

Supplementary File 3. Paper-based ACT intake form (v1.0, as applied in this study)

Legend:

Paper template of the Acuity Categorization Tool (ACT) used during the study period. In practice, ACT was implemented electronically on the ED trackboard; this paper version is provided to illustrate the tool's structure and layout. The form includes both adult and pediatric intake criteria (v1.0) as applied in this study.

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Adaptive Clinical Triage (ACT) - ADULT

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			Critical	Acute	Subacute
A	● Stridor, airway obstruction				
	● Airway swelling				
	● Threatened airway				
B	● Severe respiratory distress	● Dyspnea at rest	● Dyspnea on exertion		
	● Respiratory depression				
	● Smoke inhalation (enclosed space)				
C	● Major trauma (see trauma criteria)				
	● Severe / uncontrolled bleeding		● Compressible / controlled bleeding		
D	● Severe pain	● Moderate pain	● Mild pain		
	● Acute neurological deficit	● Neurological deficit with onset 12–24h			
	● Ongoing seizures	● Resolved seizure	● Post-ictal (known epilepsy)		
	● Thunderclap headache	● Repeated syncope / near-syncope	● Single syncope		
	● Unconsciousness	● Altered mental status			
		● Head injury with anticoagulation			
		● Suicidal or aggressive behavior			
E	● Suspected hypothermia	● Distal neurovascular compromise			
	● Suspected sepsis (NEWS2 ≥ 5 + infection)	● Poisoning or hazardous exposure			

● NEWS ≥ 7

● NEWS ≥ 5

● SINGEL 3

● ≤ 4

Provider sign.		
Time		
≥25	3	2
21-24	2	0
18-20	0	
15-17		
12-14		
9-11	1	3
≤8	3	2
A+B		
Respiratory rate (breaths/min)		
≥96	0	
94-95	1	2
92-93	2	3
≤91	3	2
A+B		
SpO ₂ Scale 1		
≥97 on O ₂	3	2
(for target 88–92%, e.g. COPD, chronic hypercapnia)	2	1
93-94 on O ₂	1	0
≥93 room air	0	
88-92		
86-87	1	2
84-85	2	3
≤83	3	2
Room air or oxygen?		
Room air	0	
O ₂ L/min	2	0
Adm. måte	0	
C		
Systolic blood pressure (mmHg)		
≥220	3	2
201-219	2	1
181-200	1	0
161-180	0	
141-160		
121-140		
111-120		
101-110	1	2
91-100	2	3
81-90	3	2
71-80	2	1
61-70	1	0
51-60	0	
≤50		
C		
Heart rate (beats/min)		
≥131	3	2
121-130	2	1
111-120	1	0
101-110	0	
91-100		
81-90		
71-80		
61-70		
51-60		
41-50	1	2
31-40	2	3
≤30	3	2
D		
Level of consciousness (AVPU)		
Alert	0	
Confusion	1	0
Verbal	2	3
Pain	3	2
Unresponsive	3	2
E		
Temperature (°C)		
≥39,1°	2	1
38,1-39,0°	1	0
37,1-38,0°	0	
36,1-37,0°		
35,1-36,0°	1	0
≤35,0°	3	2
← Total NEWS		

● Red

● Orange

● Yellow

● Green

← ACT Result / Concern override

Adaptive Clinical Triage (ACT) - CHILD

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	Critical	Acute	Subacute
A	<ul style="list-style-type: none"> ● Stridor, airway obstruction ● Airway swelling ● Threatened airway 		
B	<ul style="list-style-type: none"> ● Severe respiratory ● Respiratory depression ● Smoke inhalation (enclosed space) 	<ul style="list-style-type: none"> ● Dyspnea at rest 	<ul style="list-style-type: none"> ● Dyspnea on exertion
C	<ul style="list-style-type: none"> ● Major trauma (see trauma) ● Severe / uncontrolled bleeding 		<ul style="list-style-type: none"> ● Compressible / controlled bleeding
D	<ul style="list-style-type: none"> ● Severe pain ● Acute neurological deficit ● Ongoing seizures ● Thunderclap headache ● Unconsciousness 	<ul style="list-style-type: none"> ● Moderate pain ● Neurological deficit with onset 12-24h ● Resolved seizure ● Repeated syncope / near-syncope ● Altered mental status 	<ul style="list-style-type: none"> ● Mild pain
E	<ul style="list-style-type: none"> ● Suspected hypothermia ● Suspected sepsis (PEVS ≥ 4 + infection) 	<ul style="list-style-type: none"> ● Distal neurovascular ● Poisoning or hazardous exposure 	

ACT Result / Concern override

● Red

● Orange

● Yellow

● Green

NO FINDINGS

	Provider sign.	Time
A+B	Breathing	<ul style="list-style-type: none"> Age adjusted normal
		<ul style="list-style-type: none"> Within normal ≥ 5 under
	Increased effort	<ul style="list-style-type: none"> None Subcostal/intercostal retractions Jugular retractions Severe retractions >5 below normal + resp. depressant
	O₂ requirement	<ul style="list-style-type: none"> ≥ 8 L/min ≥ 5 L/min $\geq 1-5$ L/min 0 L/min
	Support Devices	<ul style="list-style-type: none"> Nebulizer > every 15 min HFNC CPAP/BPAP
C	Skin colour	<ul style="list-style-type: none"> Normal Pale Cyanotic Cyanotic and mottled
	Circulation	<ul style="list-style-type: none"> Capillary refill time 1-2 sec 3 sec 4 sec ≥ 5 sec
	Heart rate	<ul style="list-style-type: none"> ≥ 30 over ≥ 20 over Age adjusted normal ≥ 5 under
D	Behaviour	<ul style="list-style-type: none"> Awake Normal interaction Interested in surroundings Lethargic Reduced activity Sleeping Somnolent / drowsy Irritable Unconscious Seizures Reduced response to pain
	X	<ul style="list-style-type: none"> Persistent vomiting Postoperative vomiting
	Use highest score per category	
	Total PEVS	
	SpO₂%	
	Blood pressure (mmHg)	
	Temperature °C	
	Age-appropriate pain scale	
	Blood glucose mmol/L	

Reference Values – Pediatric Vital Signs

Age	Respiratory rate (breaths/min)	Resting heart rate (beats/min)	Systolic BP (mmHg)	Diastolic BP (mmHg)
0-1 months	40-55	100-160	65-95	35-55
1-13 months	35-45	100-160	75-100	45-55
13 months - 4 y	25-35	90-130	80-105	40-60
4-7 y	20-24	70-120	85-110	45-70
7-13 y	19-22	70-110	95-115	50-75
13-18 y	14-19	55-95	105-125	50-80