

TRIAGE: A GLOBAL PERSPECTIVE



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Contribution to Emergency Nursing Practice

- Emergency nurses should be educated on triage processes to ensure that appropriate clinical prioritization occurs.
- A standardized practice increases consistent patient care, access to appropriate resources, and the meeting of quality benchmarks.
- Reviewing triage systems from several countries provides understanding that, despite variation, the principles of triage remain the same.

Abstract

Triage is a process by which patients are assessed, classified, and sorted based on their presenting complaint and clinical urgency, providing assurance for timely access to emergency care. The goal is to get the right person to the right place, in

the right amount of time, for the right reason, and within the context of resource availability. In many countries, a standardized triage system, underpinned through the use of guidelines, is used to provide clinicians with support and guidance. Triage is a globally adopted principle, and although triage guidelines are used in many countries, no single system has been internationally adopted. This paper discusses the importance of how triage process standardization improves patient care, resource management, and benchmarking at local, national, and international levels by applying 5 internationally recognized triage systems to fictional case studies. Evaluation of similarities and differences in severity scores, with a gap analysis, occurs.

Key words: Triage; Emergency nursing; Patient safety, Manchester Triage System; Australasian Triage System; Malaysian Triage Scale; Canadian Triage and Acuity Scale

Introduction

Triage is a vital component in the process of assessing and prioritizing patients and defined as “the process of sorting people in need of medical attention in order to determine priority.”¹ This role is recognized globally^{2,3} as the aim of assigning acuity level and assessing how long the patient

can safely wait.⁴ Using a recognized and agreed upon triage approach aids clinical staff decision making when dealing with patients in an emergency care setting and assists in determining the severity of the patient’s illness before a more detailed medical assessment.⁵ The result of the first encounter triage assessment determines multiple outcomes such as where the patient will be treated in an emergency

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department, how quickly they are seen, and by what level of care provider they are subsequently assessed.⁶ The ability of the emergency nurse to be familiar with and able to use triage tools is essential for patient flow, patient safety, and service delivery. For triage to work optimally, the system needs to be dynamic, with the option to reassess as required and to have the subsequent resource allocation to support the decision of the triage assessment.

The confidence and competence of emergency nurses globally to undertake triage require a validated triage system, which is easily accessible in each country, reducing the risk of an error. Of the many studies conducted on triage processes and systems, strong reliability in triage scale utilization with clinicians has been proven.⁷ The concept of “triage” has its roots in the military setting and was originally used to categorize and clinically prioritize wounded soldiers. The initial aim was to first treat soldiers with the highest potential of returning to fight,^{8,9} with the process developing to see and treat the most critically injured first.¹⁰

During the 2 world wars, there were many civilian casualties, and the triage process was extended from the battlefield to the civilian world. The Korean and Vietnam wars provided important advances in medicine with the use of advanced transportation and therapeutic modalities against shock. The time between a traumatic event and definitive surgical treatment was reduced, resulting in an increased focus on mechanisms to save the most wounded individuals.⁹

Within the civilian setting, the first acknowledgment of a medical triage system was in New Haven, Massachusetts, in 1964, with a shift in emphasis from primary care to the emergency department irrespective of clinical need.¹¹ A system was required that based categorization on clinical prioritization rather than patient arrival time.

The literature acknowledges that nurses undertook a triage role in the 1970s, but the recognition of this specialized role became apparent in the 1990s with the introduction of nationally standardized triage systems.¹² As individual countries developed their own systems, a diversity of tools developed that required a period of validity testing and the addition of new categories as clinical and situational developments occurred.¹³

Triage Systems Around the World

Numerous triage systems are used worldwide (eg, Nederlandse Triage Standard [Netherlands], Japan Acuity and Triage Scale, and Gruppo Formazione Triage [Italy]). This section focuses on the background and use of 5

adopted triage tools: Emergency Severity Index (ESI), United States; Canadian Triage Acuity Scale (CTAS), Canada; Australasian Triage Scale (ATS), Australia; Malaysian Triage Scale (MTS), Malaysia; and Manchester Triage Scale, United Kingdom and Germany. The authors chose these triage systems as representation of their countries of origin.

