Nurse Driven Pediatric Triage: Modified for Developing

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ABSTRACT

Children represent the most vulnerable population. Moreover, the deaths among those in hospitals often occur within 24 hours of admission. If very sick children are identified soon and the treatment is initiated death can be prevented. Triage is a quick assessment to prioritize patients upon presentation to the emergency department (ED), according to the acuity of their presenting condition. The word triage comes from the French word "Trier" which literally means to sort. The objective of triaging is to ensure that the right patient gets the right treatment at the right time. The commonly used triage system for developing countries according to the WHO pocket book of hospital care for children. During this COVID pandemic nurses especially play a vital role in the assessment through triaging and management of the children ensuring quality nursing care.

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Introduction

Children represent the most vulnerable population. Moreover, the deaths among those in hospitals often occur within 24 hours of admission. If very sick children are identified soon and the treatment is initiated death can be prevented. Triage is a quick assessment to prioritize patients upon presentation to the emergency department (ED), according to the acuity of their presenting condition. The word triage comes from the French word "Trier" which literally means **to sort**.

Definition

It is a process by which sick children are classified according to the severity and nature of their illness.

Objective of Triage

The objective of triaging is to ensure that **right patient gets right treatment at the right time**.

Triage Categories

- **Non disaster**: To provide the best care for each individual patient.
- **Multi casualty/disaster**: To provide the most effective care for the greatest number of patients.

Non disaster or E.D triage

The primary objectives of an ED triage are to (ENA, 1992, P. 1):

1. Identify patients requiring immediate care.
2. Determine the appropriate area for treatment.
3. Facilitate patient flow through the ED and avoid unnecessary congestion.
4. Provide continued assessment and reassessment of arriving and waiting patients.
5. Provide information and referrals to patients and families.
6. Allay patient and family anxiety and enhance public relations.

Disaster

Definition: An incident, either natural or human-made, that produces patients in numbers needing services beyond immediately available resources. May involve a large number of patients or a small number of patients, if their needs place significant demands on resources

The key to successful disaster management is to provide care to those who are in greatest need first and just as importantly, not provide care to those who have little or no chance of survival. Correct triage is essential to accomplish this goal.

Disaster management includes

- ✓ The triage team
- ✓ Triage of Victims- first victims to arrive are frequently not the most seriously injured
- ✓ Critical patients
- ✓ Fatally Injured Patients
- ✓ Non critical patients
- ✓ Contaminated patients
- ✓ Triage levels

Triage Levels

The Canadian E.D. Triage and Acuity Scale

1. Resuscitation: Threat to life/limb

Time to Nurse Assessment:

Time to physician Assessment:

- Cardiac and respiratory arrest
- Major trauma
- Active seizure
- Shock
- Status Asthmaticus

2. Emergent: Potential threat to life, limb or function

Assessment Time: Nurse immediate, Physician < 15mins

- Decreased level of consciousness
- Severe respiratory distress
- Chest pain with cardiac suspicion Overdose (CONSCIOUS!)
- Severe abdominal pain
- G.I. Bleed with abnormal vital signs
- Chemical exposure to eye

3. Urgent: Condition with significant distress

Assessment Time: Nurse <20mins, Physician <30mins

- Head injury without decrease of LOC but with vomiting
- Mild to moderate respiratory distress
- G.I. Bleed not actively bleed
- Acute psychosis

4. Less urgent: Conditions with mild to moderate discomfort

Assessment time: Nurse <1 hour, Physician <1 hour

- Head injury, alert, no vomiting
- Depression with no suicidal attempt
- Chest pain, no distress, no cardiac susp.

5. Non urgent: Conditions can be delayed, no distress

Assessment time: Nurses and Physician > 2 hours

- Minor trauma
- Sore throat with temp. < 39

Triage is a dynamic process. The urgency (and hence triage category) with which a patient requires to be seen may change with time.

Placement in a triage category does not imply a diagnosis, or even the lethality of a condition.

