eTriage
For registering patients who self-present to ED
Standard Operating Procedure

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1. Introduction

The Trust's Emergency Departments (EDs) remain under sustained pressure in terms of demand, flow, and workforce. Long waits to triage present a clinical risk to patients presenting with time critical conditions. At present the first location of presentation to the emergency department is often downgraded meaning that we are assessing to a higher acuity than truly required, leading to delays in identifying the most urgent cases. Further, a significant number of patients who walk-in to ED would be more suitable for a lower-acuity setting.

eTriage is a digital triage solution implemented across University Hospitals Birmingham NHSFT designed to automatically check-in and prioritise (triage) patients, upon arrival to the Emergency Department. It aims to reduce triage times with the following benefits:

Primary benefits:

- **Identify critically urgent patients sooner, improving patient outcomes**
- **Identify patients who can be redirected sooner, reducing ED demand**

Secondary benefits:
- **Reduction in nursing time required for triage**
- **Reduction in unwarranted variation in decision making**
- **Reduction in registration/transcription errors**

eTriage collates a structured history from the patient and presents this to the triaging clinician. It is used as a clinical decision support tool which categorises the patient in priority order from P1 Medical Emergency to P5 non urgent, colour coded, allowing the streaming nurse to respond to the sickest patients first.

2. Pathway

2.1. Inclusion Criteria

This SOP outlines the process for the streaming, redirection and navigation of patients who self-present to UHB ED. This pathway includes all patients who walk-in to ED. Patients aged 16 or over can complete the form for themselves, for patients under the age of 16 the form must be completed by an adult (parent/carer/guardian) on their behalf. The eTriage platform will alert the user to the above. Patients who attend ED via ambulance, those presenting directly to a clinically appropriate treatment or assessment area, or those who are visibly unwell and require immediate escort to the majors or resuscitation areas are not included.

2.2. High-level process flow

The diagram below shows the high-level process flow for all patients who match the inclusion criteria. The subsequent sections detail each of the sub-processes.
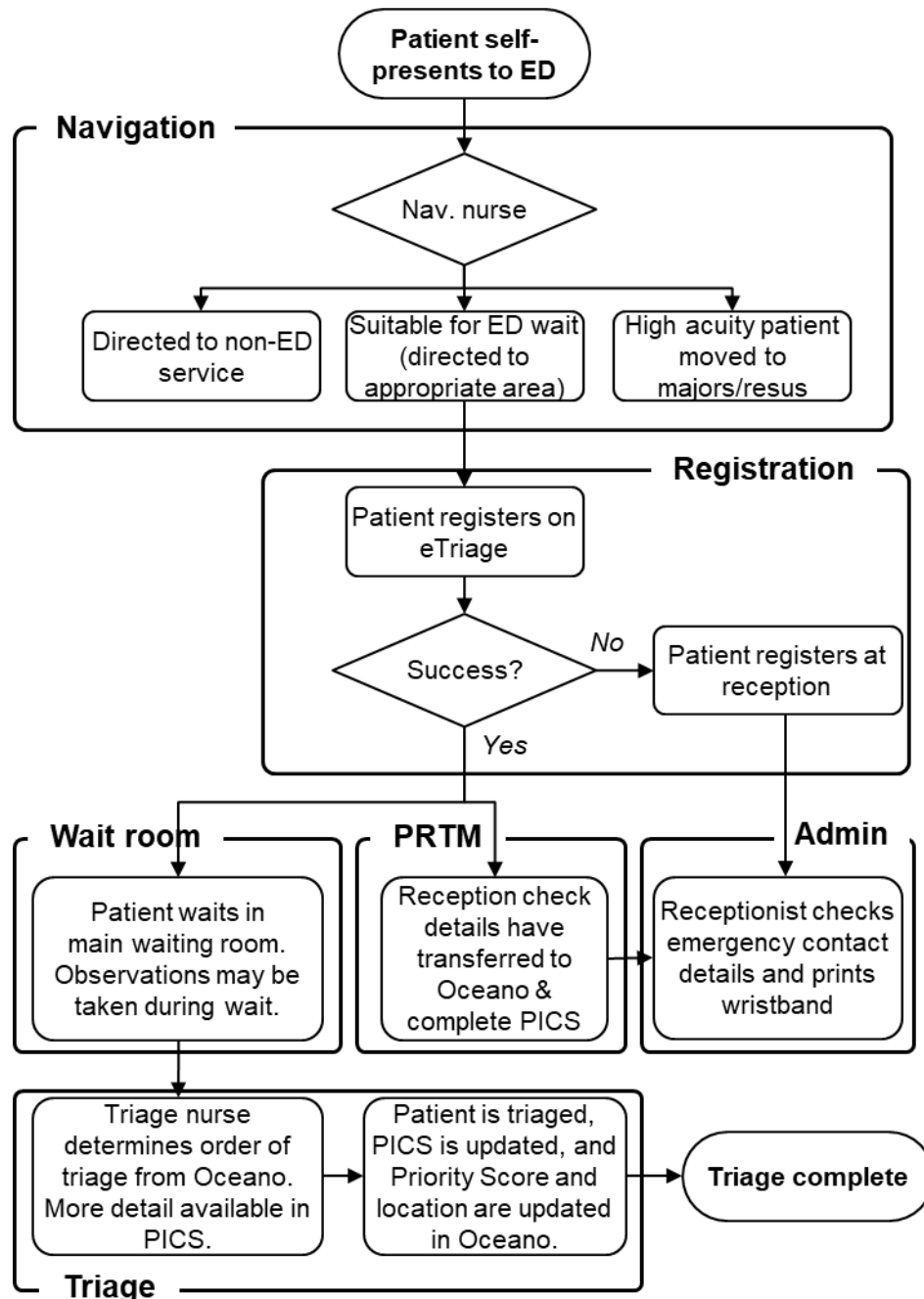
2.3. Navigation

