorting or prioritizing of items (clients, patients, tasks…). Some form of triaging has been in place, formally or informally since the first ED opened. In some instances Triage occurs at registration and in others specifically trained health care providers perform it after registration.

Efficient management of an ED requires a team of providers capable of correctly identifying patients needs, setting priorities and implementing appropriate treatment, investigation and disposition. As needs or expectations for rapid access to care change, EDs are frequently challenged to do more for the "system" than they have either been structurally designed for or have been staffed or equipped to accomplish.

The Canadian ED triage and acuity instrument attempts to more accurately define patients needs for timely care and to allow ED's to evaluate their acuity level, resource needs and performance against certain operating "objectives". Three important concepts are included in the design of this scale: 1) Utility; 2) Relevance and 3) Validity.

The Canadian ED triage & acuity scale is based on establishing a relationship between a group of sentinel events which are defined by the ICD9CM diagnosis at discharge from the ED (or from an inpatient data base) and the "usual" way patients with these conditions present. Each hospital could "build" their own unique usual presentations based on their own data. A community's demographics, cultural differences, disease patterns or other available resources (walk in clinics, type of ambulance service…) will have a small influence on the usual presentation, but will have a larger effect on the proportion of patients in the different triage levels (case mix).

The mix of patients in each triage and acuity level will be the finger print of that ED and is expected to be nearly identical to other hospitals of similar size and designation. What may vary is the ability to achieve the time objectives as a result of available resources, efficiency of system design (computerization, bed numbers, room size, physical layout, and appropriate equipment) consistency of provider care (use of guidelines/protocols) or overcrowding (inability to transfer patients).

Operational Objectives

The primary operational objective of the triage scale is related to the time to see a physician. This is because most decisions about investigation and initiation of treatment do not occur until the physician either sees the patient, or has the preliminary results necessary to recommend a course of action.

The time responses are **ideals (objectives) not established care standards.** These are based on a patient focus (what most of us would want for family members or ourselves) and the need for timely intervention to improve outcome (endotracheal intubation for respiratory failure defibrillation for cardiac arrest, thrombolysis for AMI, bronchodilators for acute severe asthma).

Since it is access to appropriate care not simply physician assessment, the time from triage to see a physician is not a strict requirement and may change based on the introduction of delegated care plans or verbal review with physicians.

In recognition of wide variations in demand for care and that “ideals” cannot always be achieved without unlimited resources, each triage level is given a “fractile” response objective. This would mean that even though a level II patient should be seen within 15 minutes it may only occur 95% of the time. While many level II patients would be seen within 0-5 minutes occasionally it might be over 30 minutes and still be in compliance with the fractile response objective. There are many practical reasons for this: If more than one level I patient arrived at the same time or 2 or more level II patients arrived simultaneously. Although level V patients have been given a time response objective of 2 hours, the fractile of 80% means that patients may wait over 6 hours on occasion.

Fractile responses

The fractile response is a way of describing how often a system operates within its stated objectives. A “fractile response” is the proportion of patient visits for a given triage level where the patients were seen within the CTAS time frame defined for that level. For example if 85% of Level 3 patients were seen by the physician within 30 minutes in the previous month, then the fractile response for that institution over that time period would be “85%”. **Fractile response does not deal with whether the absolute delay for an individual is reasonable or acceptable.**

The fractile response data can be used in a number of ways. Frequent exceedances of operating objectives implies a need for changes in the process of care, system design or sometimes reconsideration of the validity of the objective.

Time Objectives

Before deciding on the validity of time objectives based on local experience it must be understood that important differences in patient outcome may only be detected in studies that evaluate the treatment advantage in very large samples. There is a need for more research on the effect time delays have on patient outcomes.

Assigning Triage

While triage assignment is based on the “usual presentation” this is not totally dictated by the presenting complaint. The care provider’s experience/intuition (does the patient look sick?) and other information that helps to quantitate severity (vital signs, PEFR, O_2 saturation, or symptoms:

pain scales, associated symptoms) can also modify the triage decision. There are several diagnoses that appear in 3-4 triage levels (head injury, asthma, respiratory symptoms, chest pain, and psychiatric disorders…). This is a reflection of the fact that the severity of symptoms (or presence of associated signs or symptoms such as visceral chest pain with typical associated symptoms) and risk (age, sex, past history, co-morbidity) change the probability of sentinel events and the need for rapid intervention. As care plans, guidelines and protocols are introduced the assignment of triage level is expected to become more objective and less open to debate.

Changing Triage

To prevent unfair or unsafe “bumping” of patients with lower triage scores, it is reasonable to upgrade the triage level if the time response objective has not been met. For example, if a level V patient has waited 2 hours they would then be advanced to level IV. This is important because patient’s status can change while in the ED and the rules will not always accurately separate levels III, IV and V. Electronic tracking systems are especially suited to this type of operational change to the triage scale. For data reporting patient acuity can be determined using a combination of triage level, final diagnosis, information about procedures and length of stay (LOS).

2) GOALS OF TRIAGE

1. To rapidly identify patients with urgent, life threatening conditions.
2. To determine the most appropriate treatment area for patients presenting to the ED.
3. To decrease congestion in emergency treatment areas.
4. To provide ongoing assessment of patients.
5. To provide information to patients and families regarding services expected care and waiting times.
6. To contribute information that helps to define departmental acuity.

Rapid access to assessment by a health care provider increases patient satisfaction and enhances public relations. An efficient triage system should reduce client anxiety and increase satisfaction by reducing length of stay and waiting times in the emergency department. Factors, which influence triage design and operation, include:

- number of patient visits
- number of patients requiring rapid intervention
- availability of health care providers in the ED treatment area
- availability of specialty services
- environmental, legal and administrative issues
- availability of community care resources
- computer system used for ADT (admit /discharge/transfer) and patient care.

Each Emergency Department needs a clear understanding of the population being served, all the system capabilities and specific policies and procedures describing their triage system. Many time

objectives may not be met unless some type of triage assessment (rapid triage) is done before registration. This is a system design/operational policy issue that must be considered.

3) ROLE OF TRIAGE PERSONNEL

A. GENERAL TRIAGE GUIDELINES

The triage nurse should have rapid access or be in view of the registration and waiting areas at all times.

1. Greets client and family in a warm empathetic manner.
2. Performs brief visual assessments.
3. Documents the assessment.
4. Triages clients into priority groups using appropriate guidelines.
5. Transports client to treatment area when necessary.
6. Gives report to the treatment nurse or emergency physician, documents who report was given to and returns to the triage area.
7. Keeps patients/families aware of delays.
8. Reassesses waiting clients as necessary.
9. Instructs clients to notify triage nurse of any change in condition.

Accurate assignment of triage levels is based on:

- Practical knowledge gained through experience and training.
- Correct identification of signs or symptoms.
- Use of guidelines and triage protocols.

A triage level must be recorded on all patients, during all shifts. This includes all ambulance patients.

When the triage nurse has categorized more than 3 urgent patients, it is his/her responsibility to prioritize these patients for the treatment nurse/ emergency physician.

Triage is a dynamic process: A patient's condition may improve OR deteriorate during the wait for entry to the treatment area.

The Triage Process: Primary survey vs Primary Nursing Assessment:

There can be confusion about the amount of detail required to assign a triage level. A short primary survey may be necessary to ensure patient flow and reduce delays to first contact with a health provider. In many REHCF's and at certain times in larger ED's, the initial triage assessment may be a more detailed "primary nursing assessment". The need to meet time objectives for triage assignment within 10 minutes of arrival means that the triage assessment may be limited to 2 minutes unless there are other operational policies like bringing on more triage personnel. The

"primary nursing assessment" is more detailed and more accurately determines the patients need for care.

