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UNIVERSITY OF MICHIGAN
EMERGENCY MEDICINE AND
PROJECT HOPE
KATH
EMERGENCY NURSING
TRAINING PROGRAM

MODULE ~ 3

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EMERGENCY NURSING TRIAGE MODULE

COURSE OBJECTIVES

***TO DEFINE THE MAJOR OBJECTIVES OF TRIAGE AND THE ROLE OF TRIAGE WITHIN THE EMERGENCY MEDICAL SYSTEM**

***TO DEFINE THE MAJOR TYPES OF TRIAGE PRACTICES**

***TO DESCRIBE AND APPLY THE CAPE TRIAGE SCORING SYSTEM**

***TO APPLY THE NURSING PROCESS WHEN ANALYZING THE TRIAGE CASE SCENARIO**

***TO DELINEATE THE NURSING PROCESS DURING TRIAGE**

***TO PREDICT CAPE TRIAGE SCORE WHEN PRESENTED WITH SPECIFIC INFORMATION REGARDING THE PATIENT'S HISTORY AND CONSIDER AGE SPECIFIC FACTORS**

*** TO EMPOWER THE NURSES WITH KNOWLEDGE TO BECOME SKILLED AT TRIAGE**

WHAT IS TRIAGE?

Triage is the process of determining the priority of patients' treatments based on the severity of their condition.

This rations patient treatment efficiently when resources are insufficient for all to be treated immediately. The term comes from the French verb *trier*, meaning to separate, sort, sift or select.

The Purpose & Benefits of Triage

- ~ **To expedite the delivery of time-critical treatment for patients with life-threatening conditions**
- ~ **To ensure that ALL people requiring emergency care are appropriately categorized according to their clinical condition**
- ~ **To improve patient flow**
- ~ **To improve patient satisfaction**
- ~ **To decrease the patient's overall length of stay**
- ~ **To facilitate streaming of less urgent patients**
- ~ **To be user-friendly for all levels of health care professionals**

ROLE OF TRIAGE NURSE

To competently assess all incoming patients to properly place them in categories according to the Triage Early Warning Score (TEWS)

NURSING QUALIFICATIONS FOR TRIAGE

1. Ideally the nurse should have worked in the Emergency Department for a minimum of 6 months
2. A nurse must go through the Emergency Department orientation program
3. The nurse must complete at least four month rotation through the various hospital units including the ED

The Significance of Nurses in The Triage Process

Compared to other countries whose doctor to nurse ratios range from 1:4 to 1:1.6, in South Africa the Ratio of doctors to nurses is 1:8. Thus, the nurses have a **critical** role in assisting the physicians in assessing patients for initial treatment as well as in the ongoing delivery of care.

~ Assessment ~

A Critical Tool

Across the Room Assessment

What are some of the symptoms or physical signs that you can assess from across the room?

CURRENTLY UTILIZED TRIAGE SYSTEMS

CTAS ~ Canadian Triage and Acuity scale

ESI ~ Emergency Severity Index

ATI ~ Australian Triage Index

CANADIAN TRIAGE AND ACUITY SCALE (CTAS) NATIONAL GUIDELINES

CTAS Level 1 - Patients need to be seen by a physician immediately 98% of the time.

CTAS Level 2 - Patients need to be seen by a physician within 15 minutes 95% of the time.

CTAS Level 3 - Patients need to be seen by a physician within 30 minutes 90% of the time.

CTAS Level 4 - Patients need to be seen by a physician within 60 minutes 85% of the time.

CTAS Level 5 - Patients need to be seen by a physician within 120 minutes 80 % of the time.

EMERGENCY SEVERITY INDEX

The Emergency Severity Index is a 5 level tool for use in emergency department triage. Experienced ER nurses use the ESI to rate patient's acuity on a scale of 1-5.

Level 1: Immediate life saving intervention required

Level 2: High risk situation (Confused, lethargic, disoriented, severe pain or distress)

Level 3: Multiple Resources are required. (Consider upgrading to level 2 if vital signs are in the danger zone (<3 months HR >180, >RR 50 and O2 sats <92%, 3 months to 3 years HR >160, RR >40 and O2 sats <92%, 3 years to 8 years HR >140, >RR 30 and O2 sats < 92% and over 8 years, HR >100, RR >20 and O2 sats < 92%))

Level 4: One resource required

Level 5: No resources needed

SOUTH AFRICA TRIAGE SCORE

In 2004 the South African Triage Group (SATG) formerly known as the Cape Triage Group) was convened under the auspices of the Joint Division of Emergency Medicine and the University of Cape Town and Stellenbosch. The aim of the STAG was to produce a triage score for use throughout South Africa.

