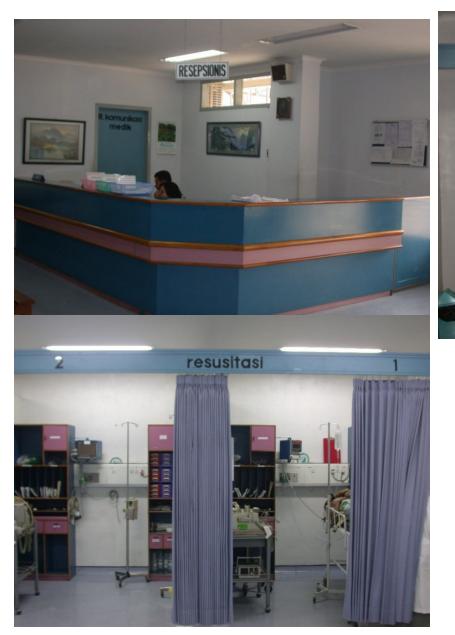


## PERENCANAAN SISTEM TRIAGE IGD

PIT IV EM Kshanti Adhitya

## **IGD RSSA MALANG: 2008**





## IGD RSSA MALANG SEKARANG



## IGD RSUD Serang

Before

# TRIAGE TRIAGE



#### After



## IGD RSUD DR. ISKAK TULUNGAGUNG







### PELAYANAN DI IGD RSUD SUMBAWA?





## TRIASE — RESPON TIME

#### Khon Kaen Hospital



#### Lerdsin General Hospital



## GOALS OF TRIAGE

Rapidly identify patients with urgent, life-threatening conditions

Assess/determine severity and acuity of the presenting problem

Direct patients to appropriate treatment areas

Re-evaluate patients awaiting treatment

## ADVANTAGES OF TRIAGE

Streamlines patient flow.

Reduces risk of further injury/deterioration.

Improves communication and public relations.

Enhances teamwork.

Identifies resource requirements.

Establishes national benchmarks.

## TRIAGE ROLE

•To determine severity of illness or injury for each patient who enters the Emergency Department (ED).

## TRIAGE

Patients should have a triage assessment within 10 minutes of arrival in the ED.

Accurate triage is the key to the efficient operation of an emergency department.

Effective triage is based on the knowledge, skills and attitudes of the triage staff.

## TRIAGE PROCESS

Assess and determine the severity or acuity of the presenting problem.

Process the patient into a triage level.

Determine and direct the patient to appropriate treatment areas.

Effectively and efficiently assign appropriate human health resources.

## TRIAGE ASSESSMENT

Chief complaint.

Brief triage history

Injury or illness (signs & symptoms)

General appearance.

Vital signs.

Brief physical appraisal at triage.

Triage is a dynamic process.

Reassessment & Reassessment.

A patient's condition may improve or deteriorate during the wait for treatment.

## SISTEM TRIAGE DUNIA

Australasian Triage Scale (ATS)

Manchester Triage Scale (MTS)

Canadian Triage and Acuity Scale (CTAS)

**Emergency Severity Index (ESI)** 

Australasian /		Manchester (Ur	nited Kingdom)	Canadian		Emergency Severity Index	
Level	Physician/ Staff Response Time (min)	Level	Physician/ Staff Response Time (min)	Level	Physician/ Staff Response Time (min)	Level	Physician/ Staff Response Time (min)
1 = Resuscitation	0 (Immediate)	1 = Immediate (Red)	0 (Immediate)	1 = Resuscitation	0 (Immediate)	1 = Unstable	0 (Immediate)
2 = Emergency	≤10	2 = Very Urgent (Orange)	≤10	2 = Emergent	≤15	2 = Threatened	Minutes
3 = Urgent	≤30	3 = Urgent (Yellow)	≤60	3 = Urgent	≤30	3 = Stable	≤60
4 = Semi-Urgent	≤60	4 = Standard (Green)	≤120	4 = Less Urgent	≤60	4 = Stable	Could be delayed
5 = Nonurgent	≤120	5 = Nonurgent (Blue)	≤240	5 = Nonurgent	≤120	5 = Stable	Could be delayed