1. All patients should be assessed (at least visually) within 10 minutes of arrival.
2. Full patient assessments should not be done in the triage area unless there are no patients waiting to be seen. Only information required to assign a triage level should be recorded.
3. A primary survey (rapid assessment) should be used when there are 2 or more patients waiting to be triaged. After all patients have had some assessment done, level IV and V patients that have been sent to the waiting area should have a more complete assessment done by the triage personnel or treatment nurse. .
4. The priority for care may change following a more complete assessment or as patient's signs and symptoms change. There should be documentation of the initial triage as well as any changes. The initial triage level is still used for administrative purposes.
5. Level I, II, patients should be in a treatment area and have the complete primary nursing assessment done immediately.

The triage assessment:

1. Chief complaint: patient's statement of the problem
2. Validation and assessment of chief complaint:

A. **Subjective**: Onset/Course/Duration

- When did it start (be exact with time)? What were you doing when it started?
- How long did it last?
- Does it come and go?
- Is it still present?
- Where is the problem? Describe character and severity if painful (Pain scale).
- Radiation?
- Aggravating or alleviating factors?
- If pain is or was present: Character and intensity (pain scale) to be documented.
- Previous history of same? If yes, what was the diagnosis?

B. Objective: this part of the triage assessment may be deferred to the treatment area if the patient requires rapid access to care / interventions (Level I, II, III).

- Physical appearance - color, skin, activities
- Degree of distress: severe distress; NAD (no acute distress)
- Emotional response: anxious, indifferent
- Complete Vital Signs if time allows or necessary for assignment of triage level (Level III, IV, V).
- Physical assessment

C. Additional Information:

1. Allergies

2. Medications:
- List by name, if available
- List by category if patient doesn't know name: B/P, heart, stomach, nerve, etc

Triage is not a static process

It is important to remember that triage is a dynamic process and patients may move up or down on the urgency continuum while waiting for access to treatment areas, physician assessment, results of investigation or response to treatment. Triage systems should be accompanied by protocols on:

- How quickly a patient is to be seen by the health care provider for specific complaint types?
- How often patients in each triage category will be reassessed and where that information should be documented?
- How patients with defined signs and symptoms are categorized i.e., chief complaint.
- What types of interventions are expected to be initiated in triage?
- What types of reassessments should be done? The options vary from a quick overview of the waiting room patients, to a repeat primary survey and repeat vital signs.
- Designating time frames and methods of reassessment in your guidelines provides a framework for evaluating quality / outcomes and preventing patient deterioration.

Reassessment

Objectives for time to Nursing reassessment is related to triage level

Level I	Level II	Level III	Level IV	Level V
Continuos care	Every 15 minutes	Every 60 minutes	Every 60 minutes	Every 120 minutes

1. There should be a nursing reassessment on all patients at the time intervals recommended for physician assessment. That is: Level I patients should have continuous nursing care, Level II every 15 minutes, Level III every 30 minutes, Level IV every 60 minutes and Level V every 120 minutes. This is to ensure that patients are reassessed to confirm that their status has not worsened.
2. When patients have a medical diagnosis or are considered "stabilized", the frequency of nursing assessment and care will depend on the existing care protocols or MD orders.
3. When patients have exceeded the time objective for MD assessment for their triage level they should be up triaged to avoid unfair bumping and long delays to MD assessment.

B. TIPS FOR THE TRIAGE INTERVIEW

Open ended questions help elicit feelings and perceptions along with information. Closed questions (with yes or no answers) are useful for obtaining facts. In general, initial questions should be open-ended (subjective assessment), whereas closed questions (objective assessment)

can be used to validate information. Triage providers develop interview techniques that suit their communication style, the clientele, and the environment. Many factors influence effective communication at triage: language barriers, age, pain level, hearing disability, mental competency. Non-verbal information is also an important source of information.

Physical assessment accompanies the triage interview, chiefly through observation. Assessment may begin with the observation that the patient can speak and therefore has a patent airway. Physical assessment must be rapid, concise, and focused. In some patients objective measures such as vital signs and/ or O_2 saturation may be reasonable while in others it would be a description of physical signs.

Effective triage requires the use of sight, hearing, smell and touch. There are many non-verbal clues: facial grimaces, cyanosis, fear... Listen to what the patient is saying and pay attention to questions they are reluctant or unable to answer. Listen for a cough, hoarseness, laboured respiration... Touch the patient; assess heart rate and skin temperature and moisture. Notice odours such as the smell of ketones, alcohol, or infection.

Remember that the purpose of the triage interview is to gather enough information to make a clinical judgment for priority of care, not a final medical diagnosis. Often, the most time consuming task of triage is to allay patient and family anxiety.

Attitude and empathy are important aspects of the triage nurse's demeanor. Remaining consistent and non-judgmental toward all patients is important. Difficult patients such as those who are intoxicated and combative require special care. Any element of prejudice, leading to a moral judgment of patients, can increase patient risk due to incorrect assignment of triage levels, to low care needs priority. **Do not to prejudge patients based on appearance or attitude**.

C. NURSING PROCESS

Assessment: -subjective/ objective data

- 2 - 5 minute interview
- Not a head to toe assessment (treatment nurse should complete).
- Need enough critical information to determine patient acuity and any immediate care needs.

Vital Signs:

Vital signs (VS) will be done on patients if required for categorization or if time permits. Otherwise VS are the responsibility of the treatment nurse. Any patient presenting to the ED who is Level I or II will be taken immediately to an appropriate treatment area. It is the treatment nurse's responsibility to do a full assessment (primary nursing assessment) including VS.

Pain Scale:

Should be attempted on all patients with pain. It is used, in conjunction with the presenting complaint, to assign patients with similar complaints, to different triage level. Pain scales are not absolute, but do allow the patient to communicate the intensity of a problem from their perspective. The more intense the pain (8-10/10) the more the care provider should be concerned about the need to identify or exclude serious illnesses and attempt to offer empathy or interventions that will diminish unnecessary pain and suffering. Because pain perception is very individual and may be influenced by age and cultural differences, it would be unwise to exclude serious problems when pain is not described as severe (Oh nurse it's not a pain, just a discomfort…but dear its just a heart attack!). It is also true that severe pain can be associated with benign processes. The scales are less helpful (or reliable) at the extremes of age.

The consistent use of pain scales is an extremely important component of the triage scale. This also allows for confirmation of improvement that both provider and patient can understand. Continued severe pain should lead to a reconsideration of the diagnosis and treatment. Pain scales are dependent on previous painful experiences. The first pain someone has may be by definition10/10, if the question is asked as the worst pain you have ever had (as opposed to the worst pain imaginable).

Providers should never assume that a patient's pain is not severe. On the other hand, patients reporting high pain levels (>7/10) with minor injuries or problems might be assigned a triage level of III or IV, with consideration of standing orders or verbal review with the physician to administer minor analgesics, while awaiting formal physician assessment.

Nursing Diagnosis: assigned according to priority of care needs

Planning: Responsible for planning nursing interventions and medical/ diagnostic procedures/protocols (e.g. Use of ice, immobilization, EKG…)

Implementation: Responsible for placing patient in treatment area and for providing appropriate information to the receiving health provider (MD/ nurse).

Evaluation: All waiting patients require reassessment, according to assigned triage levels and type of problem.

Documentation: Patient assessment information
Triage level assignment
vital signs where appropriate, allergy status/ medications, reassessment

D. DOCUMENTATION STANDARDS

1. Date and time of triage assessment.
2. Nurse's name.
3. Chief complaint or presenting concerns.
4. Limited subjective history: onset of injury/symptoms

5. Objective observation.
6. Triage Level
7. Location in the department.
8. Report to treatment nurse.
9. Allergies
10. Medications
11. Diagnostic, first aid measures, therapeutic interventions.
12. Reassessment(s).

E. TRIAGE NURSE QUALIFICATIONS

1. Communication skills are crucial. Provider must interact with patient - family - police - EMT - visitors.
2. Must have tact, patience, understanding, and discretion.
3. Organizational skills - patient line-ups, inquiries, etc. (Constantly under patient scrutiny)
4. Able to perform in hectic situations.

