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Partnership development and roll-out of a triage tool in a low resource, high patient volume setting at the Paediatric Outpatient Department of the Uganda Cancer Institute

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#### Introduction

The Uganda Cancer Institute (UCI) Paediatric Outpatient Department (OPD) typically sees 30–50 children daily on a first come, first served basis.

The paediatric nursing team at the UCI identified the need for a streamlined

TOXICITY / SYMPTOM	All green = re	turn to queue within 1 hour	2 or more Amber = Escalate to red	Red = Assessment	as soon as possible	
TOXICITY STAR TOM	<b>~</b> •	1	2	<u> し </u> 3	<u>√</u> 3 ₄	
iving or has received Systemic Anti Cancer		36 C - 37.4 C	37.5°C-37.9°C		3a C or above.	
nmunocompromised? ent Blood count known?	Please note that hypothermia (<36'Q) is a signilicant indicator of sepsis.					
-CSF? epsis Six © principles		ALERT- Patients on steroids/a	nalgesia or dehydrated may not present with p	rrexia but may still have	infection.	
ction	None	Site of infection / inflamation,	Signs of infection	Severe	Potential life threatening sepsis	
sign of intection? snivering, chills haking episodes- rigor?		e.g. access device or inte, lower abdominal pain, Otherwise generally well.	abdominal pain, and generally unwell.	Urgent assessment and review, Follow sepsis pathway.	breathing, lopy, altered consciousness, clammy / sweaty skin, extreme discontinue further triage questions	
tness of breath / difficulty breathing a new symptom? Change in respiratory rate? impanied with being pale, ashen, or mottled? st pain? Affecting activity level? Cough / eze? Choking?	N	ione or no change from normal.	Short of breath on exertion.	Short of breath on normal level of activity.	Short of breath at rest, aggitation, struggling, change of colour, choking, noisy breathing, grunting.	
eding and Bruising a new problem? Is it continuous? Where is it ? Is there any trauma involved? Is the patient inticoagulants? Blood in urine or stools?	None	Mild, bleeding or new localised petechiae / bruising. Consider rapid review and/or blood count.	More significant bleeding, widespread petechiae / braising.	Uncontrolled bleed / purpura / bruis	ling. Moderate to severe petechiae ing and / or non-blanching spots.	
rosensory / neuromotor n did the problem start? Is it continuous? Is tting worse? Is it affecting ability to function? constipation or faecal / urinary incontinence? ider AVPU scoring (Alert, responds to Voice, onds to Painful Stimulus, Unresponsive)	None	Any New or increased signs of ser leve	sory loss, abnormal sensation, pins & needles, I of consciousness. Any new problems noted	or weakness and / or los with the child's vision.	s of function, altered gait, or	
vity ent change in activity?Appear or feel generally rell? Paralysis (consider cord compression) sider usual levels of activity in assessment, and	No change from normal	New mild symptoms. No impact on usual activity.	Symptomatic. Greater restriction on play or normal activities, and less time spent active.	Lying around much of the day. Minimal active play or normal activities. Sleepy, letharqic, floppy.		
mal for personal response to stage of current atment. Consider treatment related fatigue						
a new or worsening problem? Location	None or no change	Mild pain. Not interfering with function or activity.	Has pain. Pain interfering with function	Severe pain. Pain interfering with function and activity and / or disat Repeated Headdocks (often worse in the moming) w may or may not affect functioning. Pain score 5-10 out of 10 Consider liaising with neuro teams		
sider devices and tumour site)? Intensity? et? Triggered by? How long? Patterns, morning? Pins & Needles? Child's words.	Pain score 0	Pain score 1-3 out of 10	but not activity. Pain score 4-5 out of 10 Arrange analgesia			
gesia given and effect? Has child had osurgsurgical intervention. Consider with						