ATS

In Australia, the National Triage Scale (NTS) was implemented in 1994, due to a growing government interest in measuring triage activity. On application, it was evident that this tool was not fit for universal purpose.¹² There were application issues between metropolitan and rural emergency departments.

During development, observational studies were undertaken to identify key components and actions taken by triage nurses during the patient assessment process that determined the urgency for medical review. From these studies, the Ipswich Triage Scale, a 5-category scale system, was tested and then further implemented and adopted nationally as the NTS¹⁴ (see Figure 1 for initial urgency descriptors). The 1990s saw the evolution and focus on further studies¹³ related to the NTS, driven by the Australasian College for Emergency Medicine, whereby urgency descriptors were replaced by performance standards.¹⁵

The Ipswich Triage Scale inferred that an emergency patient could wait “days” to be seen. This was not viewed positively by the public and was open to misinterpretation. Further tool development incorporated urgency descriptors alongside performance indicators to guide clinicians.

In November 2000, after extensive validation through research and testing in emergency departments,¹³ the ATS was launched, which provided a reliable tool with maximum recommended waiting times centered around timely access to care and patient safety¹⁵ (see Figure 2 for the ATS criteria).

The work undertaken in Australia provided early evidence for Canada and the United Kingdom to use a similar framework. These early adopters provided further improvements and validation on the viability of triage systems.¹⁶ Subsequently there is evidence that many countries have used the foundations of the ATS to develop triage systems.^{12,16}

Over the past 20 years, further research, education, and evaluation have been undertaken by emergency nurses and doctors in Australia. Further developments and tools such as the Emergency Triage Education Kit (ETEK) 2009¹⁷ provide emergency triage staff with specific training.¹⁶ In Australia, the

FIGURE 1

The Ipswich Triage Scale¹³**The Ipswich Triage Scale: Urgency test**

This patient should under reasonable circumstances be seen by a medical officer within:

1. Seconds
2. Minutes
3. An hour
4. Hours
5. Days

focus has now shifted from the development of triage systems to reducing education variability, which may decrease poor decision making and negative patient outcomes.¹⁸

CTAS

CTAS was developed by physician member Dr Robert Beveridge from the Canadian Association of Emergency Physicians (CAEP) as a 5-level scale based on an ideal set time to medical intervention and was derived from the Australian NTS.¹⁹ In 1997, the Canadian National Emergency Nurses Association collaborated with CAEP to establish the triage standards for Canada (see [Figure 3](#) for a description of this triage system).²⁰ The CAEP National Triage Working Group published guidelines in 1999 in collaboration with the National Emergency Nurses Association, L'Association des Médecins d'Urgence du Québec, and the Canadian Pediatric Society.¹⁹

This standardized process for triage aims to improve patient care, manage resources, and provide benchmarking standards locally, provincially, and nationally²⁰ and results in a standardized list of complaints allowing emergency departments to classify and organize clinical presentations (see [Figure 4](#)).²⁰ The further development of the Canadian Emergency Department Information System helps emergency departments evaluate patient populations, resourcing, activity, and acuity with comparative data available to benchmark and review clinical quality improvements and support research.²¹

ESI

ESI, developed by emergency physicians Richard Wuerz and David Eital, is a 5-tier triage tool spanning level 1 (requiring immediate lifesaving interventions) to level 5

(being of least urgency). Since its initial implementation in 1999, the ESI has largely been based on the number of resources that will be needed to address patient care. Levels 1 and 2 are not based on resources; however, the rest of the levels are related to specific resources identified by the authors. Level 1 requires immediate resuscitative care and level 2 revolves around high-risk potential, pain level, and mental status changes. ESI has undergone 5 editions and was acquired by ENA in 2019.²² ESI usage among United States emergency departments is 94%.²³⁻²⁵ Research demonstrated a 59% accuracy in assigning acuity.^{26,27} ENA recommends appropriate education to improve accuracy in the implementation of the ESI triage model.²² The ESI 5th Edition Handbook reorganized and simplified the information, clarifying wording to assist with decision making acuity. Fundamentally, the algorithm did not change.²⁸