- All patients self-presenting to ED or MIU are met by a navigation nurse at the front door.

- The navigation nurse undertakes a rapid assessment of the patient to determine one of three outcomes:

    1. Divert to majors or resus. Patients who are visibly unwell or with a presentation that is too high-risk for waiting should be diverted straight to the clinically appropriate area within ED for immediate assessment and treatment.

    2. Redirect to another area of the hospital, or another service. Patients not appropriate for ED are redirected to another area, e.g. SDEC, AMU, or outpatients.

    3. Register at ED. Patients suitable for registering in ED are directed to the eTriage iPads to register, in the appropriate area. Some sites have more than one area for registration (e.g. EDAA and Main Wait at QEHB, or Adults and Paeds at GHH). In this case, the navigation nurse determines the appropriate area for registration.

- If the outcome is 3 (Register at ED), continue to Section 2.4. Otherwise, please follow the appropriate SOP.

2.4. Registration

2.4.1. eTriage registration

- All patients suitable for registration in ED are directed by the navigation nurse to the eTriage iPads to register.

- Patients input their demographic details, details of their illness or injury and detailed response to clinical questions on the eTriage app. eTriage then messages data to UHB systems so the patient can be automatically registered. This will take an average of 5.5 minutes per form, 95% of patients will have completed it within 6.5 minutes.

- The eTriage system prioritises the waiting room, using an extensive algorithm, allocating a priority score (aligned to the 5-point Manchester Triage Score). This priority score is ultimately displayed on Oceano and the eTriage clinical summary is displayed in the patient's record in PICS. The patient is automatically registered and attended. Note: this process is quick but not immediate: please see Section 2.5.

- There are three possible outputs from eTriage:

1. If the patient successfully registers through eTriage, the following message will display once they have completed the form: "If you have a referral letter please take this to reception now. Otherwise, have a seat. One of our clinical staff will see you as soon as possible. If you or someone else feels worse, please speak to a member of staff.". Follow Section 2.5

2. For patients who have been identified as immunosuppressed, a similar message will be displayed but instead will advise the patient to go to reception who will advise further. Follow section 2.4.2

3. In a minority of cases, the eTriage registration may fail. This could be for a number of reasons: a patient is unable to understand written English, a patient's demographic data isn't matched on the NHS mini spine, or a new patient record isn't automatically created in UHB systems. In this case, the following message will be displayed: "Sorry, we were unable to register your details. Please go to reception." Follow Section 2.4.2.

2.4.2. Manual registration at reception

- This process is for patients who are unable to register via the iPad, including in rare cases where the iPads are not available or working. This process is similar to the existing registration process before the implementation of eTriage.

- The receptionist asks for the patient's demographic information and locates them on Oceano (if a local record already exists) or creates a new record. The receptionist then 'attends' the patient in Oceano, capturing other ECDS information. This action automatically attends the patient in PICS. Once complete, the receptionist follows Section 2.6. before asking the patient to take a seat in the waiting room.

- If a patient notifies reception they are immunosuppressed, the receptionist will advise them to speak to the Navigation Nurse for advice.

2.5. Patient Registration Task Manager (PRTM)

- A new system (PRTM) has been built to allow patients registering through eTriage to be automatically registered in Oceano.