and / or Infectious Disease Contacts localised or generalised? Onset? Duration?	No rash or no change	Localised rash covering <10% BSA. Otherwise well.	Macular or Papular rash covering 10-30% BSA with additional signs and symptoms,	Generally unwell. Localised or widespread rash >30% BSA and / or sudi onset that does not disappear under pressure i.e. no blanching. Direct Infectious disease contact with symptoms.		
Provide the second s	from normal. No known infectious	Macular: Small, flat spots or blemishes Papular: Small solid bumps rising above the skin. Petechial: flat.	e.g. Vesicular: fluid-filled papules often associated with chicken pox			
ider increasing petechial rash with low elets or non-blanching.	contacts or no direct	pin-prick spots often appearing in clusters. Close contact with infectious disease longer than 15 minutes, but	Erythema: redness of the skin or mucous membranes			
espread as % of body surface area	contact.	not symptomatic. check immune status and consider	Frankas. Severe neming			
sea, Eating & Drinking set of nausea? Appetite? Duration? Weight	No change from normal	o change Some loss of appetite / Can eat & drink but intake signilicantly Oral intake signilicantly decreased from normal. Moderate nausea debilitating nausea. Excessive thirs		cantly decreased, with or without Excessive thirst. Prolonged nausea		
? Fluid intake in last 48hrs? Thirst? Taking emetics? Impact on wellbeing and activities?	drink to near normal Intake. Review anti-emetics and dietary advice		impacting activities. Review anti-emetics	with other concerns from parents e.g. behaviour change, weaknesses, headache.		
niting	No change	1 episode in 24hs	2-5 episodes in 24hrs. No change or limited	Over	6 episodes in 24 hrs.	
sodes over how many days? Impact on Ilbeing and activity? Oral intake? Any	in an in a final	weren and emerci as presented	urinary output. Review anti-emetics and / or explore	may onl	y be one episode a day.	
waking? Possible infectious causes?	None	Painless ulcers, mild reduces, mild	Painful ulcers redness sore mouth		sinful sore mouth	
et? Duration? Severity? Mouth ulcers, white ches on mucosa? Coated tongue?		soreness. Patient able to eat, drink and talk as normal.	Able to maintain some fluids and soft diet. Discuss analgesia and mouthcare	White patches and / or multiple ulcers. Significant decrease in fluids and diet.		
nptoms & potential for systemic fungal ections, Consider personal history of post-		biscuss mild analgesics and mouthcare.		and y or diff	carry caloring and swanowing.	
tment mucositis.		No change form anomal	Padurad urine autout formation for	Base and	Number of Bull Addressed	
ng urine / nappies wet? Colour of ? Are they drinking normally? Pain / mfort? Consider urinary obstruction in in tumour types. Consider infection.	No change from normal Normal urine output. Clear light straw coloured urine		Advise increasing fluid intake.	Dark urine. Sunken when crying	fontanelle in babies. Few or no tears ). Dry mouth. Drowsy. Pain.	
rhoea tion in the case of infants. Onset? Duration?	None or no change from normal Drink more fluids. Consider stool sample. Consider regimen specific anti- diarrhoeal.		4-6 episodes a day over usual pattern or nocturnal bowel movements and / or moderate cramping	7 episodes or more a day above normal pattern or severe cramping and / or bloody diamhoea.		
dication to relieve? Certain drugs will be own to cause diarrhoea and will have certain			Drink plenty of clear fluids. Consider stool sample in line. Consider regimen specific			
bathway			anti-diarrhoeal. If diarrhoea persists after taking regimen specific antidiarrhoeal escalate to red.			
stipation	None	Mild constipation - no bowel movement	Moderate - no bowel movement for 48-72	Severe- 72 hours of	more of no bowel movement with	
normal bowel pattern. How long since els opened? Does the patient have any minal pain/vomiting? Is the patient eating/		Dietary advice. Increase fluid intake. Review medication.	If associated with pain / vomiting escalate to red If not, review fluid and dietary intake.		/ headache.	