Initially ESI was aimed only at patients older than 14 years.²⁹ Since then, multiple developments have occurred, including incorporating triage and vital sign criteria for the pediatric patients.³⁰ Further revisions (see [Figure 5](#)), based on physician and nursing staff feedback, include revised criteria limitations for ESI levels 1 and 2 and the introduction of a pediatric fever criteria.³¹

MTS

During the establishment of emergency services, Malaysia used a 3-tier triage system ([Figure 6](#))³² classifying patients as red (critical), yellow (semicritical), and green (noncritical).³³ This system was introduced by the Ministry of Health and has widespread implementation throughout the country. The Malaysian Emergency Medicine Speciality was established in 1993 by a group of trauma surgeons, anesthesiologists, and emergency physicians.³⁴ They introduced a triage system, the Malaysian Triage Category.

However, in 2022, there was an initiative by a group of experts to revise the existing triage category. The Ministry of Health introduced the new triage protocol namely the MTS for emergency and trauma departments in Malaysia. It takes effect in April 2023 (see [Figure 7](#) for detailed explanation).³² The new version was established to improve the existing protocol, which was developed back in year 2011.

Initially, the triage area was staffed by a mixture of assistant medical officers (AMOs) and nurses. However, emergency nurses are now typically assigned to other areas of the emergency department, such as secondary triage, resuscitation, and observation bays resulting in triage being primarily undertaken by the AMO. Where hospitals have no AMO, triage will be staffed by nurses. Within some

The Australasian Triage Scale (ATS)		
Category	Description	Performance standard
ATS 1	Immediate	100%
ATS 2	10 min	80%
ATS 3	30 min	75%
ATS 4	60 min	70%
ATS 5	120 min	70%

FIGURE 2

The Australasian Triage Scale.¹³ ATS, Australasian Triage Scale.

teaching and tertiary hospitals, a medical officer may also be assigned to support triage.

On the patient's arrival, the triage officer performs a primary survey. For a green classification (noncritical) patient, a secondary triage process is undertaken in a separate location. The nurse gathers a history, records vital signs including pain score, and performs an electrocardiogram or capillary blood glucose if indicated (see Figure 6).³² During the secondary triage, the officer will further triage the patients into level 2 (emergency), level 3 (urgent), level 4 (early care), and level 5 (routine). Further investigation or care, such as minor dressings and medications, can be provided if required.

In the new protocol, there is also a complaint list for an adult to guide the triage into level 2 until level 5 such as abdominal pain, allergy/anaphylaxis, altered mental status, burns scalds, chest/abdominal trauma, chest pain, dehydration, dengue suspected, and diarrhea, to name a few. For children, it listed the same complaints but with different characteristics for levels 1 to 4.

Manchester Triage System

The Manchester Triage System was developed by emergency nurses and physicians from 9 hospitals in the English city of Manchester between 1994 and 1996.³⁷ It uses 54 clinical presentation algorithms containing discriminators that relate to the patient's condition, based on their clinical history and initial assessment.^{35,38}

The discriminators are grouped into 5 triage categories in descending order of urgency: red (immediate), orange (very urgent), yellow (urgent), green (standard), and blue (nonurgent)³⁵ (see Figure 7 for further explanation).^{35,36} Urgency is determined systematically through a process of

exclusion of the discriminators beginning from the highest triage level before proceeding to the next. Although there is the recommendation of using specific algorithms, using a related or similar algorithm would still yield similar results that determine the urgency of the presenting complaint.³⁸⁻⁴⁰

Other countries have adopted and/or adapted the MTS; for example, as shown in Figure 7, Germany has adapted a version of the MTS that has included changes to waiting times that better sits within their health care framework. The noticeable adaptations are seen in the changed waiting times for contact with a medical provider, reducing wait times by up to 50% for the yellow, green, and blue classifications. In addition, the clinical algorithm for the abused or neglected child was not adopted in Germany due to legal reasons. A working group reviewed clinical presentations and triage decision making that may have sat outside the discriminators of the algorithm and developed national standards to support triage nurses amending the triage level in Germany, Austria, Switzerland, and Italy.^{35,36} Its application within the German-speaking countries has passed validity testing.^{37,41}

Application of International Triage Systems

These international triage tools are now applied to fictional case studies with analysis of outcomes.

