



Irish Children's Triage System (ICTS)

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On behalf of the Emergency Department team
Our Lady's Children's Hospital, Crumlin

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Triage

- *Trier*, to separate, sort, sift or select
- Process of determining priority of patient treatment based on severity of condition
- Allocates patient treatment efficiently and safely when resources are insufficient for all to be treated immediately

Triage today

- Triage is an essential function of any Emergency Department where many patients attend simultaneously or in rapid succession
- It is a *dynamic* process of prioritising the order and urgency with which patients are seen by medical staff

Manchester Triage System

- Advantage
 - Education available in Ireland
- Disadvantages
 - Acknowledgement that general triage scales are less reliable at the extremes of age
 - Abnormal physiological definitions for children are subjective
 - **1996** MTS- 52 flowcharts with 6 child specific flowcharts
 - **2006** revised MTS-- 50 flowcharts with 7 child specific flowcharts
 - **2014** revised MTS- 55 flowcharts with 10 child specific flowcharts

What is the Irish Children's Triage System (ICTS)?

- Quality improvement initiative
- Evidence based tool incorporating many discriminators developed by nurses and doctors including vital signs and pain scores
- Aims to deliver consistent reproducible triage to children regardless of location of the ED in Ireland

General Discriminators

Definition	Triage categories	General discriminators
Colour Triage category Meaning of triage category Recommended time to be seen by doctor/reassessment	Red 1 Immediate Immediate (ongoing assessment)	Airway compromise Inadequate breathing Exsanguinating haemorrhage Currently seizing Age related abnormal pulse and respiratory rate * GCS \leq 12 Oxygen saturations \leq 90%
Colour Triage category Meaning of triage category Recommended time to be seen by doctor/reassessment	Orange 2 Very urgent \leq 10 minutes	Severe pain (pain score 7-10) Uncontrollable major haemorrhage GCS 13 or 14 Age related abnormal pulse and respiratory rate * Signs of compensated shock Oxygen saturations \leq 92%
Colour Triage category Meaning of triage category Ideal time targets	Yellow 3 Urgent \leq 60 minutes	Moderate pain (pain score 4-6) Uncontrollable minor haemorrhage Age related abnormal pulse and respiratory rate * History of unconsciousness
Colour Triage category Meaning of triage category Ideal time targets	Green 4 Standard \leq 120 minutes	Mild pain (Pain score 1-3) Problem <48 hours
Colour Triage category Meaning of triage category Ideal time targets	Blue 5 Non urgent \leq 240 minutes	Problem > 48 hours

Physiological assessment

- Children often present with subtle signs and symptoms of illness/injury
- Abnormal respiratory rate and heart rate may be the only indication of underlying sepsis or impending shock
- Respiratory rate and heart rate have defined age related parameters in ICTS

Vital Signs Reference Grids

Respiratory Rate Values

Table 1.

Age	≤ - 2 S/D	- 1 S/D	Normal	+ 1 S/D	+ 2 S/D	> + 2 S/D
0 – 3 months	< 20	21 – 30	30 – 60	60 – 70	70 – 80	> 80
4 – 6 months	< 20	20 – 30	30 – 60	60 – 70	70 – 80	> 80
7 -12 months	< 17	17 – 25	25 – 45	45 – 55	55 – 60	> 60
1 – 3 years	< 15	15 – 20	20 – 30	30 – 34	35 – 40	> 40
4 – 6 years	< 12	12 – 16	16 – 24	24 – 28	28 – 32	> 32
> 7 years	< 10	10 – 14	14 – 20	20 – 24	24 – 26	> 26

Heart Rate Values

Table 2.

Age	≤ - 2 S/D	- 1 S/D	Normal	+ 1 S/D	+ 2 S/D	> + 2 S/D
0 – 3 months	< 65	65 – 90	90 – 180	180 – 205	205 – 230	> 230
4 – 6 months	< 63	63 – 80	80 – 160	160 – 180	180 – 210	> 210
7 -12 months	< 60	60 – 80	80 – 140	140 – 160	160 – 180	> 180
1 – 3 years	< 58	58 – 75	75 – 130	130 – 145	145 – 165	> 165
4 – 6 years	< 55	55 – 70	70 – 110	110 – 125	125 – 140	> 140
> 7 years	< 45	45 – 60	60 – 90	90 – 105	105 – 120	> 120

Assessment during ICTS

- Presenting problem
- General appearance
- Physiological findings
- Age of the child
- Significant past medical history that may have an impact on the current attendance