Can recognize who is sick. (Depends on experience, skill and expert clinical judgment).

4) TRIAGE & ACUITY SCALE CATEGORY DEFINITIONS

These lists of presenting complaints or case scenarios are not meant to be all inclusive or absolute in their application. Triage personnel are always encouraged to use their experience and instincts to “up triage” priority, even if the patient does not seem to fit exactly with the facts or definitions on the triage scale…**”If they look sick then they probably are”.** The providers instinct should not be used to “down triage”(lower the triage level assignment), when the facts suggest there may be a problem… If they say they have chest pain and sweat and arm ache but look well… take the more serious possibilities first and have someone find the proof that nothing is wrong.

Canadian ED Triage & Acuity Scale

Level I Resuscitation

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

Time to physician IMMEDIATE

Usual presentations:

1. **Code/arrest:** patients with cardiac and /or pulmonary arrest (or appears to be imminent)
2. **Major trauma:** Severe injury of any single body system or multiple system injury(ISS>16) Head injury with GCS<10; severe burns (>25% TBS or airway problems), chest/abdominal injury with any or all of: altered mental state, hypotension, tachycardia, severe pain, respiratory signs or symptoms.
3. **Shock states:** Conditions where there is an imbalance between Oxygen supply (cardiogenic, pulmonary, blood loss, disorders of oxygen affinity) and demand (hyperdynamic states) or utilization (sepsis syndrome). Hypotension and or tachycardia and possibly bradycardia in advanced/pre arrest situations.
4. **Unconscious:** Intoxications/overdoses, CNS events, metabolic disturbances can all have an alteration of mental function from disorientation/confusion to completely unresponsive or actively seizuring. Airway protection and supportive care with prompt assessment to determine the cause/treatment are of critical importance. Hypoglycemia is a rapidly reversible problem, which should be ascertained with bedside screening tests.
5. **Severe Respiratory Distress:** There are many causes for respiratory distress but benign reasons can only be diagnosed by exclusion. Serious intracranial events, pneumothorax, near death asthma (unable to speak, cyanosis, lethargic/confused, tachycardia/bradycardia, O_2 sat <90%) COPD exacerbations, CHF, anaphylaxis and severe metabolic disturbances (renal failure, Diabetic Keto acidosis). These patients require rapid assessment of the ABC's and physician intervention. Medications and equipment for management of respiratory and ventilatory failure (Endotracheal intubation-RSI, BIPAP) bronchodilators, inotropes, vasodilators need to be made available.

Typical patients:

- Non responsive
- Vital Signs Absent/Unstable
- Severe dehydration
- Severe respiratory distress

Canadian ED Triage & Acuity Scale

Level II Emergent

Conditions that are a potential threat to life limb or function, requiring rapid medical intervention or delegated acts.

Time to physician assessment/interview ≤15 min.

1. **Altered mental state:** Infectious, inflammatory, ischemic, traumatic, poisoning, drug effects, metabolic disorders, dehydration …can all affect sensorium from simple **cognitive deficits to agitation, lethargy, confusion, seizures, paralysis, coma.** Even subtle changes can be associated with serious life threatening and treatable problems. All patients with altered mental state should have a rapid blood sugar screening test. Young children with irritability and poor feeding are examples of altered mental state that could represent serious bacterial infection or dehydration.
2. **Head injury:** This problem appears in several triage levels. The more severe or high risk patients require a rapid MD assessment, to determine the requirements for airway protection/CT scanning or neurosurgical intervention. These patients usually have an altered mental state (GCS≤13). Severe headache, loss of consciousness, confusion, neck symptoms and nausea or vomiting can be expected. Details regarding the time of impact, mechanism of injury onset and severity of symptoms and changes over time are very important.
3. **Severe trauma:** These patients may have high-risk mechanisms and severe single system symptoms or multiple system involvement with less severe signs and symptoms in each (ISS≥9). Generally the physical assessment of these patients should reveal normal or nearly normal vital signs (Abnormal VS, level I). These patients may have moderate to severe pain and normal mental status (or meet the criteria outlined for level II head injuries).
4. **Neonates:** Children ≤ 7 days are at risk for hyperbilirubinemia, undiagnosed congenital heart abnormalities and sepsis. The signs of serious problems may be very subtle. Parental anxiety is often very high and these patients should brought into the ED treatment area and have prompt physician assessment or verbal review.
5. **Eye pain:** Pain scale 8-10/10. Chemical exposures (acid or alkali) cause severe pain and blurred vision is usually due to photophobia and runny eyes (blephorrhea). These patients should receive topical analgesics and have eye rinsing according to local guidelines (15 minutes for acid and 30 minutes for alkali). Physician assessment with a slit lamp is suggested after rinsing. Time to physician assessment may be delayed if the treatment protocol can be implemented without a physician order. Other painful conditions such as glaucoma and iritis may have associated visual deficits and require prompt physician assessment. Corneal foreign bodies arc weld, or solar keratitis, would benefit from topical analgesics and physician time to assessment could be delayed if the pain is controlled. If pain is not controlled the diagnosis should be reconsidered.
6. **Chest pain:** This is one of the most difficult presenting symptoms for triage nurses and Emergency physicians. There are so many ways in which cardiac ischemia presents that we are frequently faced with long and detailed assessments that don't always lead to a definite conclusion. Patients with non-traumatic, visceral pain are most likely to have significant coronary syndromes (AMI, Unstable angina). Careful documentation of the activity at the

onset, the duration of each episode, the character, the site, the radiation, associated symptoms aggravating and alleviating factors and risk profile, all influence the ability to predict the presence or absence of significant coronary disease.

Visceral pain is continuous (more than a few seconds and almost always more than 2-5 minutes) and is described as pressure, ache, squeezing, heaviness, burning, or just a "discomfort". If there are associated symptoms (such as sweat, nausea, and shortness of breath) and/or radiation to neck, jaw, shoulder(s), back or arm(s) then the likelihood of a serious etiology increases dramatically.

Sudden sharp pains: can be associated with chest wall problems, but can also be due to pulmonary embolus, aortic dissection, pneumothorax, pneumonia, or other serious problems associated with vascular or viscous rupture. These patients usually have sharp pains that are severe, sudden, persistent or are associated with other symptoms(Short of breath, syncope/pre syncope) or significant risk factors are present.

Sharp pains which are not severe or are easily reproduced by palpation or aggravated by cough, deep breathing, or movement, with normal vital signs can have a delay in physician assessment (Level III or IV).

Previous MI, Angina or Pulmonary embolus: Patients with a prior history of these conditions should be level II no matter what the character of the pain.

7. **Overdose:** Intentional overdoses are particularly unreliable when trying to determine which agents have been ingested and the actual quantity. These patients require early physician assessment, or advice, with regard to the need for toxic screening, monitoring or methods of preventing absorption, enhancing elimination or administration of antidotes. Patients with any signs of toxicity (altered mental state, abnormal vital signs) should be seen very quickly (≤5 minutes).
8. **Abdominal pain:** Pain severity alone, cannot predict whether serious surgical or medical conditions are present. Visceral pains (constant, ache, pressure, burning, squeezing) with associated symptoms(nausea, vomiting, sweat, radiation, bump or reverberating pain) with vital sign abnormalities(hypertension, hypotension, tachycardia, fever) are much more likely to be serious problems which require prompt investigation, treatment, or pain relief. Crampy, intermittent or sharp brief pains without vital sign abnormality usually may be may be delayed. There is significant overlap between benign conditions and catastrophes such as ruptured AAA (age >50), ectopic pregnancy (females 12-50), perforated viscous, appendicitis, bowel obstruction, ascending cholangitis. This means that all severe abdominal pain (8-10/10) should cause providers to be particularly wary of "visceral pains" or very sudden pains, particularly with other associated symptoms.
9. **GI Bleed:** Upper GI causes are more likely to cause instability. Vomiting gross blood, coffee ground emesis and melena are typical of UGI sources. Maroon stool, dark blood or right red blood can also be from UGI sources but are more likely to be lower GI. The source is not as important as how to deal with the patient with hemodynamic instability. One set of normal vital signs carries no guarantee of hemodynamic stability.
10. **CVA:** Patients with major neurological deficits may require airway protection or emergent CT scanning to determine criteria for thrombolysis, anticoagulation, neurosurgical intervention or prognostication. If the time of onset of symptoms is <4 hours then time to CT scanning is critical element in treatment strategies.