CASE STUDY 1: ABDOMINAL PAIN

A 24-year-old female presents to the emergency department with a 2-day history of nausea, vomiting, and abdominal discomfort.

FIGURE 3

Canadian Triage Acuity Scale (CTAS) Education Administration Manual, 2013. GCS, Glasgow coma scale; SIRS, systemic inflammatory response syndrome

Levels	Descriptor	Examples
Level 1-Resuscitation Immediate intervention	Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate interventions	Cardiac arrest, respiratory arrest, major trauma (shock), shortness of breath (severe respiratory distress), altered level of consciousness (GCS 3-9), violent/homicidal with intent
Level 2-Emergent intervention within 15 minutes	Conditions that are a potential threat to life, limb, or function, requiring rapid intervention	Chest pain, shortness of breath (moderate respiratory distress), vomiting blood (symptomatic), altered level of consciousness (GCS 10-13), Fever (>38°C, looks septic with 3 SIRS criteria), chemical eye exposure, suicidal ideation with plan
Level 3 Urgent intervention within 30 minutes	Conditions that could potentially progress to a serious problem requiring emergency intervention	Shortness of breath (mild respiratory distress), vomiting and or nausea (mild dehydration), bleeding disorders (mild or moderate bleed), suicidal ideation (no plan)
Level 4-Less Urgent intervention within 60 minutes	Conditions that relate to patient age, distress, or potential for deterioration or complications, would benefit from intervention or reassurance within 1-2 hours	Confusion (chronic), UTI complaints (mild symptoms), constipation (mild pain), mild anxiety or agitation, depressed no suicidal ideation
Level 5-Non-urgent intervention within 120 minutes	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	Diarrhea (mild, no dehydration), minor bites, medication requests, dressing changes, IV antibiotics

Airway: clear. Breaths: respiratory rate 32 breaths per minute. Pulse oximetry of 95% on room air. Circulation: blood pressure 92/60 mm Hg. Heart rate: 124 beats per minute (regular). Disability: alert on alert, voice, pain, and unresponsive (AVPU) scale. Blood glucose within normal parameters. Exposure: pale and clammy. Temperature 35.6 °C (96 °F). Other information: states her pain is 8/10 on the numeric pain scale. She is unable to keep any antiemetic down.

Application and Analysis

ATS. Using the ETEK¹⁷ education guidelines, the patient would be a category 2 due to her elevated pain score, which would be rated as severe due to the quantitative value of between 7 and 10. Her other clinical observations would also lead to a high suspicion of an acute abdomen and shock.

CTAS. This patient meets criteria for level 2 with the Canadian triage system given that she meets the parameters including “Conditions that are a potential threat to life, limb, or function, requiring rapid intervention.” She meets 3 of the systemic inflammatory response syndrome criteria with her abnormal vital signs and requires intervention within 15 minutes. Her pain score (7/10, central location) also relates to level 2 criteria.

ESI. The patient is categorized as ESI 2 due to clinical observations of tachycardia and hypotension with acute onset of severe pain in a high-risk female of child-bearing age.