KEY TRIAGE CONCEPTS

~RED VS RESUSCITATION

~ACUTE VS CHRONIC

~CHILDREN AND INFANTS

~TEWS CALCULATOR

3 VERSIONS OF STATS

~INFANT (50 CM TO 95 CM ~ ONE WEEK TO ALMOST 3 YEARS OF AGE)

~CHILDREN (96 CM – 150 CM 3 YEARS TO 12 YEARS OF AGE)

~ADULT (OVER 150 CM)

TEWS CALCULATOR

~ THIS CONSISTS OF 2 PARTS:
VITAL SIGNS AND MOBILITY

If the vital signs are WNL and the patient is alert and ambulatory with no trauma, the score will be 0.

The score will increase or decrease depending on these factors and whether they are too high, too low, if trauma has occurred or if they need assistance with mobility.

***Please note that each vital sign must be monitored to achieve an accurate score

Physiological Symptoms affected by Vital Signs

- ~B/P and heart rate monitor the cardiovascular
- ~Respiratory rate monitors the respiratory system
- ~Temperature monitors the thermoregulatory system
- ~AVPU monitors the central the central nervous system
- ~Mobility monitors the musculoskeletal system
- ~Trauma refers to the presence of any injury

The second discriminator is the part that generates the actual triage color (red, orange, yellow, green or blue) which will determine the severity level and essentially when the patient will be attended to.

These discriminators are again broken into 3 categories:

~INFANT (50 CM TO 95 CM ~ ONE WEEK TO ALMOST 3 YEARS OF AGE)

~CHILDREN (96 CM – 150 CM 3 YEARS TO 12 YEARS OF AGE)

~ADULT (OVER 150 CM)

Stepwise approach for triage

- ~ Step 1: Take a brief history directed at the main complaint and document this
- ~ Step 2: Measure vital signs and document the findings
- ~ Step 3: Calculate the TEWS and document the total value
- ~ Step 4: Match the scores to the discriminator list and observe the discriminator list for possible discriminators not picked up by the TEWS
- ~ Step 5: Document the triage code and act accordingly

A decision regarding the acuity of the patient's condition should not be made until the whole stepwise approach has been completed.

The history is the main presenting complaint. This information can be obtained by questioning the patient, the escort (if the patient is unable to give a history) or by reading the referral letter.

***Always ask the question: “What is your emergency?” or “What brings you to the hospital today?”

THE IMPORTANCE OF OBSERVATION

Vital Signs

BLOOD PRESSURE

HEART RATE

RESPIRATIONS

TEMPERATURE

PAIN

AVPU

MOBILITY IS OBSERVED BY
NOTING THE MODE IN WHICH
THE PATIENT HAS TO BE
MOBILIZED AND TRAUMA
SCORING ASSESSES WHETHER
THE PATIENT HAS HAD ANY
INJURIES.

The history along with vital signs must be documented!

~Practice Scenarios~

~CHILD TEWS CALCULATOR ~

SCORING EXAMPLE

A child walks into the emergency department with a RR of 32 and a heart rate of 140, a temperature of 38.3 and the patient is awake and alert but color is pale and abdomen is firm and distended.

When questioned, the parents state he has been vomiting with for 2 days with right lower quadrant pain. There are no signs of trauma. When abdomen is touched, patient screams in pain. (Calculate color code)

Triage Early Warning Score (TEWS) - Children

CHILD TRIAGE SCORE (3 to 12 years old / 96 to 150 cm tall)

	3	2	1	0	1	2	3
Mobility				Walking	With Help	Stretcher/ Immobile	
RR	less than 15	15-16		17-21	22-26	27 or more	
HR	less than 60	60-79		80-99	100-129	130 or more	
Temp		Feels cold OR Under 35		35-38.4		Feels hot OR Over 38.4	
AVPU		Confused		<u>A</u> lert	Reacts to <u>V</u> oice	Reacts to <u>P</u> ain	<u>U</u> nresponsive
Trauma				No	Yes		

CHILD TEWS Scoring

~Mobility ~ Walked ~ 0

~Respiratory rate ~ 32 ~ 2

~Heart rate ~ 140 ~2

~B/P ~ n/a

~Temperature ~ 38.3 ~ 0

~AVPU ~ awake and alert ~ 0

~Trauma ~ no signs of injury or bruising ~ 0

Total score ~ 5 (What color code would this

be?) Discussion.....What other factors would

you consider in your scoring decision?