11. **Asthma:** Severe asthma is best defined with a combination of objectives measures (FEV_1; PEFR, O_2 saturation) and clinical factors which relate to the severity of symptoms, vital signs and history of previous severe episodes. The best measure of severity and guide to therapy is some form of spirometric testing. If the FEV_1 and /or PEFR are<40% predicted or previous best, the patient is considered severe and requires prompt treatment and close observation until signs of improvement. In children who cannot do Spirometry or PEFR, particularly under age 6, clinical features and O_2 saturation are used to estimate severity.
12. **Dyspnea:** This is subjective and may correlate poorly with lung function or deficits in Oxygen uptake and delivery. Depending on the age, previous history and physical assessment one may not be able to distinguish between asthma COPD, CHF,PE, pneumothorax, pneumonia, croup, epiglottitis, anaphylaxis… or a combination of problems. Onset and duration of
13. symptoms, vital signs and auscultation of the chest will frequently allow for early intervention for most of the serious causes of shortness of breath.
14. **Anaphylaxis:** Severe allergic reactions can deteriorate rapidly. Patients with a history of asthma are at particularly high risk of death. Suspicion of problems should be present if there are any respiratory symptoms or complaints of tightness in the throat. These patients may receive Epinephrine by protocol, and have slightly longer delays to physician assessment , particularly if there is a prior history of this problem, with an uncomplicated course. True anaphylaxis involves multiple body systems: CNS (altered mental state to seizure/coma) CVS (hypotension/tachycardia, vascular collapse/shock) Respiratory (wheeze, cyanosis, cough) Skin (urticaria, itch with any type of non purpuric rash) GI (vomiting, abdominal pain, diarrhea) Renal…The history of time of exposure and type of agent relative to the time of onset of symptoms are important to determine the cause and for future follow or discharge advice.
15. **Vaginal Bleeding/acute pelvic lower abdominal pain:** Patients with vaginal bleeding and or acute lower abdominal, should be assessed for the possibility of ectopic or other serious problems associated with pregnancy. Patients with abnormal vital signs (hypotension) should have IV access established and prompt physician assessment. Even if the pain is only moderate (4-7/10) ectopic or abruption/fetal distress are still possible. Patients ≥20 weeks should be assessed promptly and consideration of immediate transfer to the case room with or without physician assessment, depending on local protocols or guidelines.
16. Serious Infections: Patients with bacterial infections or sepsis syndrome usually appear unwell and will have an abnormality in one or more physical signs such as mental state, vital signs, O_2 saturation. A history of fever or chills with rigors should be elicited. (rigor is a shaking episode which the patient can't control: teeth chattering, bed rocking…). Purpuric skin rashes (non blanching spots, eg petechiae) may be associated with meningitis.
17. **Fever (young children):** Temperatures ≥38.0 in children under 3 months.
18. **Fever:** With signs of lethargy (any age) should result in a prompt assessment by the physician to consider serious bacterial illnesses such as meningitis.
19. **Children**: with lethargy, poor feeding, vomiting with or without a fever should have very prompt physician assessment or contact for advice on interventions.
20. **Vomiting and diarrhea:** with suspicion or signs of dehydration. The signs of dehydration are not always reliable, particularly in younger patients.
21. **Acute psychosis/extreme agitation:** These patients may be suffering from metabolic disturbances, poisoning or other organic problems. If the acute psychosis/agitation is part of a

known ongoing psychiatric illness, the patient and department will benefit from early intervention with antipsychotics, sedatives (chemical restraint) or if necessary physical restraints. History from other health providers (community MD, RN, EMT) witnesses, caregivers, family, friends, Vital signs and physical assessment will usually allow for identification of those at risk from a medical perspective (overdose, CNS events, hypoglycemia…).

22. **Diabetes:** Medic alert bracelets, history from others, physical assessment, vital signs bedside glucose testing will all be useful in identification of diabetics with hyper or hypoglycemia. Diaphoresis and or altered mental state are typical of hypoglycemia. Altered mental state, blurred vision, fever, vomiting, abnormal pulse and respirations (rapid and deep) are more typical of elevated blood sugar with or without diabetic keto acidosis.
23. **CVA/Abdominal/groin pain:** Renal colic (lithiasis-"stones") typically has very severe pain (8-10/10) with CVA, Abdominal, groin, testicular pain. Nausea and sweat are common but it is usually the severity of pain, (with or without a prior history) which alerts care providers to the diagnosis. AAA's have sometimes been missed or have a delay in diagnosis because of some overlapping features in the history and physical. Hematuria is frequently present but is not necessary for the diagnosis of renal colic. Prompt physician assessment or protocols that allow for the administration of IV or rectal analgesics are suggested. Vital sign abnormalities
24. (Hypertension or hypotension) or concern that the diagnosis is not renal in origin should prompt immediate physician notification or assessment.
25. **Headache:** This presenting complaint appears in multiple triage levels. There are significant concerns about delays in diagnosing **"CNS catastrophes"**(Subarachnoid, epidural, subdural, meningitis/encephalitis) which may have several overlapping features with migraine. It is also thought to be important to institute abortive therapy, with non-opiate agents, in a timely fashion to relieve unnecessary pain and suffering and shorten ED length of stay, for patients with migraine. The key to diagnosis/risk stratification is primarily based on an accurate history of onset, course, duration, associated symptoms and prior history of similar episodes. Activity at the time of onset, how sudden the pain was, neck symptoms, nausea/vomiting, mental status are key questions. It is important to establish what a patient means by a "**sudden pain"**. All pains are actually sudden… how long it takes to attain maximum intensity is what is critical in medical diagnostics. Pains that are at their worst at the moment they start ("like someone hit me with a two by four", or like a "thunderclap") or within a few seconds, are almost always serious. Pains that come on rapidly (5-30 minutes are typical of migraine. More gradual pains are not always benign but in headaches they rarely are associated with the "catastrophes" on the differential list (intra cranial blood).
26. **Severe pain** (**Pain Scales):** When a patient claims to have a pain of 8-10/10 and does not appear to be in distress, or appear to have anything you expect to have intense pain, it is helpful to ask what their most painful experience had been before. The first pain anyone has is by definition a 10/10! If they have had a child, a broken bone, renal colic, migraine or other conditions expected to cause severe pain and their current pain is being compared with one of these entities, this may help you to decide which triage level is appropriate. You my also want to obtain a verbal order from the physician for analgesics. Children or elderly thought to have severe pain (but are unable to score or rate their pain) should be treated as though they have 8-10/10.

27. **Abuse/neglect/assault:** These patients may not have life threatening problems but have very special needs that relate to their mental well being and specific requirements for the collection of samples for evidence, or the activation of local protocols for the use of assault teams and community services. Victims of acute sexual assault (within 4 hours) should all be level II and others could be level III or less depending on the nature of the injuries or medical condition. These patients require a safe and caring environment with emotional support.
28. **Drug withdrawal- severe- (Delirium tremens or other):** These patients may be sometimes mistaken for acute psychiatric problems. Occasionally patients who are known substance abusers are assumed to be in the ED for non-medical problems and the danger they are in can be underestimated. Seizures, coma, Hallucinations, confusion, agitation (shakes, tremors), signs of catecholamine excess (tachycardia, hypertension, hyperpyrexia), chest/abdominal pain, vomiting, diarrhea… are all part of a spectrum of signs and symptoms associated with drug/alcohol withdrawal.
29. **Chemotherapy:** Patients on chemotherapy or immunocompromised patients (HIV, known immune deficiency, malignancy) with or without a fever are at higher risk of serious problems These patients can deteriorate quickly, may require isolation and early assessment of absolute white cell counts.