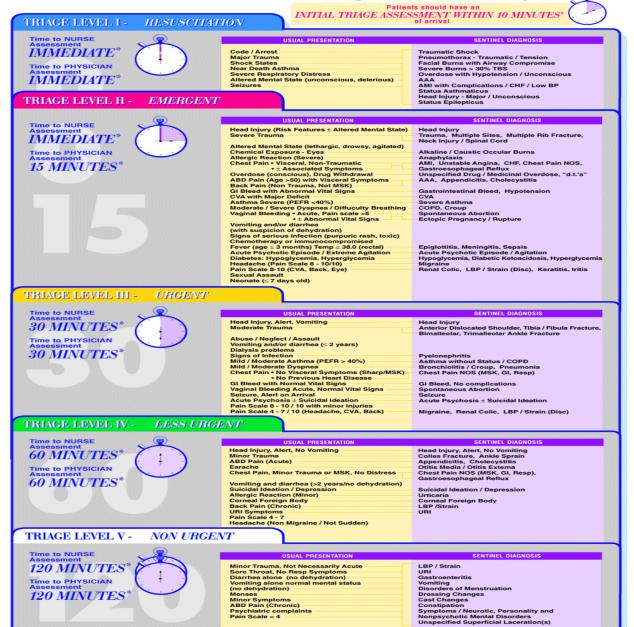
## **CTAS**

Level	Time to Primary RN assessment	Time to MD assessment	Reassessment Time
Level 1	immediate	immediate	continuous
Level 2	immediate	≤ <b>15</b> min	15 min
Level 3	≤ 30 min	$\leq$ 30 min	30 min
Level 4	≤ 1 hour	$\leq$ 1 hour	1 hour
Level 5	≤ 2 hour	$\leq$ 2 hour	2 hours





#### The Canadian E.D. Triage and Acuity Scale



## PEDIATRIC TRIAGE PCTAS

There are three things that must be assessed and documented on all pediatric patients:

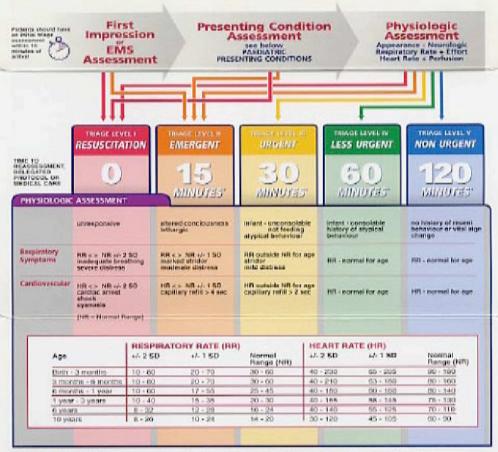
- Respiratory rate.
- Heart rate.
- Capillary refill.

# Pediatric CTAS Poster Pocket Card





# The Canadian Paediatric E.D. Triage and Acuity Scale



\*TIMES TO ASSESSMENT are operating objectives, not established standards of care.

Assessment objectives may be met using delegated protocols and remote communication.









## **EMERGENCY SEVERITY INDEX**

	ESI-1	ESI-2	ESI-3	ESI-4	ESI-5
Stability of vital functions (ABCs)	Unstable	Threatened	Stable	Stable	Stable
Life threat or organ threat	Obvious	Reasonably likely	Unlikely (possible)	No	No
Requires resuscitation	Immediately	Sometimes	Seldom	No	No
Severe pain or severe distress	Yes	Yes (sufficient, but not necessary for this category)	No	No	No
Expected resource intensity	Maximum: staff at bedside continuously; mobilization of outside resources	High: multiple, often complex diagnostic studies; frequent consultation; continuous (remote) monitoring	Medium: multiple diagnostic studies; or brief period of observation; or complex procedure	Low: one simple diagnostic study; or one simple procedure	Low: examination only
Physician/staff response	Immediate team effort	Minutes	Up to 1 hr	Could be delayed	Could be delayed
Expected time to disposition	1.5 hr	4 hr	6 hr	2 hr	1 hr ´
Examples	Cardiac arrest, intubated trauma patient, severe drug overdose	Most chest pain, stable trauma (mechanism concerning), elderly pneumonia patient, altered mental status, behavioral disturbance (potential violence)	Most abdominal pain, dehydration, esophageal food impaction, hip fracture	Closed extremity trauma, simple laceration, cystitis, typical migraine	Sore throat, minor burn, recheck