Manchester Triage System. Reviewing the “abdominal pain in adults” clinical triage algorithm, the trigger discriminator is severe pain of 8/10. Other clinical signs and symptoms described, including vital signs and pale

Canadian Emergency Department Information System (CEDIS) Presenting Complaint List (V2.0)					
Effective Date: April 2012					
Cardiovascular (001–050)	#	Environmental (201–250)	#	Genitourinary (301–350) cont'd	#
Cardiac arrest (non-traumatic)	001	Frostbite/cold injury	201	Polyuria	309
Cardiac arrest (traumatic)	002	Noxious inhalation	202	Genital trauma	310
Chest pain—cardiac features	003	Electrical injury	203	Mental Health (351–400)	#
Chest pain—non-cardiac features	004	Chemical exposure	204	Depression/suicidal/deliberate self-harm	351
Palpitations/irregular heart beat	005	Hypothermia	205	Anxiety/situational crisis	352
Hypertension	006	Near drowning	206	Hallucinations/delusions	353
General weakness	007	Gastrointestinal (251–300)	#	Insomnia	354
Syncope/pre-syncope	008	Abdominal pain	251	Violent/homicidal behaviour	355
Edema, generalized	009	Anorexia	252	Social problem	356
Bilateral leg swelling/edema	010	Constipation	253	Bizarre behaviour	358
Cool pulseless limb	011	Diarrhea	254	Concern for patient's welfare	359
Unilateral reddened hot limb	012	Foreign body in rectum	255	Pediatric disruptive behaviour	360
ENT—Ears (051–100)	#	Groin pain/mass	256	Neurologic (401–450)	#
Earache	051	Nausea and/or vomiting	257	Altered level of consciousness	401
Foreign body, ear	052	Rectal/perineal pain	258	Confusion	402
Loss of hearing	053	Vomiting blood	259	Vertigo	403
Tinnitus	054	Blood in stool/melena	260	Headache	404
Discharge, ear	055	Jaundice	261	Seizure	405
Ear injury	056	Hiccoughs	262	Gait disturbance/ataxia	406
ENT—Mouth, Throat, Neck (101–150)	#	Abdominal mass/distention	263	Head injury	407
Dental/gum problem	101	Anal/rectal trauma	264	Tremor	408
Facial trauma	102	Oral/esophageal foreign body	265	Extremity weakness/symptoms of CVA	409

FIGURE 4

CEDIS presenting complaint list.²¹ CEDIS, Canadian Emergency Department Information System.

and clammy skin, would result in a category of orange (urgent).

MTS. This patient is triaged as level 21 (resuscitation emergency), due to changes in the hemodynamic status indicating potential shock with low oxygen saturations, pale and clammy, and a pain score of 8/10. It is based on primary triage where the triage officer performs a critical first look on the appearance and checks for the severity of the pain.

CASE STUDY 2: MENTAL HEALTH

A 21-year-old male is brought to the emergency department by the police after attempting to jump off a local bridge. Bystanders were able to subdue him. The patient is angry, yelling “I’m going to kill you.”

Airway: clear. Breaths: unable to assess due to combativeness of the patient. Circulation: color pink, unable to assess vitals because the patient is flailing and the police have him in handcuffs. Disability: alert on AVPU. Unable to obtain a blood glucose reading. Unable to assess pupils. Exposure: unable to obtain a temperature. Minor abrasions noted to his face.

Other information: known history of drug abuse. History of suicidal intent requiring hospital admission.

Application and Analysis

ATS. Using the ETEK¹⁷ education guidelines, the patient would be a category 1 (mental health triage guidance) given that there is evidence of danger to life (self or others),