ICTS

Step 1

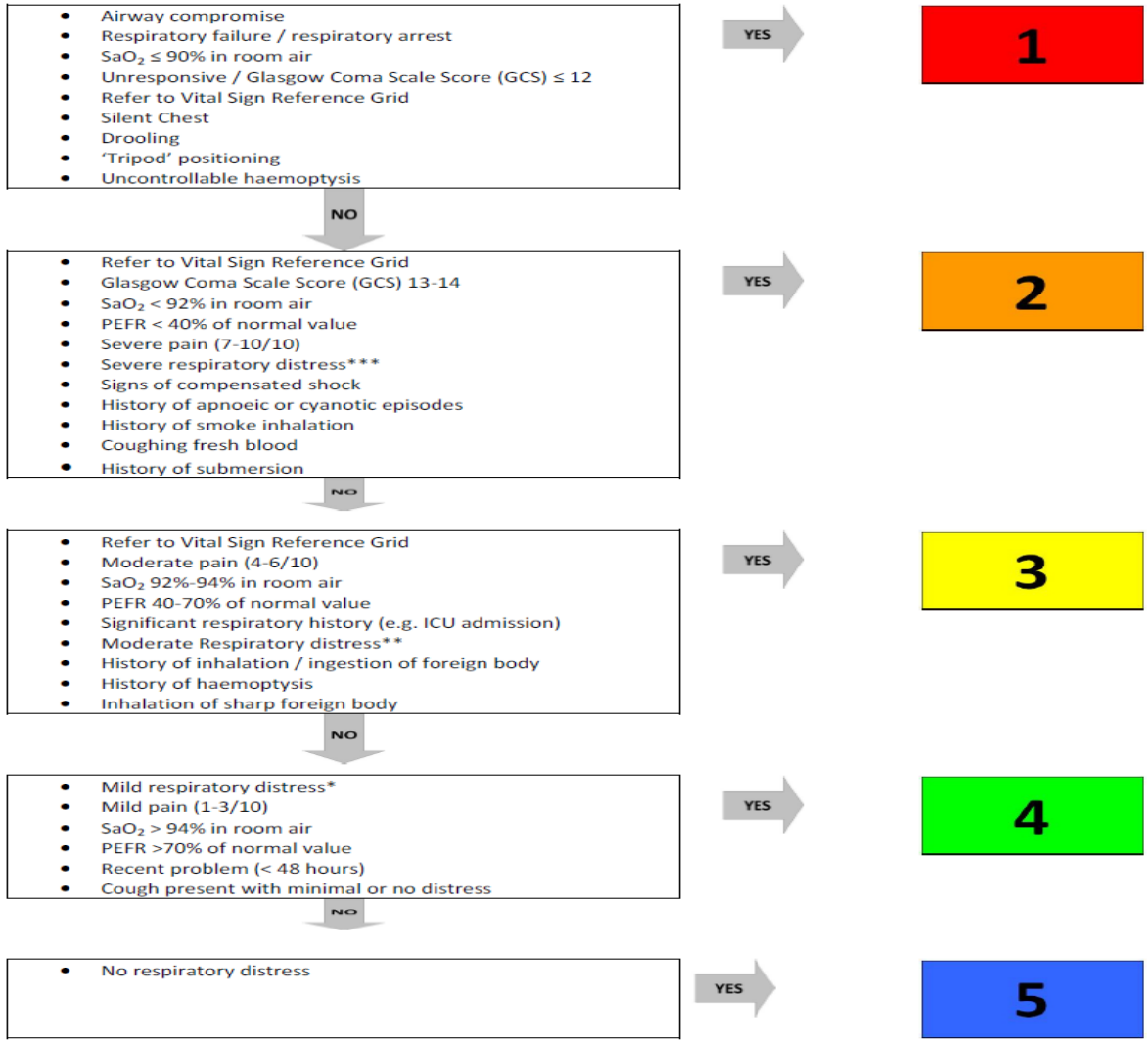
(24 flow sheets)

- Abdominal pain / isolated abdominal injury
- Airway / breathing difficulty
- Altered blood glucose (to include patients with diabetes mellitus)
- Back pain / isolated neck and or back injury
- Burns / scalds
- Chest pain / isolated chest injury
- Dental problem
- Ear / nose problem
- Eye injury / problem
- Foreign body – not inhaled
- Genitourinary problem
- Head injury/ Headache / VP shunt
- Limb problem / limb injury
- Major trauma
- Overdose and poisoning
- Psychosocial problem (including self harm)
- Rashes (blanching/non blanching)
- Seizures/ Absent episode / Collapse
- Testicular pain
- Throat problem
- Unwell child (including pyrexia)
- Unwell infant (including pyrexia)
- Vomiting diarrhoea
- Wounds/Signs of local inflammation