#### PRIMARY AND SECONDARY PEDIATRIC TRIAGE SURVEY

	Primary		Secondary
A = Airway	<ul> <li>Patency, positioning for air entry, audible sounds, airway obstruction (blood, mucus, edema, foreign body)</li> </ul>	F = Find	Find out underlying history of current illness or injury
B = Breathing	Increased or decreased work of respiration, quality of breath sounds; nasal flaring; use of accessory muscles; pattern; quality; rate	G = Get vital signs	Obtain vital signs, obtain orthostatic vital signs if condition warrants
C = Circulation	✓ Color and temperature of skin; capillary refill; strength and rate of peripheral pulses	H = Head-to-toe assessment	Perform a head-to-toe assessment for a complete and thorough examination
C = Cervical collar	Placement of a cervical collar when indicated	I = Initiate	Initiate the Triage Documentation Record
C = Consciousness	<ul> <li>Level of consciousness (Glasgow Coma Scale); response to environment; muscle tone; pupil response</li> </ul>	I = Isolate	Assess patient for rashes, communicable diseases, or immunosuppression, and place in appropriate isolation
D = Dextrose	<ul> <li>Serum glucose level in patients with altered mental status</li> </ul>	I = Intervention	Perform triage interventions (first aid, medication administration, diagnostic studies)
E = Expose	Expose patient by undressing to identify underlying injuries	J = Judgment	Make appropriate triage classification of patient acuity

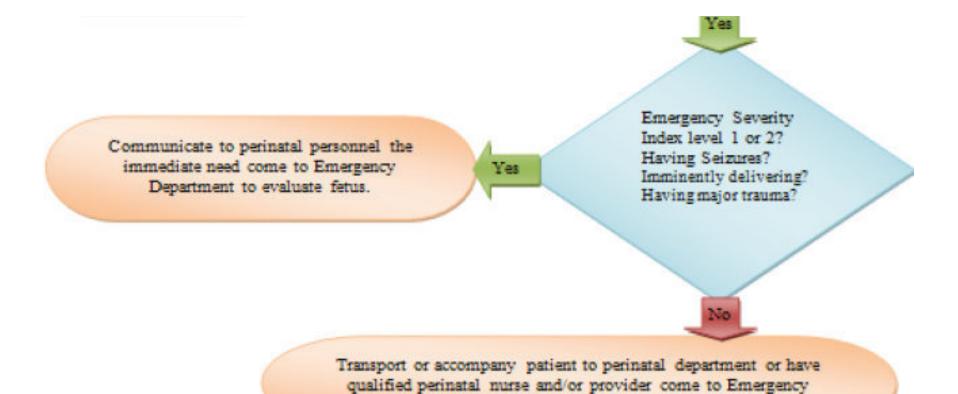
#### PENGENALAN KEGAWATAN PEDIATRIK

observo	Skin	Mottled? Cyanotic? Petechiae?	Abuse
		Pallor?	Cry
	Activity	Needs assistance/	
		Not ambulating? Responsive?	Heat
	Ventilation	Retractions? Head bobbing? Drooling?	Immune System
		Nasal flaring? Slow rate? Fast rate? Stridor? Wheezing?	Level of Consciousness
	Eye Contact	Glassy stare? Fails to engage/focus?	Dehydration

Abuse	Unexplained bruising/injuries? Inappropriate parent?
Cry	High pitched, cephalic? Irritable?
Heat	High fever (>41°)? Hypothermia (36°)?
Immune System	Sickle cell? AIDS? Corticosteroids?
Level of Consciousness	Irritable? Lethargic? Pain only? Convulsing? Unresponsive?
Dehydration	Hollow eyes? Capillary refill? Cold hands, feet? Voiding? Severe diarrhea? Vomiting: projectile, bilious, persistent? Dry mucous membranes?

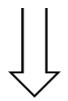
#### PENGENALANAN KEGAWATAN OBSTETRIK

Suggested triage algorithm for the Early consultation with management of pregnant women who obstetrical provider present to the emergency department with a non-obstetric chief complaint. Reprinted from Dignity Health, 2012. Reprinted with permission. Is patient having vaginal bleeding, abdominal pain Routine care in or syncope? Emergency Department Female patient aged Is the Is gestational age 13-50 presents Yes patient Yes 20 weeks or to Emergency pregnant? greater? Department



Department to conduct Obstetric evaluation.