Colour	RED	ORANGE	YELLOW	GREEN	BLUE
TEWS	7 or more	5-6	3-4	0-2	DEAD
Target time to treat	Immediate	less than 10 mins	less than 60 mins	less than 240 mins	DEAD
Mechanism of injury		High energy transfer			
Presentation		Shortness of breath - acute		ALL OTHER PATIENTS	
		Coughing blood			
		Chest pain			
		Haemorrhage - uncontrolled			
	Seizure - current	Seizure - post ictal			
		Focal neurology - acute			
		Level of consciousness reduced			
		Psychosis / Aggression			
		Threatened limb			
		Dislocation - other joint			
	Fracture - compound	Fracture - closed			
	Burn – face / inhalation	Burn over 20%	Burns - other		
		Burn - electrical			
		Burn - circumferential			
		Burn - chemical			
		Poisoning / Overdose	Abdominal pain		
	Hypoglycaemia – glucose less than 3	Diabetic - glucose over 11 & ketonuria	Diabetic - glucose over 17 (no ketonuria)		
		Vomiting - fresh blood	Vomiting - persistent		
Pregnancy & abdominal trauma or pain		Pregnancy & trauma			
		Pregnancy & PV bleed			
Pain		Severe	Moderate	Mild	
	Senior Healthcare Professional's Discretion				

~ ADULT TEWS CALCULATOR ~ SCORING EXAMPLE

An adult patient arrives in a wheelchair with a RR of 28 and a pulse of 129. The B/P is 200/98, temperature is 37.0 and the patient is alert and oriented.

When questioned, the patient noted that there had been no trauma and no physical wounds, lacerations or bruising were noted.

Triage Early Warning Score (TEWS) - Adult

ADULT TRIAGE SCORE (over 12 years / taller than 150cm)

	3	2	1	0	1	2	3	
Mobility				Walking	With Help	Stretcher/ Immobile		Mobility
RR		less than 9		9-14	15-20	21-29	more than 29	RR
HR		less than 41	41-50	51-100	101-110	111-129	more than 129	HR
SBP	less than 71	71-80	81-100	101-199		more than 199		SBP
Temp		Feels cold OR Under 35		35-38.4		Feels hot OR over 38.4		Temp
AVPU		Confused		<u>A</u> lert	Reacts to <u>V</u> oice	Reacts to <u>P</u> ain	<u>U</u> nresponsive	AVPU
Trauma				No	Yes			Trauma

TEWS Scoring

~Mobility ~ Wheelchair ~ 1

~Respiratory rate ~ 28 ~ 2

~Heart rate ~ 129 ~2

~B/P ~ 200/98 ~ 2

~Temperature ~ 37.0 ~ 0

~AVPU ~ awake and alert ~ 0

~Trauma ~ no signs of injury or bruising ~ 0

Total score ~ 7 (What color code would this be?)

DISCRIMINATORS

After the triage code according to the TEWS discriminators are addressed by placing the right hand over the selected color code. Based on the history taken the triage code may be changed to the corresponding column in which the discriminator was found.

Utilize the TEWS Scores and also use your assessment skills, knowledge & expertise to determine whether to upgrade a patient or ask for colleague/physician input regarding your triage placement decision.

TRIAGING UP IS ESSENTIAL TO
THE PROCESS AND MUST BE DONE
WHERE DISCRIMINATORS OUT-
TRIAGE THE TEWS.

TRIAGE DOWN IS NOT A PART OF
THE TRIAGE PROVIDERS' DUTY
BUT CAN BE DONE BY THE SENIOR
HEALTHCARE PROVIDER.

Initial Triage-Based Treatment and Diagnostic Tests

First Aid (splints, ice packs, pressure dressings)

Analgesia and antipyretic control

Simple diagnostic Aids (glucometers, pulse ox)