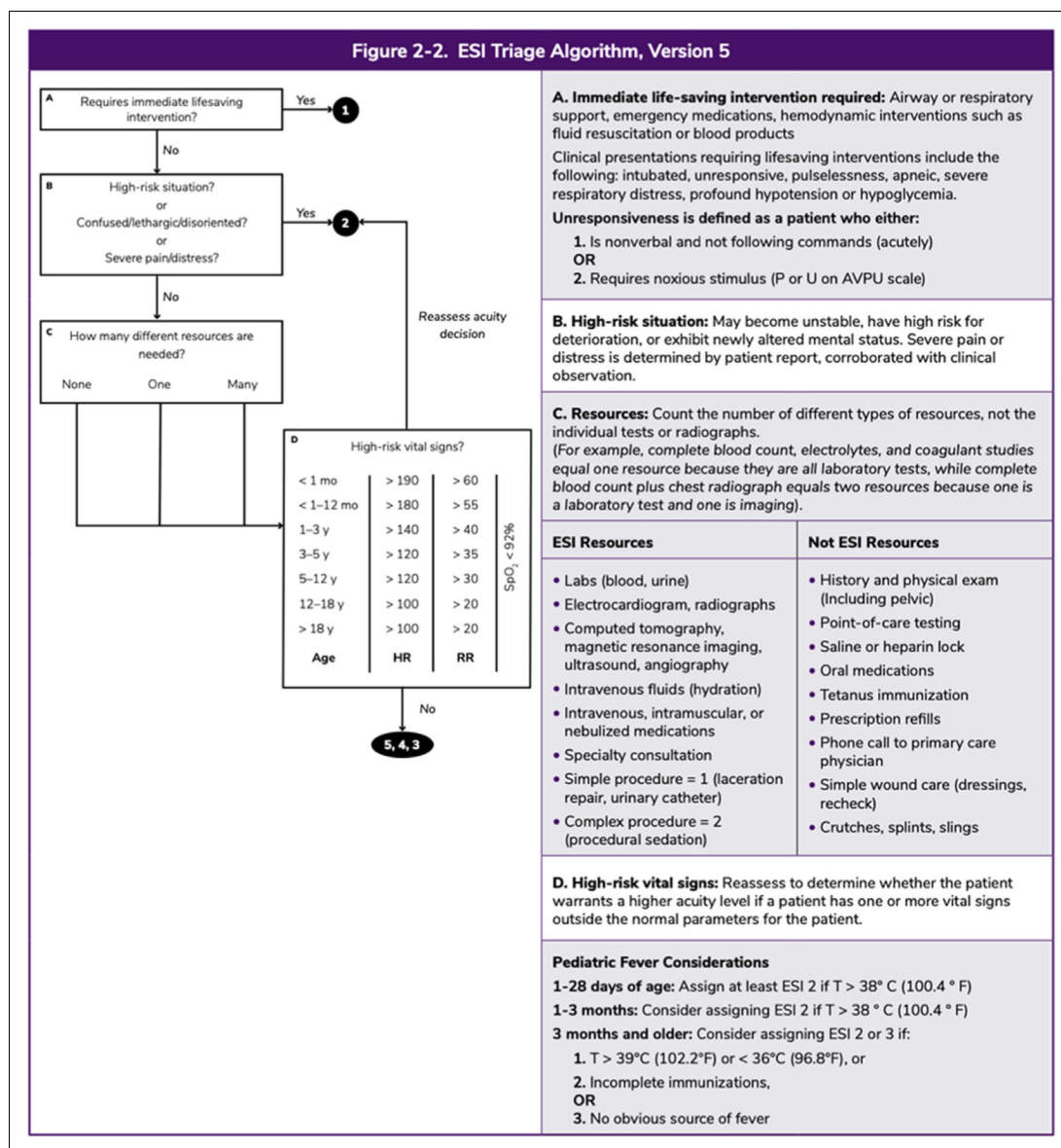


FIGURE 5

Emergency Severity Index tool, ENA University.^{28,31}

severe behavioral disorder, and agitation, with immediate threat of violence. The patient will need continuous visual surveillance 1:1 ratio, immediate assessment, and interventions.

CTAS. This patient meets criteria for level 1 (imminent harm to self or others). The patient is also combative so consideration of unknown history such as a head injury or chemical imbalance needs to be considered.

ESI. The patient is categorized as ESI 2 due to the high-risk situation (suicidal intent with a plan, verbalizing homicidal threats and is highly aggressive) with a danger to himself and others.

Manchester Triage System. Reviewing the “behaving strangely” clinical triage algorithm, the trigger discriminator is high risk of harm to others (high level of combativeness and the direct threat of harm), resulting in a classification of orange (urgent).