#### **INTERVENTION CALLING SCORE**



Physiological marker	Score 0	Score 1	Score 2	Score 3
Ventilatory frequency	≤19	20-21	≥22	
Pulse	≤101	≥102		
Systolic blood pressure	≥100		≤99	
Temperature	≥35.3			<35.3
Oxygen saturation in air	96 to 100	94 to <96	92 to <94	<92
AVPU	Alert			Other

URGENT SCORE > 5

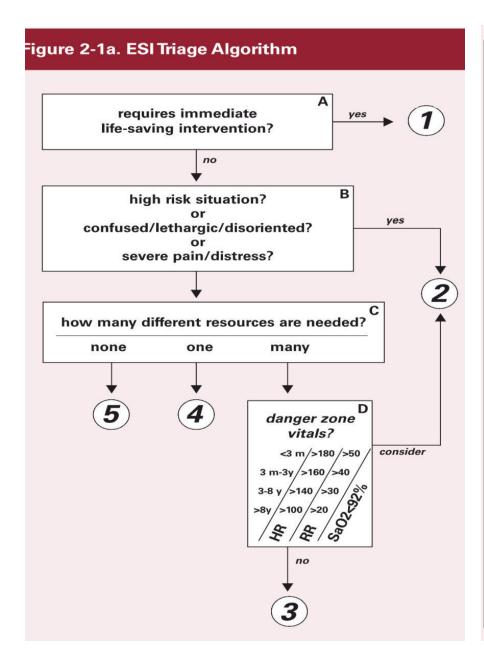
ALERT SCORE 2 - 4

NORMAL SCORE 0 - 1

#### **MODIFIED EARLY WARNING SCORE**

Score	3	2	1	0	1	2	3
Respiratory rate (min <sup>-1</sup> )		≤8		9–14	15–20	21–29	> 29
Heart rate (min <sup>-1</sup> )		≤40	41-50	51-100	101-110	111-129	> 129
Systolic BP (mmHg)	≤70	71–80	81-100	101-199		≥200	
Urine output (m1/kg/h)	Nil	< 0.5					
Temperature (°C)		≤35	35.1–36	36.1–38	38.1-38.5	≥38.6	
Neurological				Alert	Reacting to voice	Reacting to pain	Unresponsive
	,			<u> </u>		<b>+</b>	
URGI SCORI			SC	ALER ORE		NORMA SCORE 0	

## ESI TRIAGE ALGORITHM



A. <u>Immediate life-saving intervention required:</u> airway, emergency medications, or other hemodynamic interventions (IV, supplemental O2, monitor, ECG or labs DO NOT count); and/or any of the following clinical conditions: intubated, apneic, pulseless, severe respiratory distress, SPO<sub>2</sub><90, acute mental status changes, or unresponsive.</p>

<u>Unresponsiveness</u> is defined as a patient that is either:

- (1) nonverbal and not following commands (acutely); or
- (2) requires noxious stimulus (P or U on AVPU) scale.
- B. <u>High risk situation</u> is a patient you would put in your last open bed.
  <u>Severe pain/distress</u> is determined by clinical observation and/or patient rating of greater than or equal to 7 on 0-10 pain scale.
- C. <u>Resources</u>: Count the number of different types of resources, not the individual tests or x-rays (examples: CBC, electrolytes and coags equals one resource; CBC plus chest x-ray equals two resources).

Resources	Not Resources		
Labs (blood, urine)     ECG, X-rays     CT-MRI-ultrasound-angiography	History & physical (including pelvic     Point-of-care testing		
IV fluids (hydration)	Saline or heplock		
IV or IM or nebulized medications	PO medications     Tetanus immunization     Prescription refills		
Specialty consultation	Phone call to PCP		
Simple procedure =1     (lac repair, foley cath)     Complex procedure =2     (conscious sedation)	Simple wound care     (dressings, recheck)     Crutches, splints, slings		