Canadian ED Triage & Acuity Scale

Level III 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.

Time to physician ≤ 30 min.

1. **Head injury:** these patients may have had a high-risk mechanism. They should be alert (GCS 15) moderate pain(<8/10) and nausea or vomiting. Should be changed to level 2 if deteriorating or just appears unwell.
2. **Moderate trauma:** Patients with fractures or dislocations or sprains with severe pain (8-10/10). Nursing intervention with splinting/analgesics making it reasonable to have some delay in time to physician assessment/intervention. Dislocations should be reduced promptly, so physician assessment should occur in ≤30 minutes. Patients are “stable”(normal or near normal vital signs).
3. **Asthma, mild/moderate:** Patients with mild moderate shortness of breath with exertion, frequent cough or night awakening (unable to lie down flat without symptoms) and FEV_1 or PEFR 40-60% predicted or previous best and O_2 saturation ≥92-94%. Mild asthma is FEV_1 or PEFR >60% and O_2 saturation >95%. Mild asthmatics can have severe attacks and severe asthmatics can have mild attacks. Some documentation of meds and previous attack patterns(Intubated, ICU, frequent admits) can help to identify high risk individuals. It is unwise to assign a low triage level to an asthmatic that has come in because of increased respiratory symptoms. These patients should be placed in areas of the department where they can be observed, there is a means of reevaluation or the patient or companion knows to report any worsening to the Emergency staff. Spirometric measurements (FEV_1, PEFR) should be performed on patients (over age 5) with asthma who have come to the ED because of a change in respiratory status.
4. **Dyspnea, Moderate:** Patients with pneumonia, COPD, URI’s, croup… may complain of, or appear to be short of breath. As a symptom it is not always clear how to quantitate it and it may come down to an assessment of vital signs and other accompanying symptoms to decide its likelihood of needing urgent investigation or treatment. Objective measures such as FEV_1/PEFR or O_2 saturation are helpful, particularly if wheezing is present or they are known to have COPD.
5. **Chest pain:** Sharp localized pains, worse with deep breathing, cough, movement or palpation not associated with shortness breath or other signs that might suggest significant heart or lung disease. These are usually due to chest wall problems or irritation on one of the “linings” inside (“pleurisy” or even pericarditis). If a patient is elderly or has had an AMI or angina, and have this type of pain they should still probably be triaged as level II. No visceral features should be present (see level II chest pain).
6. **GI Bleed:** Upper or lower GI bleed, not actively bleeding, with normal vital signs. There is always potential for deterioration, so a repeat set of vital signs should be done within 30 minutes or if there is any change in status/symptoms.

7. **Vaginal Bleeding and pregnancy:** Mild or no pain (≤4/10) and bleeding is not severe, first trimester (LMP≥4 weeks and /or previously positive β HCG) and normal vital signs. Should be reassessed within 30 minutes.
8. **Seizure:** Known seizure disorder or new onset but brief (<5 minutes). Alert, breathing normally, protecting airway (normal gag), normal vital signs.
9. **Acute psychosis and/or suicidal:** Psychiatric problems, not really agitated but some uncertainty as to whether they are threat to themselves or others. Normal vital signs. May be very emotional but not violent and reasonably cooperative. Some “bipolars”(manic-depressive). Require safe caring environment and some assessment of risk for overdose.
10. **Acute pain severe (8-10/10):** patients with minor problems but self reported intense pain (8-10/10) should have either nursing intervention (ice, splints..) or a protocol to institute analgesics or early access to verbal physician assessment. Patients with discogenic back pain usually have a very sudden pain while lifting or bending. Radiation of pain to the legs is common. If there is muscle weakness, loss of sensation or unable to urinate/incontinent then more serious neurological problems may be present and urgent physician assessment is necessary. Mechanical back strains/ pains are usually slower in onset or even delayed (hours to 1-2 days). High pain scales (8-10/10) are common and separating acute from chronic back pain often makes these patients challenging with regard to triage assignment. Frequently patients are frustrated and providers often don’t know whether potent analgesics are of help. Being judgmental about someone’s pain can run the risk of missing other important problems and high levels of patient dissatisfaction with their Emergency visit. It is very difficult to assess back pain patients without a stretcher and exposure from the waist down, the patient should be taken to an area where this can be done.
11. **Acute pain moderate (4-7/10):** Patients with migraine or renal colic can present with moderate pain but deteriorate rapidly. These patients would probably benefit from earlier intervention. Some moderate non traumatic back discomforts can have potentially serious causes and should have normal vital signs and nursing reassessment if there are delays in physician assessment.
12. **Vomiting and or diarrhea: Age ≤2 years.** Dehydration and serious infections can sometimes be subtle in very young children and vital signs may be normal.
13. **Dialysis (or transplant patients):** Electrolyte and fluid balance problems are common in these patients. This increases the risk for arrhythmias and rapid deterioration.

Canadian ED Triage & Acuity Scale

Level IV Less Urgent (Semi urgent)

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

Time to physician ≤ 1 hour

1. **Head Injury:** Minor head injury, alert (GCS 15), no vomiting, neck symptoms and normal vital signs. May require brief period of observation, depending on time of injury in relation to ED visit. If time interval from accident >4-6 hours and has remained free of symptoms, a neuro check and head routine sheet may be all that is necessary. The age of the patient and characteristics of the care provider/support at home may also influence the disposition decision or observation period.
2. **Minor trauma:** Minor fractures, sprains, contusions, abrasions, lacerations, requiring investigation or intervention. Normal vital signs, moderate pain (4-7/10).
3. **Abdominal pain:** Acute pain of moderate intensity (4-7/10) or in a child in “no acute distress”. The severity of pain for appendicitis or cholecystitis or other potentially serious problems is not a reliable means of excluding these problems. Vital signs should be normal and the patient should not appear to be in acute distress. Constipation can cause very severe pain or on occasion be confused with other more serious problems. Start by assuming the worst possible, and ensure that there is sufficient clinical or investigative data that allows exclusion of potentially severe but treatable problems.
4. **Headache:** Not sudden, not severe, not migraine, no associated high-risk features (see level II and III headache). Infectious problems like sinusitis, URI, or Flu like illnesses may cause these. Pain should be no more than moderate (4-7/10) and normal vital signs.
5. **Ear ache:** Otitis media and externa can cause moderate (4-7/10) to severe (8-10/10) pain and these patients should receive analgesics either as part of nursing protocol/intervention or with a verbal order from the physician. If the patient either has severe pain or is in acute distress (child), the triage level should be III or have orders for analgesics. The provider should use their judgment as to how soon the physician assessment should occur. Determining the cause of ear pain and implementing appropriate treatment or follow up is important.
6. **Chest pain:** These patients should have no acute distress, pain (4-7/10), no shortness of breath, no visceral features, no previous heart problems, normal vital signs. The pain is usually pleuritic (sharp, worse with deep breath, cough, movement, palpation). These patients may have had a chest wall injury or some strain of the muscles from cough or physical activity.
7. **Suicidal/Depressed:** Patients complaining of suicidal thoughts or have made gestures but do not seem agitated. Normal vital signs. Because suicidal risk and the possibility of overdose is frequently difficult to accurately define, these patients should have a responsible person staying with them and periodic reassessment should occur. Patients with depression should also be evaluated for their potential for suicide. All providers should show empathy and try to have the patients placed in a quiet and secure area.
8. **Corneal Foreign body:** If pain is mild or moderate (4-7/10) and no change in visual acuity.
9. **Back pain, chronic:** These patients may be very challenging and should always be assessed as though their problem has never been seen before. It is usually easy to confirm that the

pattern is identical to before and that neurological abnormalities are not present. Occasionally patients may have substance abuse problems and the sole purpose of the visit is to seek a narcotic prescription. It is unwise to label people or be judgmental unless there is clear evidence that you are dealing with substance abuse as opposed to drug addiction and chronic pain syndromes. The triage area is not suited to making this determination and physician assessment is necessary.