FIGURE 6

Malaysian Triage Scale classification³²**Critical first look**

Look for	Level 1—resuscitation	Level 2—emergency	Level 3—urgent	Secondary triage
Appearance	Cardiac arrest; not breathing; major trauma in shock; severe respiratory distress	Not responding to call; severe chest pain; severe pain; ongoing seizures	Altered mental status; cannot communicate; cannot sit/stand unsupported	Walking; talking; not distressed; not aggressive
Rapid assessment				
Check for	Level 1 – Resuscitation	Level 2 – Emergency	Level 3 – Urgent	Secondary triage
Respiratory distress	Abnormal sounds; excessive work of breathing; sweating; cannot speak, one word reply; confused, lethargic; require assisted breathing; SpO ₂ , 90% room air	Difficulty to breathe; short phrases only; agitation, anxious; SpO ₂ 90%–92% room air	Wheeze, expiratory rhonchi, airway intact; SpO ₂ 92 – 94% room air; need O ₂ support	Not breathless; SpO ₂ >94%; no need O ₂
Airway breathing; SpO ₂				
Shock state	Pale, cyanosed, cold peripheries; Severe tachycardia/ bradycardia; Absent radial pulse	Tachycardia, weak pulses; confused; septic/ toxic; CRT >2 seconds	Peripheries warm, CRT normal; cannot stand/walk unsupported	Warm, pink, pulses normal; alert, walking
Peripheries; pulses; AVPU				
Conscious Levels	Unresponsive; Airway unprotected	Confused, agitated, disoriented; obvious neuro deficits; ongoing seizures; abnormal posturing	Not fully conscious; cannot sit unsupported	Alert; sit upright
Airway; AVPU; brief neuro				
Bleeding	Arterial limb bleeding; active uncontrolled bleeding; massive vaginal bleed; severe facial injury; severe pelvic injury	Active vomit/cough blood; suspected vascular injury; Suspected intraabdominal bleeding/ectopic /AAA; compartment syndrome	Bleeding from fractures/ dislocations/joints/ wounds; menorrhagia; ENT bleeding; expanding hematoma; bleeding disorders	Minimal / no active bleeding
Seen external; suspect internal; bleeding disorders; anticoagulant therapy				

VITAL sIGNS (aDULT)

Look for	Level 2 – Emergency	Level 3 – Urgent	Level 4 – Early care	Level 5 - Routine
Vital signs	SBP <90; HR >120, RR >30; BP >220/130 with symptoms; SpO ₂ <92%; temp >39 or <36; appears septic, ill; immunocompromised; severe pain (8–10); GCS <13 or drop >2	HR 100 – 120; RR 20 – 30; BP >220/130 No symptoms; BP >180/110 mild symptoms; SpO ₂ 92 – 94%; temp 37.5–39 °C; pain score 4–7; appears unwell	Vital signs within normal limits; BP >180/110 No symptoms; history of fever; no documented fever	Vital signs within normal limits; no fever; no pain
BP; HR; RR; SpO ₂ ; temp; GCS; pain score				

ECG 12-lead ECG	Wide complex tachycardia; narrow complex tachycardia >150/min; bradycardia <40; ST elevations or depressions	Atrial fibrillation > 100; frequent ectopics; blocks/ sinus pauses; tall tented T waves	No ECG findings; continuing chest pain	Normal ECG; no ST-T wave changes
Glucose Levels; symptoms	<2.5 mmol/L and symptoms; > 18 mmol/ L and symptoms	<2.5 mmol/L no symptoms; >18 mmol/L no symptoms	2-5 – 4.0 mmol/L; 12 – 18 mmol/L	Normal limits

AVPU, alert, voice, pain, and unresponsive; CRT, capillary refill time; ECG, electrocardiogram; ENT, ear, nose, and throat.

MTS. This patient is triaged to level 2 (emergency) due to the potential threat of harm to himself and others and agitation from the rapid assessment guide. He requires an area away from other patients to maintain a safe environment, including potential actions for physical and chemical restraints.

CASE STUDY 3: PEDIATRIC FEVER

A 2-year-old girl presents to the emergency department with a fever and increased lethargy not relieved by antipyretics. Caregiver states that the girl has had a fever for 2 days and her last dose of Tylenol was 2 hours ago. Weight is 22 kg.