Decision Making Process

Prioritization

Time Management

Organization

Resource Utilization

Follow-up

Additional Triage Responsibilities

Waiting Room Management

- ~Safety of Waiting Room Patients
- ~Reassessment of Patients
- ~Privacy

Communication

- ~Customer Service
- ~Management of Visitors

Administrative Responsibilities

Safety

Infection Control

Triage Legalities

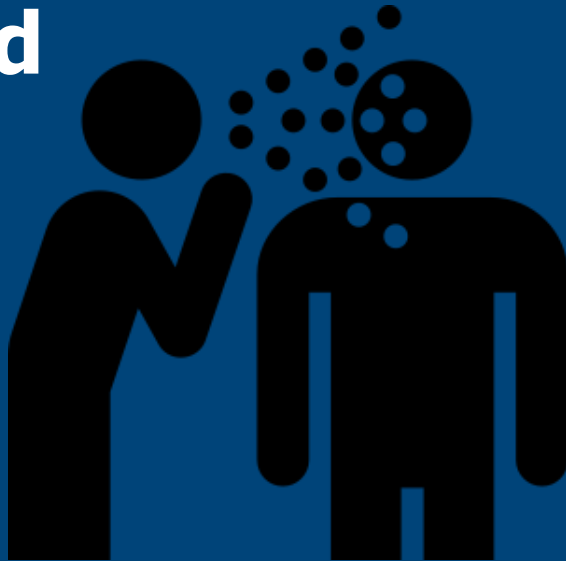
Triage Performance

Improvement

Triage Data Utilizations

Illness/Injury Specific Considerations

- ~ Coughing patient with known TB
- ~ Hemorrhaging Pregnant Woman
- ~ Concerned Parent with Screaming Child



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Triage Early Warning Score (TEWS) - Children

CHILD TRIAGE SCORE (3 to 12 years old / 96 to 150 cm tall)

)	3	2	1	0	1	2	3	
Mobility				Walking	With Help	Stretcher/ Immobile		Mobility
RR	less than 15	15-16		17-21	22-26	27 or more		RR
HR	less than 60	60-79		80-99	100-129	130 or more		HR
Temp		Feels cold OR Under 35		35-38.4		Feels hot OR Over 38.4		Temp
AVPU		Confused		<u>A</u> lert	Reacts to <u>V</u> oice	Reacts to <u>P</u> ain	<u>U</u> nresponsive	AVPU
Trauma				No	Yes			Trauma

Triage Early Warning Score (TEWS) - Infants

INFANT TRIAGE SCORE (younger than 3 years / smaller than 95cm)

	3	2	1	0	1	2	3	
Mobility				Normal for age		Stretcher/ Immobile		Mobility
RR	less than 20	20-25		26-39		40-49	50 or more	RR
HR	less than 70	70-79		80-130		131-159	160 or more	HR
Temp		Feels cold OR Under 35		35-38.4		Feels hot OR Over 38.4		Temp
AVPU				<u>A</u> lert	Reacts to <u>V</u> oice	Reacts to <u>P</u> ain	<u>U</u> nresponsive	AVPU
Trauma				No	Yes			Trauma

The Color Designation Discriminators are also divided into 3 categories

They also include: Infant, Child and Adult

Colour	RED	ORANGE	YELLOW	GREEN	BLUE
TEWS	7 or more	5-6	3-4	0-2	DEAD
Target time to treat	Immediate	less than 10 mins	less than 60 mins	less than 240 mins	DEAD
Mechanism of injury		High energy transfer			
Presentation		Shortness of breath - acute		ALL OTHER PATIENTS	
		Coughing blood			
		Chest pain			
		Haemorrhage - uncontrolled			
	Seizure - current	Seizure - post ictal			
		Focal neurology - acute			
		Level of consciousness reduced			
		Psychosis / Aggression			
		Threatened limb			
		Dislocation - other joint			
		Fracture - compound	Fracture - closed		
	Burn - face / inhalation	Burn over 20%	Burns - other		
		Burn - electrical			
		Burn - circumferential			
		Burn - chemical			
		Poisoning / Overdose	Abdominal pain		
	Hypoglycaemia - glucose less than 3	Diabetic - glucose over 11 & ketonuria	Diabetic - glucose over 17 (no ketonuria)		
		Vomiting - fresh blood	Vomiting - persistent		
		Pregnancy & abdominal trauma or pain	Pregnancy & trauma		
Pregnancy & PV bleed					
	Green	Yellow	Mild		

IT IS ONLY THROUGH PRACTICE AND REPETITION THAT A NURSE WILL BECOME SKILLED WITH TRIAGE. THEREFORE, IT IS ENCOURAGED THAT YOU PARTICIPATE IN THE TRIAGE PROCESS AS FREQUENTLY AS POSSIBLE IN ORDER TO STAY IN PRACTICE AND UP TO DATE

Summary

Triage is an essentially 1st step in the efficient and effective running of any Emergency Center. Utilized together with common sense, education and assessment skills, the SATS is an excellent tool to that can save lives and reduce morbidity.

Additional Source Information

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