10. **URI symptoms:** Patients with upper airway congestion, cough, aches, fever, sore throat are frequent visitors to ED's. Unfortunately patients with strep throat, mono, peritonsillar abscess, epiglottitis, pneumonia, or other serious illnesses can not always be identified in routine or quick look assessments. Flu like illnesses with generalized symptoms can be serious for patients who are elderly, have significant health problems, or very young. Because some serious bacterial infections can also have some similarities with what appears to be the "flu", these patients may require level III care in some instances. If there are significant respiratory signs or symptoms, perform an O_2 saturation and if <95% upgrade triage level.
11. **Vomiting and or diarrhea no signs of dehydration (Age >2):** The risk of dehydration increases with vomiting and diarrhea together. Most times, simple viral gastroenteritis does not cause any serious problems in healthy adults and most children. Signs of dehydration vary by age. Young children may have behaviour / mental status changes that range from simple fussiness, to being very lethargic or unconscious. Other clues will be found in the vital signs, dry mucous membranes, decreased tears, decreased urine output and skin turgor. The questions in triage should attempt to clearly define the onset and course of the illness with quantification of the episodes of diarrhea and vomiting. Knowing how many times someone had vomited, whether it occurred only when eating or drinking and when the last episode was (exact times are best (not earlier today…1000 am). The same is true for diarrhea. If there are less than 5 loose bowel movements per day then dehydration or electrolyte imbalances are unlikely. In older children and adults with >10 bowel movements per day (with or without blood) more serious causes including inflammatory bowel diseases should be considered. Patients with ≥10 episodes of vomiting in the previous 24 hours and /or > 5 b.m.'s per day for 2 or more days should cause consideration of up triage to level II or III depending on the assessment of hydration. It is also important to appreciate that vomiting can be a sign of other problems such as CNS abnormalities, cardiac disease, drug effect, renal failure, hepatic disturbances, diabetes, disorders of pregnancy…These may be identified if they are at least considered.
12. **Acute pain-moderate (scale 4-7/10):** Moderate pain with minor injuries or MSK problems.

Canadian ED Triage & Acuity Scale

Level V 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.

Time to physician ≤ 2 hours.

1. **Minor trauma:** contusions, abrasions, minor lacerations (not requiring closure by any means), overuse syndromes (tendonitis), and sprains. Nursing interventions, splinting, cleansing, immunization status, minor analgesics are all expectations of patients in this category.
2. **Sore throat, URI:** Patients with minor complaints, not severe and no respiratory symptoms/compromise. Typical viral illnesses, with normal vital signs or low grade fever (<39°C).
3. **Vaginal bleeding:** Can be normal menses or painless bleeding in postmenopausal patients. If pregnancy is excluded and pain is not severe (<4/10), vital signs are normal…these patients can safely have a delay in assessment.
4. **Abdominal pain:** Mild pain (<4) which is chronic or recurring, with normal vital signs. Some individuals may complain of more severe pain, particularly younger people and be difficult to justify higher triage assignment. It is important to consider the context in which these patients present and take efforts not to be judgmental. Their symptoms may be very challenging and frustrating for the care provider, or patient, neither of whom really want to be in the ED. Extended waiting periods should lead to some reassessment and/or up triaging.
5. **Vomiting alone, Diarrhea alone: no signs dehydration and age>2.** These patients should have normal mental status and vital signs.
6. **Psychiatric:** These patients may seem to have minor or insignificant problems from the providers point of view but be frustrated by a lack of availability of other health care options that are community specific. They may also be simply unaware of what other options are available. Having an open mind and being sensitive to socioeconomic and cultural issues will allow the provider the opportunity to evaluate the level care needed and the risk of harm to self or others. Chronic or recurring depression, trouble coping, impulse control… normal mental state, without somatic/vegetative findings (appetite, weight, sleep pattern disruption, unexplained crying episodes) and normal vital signs. Some chronic but more serious psychiatric disturbances or behaviour disorders for which there is no evidence of deterioration or change…This can not usually be fully evaluated in triage.

Patients who are hard to group:

If a patient seems difficult to assign a triage level because they don't seem to fit any of the categories, the provider needs to either discuss the case with a colleague or make a judgment based on their experience or instinct. The fundamental principle, when deciding triage level, is that patients should be treated as though they were close friends or family members. Patients who have a similar "administrative presentation" such as "recheck" or for "tests" or "booked procedures" are not all the same in terms of their need for care or the amount of resources required. Patients with the same clinical symptoms or complaint such as chest pain, head injury, asthma…can be assigned to one of several triage levels. This should be based on the available investigation and treatment guidelines, care maps, critical pathways...

Revisits/scheduled: Patients returning for dressing changes, casts checks, rechecks of medical conditions (chest pain, R/O DVT, Abdominal pain, head ache, asthma…) are very diverse in terms of their requirements for care, resources required and needs with respect to time to intervention. Some ED's do scheduled procedures and based on the community and system capabilities this may be the best possible option. Even though they may be elective and sometimes not very urgent, it is not usual to operate a system that would allow long delays to intervention. Designated fast track or procedure areas for these patients may only be local management issues that are not relevant to triage as a system of prioritization. If triage assignment is used to group patients based on resource need and timeliness to care, then most patients would be level V with a very low expectation of admission. All patients should be triaged, because there are very real differences in those who have scheduled tests (V/Q scan, U/S Abdomen/pelvis, CT head for headache). The patient's condition may have changed from when the test was arranged or the recheck may be a patient choice because symptoms have worsened or changed. To assume that all revisits, rechecks, scheduled tests or procedures are the same triage priority or resource consumption is dangerous and does nothing to monitor the appropriateness of system utilization.

Pearl of wisdom: If patients look sick and you are not sure, triage them as Level I or II.

5) ADDITIONAL PAEDIATRIC CONSIDERATIONS

Meeting the needs of children and the expectations of parents are particularly difficult in an ED that sees children and adults. Children are much less likely to have life threatening conditions but on the other hand the signs and symptoms of serious problems may be subtle or develop quickly. Frequent reassessment of patients is especially important for the safety of the child and the concerns of parents or care givers. The conditions described in the previous section apply to children and adults.

Use of presenting complaints to assign triage in paediatrics is frequently complicated by the fact that they are often based on caregiver perceptions. This often means that there will be expanded use of physiological assessment early in the triage process to determine urgency. There are many problems that are the same (or similar) in all age groups but the signs, symptoms and treatment may have some age related variability.

Table 1 Summary of expected vital signs for different age groups.

Age	Weight (kg)	Heart rate (average/min)	Respiratory rate	Blood Pressure (mean ± 2 SD) Systolic	Diastolic*	ET tube ID† (mm)	Length (cm)	Suction Catheter (Fr)	Chest tube (Fr)	Laryngoscopy Blade
Premature	1	145		42 ± 10	21 ± 8	2.5	10	6	10	0 st
Newborn	1-2	135	<40	50 ± 10	28 ± 8	3	11	6 - 8	10 - 12	1 st
Newborn	2-3	125		60 ± 10	37 ± 8	3	12			
1 Mon	4	120		80 ± 16	46 ± 16	3.5	13	8		
6 Mon	7	130	24-35	80 ± 29	60 ± 10	3.5	14			
1 yr	10	125		96 ± 30	66 ± 15	4	15	8 - 10	16 - 20	1 st
2-3 yr	12-14	115	20-30	99 ± 25	64 ± 25	4.5	16	10	20 - 24	
4-5 yr	16-18	100		99 ± 20	65 ± 20	5.0 - 6.0	17		20 - 28	2
6-8 yr	20-26	100	12-25	99±20	65±20	6.0 - 6.5	18			
10-12 yr	32-42	75		105±20	65±20	7	20	12	28 - 32	2 -3
>14 yr	>50	70	12-18	115±20	70±20	7.5 - 8.5	24		32 - 42	3

Modified from Nadas A: Pediatric cardiology, ed 3, Philadelphia, 1976, WB Saunders Co.; Vesmond HT, et al: Pediatrics 67:607, 1981.