Patient details	Patient history	Enquiry details		
Name: Hospital no:	Diagnosis (Inc. other diagnoses / co-morbidities):	Date/Time:		
Age/DOB		Who is with the patient?		
Phone no:	Male O Female O			
	Consultant team:	Reason for visit today:		
Nhat treatment is the patient receiving? (Please tid	k below)			
When did the patient last receive treatment?:				
What is the patient's temperature?:	% nlease note that hypothermia is a significant indicator of sensis			

triage tool to identify and prioritise unwell children and ensure timely care.

An initial triage tool was in place but was often incomplete and considered too time-consuming.

In collaboration with Cambridge Global Health Partnerships (CGHP), an adapted triage tool was developed, based on an existing CCLG (The Children & Young People's Cancer Association) tool used for children with an oncological diagnosis.

A secondary goal was to educate and empower families to recognise signs of acute deterioration.

### **Methods**

The 2nd Edition (2020) CCLG Telephone Triage Toolkit was shared and adapted through virtual meetings, prioritising parameters suitable for the UCI setting and adjusting it to be deliverable with local processes. Supporting materials, including an informative guide, were also modified (Fig. 1 & Fig. 2). A local meeting was held at UCI to introduce the tool and plan its pilot

implementation.

- The pilot involved triaging 62 children over four days in March 2025, including both new and review patients.
- A small group of nurses trialled the tool and provided qualitative feedback on its usability.

Fig 1 Triage tool information guide

## Discussion

Children and Young People Oncology / Haematology Triage Tool

This global health partnership, nurse-led project highlighted the feasibility of adapting a validated triage tool to a low-resource, high-volume outpatient setting. UCI Paediatric OPD is usually staffed with 2-3 nurses managing 30-50 patients per day and using paper-based documentation. Time, resources and sustainability remain key concerns alongside safety and quality improvement.

What is the patient's temperature?:		•C please note that	hypothermia is a significant indicator of sepsis			
When was the patient last discharged / rev	When was the patient last discharged / reviewed?					
Chemotherapy O Oral chemotherapy O	Chemotherapy O Oral chemotherapy O Radiotherapy O Surgery O None O					
Does the patient have a shunt / Ommaya	Reservoir / other me	dical device? Yes O NO				
Low - Advise Moderate/review REMEMBER two or more moderate = high	High/Assess	Please document current medication	Please document significant medical history: (Include last FBC if known and date taken, and detail any recent contacts)			
Fever						
Infection						
Shortness of breath / difficulty breathing						
Bleeding and / or bruising						
Neurosensory / Neuromotor		]				
Activity						
Pain						
Rash and / or infectious disease contacts						
Nausea, eating, drinking						
Vomiting						
Mucositis		Outcome:				
Urinary output						
Diarrhoea						
Constipation						
Other (please state)		Other advice/action taken:				
Triage practitioner details						
Signature:	Designation:					
Print name:	Date:					
Review of actions taken:						
Signature:			Designation:			
Print name:		Date				
	11-res					

Fig 2 : Adapted triage tool

# Results

The tool was well received by the nursing team.

Over 4 days, the nurses found it easy to use and used the time doing routine observations to ask questions from the triage tool.

It provided an opportunity for clinical upskilling in recognising signs of deterioration.

62 triage tools completed over 4 days

- 13 patients identified as 'red'
- 1 patient identified as 'amber'
- 48 patients identified as 'green'

A semi structured interview with the nursing staff responsible for using the tool identified the following benefits and drawbacks:

- M Benefits as an educational tool for nursing staff and parents
- Effective communication between nursing and medical staff at point of attendance

Early identification of unwell patients with quantitative data

Expansion of medical records with individual sheets for each assessment
 Reluctance to utilise the full tool due to lack of understanding of relevance of certain measures (neurology, rashes, urine output)
 Incomplete diagnosis and treatment sections suggests scope for improved parent information

Challenges included:

- Staff shortages
- Lack of colour printing resolved using coloured pens to mark triage scores: green, amber, red
- Incomplete sections some parts were unfilled due to lack of understanding of relevance or unknown information

Future plans:

- Adaptations to reduce paper burden are ongoing
- Due to inconsistent access to colour printing, laminated triage charts have been supplied by CGHP and pocket cards are planned
- Local support for the tool has encouraged further finessing of record keeping, education and systematic use within the department

## Conclusions

The partnership between UCI and CGHP has successfully led to the development of a workable and context-appropriate triage tool for the paediatric outpatient department at the Uganda Cancer Institute.



Through collaborative efforts, the tool has been adapted to meet local needs, empower nursing staff, educate parents, and prioritise unwell children effectively.

Now finalised, laminated wall charts and crib sheets have been supplied and a pocket card version is in progress; recording slips for observations, weight, triage score and outcome are in design, to ensure the tool is readily available and sustainable in a paper-based system.

Enthusiasm from the local nursing team has led to consideration for roll-out across the wider UCI outpatient service to promote standardisation of care and further strengthen early recognition and response to clinical deterioration in oncology patients.