Airway: clear. Breaths: 28 per minute. Pulse oximetry 92% on room air. Circulation: capillary refill time (CRT) 3 seconds. Heart rate 146 beats per minute (regular). Disability: verbal on AVPU. Blood glucose (within normal parameters). Exposure: pale, temperature 39.2 °C

(102.5 °F). No rashes noted. Other information: history of sickle cell anemia.

Application and Analysis

ATS. Using the ETEK¹⁷ education guidelines, the patient would be a category 2 (pediatric physiological discriminators tool).¹⁷ There is evidence of circulatory compromise with tachycardia and pallor, alongside hyperthermia despite antipyretic medication and decreased oxygen saturations.

CTAS. This patient is a category 2 due to the fever modifier (temperature is >38.5 °C and she is immunocompromised). Her oxygen saturation, tachycardia, and CRT are first-order modifiers that need to be dealt with emergently.

FIGURE 7

Manchester Triage System including the German wait time adaptation^{35,36}

Level	Urgency category	Wait time (in mins) until treatment	Wait time (in mins) until treatment German adaptation	Examples of discriminators
Red	Immediate	0	0	Airway compromise, inadequate breathing, shock
Orange	Very urgent	10	10	Very hot (>105.8 °F, 41 °C), severe pain, significant mechanism of injury
Yellow	Urgent	60	30	Moderate or spasmodic pain, unable to walk
Green	Standard	120	90	Recent mild pain, swelling, recent problem
Blue	Non-urgent	240	120	No specific discriminator—only used when none of the other discriminators match the condition and the patient is stable

TABLE
Case study outcomes

Triage system	Case study 1	Case study 2	Case study 3
Australasian Triage Scale	2	1	2
Canadian Triage System	2	1	2
Emergency Severity Index	2	2	2
Malaysian Triage Scale	2	2	1
Manchester Triage System	Orange	Orange	Orange

ESI. The clinical presentation and recorded vital signs including lethargy reported trigger an ESI 2 allocation. In addition, the history of sickle cell anemia suggests an immunocompromised state.

Manchester Triage System. Reviewing the “Unwell Child” clinical triage algorithm, 2 symptoms (reaction to verbal stimuli and temperature) are discriminators for the orange (urgent) category.

MTS. This child is triaged to level 1 (resuscitation) due to her lethargy, pallor, and changes in the circulation (CRT >2 seconds and tachycardia). Her febrile status, with a history of sickle cell anemia and decreased oxygenation, will also support the level 1 category.

Discussion

Through the use of case studies, the application of the triage tools demonstrates consistency in decision making (Table). Variability exists among countries in terms of nursing scope of practice, health care infrastructure and resources, and accessibility of diagnostics and investigations at first point of patient contact. Further monitoring and development of triage systems will be required to stay up to date in the changing landscape of health care. For example, in recent years, new triage considerations have been required for infectious diseases and mental health presentations. Limitations of use include training and education that are not mandatory in all settings. In addition, due to the individualized application of these tools to these case studies, the outcome may not reflect wider triage practices globally.

Implications for Emergency Nurses

Emergency nurses worldwide require specialized training to undertake a rapid assessment of patients not only to determine the urgency of care required but to also identify early warning signs of potential deterioration. Familiarization with country-specific triage systems, alongside a periodic review of the available clinical evidence that underpins each validated tool, is essential. Triage tools provide support to the emergency nurse, allowing them to undertake rapid assessment and prioritize care within their own health care context.

Conclusion

There are multiple publications on country-specific emergency triage systems; however, there are limited publications on side-by-side reviews of differing systems or detailed evaluation of triage applications against set case studies.^{42,43} Using fictional case studies, key differences among 5 validated triage systems have been identified. There has been discussion in emergency nursing forums that a standardized worldwide triage system could be beneficial, allowing comparable data to be evaluated between countries. A limitation of this is the differing global health care context in which triage occurs, with a variation of resources and clinical practice standards. Locally applied, standardized triage care with patient-focused assessment ensures that no matter where in the world you present for care, your projected time to treatment will be consistent.

Author Disclosures

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