* Point of muffling (Nadas).

† Variablility of 0.5 mm is common. Estimate: $\frac{16 + \text{age (yr)}}{4}$

Tertiary Paediatric Centers

As a result of referral patterns and population density, Paediatric Emergency Departments in urban areas see a different case mix than ED's seeing patients of all age groups. The availability of experienced pediatric triage personnel combined with the use of assessment and treatment protocols may lead to some variance in the triage process used in a general emergency department. Since it is access to appropriate care not simply physician assessment the time from triage to see a physician is not a strict requirement or objective and may change based on the introduction of delegated care plans or verbal review with physicians.

Triage assignment

The following descriptions are not all-inclusive but are meant as guides to supplement information contained in the information contained in section 4. Pain scales may not be possible and if pain is believed to be severe the triage decisions should be made as if the rating was 8-10/10.

Level I

Child/infant in respiratory failure, shock, coma or cardiopulmonary arrest. Any child or infant who requires continuous assessment and intervention to maintain physiological stability.

E.g. - coma-seizures, moderate to severe respiratory distress, unconscious, major burns, trauma, significant bleeding and cardio pulmonary arrest.

Level II

Any physiologically unstable child with moderate to severe respiratory distress, altered level of consciousness, dehydration. Dehydration is difficult to accurately assess. Any suspicion (or evidence) should cause concern.
Any child/infant who requires comprehensive assessment and multiple interventions to prevent further deterioration.

Fever - age < 3 months > 38.0° C. Temperature is not always a reliable indicator of the severity of illness. The younger patients can have serious problems even though the signs and symptoms may be subtle.

E.g. - sepsis, altered level of consciousness, toxic ingestion, asthma, seizure (postictal), DKA, child abuse, purpuric rash (a rash that does not blanch with pressure, like petechiae), fever, open fractures, ingestion/overdose, violent patients, testicular pain, lacerations or orthopedic injuries with neuro vascular compromise, dental injury with avulsed permanent tooth.

Level III

Child/infant who is alert, oriented, well hydrated, minor alterations in vital signs.
Interventions include assessment and simple procedures.
Febrile child > 3 months with a T > 38.5°C
Mild respiratory distress
Infant < 1 month

E.g. - Simple burns, fractures, dental injuries, pneumonia without distress, history of seizure, suicide ideation, ingestion requiring observation only, head trauma - alert/vomiting.

Level IV

Patient with vomiting/diarrhea and no dehydration age>2.
Simple lacerations/sprain/strains.
Alert child with fever and simple complaints such as ear pain, sore throat or nasal congestion.
Head trauma-no symptoms.

Level V

Child/infant who is afebrile, alert oriented, well hydrated with normal vital signs.
Interventions not usually required other than assessment/discharge instruction. Vomiting alone or diarrhea alone with no suspicion or signs of dehydration.

6) RURAL EMERGENCY HEALTH CARE FACILITIES

The CAEP Rural Committee published detailed recommendations for the management of rural emergency health care facilities (RECHF) that should be used as a reference guide for examining facility design and operation in rural and remote communities (Recommendations for the Management of Rural, Remote and Isolated Emergency Health Care Facilities in Canada. CAEP. Policy document. Ottawa.1997:42p).

There are a variety of rural context factors that affect the design and operation of health care systems in rural communities. For example in rural or remote communities it may not be reasonable or possible to have in-hospital physician coverage. Even though patient volumes may be lower than in urban centers the patients have the same diseases and injuries with the same needs for timely and appropriate care.

The intent of the CTAS is to both measure case mix and ensure timely access to intervention. To address case mix comparisons and understand access issues across regions, all patients should be assigned a CTAS triage level in all Emergency departments regardless of the size or location of the facility.

The CTAS scale definitions are disease-based, and time to assessment should be the same for REHCF's as it is for urban facilities. Timely intervention may not always require on-site physician assessment within the CTAS time frames. REHCF's can use non-physician assessment protocols and communication of information necessary for medical diagnosis and initiation of treatment protocols.

Although the CTAS triage levels and time to patient assessment are the same in REHCF's, managers will need to write enabling protocols and care plans to modify the time to on-site physician assessment when physicians staff the RECHF by on-call systems off-site. These protocols need to provide for:

- REHCF's that do not have a separate triage area.
- Situations where the triage nurse and the nurse performing the full assessment are the same person, as is common in low-volume REHCF's.
- Initial management and investigation by appropriately trained, qualified and experienced non-physician health care providers.
- Telephone review, fax, email, videoconferencing or other communication methods between the provider and on-call physician for deciding how soon the physician must see the patient, or whether treatment can be started before the physician arrives on site.
- More urgent physician attendance on site when the nurse's evaluation of the patient's condition changes.

The enabling protocols and care plans should be evidence-based and wherever possible validated in REHCF's. Compliance to care guidelines and evaluation of patient outcomes will be

necessary for quality improvement monitoring and protocol validation. Research should be undertaken to assess the implementation of the CTAS in REHCF's with respect to:

- Fractile response measures.
- Provider compliance with protocols and care maps.
- Patient outcome in RECHF's using the CTAS with enabling protocols and care maps.
- Patient satisfaction in RECHF's using the CTAS with enabling protocols and care maps.
- Comparison between the CTAS and formal triage systems already used in REHCF's.

Well-developed on-line and off-line protocols, guidelines and care plans that are designed based on the CTAS and coupled with appropriate training and ongoing audit will allow rural communities to develop systems which meet community needs for emergency health care.

7) SETTING UP THE TRIAGE AREA

Because it generally is the first area a patient views, it can make a lasting impression. Consideration should be given to comfort, privacy and a pleasing atmosphere. However, the nurse must have easy access and view of the arriving patients. Doors must accommodate wheelchairs and stretchers. Sinks and other equipment are needed to support universal precautions. A phone should be available, but only used for basic communication to registration desk or treatment areas.

The waiting room should have ample seating for patients/visitors. Rest rooms, pay phones and vending machines may be needed.
Security arrangements must also be in place to ensure patient and provider safety.

8) TRIAGE ORIENTATION SCHEDULE

- Review roles/responsibility
- Documentation
- Stocking room

Step 1

- Cover triage for breaks
- Identify 5 cases where you are unsure of your categorization and 5 cases you feel confident with your categorization - follow them up and submit in writing to the nurse clinician (with a copy of the patient's chart0.
- When quiet in the department, inform the desk nurse and spend some buddy time in triage.
- Review the triage guidelines/article - **Golden rules for accurate triage**.