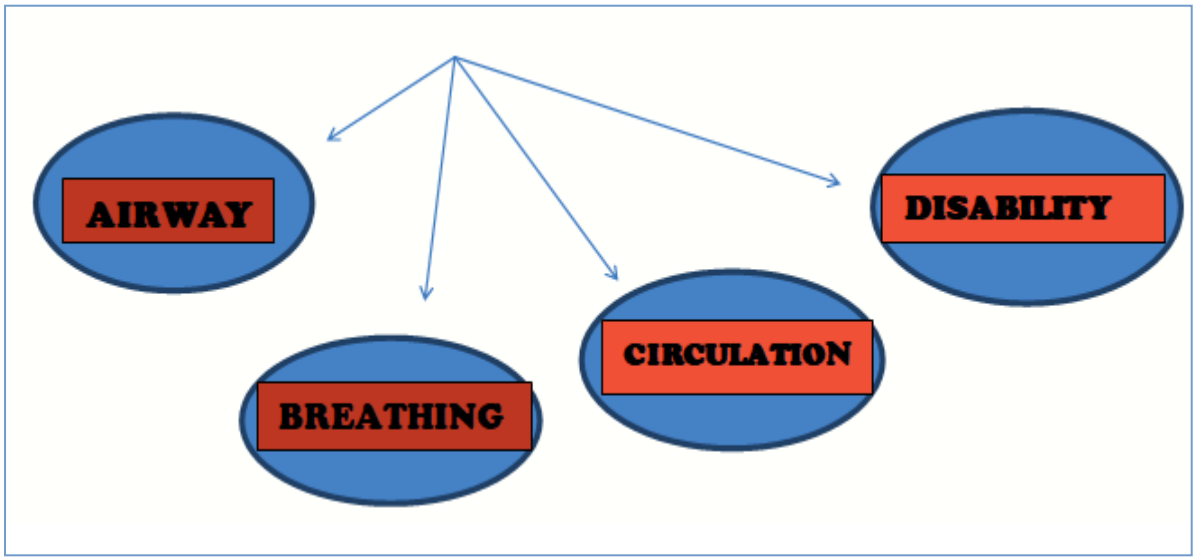
Patients in non-urgent categories may wait inordinately long periods of time, whilst patients who have presented later, but with conditions perceived to be more urgent, are seen before them.

Basic components of triage

- An "across-the room" assessment
- The triage history
- The triage physical assessment
- The triage decision

❖ **An "across-the room" assessment-**To identify obvious life threat conditions.

General Appearance



Across the door assessment

The triage nurse must scan the area where patients enter the emergency door, even while interviewing other patients.

The triage antenna should be seeking clues to problems in all people who enter the triage area. If any patient doesn't look right kindly but quickly interrupt any current interaction and go investigate.

Across the room assessment

Assessment is very crucial to direct the appropriate management modalities. Nurses need to be knowledgeable and alert to make correct assessments .The sequence of assessments are as follows:

Airway

Abnormal airway sounds, strider, wheezing grunting unusual posture e.g: Sniffing position, inability to speak, drooling or inability to handle secretion.

Breathing

Altered skin signs, cyanosis, dusky skin, tachypneic, bradypnea, or apnea periods, retractions, use accessory muscles, nasal flaring, grunting, or audible wheezes.

Circulation

Altered skin signs, pale, mottling, flushing uncontrolled bleeding.

Disability (neuro.)

- ↓ LOC
- ↓ Interaction with environment
- Inability to recognize family members
- Unusual irritability Response to pain or stimuli
- ↓Flaccid or hyperactive muscle tone

Role of triage nurse

The triage nurse's role is very imperative as she is the face of the hospital or unit, she needs to develop a good rapport with the patient and family to gain their confidence at the very outset. Following are the various roles of a triage nurse:

- Greets patients and identify herself.
- Maintains privacy and confidentiality
- Visualizes all incoming patients even while interviewing others.
- Maintains good communication between triage and treatment area.
- Maintains excellent communication with waiting area.
- Uses all resources to maintain high standard of care.

Importance of re-triage

- Reassess the patient within 1-2 hours of initial triage and continue to re-assess on a regular basis, patients who may have presented without cardinal signs of severe illness may develop them during long waits.
- Patients who appear intoxicated actually may have life threatening problems such as DKA, and should not be permitted to keep it off in the waiting room.

The triage suggested by WHO manual of emergency care of children

Children are categorized into three groups:

1. Emergency signs
2. Urgent signs
3. Non urgent cases

CMC Triage System

The commonly used triage system for developing countries according to the WHO pocket book of hospital care for children.

They are categorized in three groups.

Priority levels are based on the following assessment:

1. Visual Assessment
2. Primary Assessment

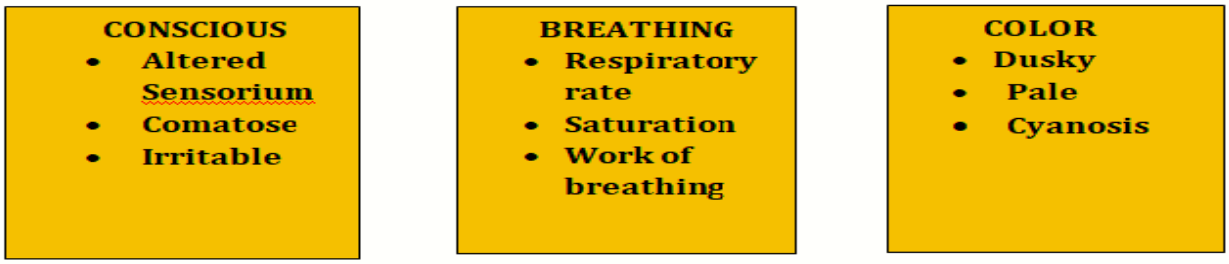
Is a hands-on ABCDE approach to evaluating the rapid cardiopulmonary and neurological status of the child.