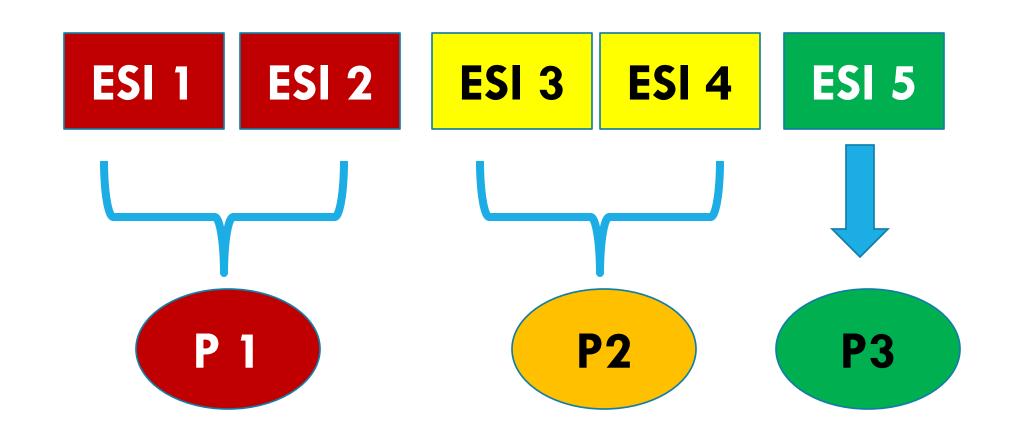
D. Danger Zone Vital Signs

Consider uptriage to ESI 2 if any vital sign criterion is exceeded.

#### Pediatric Fever Considerations

- 1 to 28 days of age: assign at least ESI 2 if temp >38.0 C (100.4F)
- 1-3 months of age: consider assigning ESI 2 if temp >38.0 C (100.4F)
- 3 months to 3 yrs of age: consider assigning ESI 3 if: temp >39.0 C (102.2 F), or incomplete immunizations, or no obvious source of fever

© ESI Triage Research Team, 2004 - (Refer to teaching materials for further clarification)



## **PACS**

#### SINGAPORE EMERGENCY PATIENT'S CATEGORISATION SCALE

TRIAGE CATEGORY	DEFINITION OF LEVEL OF ACUITY	TYPICAL PRESENTING COMPLAINT	INITIAL PROVISIONAL DIAGNOSIS
1	Resuscitation & Critically III Patients	Cardiac Arrest Trauma arrest Major Trauma Shock States Near-Death Asthma Severe Respiratory Distress Unconscious patients Active Seizures Major Limb Amputations Head Injury with Altered Mental State Chest Pain – Likely to be AMI/Unstable Angina Gastrointestinal Bleed with Shock/Impending Shock Other Presentation of Acute Coronary Ischaemia Syndrome	Traumatic Shock Pneumothroax – Traumatic/Tension Facial Burns with Airway Compromise Head Injury with Unconsciousness Open wound of Chest Hypoglycemia Tricyclic Overdosage Leaking Abdominal Aortic Aneurysm Dissecting Aneurysm AcuteMyocardial Infarction with/without Complications Status Asthmaticus Status Epilepticus Multiple Major Trauma Grade 4 Heart Failure Shock of Whatever Cause Unstable Angina Pectoris Acute Stroke with Altered Mental State.

TRIAGE CATEGORY	DEFINITION OF LEVEL OF ACUITY	TYPICAL PRESENTING COMPLAINT	INITIAL PROVISIONAL DIAGNOSIS
2	Major Emergencies (Non- Ambulant)	Chest Pain – Unlikely to be AMI Drug Overdosage – Conscious Severe Abdominal Pains Gastrointestinal Bleed with Normal vital signs Acute Vaginal Bleed with Normal Vital Signs Altered Mental States – Not Unconscious and Normal Vital Signs Moderate Trauma – Non- Ambulant Severe Painful states Head Injury, Alert + Vomiting Mild/Moderate asthma Seizures – Alert on arrival Chest Infection with Breathlessness Persistent Vomiting - ?Cause	Hyperosmolar Non-Ketotic Diabetes Diabetic Ketoacidosis Multiple Rib Fractures Neck/Spinal Cord Injury Ocular Burns Chest Pain – Cause Not Obvious Epiglottitis Ectopic Pregnancy Major Limb Fractures Major Joint Dislocation Major Vertebrogenic Syndromes Bronchial Asthma Acute Appendicitis Perforated Viscus Acute Urinary Retention Bronchopneumonia Gastrointestinal Bleed – Normal Vital Signs Cholecystitis Severe Sepsis without Shock Acute Psychotic States Acute Cerebrovascular Accident but Alert Acute Pyelonephritis Cancers with Complications Intestinal Obstruction Drug Overdosage with Alert Mental State Acute Exarcebation of Peptic Ulcer