Step 3

- Start at the top of the flow sheet and work down
- Allocate the highest category based on descriptors

Airway / Breathing Difficulty

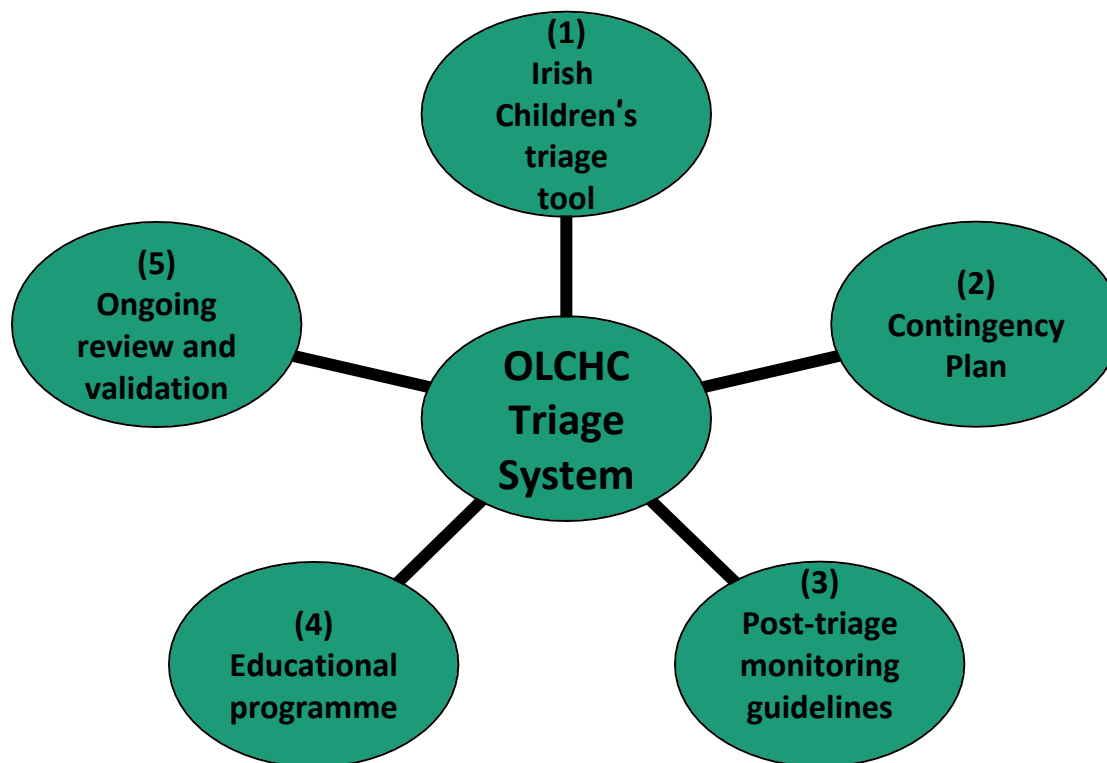


Step 4

- Allocate the patient to the appropriate area (waiting room, sub-waiting area, treatment room, etc)
- Implement appropriate post-triage monitoring
- Ensure appropriate handover of care
- Reassess
- Documentation

Modified Paediatric Triage System

(Our Lady's Children's Hospital, Crumlin - OLCHC)



ICTS

Step 1

(24 flow sheets)

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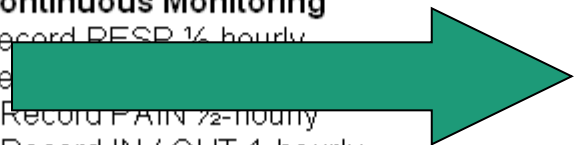
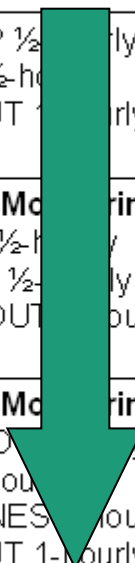
Post-Triage Monitoring Guidelines