A: Airway
B: Breathing
C: Circulation
D: Disability
E: Exposure

Airway

Decide if Airway is clear, maintainable or not maintainable.

- **Clear**: Airway is open and unobstructed for normal breathing.
- **Maintainable**: Airway is obstructed but can be maintainable by simple measures (eg: head tilt- chin lift).
- **Not Maintainable**: Airway is obstructed but cannot be maintainable without advanced intervention [eg: intubation].



Breathing

Assessment of breathing includes:

- Respiratory rate Respiratory effort
- Chest expansion and air movement
- Lung and airway sound
- O2 saturation by Pulse oximetry

Circulation

Circulation is assessed by evaluation of

- Heart rate and rhythm
- Pulse
- Capillary refill time
- Skin colour and temperature
- Blood pressure

Disability

i. Disability assessment is a quick evaluation of neurologic function.
ii. Clinical signs of brain perfusion are important indicators of circulatory function in the ill or injured patients.
iii. Signs include level of consciousness, muscle tone and pupil response.

Exposure

i. Undress the seriously ill and injured child as necessary to perform a focused physical examination.
ii. Maintain cervical spine precaution when turning any child with suspected neck or spine injury.
iii. Look any trauma such as bleeding, burns and unusual marking that suggest non accidental trauma.
iv. Look for petechiae and purpura s/o septic shock.

3. Secondary Assessment

1) Focused history
2) Focused physical examination

Focused history: to identify important aspects of the child's presenting complaint.

3) Sample

- **Signs and symptoms:** breathing difficulty, decrease level of consciousness, agitation, anxiety, fever, decreased oral intake, diarrhoea, vomiting, bleeding, fatigue, -time course of symptoms.
- **Allergies:** medication, foods, latex.
- **Medications:** name of drug, duration, last dose.
- **Past medical history:** Health history (premature birth), Significant underlying medical problem, Past surgeries, Immunization status.
- **Last meal:** time and nature of last intake of liquid or food.
- **Events**: event leading to current illness or injury, hazards at scene, treatment during. interval from onset of disease or injury until evaluation, estimated time of arrival.

4. Tertiary Assessment

- Laboratory diagnosis if needed [eg: Glucometer RBS]
- The few examples of significant vitals and clinical conditions which may help the triaging nurse to identify a sick child with emergency or urgent condition in a busy pediatric emergency services.

Pediatric Emergency Triage Priority I- To Be Seen Immediately

Age	Normal HR(min)	Normal RR(min)	BP 5th Centile	50th Centile	95th Centile
1-12 months	100-80	35-40	60	80-95	100-105
13 months - 3yrs	70-110	25-30	70	85-90	105-110
4-6yrs	70-110	21-25	70+2*age	90-85	110-115
7-12yrs	70-110	19-21	90	95-104	110-115
13-19yrs	55-90	16-18	90	105-110	120-130

Testing Strategy for Covid-19 during Second Wave: Dated-06-05-2021

- All patients entering the hospital will be triaged based on symptoms.
- If symptomatic (fever, cough and/or breathlessness), the patient will be screened in fever triage clinic and advise testing/further management as required by triage clinician.
- Asymptomatic patients requiring testing pre-procedure or for other reasons as deemed necessary by physician will continued to be tested in alpha clinic kiosk. The validity of a negative test report is 5 days from the date of swabbing.
- Asymptomatic patients for admission can be tested as per department/ward/unit protocol.
- Only symptomatic contacts of a COVID-19 positive case will be tested.
- No testing is required for COVID-19 recovered individuals at the time of discharge.

Testing Strategy for Covid-19 during Second Wave: Dated-06-05-2021 outside Reports

- All outside COVID positive patients will be admitted.
- ONLY if the SRF ID and ICMR number and a COVID positive report are available. ICMR number should be documented in the ED SARI medical report and the report should be scanned into the system.
- Any patients who have got swabbed outside and are awaiting results or verbally reporting as COVID positive without an ICMR ID have to get re-swabbed in CMC, Vellore before being admitted in COVID positive wards/ICUS suspect wards.
- If there is a negative report from outside, a repeat testing can be done as deemed necessary by physician.

Instruments in Triage Room

- Triage register
- NIBP
- Pulse oximeter
- Glucometer
- Thermometer
- Weighing scale
- Infant meter
- Toys

Conclusion

All children in emergency department must go through triage to identify seriousness of the disease based on priority assessment. Nurses are the prime health care personnel in the health care delivery system in the emergency unit and they need to assess, assist, co ordinate and care for the patient for best patient outcome.

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