TRIAGE CATEGORY	DEFINITION OF LEVEL OF ACUITY	TYPICAL PRESENTING COMPLAINT	INITIAL PROVISIONAL DIAGNOSIS
3	Minor Emergencies (Ambulant)	Head Injury, Alert, No Vomiting Minor acute Trauma Acute Ankle Sprain Abdominal Pains – Not Severe Headaches Earache/Acute Ear Discharge Foreign Bodies in Orifices and Eyes Mild to Moderate Pains Missed Abortion	Head Injury, alert, No Vomiting Colles Fracture Clavicular Fracture Ankle Sprain Other Minor Fractures Migraine and Similar Headaches Otitis Media/Externa Gastrointestinal Reflux Foreign Bodies of Ear, Nose, Throat, Eyes and Extremities Dysmenorrhoea Symptoms Acute Gastroenteritis Vomiting All Sprains Insect Stings and Snake and Animal Bites Superficial Injuries Hyperpyrexia Urticaria

TRIAGE	DEFINITION	TYPICAL PRESENTING COMPLAINT	INITIAL PROVISIONAL DIAGNOSIS		
CATEGORY	OF LEVEL OF ACUITY	COMPLAINT			
4	Non- Emergencies	Old Trauma with Residual Disability Sore Throat with Absence of Respiratory Problems Minor Upper Respiratory Illnesses Non-Urgent Surgical Procedures Chronic weakness of Body Non-Urgent Eye Conditions Non-Urgent ENT Conditions Minor Ill-Defined Conditions Requests for Non- Urgent Treatment Request for Certification and General Check-ups Cold Gynecological Cases Non-Urgent Skin Problems	Old Scars Deformities of Bones, Limbs or Spine Joint Contractures Old Fractures  Non-Urgent Operations: Request for Removal of Metal Plates, Screws Old Unreduced Dislocations Chronic Discharging Wounds Chronic Sprains Cold Lumps and Bumps in the Body Varicose Veins Cyst Requests for Circumcision Patching of Earlobe Removal of Tattoo Removal of Corns, Warts Removal of Keloids  Weakness of Body: Cerebral Palsy, Spastics Cervical Spondylosis Post Polio Old Hemiplegias, old Strokes Old Paraplegia Osteoarthritis Knees	Non-Urgent Eye Conditions: Refractive Disorders of the Eye, Spectacles Pterygium Cataract Defective Vision Squints  Non-Urgent ENT Conditions Chronic Rhinitis Defective Hearing Nasal Polyp Wax in Ears  Ill Defined Conditions Chronic vague Symptoms Like Tiredness, Dyspepsia Upper Respiratory Infections Without Fever Chronic Cough Social Problem – Requests Admission Psychosomatic Problems Chronic Headaches On and Off Insomnia	

## WPSS

Physiological marker	Score 0	Score 1	Score 2	Score 3
Ventilatory frequency	≤19	20-21	≥22	
Pulse	≤101	≥102		
Systolic blood pressure	≥100		≤99	
Temperature	≥35.3			<35.3
Oxygen saturation in air	96 to 100	94 to <96	92 to <94	<92
AVPU	Alert			Other
Total score				Intervention
Total score 0—1				Normal
Total score 2-4				Alert
Total score ≥5				Urgent

AVPU, Alert, Voice, Pain and Unconsciousness score.

## MAKLUMAT TRIAGE



## CONCLUSION

- 1. Multiple portals of entry → telephone contact, ambulance contact, and direct patient entry to hospital developing integrated care services.
- 2. The challenge for the future is to develop effective triage systems → focus the response using a sensitive and specific system, in order to use limited resources most effectively
- 3. The health burden on emergency services → increasing demand, increasing financial pressures, limitations on staff