	CATEGORY 1	CATGEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5
Abdominal Pain / Isolated Abdominal Injury	Continuous Monitoring Record NEURO 1½-hourly Record PAIN 1½-hourly Record IN / OUT 1-hourly	± Continuous Monitoring Record TPRBP 1½-hourly Record PAIN 1½-hourly Record IN / OUT 1½-hourly	Record TPRBP 1-hourly Record PAIN 1-hourly Record IN / OUT 1-hourly	Record TPRBP 2-hourly Record PAIN 1-hourly ± Record IN / OUT 2-hourly	Record PAIN as required
Acute Testicular Pain	Continuous Monitoring Record NEURO 1½-hourly Record PAIN 1½-hourly Record IN / OUT 1-hourly	Record TPRBP 1½-hourly Record PAIN 1½-hourly Record IN / OUT 1-hourly			
Airway / Breathing Difficulty	Continuous Monitoring Record RESP 1½-hourly Record NEURO 1½-hourly ± Record PAIN 1½-hourly ± Record IN / OUT 1-hourly	± Continuous Monitoring Record RESP 1½-hourly ± Record PAIN 1½-hourly ± Record IN / OUT 1-hourly	Record RESP 1-hourly ± Record PAIN 1-hourly ± Record IN / OUT 1-hourly	Record RESP 2-hourly ± Record PAIN 1-hourly	Record RESP as required Record PAIN as required
Altered Blood Glucose	Continuous Monitoring Record NEURO 1½-hourly Record BM 1-hourly Record KETONES 1-hourly Record IN / OUT 1-hourly	± Continuous Monitoring Record NEURO 1½-hourly Record BM 1-hourly Record KETONES 1-hourly Record IN / OUT 1-hourly	Record NEURO 1-hourly Record BM 1-hourly Record KETONES 1-hourly Record IN / OUT 1-hourly	Record TPRBP 2-hourly Record IN / OUT 2-hourly Record BM prior to meals	
Asthma / Wheeze	Continuous Monitoring Record RESP 1½-hourly Record NEURO 1½-hourly ± Record PAIN 1½-hourly ± Record IN / OUT 1-hourly	± Continuous Monitoring Record RESP 1½-hourly ± Record PAIN 1½-hourly ± Record IN / OUT 1-hourly	Record RESP 1-hourly ± Record PAIN 1-hourly ± Record IN / OUT 1-hourly	Record RESP 2-hourly ± Record PAIN 1-hourly	Record RESP as required Record PAIN as required
Back Pain / Isolated Neck and / or Back Injury	Continuous Monitoring Record NEURO 1½-hourly Record PAIN 1½-hourly Record IN / OUT 1-hourly	± Continuous Monitoring Record NEURO 1½-hourly Record PAIN 1½-hourly Record IN / OUT 1-hourly	Record TPRBP 1-hourly Record PAIN 1-hourly ± Record NEURO 1-hourly ± Record CMST 1-hourly ± Record IN / OUT 1-hourly	Record TPRBP 2-hourly Record PAIN 1-hourly ± Record NEURO 2-hourly	Record PAIN as required
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Dental Problem	Continuous Monitoring Record NEURO 1½-hourly Record SAO2 1½-hourly Record PAIN 1½-hourly ± Record RESP 1½-hourly ± Record IN / OUT 1-hourly	± Continuous Monitoring Record TPRBP 1½-hourly Record SAO2 1½-hourly Record PAIN 1½-hourly ± Record RESP 1½-hourly ± Record NEURO 1½-hourly ± Record IN / OUT 1-hourly	Record TPRBP 1-hourly Record SAO2 1-hourly Record PAIN 1-hourly	Record TPRBP 2-hourly Record SAO2 2-hourly Record PAIN 1-hourly	Record PAIN as required
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Eye Injury / Problem	Continuous Monitoring Record NEURO 1½-hourly Record PAIN 1½-hourly	± Continuous Monitoring Record NEURO 1½-hourly Record PAIN 1½-hourly	Record TPRBP 1-hourly Record PAIN 1-hourly	Record TPRBP 2-hourly Record PAIN 1-hourly	Record PAIN as required

Post triage monitoring guidelines

- **Benefits staff/children/ parents**
 - Recommendations for frequency and type of observations
 - Triage nurse available to triage new children as they present
 - One sheet for easy reference
 - Improves patient safety and contact
 - Assists in the development of care pathways
- **Challenge**
 - Significant increase in nurses workload

	CATEGORY 1	CATGEGORY 2	CA
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Back Pain / Isolated Neck	Continuous Monitoring	± Continuous Monitoring	Record T





Thank you

Questions and comments



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