- PRTM transfers the data outputted from eTriage into Oceano, which takes 30-90 seconds for most patients. On occasion (expected max. 1 per hour), this process might fail, meaning a patient who has been told to take a seat by eTriage doesn't appear in Oceano.

- PRTM displays the priority score for patients who have completed eTriage, alongside whether their registration is "complete", "pending", or "failed". No action needs to be

taken for complete or pending patients; only patients whose registrations have failed need actioning.

- Receptionists are responsible for managing the PRTM, which they will have open at all times, alongside their Oceano screen. When a registration fails, the patient's status in PRTM will be "RPA failed". The receptionist will open the patient details in PRTM, claim the patient for themselves, and manually attend the patient in Oceano, using the data displayed in PRTM. The arrival time entered must be the time displayed in PRTM, not the current time. The eTriage priority score (starting with "E-") should also be selected in Oceano if able to do so (access may be restricted). Once this is complete, continue below.

- Patients who have failed must be attended in Oceano and completed in PRTM in no more than 10 minutes.

- All eTriage patients must be manually attended in PICS, whether or not their Oceano registration was automatic or manual. The Receptionist sees which patients need attending in PICS via the PRTM; the status will say "PICS registration incomplete". The receptionist claims the patient in PRTM, attends the patient in PICS (selecting the correct consultant of the day), checks the emergency contact details are correct in Oceano (compared to the summary in PICS) and changes them if not, then clicks complete in PRTM. This changes the status in PRTM to "Complete" and moves the patient to the Completed tab. The registration is now complete.

2.6. Administration

- The receptionist prints a patient's wristband as soon as their registration is complete. For patients successfully registering through eTriage, this will be when they appear in Oceano. For patients manually registering at reception, this will be once the receptionist has registered the patient.

- The receptionist gives the wristband to the triage nurse, who gives it to the patient once they are triaged.

2.7. Waiting room

- Patients take a seat in the waiting room once they have successfully registered.

- If possible, whilst waiting to be triaged, patients should have a set of observations completed by the ED HCA (within 15 minutes of arrival). Patients with a priority score of 0 (i.e. failed in PRTM or didn't register through eTriage) should be prioritised, then E-1, E-2, and so on.

2.8. Triage

- It is the responsibility of the triage nurse to determine the order in which to triage patients, including for patients who were unable to register via eTriage. The decision is a balance of the clinical information given, any information relayed to the receptionist booking the patient (which is reflected in the reason code column), and the length of stay in the department.

- The following information will be displayed in Oceano to aid the triage nurse with clinical prioritisation:

  o The priority score, which will be 0 for patients who have not registered through eTriage or where the PRTM Oceano registration has failed, or E-1, E-2, E-3, E-4, or E-5, for those that have.

  o The presenting complaint, which will be entered manually by the receptionist for patients who have not registered through eTriage, or generated automatically from the eTriage algorithm for those that have.

  o The wait time, which is generated automatically for all patients based off the time of registration and the current time.

- Additional information is also available in PICS, including:

  o eTriage clinical summary if the patient successfully registered through eTriage

  o Observations recorded in the waiting room, if the patient has had a set of obs already

  o Other clinical flags, if a flagging system is in use

- For patients who successfully registered through eTriage, the triage nurse completes the following process during triage:

  1. Reviews eTriage clinical summary in PICS.

  2. Completes the triage (including any additional observations as needed), updating clinical noting in PICS.

  3. Updates the priority score in Oceano, changing E-1, E-2, E-3, E-4, or E-5, to 1, 2, 3, 4, or 5, including for cases where the eTriage score is correct.

  4. Updates the patient's post-triage location.

- For patients who did not successfully register through eTriage, the triage nurse completes the following process during triage:

  1. Completes the triage (including any additional observations as needed), updating clinical noting in PICS.

2. Assigns a priority score, either: 1, 2, 3, 4, or 5, aligned to the Manchester Triage System.

3. Updates the patient's post-triage location.

- This is the end of the triage process. Continue with appropriate SOP.

3. Infection Control

- Patients should use the hand sanitiser provided prior to and after use of the iPads. The kiosk signage instructs them to do this.

- In case of contamination, the navigation nurse should alert domestic staff to clean the kiosk station if it us unable to be managed locally.

- Every 12 hours, the domestic team should ensure hand sanitiser stations are appropriately stocked, wipe down each of the kiosks, and ensure each station is clean. If the kiosk that needs cleaning is in use, the team should wait until this patient has completed their triage entry, then that kiosk can be temporarily out of use until cleaning is complete.