Step 2

- 4 hours of buddy time

Step 3

- Review cases given
- 1 - 2 hours case review
- 2 hours buddy

Step 4

- Triage on own

** buddy times may be adjusted. In some instances one * hour day may be all that is required.

9) QUICK LOOK SUMMARY-ALL PATIENTS

Level I Triage Category

Respiratory (RESP) Severe airway compromise, penetrating or blunt chest trauma, obvious signs of respiratory distress
Severe respiratory distress

Neurological (CNS) Major head injury
Unconscious
Active seizure state

Musculo-Skeletal (MSK) Traumatic amputation - extremity

Shock (S) Major cold injury - hypothermia
Gastrointestinal (GI) Difficulty swallowing with respiratory distress
Abdominal trauma - penetrating/blunt - signs/symptoms of shock

Code (C) Code/arrest
Major trauma
Shock states

Level 2 Triage Category

RESP Foreign body aspiration with breathing difficulty, SOB, respiratory distress due to chronic cough, wheezing associated with respiratory difficulty, congested, or has a history of cardiac problems
Active hemoptysis with signs of hypoxia and with or without cardiac/respiratory disease
Inhalation of toxic substance with distress
Smoke inhalation

CNS Severe headache with high blood pressure, disorientation, sudden onset, altered LOC
Sudden onset of confusion with associated weakness headache
Sudden onset of confusion with altered LOC

Shunt dysfunction - patient appears ill
Severe motor weakness - sudden onset patient appears ill
Sudden onset low back pain in distress; unable to move or fee extremities
Head injury with altered mental state

MSK Back pain with neuro deficit
Open fracture, possible femur fracture, fracture with neuro vascular impairment
Extremity pain with circulatory compromise

Traumatic amputation (digit)

Hemophiliac with obvious injury
Extremity pain - client appears ill

SKIN Bites, allergic reaction with respiratory difficulty
Facial cellulitis, particularly periorbital area
Laceration, severe nerve tendon or vascular injury
Puncture wound
Major burn, split/full thickness burn of neck, hands, feet, groin, face
Frame burns
Inhalation or electrical burns

GI Abdominal pain - acute onset with vomiting, diarrhea, dehydration, bloody rectal mucous, > 50 with visceral symptoms.
Rectal bleeding or prolapse - large amount bloody or tarry stool, signs/symptoms shock
GI bleed with abnormal vital signs

GU Post TURP bleeding, hemodynamically unstable

(GYN) Vaginal bleeding/ ectopic pregnancy – patient Unstable - hypotension.
Inability to urinate greater than 24 hours
Possible sexual abuse < 2 hours
Flank pain - hematuria - pale - kidney stone
Acute vaginal bleeding (Pain scale > 3 ± abnormal vital signs).
Possible Ectopic, with normal vital signs

EENT Sudden severe eye pain with headache, vomiting, decreased visual acuity
Sudden loss of vision in one or both eyes
Chemical substance in eyes
Direct burn to eye
Hyphema, puncture would to globe
Impaled object or amputation of external ear
Tinnitus with history of ingestion of ASA
Nasal injury with bloody/clear drainage
Uncontrolled epistaxis

Sore throat with drooling, stridor and/or difficulty swallowing
Hoarseness - sudden onset - history of trauma to larynx

CVS Patient with sudden onset of cold
Painful extremity
Severe trauma
Chest pain - visceral ± associated symptom

PSYCH
Agitated symptoms and/or depression symptoms
Known to require close observation
Attempted suicide
History of attempted suicide
Aggressive and/or violent behaviour
Symptoms of instability (pacing, muttering, clenched fists, etc.)
Overdose (conscious)

MIS Fever (age ≤ 3 months) Temp > 38.0 °C.
Diabetic hypoglycemia, hyperglycemia
Pain scale 8 - 10/10

Level 3 Triage Category

RESP Foreign body aspiration, cough present, but no distress with swallowing
Cough constant - appears distressed
Known asthmatic with SOB or worsening of symptoms
Inhalation of toxic substance in no distress
SOB - chronic respiratory problem - exacerbation O_2 Sats > 95%
History of coughing up pink mucous
Congested with pain on deep inspiration
No history of trauma

CNS Headache - severe (mild-moderate distress, pain scale 8-10/10)
Hit head - no LOC, vomiting
Known seizure disorder - seizure prior to emergency visit, not actively seizuring.
Shunt dysfunction - patient irritable, not acutely ill

MSK Probable extremity fracture
Multiple joint pain with fever; hip pain with fever
Tight cast with neuro vascular impairment

SKIN Bites
Insect - systemic minor allergic response
Cellulitis - patient appears ill
Rash: 1) patient appears ill; fever/purpuric or petechial rash

2) recent exposure to communicable disease
Localized cold injury with blanching, cyanosis or pain
Split and/or full thickness burns over less than 5% body surface
Split thickness burns over trunk or less than 10% body surface
Laceration requiring pressure to control bleeding

GI Abdominal pain
Rectal bleeding with abdominal pain, no signs/symptoms of shock
Difficulty swallowing; possible foreign body; no respiratory distress
Abdominal trauma - complaints of mild discomfort
Sign/symptoms of appendicitis, abdominal pain, ± fever
Vomiting and or diarrhea ≤2 years
GI bleeding with normal vital signs

GU Vaginal bleed - no signs of shock
Possible sexual abuse > 2 hours < 12 hours
Inguinal bulge - sudden onset; patient acutely distressed
Non-painful testicular swelling
Inability to urinate for more than 8 hours
Gross swelling of penis; unable to void

ENT Nasal injury with some respiratory difficulty
Epistaxis with trauma and/or history of high blood pressure
Allergy - hay fever causing congestion with history of respiratory problems
Foreign body in nose causing pain or possibility of aspiration
Bloody drainage from ear
Hearing problem - acute onset
Foreign body in ear
Cold injury- partial tear to external ear
Sudden severe eye pain with no associated trauma
Sudden onset dyslopsis or change in vision in last 24 hours
Periorbital swelling with fever
Burn to eye area
Amputated tongue tip or large section/cheek
Puncture wound soft palate
Tonsil pustules - difficulty swallowing
Post operative bleeding - tonsillectomy and/or adenoidectomy

CVS Patient with gradual onset of cold, painful extremity
Patient with gradual/acute onset/pain associated with swelling and temperature change in temp
Moderate trauma.
Chest pain, no visceral symptoms.

PSYCH
Acute psychosis ± suicidal ideation.

MIS Signs of Serious infection.
Pain scale 8-10 with minor injuries.

Level 4 Triage Category

RESP Foreign body aspiration - no cough - appears well
Minor chest injury without rib pain or respiratory difficulty - no SOB - may have bruising
Difficulty swallowing; no respiratory difficulty

CNS Chronic or repeating headache (no acute distress)
Minor head trauma- no LOC/no vomiting

MSK Back pain - minor back pain “pulled something” - muscle spasms; localized back pain (4-7/10).
Possible extremity fracture
Swollen “hot’ joint
Tight cast - no neurovascular impairment

SKIN Localized cellulitis
Cold injury - no discoloration - minimal pain

GI Abdominal pain with vomiting or diarrhea(alone) - does not appear ill, no signs of dehydration
Rectal bleeding - small amount ; fever and/or diarrhea
Constipation; not eating; cramps

GU Possible sexual abuse > 12 hours
Possible UTI - hematuria, frequency, burning

EENT Corneal foreign body
Nasal injury - no respiratory difficulties
Periodic epistaxis with signs of infection
Ear drainage - purulent - fever
tinnitus with fever
Gradual change in vision, visual acuity or visual fields
Crusting, matting or drainage from eye
Earache

PSYCH
Suicidal ideation, depression

CVS Chest pain, age < 30 no visceral symptoms

MISC
Minor trauma
Pain scale 4-7

Level 5 Triage Category

RESP Nasal congestion/discharged associated with cold symptoms

MSK Chronic low back pain minor discomfort (<4/10)

SKIN Minor bites - puncture wounds, foreign body, scratches localized
Localized rash
Minor lacerations, abrasions, contusions

GI Vomiting/diarrhea - no pain, no dehydration - normal mental state

GU Discharge - penis, vaginal, urethral menses

ENT Partial tongue lacerations or cheek bite
Sore throat, laryngitis, minor mouth sores possible with fever
Allergy - hay fever causing nasal congestion
Sinus problems
Hearing loss gradual onset
Vague eye pain; chronic eye pain

PSYCH
Chronic symptoms with no acute changes

CVS Minor trauma not necessarily acute

MISC
Minor symptoms
Pain scale < 4

(END)