4. Technical support

On rare occasions, the systems will experience downtime, either due to an unplanned issue or planned maintenance/updates. This section explains how to spot when there is an issue and what to do in each scenario.

4.1. Support Model

If you experience any of the below issues, follow the following support model:

1. First, speak to your team lead and notify them of the issue. They may be able to fix it locally by speaking to superusers within the department. If the issue isn't fixed immediately and patients are unable to register through eTriage, you should follow the existing business continuity plan. All patients should be advised to register at reception in the traditional way until the issue is resolved.

2. If the issue can't be fixed locally, raise the issue to UHB's IT department, by raising a ticket on the Service Portal Icon on Desktop, or Ext 2199.

3. If the issue can't be solved directly by UHB's IT department, they will contact the relevant supplier, either eConsult or Digital Workforce. Further detail can be found in the "Operational Handover to IT Services" Document.

4.2. Possible issues

The table below shows the possible unexpected issues which may occur. In each case, follow the support model process in section 4.1.

Failed System	End user sees	Impact
ETriage	Website will show as unavailable on the iPads and patients will not be able to begin the process.	New patients unable to use iPads. Refer to eTriage Support. Note: Any patient submissions which had been received and passed to the TIE prior to the failure would be processed as the TIE, BluePrism, Oceano are still available.
TIE / Rhapsody	ETriage would time out / not receive the expected acknowledgement. Patient would be presented with end screen directing them to receptionist.	New patients may be able to begin using iPads but will be directed to the reception team once the Spine look up section fails or when trying to complete the clinical questionnaire. Note: any patient submissions which had already been received and passed to the TIE and on to BluePrism / Flowable prior to the failure would be processed as the TIE, BluePrism and
PRTM (Flowable)	End user would be unable to access PRTM.	PRTM would not pass records to Blue Prism to be processed.
Blue Prism (RPA)	Failures would be displayed on PRTM.	RPA process will not be able to record patient attendance in Oceano. Patient attendance will need to be recorded manually in Oceano.
Oceano	Failures would be displayed on PRTM.	RPA process will not be able to record patient attendance in Oceano. Patient attendance will need to be handled in line with Departmental system downtime procedures.

4.3. Scheduled downtime for maintenance/upgrades

Each system will be taken offline at different points in the year for scheduled maintenance and upgrades. In each case, ED staff should be notified in advance.

System Patching Cycles

System	Executed by:	System downtime?	Details
eTriage	eConsult	No	03:00 – 05:00 Alternate Fridays *Note: As of December 2023, patching is only happening as required every few months.*
RPA	Digital workforce	Yes	22:00 – 03:00 Third Wednesday of each month
PRTM (Flowable)	Digital Workforce	Yes	22:00 – 03:00 Third Wednesday of each month
Rhapsody	UHB – Integration Team	Yes	07:00 – 08:00 Second Thursday of each month

System Upgrade Cycles

System	Executed by:	System downtime?	Details
E-Triage	E-Consult	Yes	No fixed schedule for updates that require system downtime. If this is required, it will be communicated in advance by eConsult.
RPA	Digital Workforce	Yes	Once per year. *Note: This is normally done in June.*
PRTM	Digital Workforce	Yes	Once per year. *Note: This is normally done in June.*
Rhapsody	UHB – Integration Team	Yes	Twice per year at 22:00 – 02:00. *Note: Whilst variable, it is normally done around May and November.*
Oceano	UHB – PAS Team	Yes	No routine maintenance.
Oceano – ECDS	UHB – PAS Team	Sometimes	Annual (between April and July) *Note: If system downtime is expected then this will be communicated in advance by UHB PAS Team.*

5. Clinical Incidents

- Recording the true acuity score in Oceano allows us to measure the accuracy of eTriage and proactively manage any incidents of over- or under-triage, however it is still important to log any clinical incidents as and when they happen.

- In case of a clinical incident, a local incident form must be completed via UHB. As appropriate, Duty of Candour must be actioned. If the clinical incident is related to eConsult it should also be reported via their SharePoint platform by selecting their incident report section and completing their online form.

6. Manchester Triage System target times

Level	Status	Colour	Time to assessment
1	Immediate	Red	0 minutes
2	Very urgent	Orange	10 minutes
3	Urgent	Yellow	60 minutes
4	Standard	Green	120 minutes
5	Non-urgent	Blue	240 minutes

7. Document Control

Version	Date	Author	Notes
V1.0	23/09/2022	Zaira Akhtar	First Draft
V2.0	04/12/2023	Juliet Bowpitt	Second Draft
V3.0	13/02/2024	Jonathan Whittaker	Final Draft for Go Live