Ensuring a safe and effective triage process for patients and triage staff

Abstract

Triage is often the first step in a patient’s visit to the emergency department, with nurses assessing the urgency of the patient’s need for treatment. This CPD article explores triage, its objectives, the process of triage and how to ensure it is effective. This includes the physical assessment process as well as methods for ensuring a comprehensive and quick assessments are performed. It also discusses what makes for an effective triage environment, and how nurses can support this, before discussing safety in triage, both from a physical perspective of infection control and workplace violence, and an emotional perspective around patient disclosures of emotional trauma and practitioner stress. This article presents advice for improving the effective and safe triage of patients when they present to emergency areas.

Aims and intended learning outcomes

Triage occurs when a patient first presents in every emergency department (ED) in the UK. It is a role that guidance describes as requiring a specifically trained member of the clinical team conducting the assessment (NHS England, 2022). This role is often fulfilled by nurses (Edwards et al., 2021), and as such ensuring they understand the triage processes, and are aware of how to triage patients safely and effectively to ensure good patient care. This CPD article explores what triage aims to assess, the process of triaging patients, and what makes it effective. It also discusses the wider triage environment, and how to ensure safety in triage for both the patient and the practitioner.

After reading this article and completing the time out activities you should be able to:

* Understand the triage process and the different levels of acuity.
* Know what makes for an effective triage process.
* Make acuity decisions when faced with uncertainty.
* Create and manage a triage environment that is safe for patients and practitioners.

Introduction

Triage takes place upon initial patient arrival in the emergency department, whether the patient walks in the front door, is brought by the ambulance service, or any other methods of arrival. Triage should take no longer than five minutes, and occur within the first 15 minutes after the patient arrive (The Royal College of Emergency Medicine, 2017). Triage will often take place alongside streaming, with one assessing the acuity of patients and their need for treatment, and the other their suitability to be put on a pathway or be directed to specialised areas. Whilst these are inter-related practices, they have separate aims, and the importance of triage should not be overlooked in favour of rapidly streaming the patient.

Many modern systems favour streaming the patient in order to improve patient flow and reduce pressure on the emergency department front door, however without proper triage this risks transferring high-acuity patients to inappropriate destinations, resulting in potential patient harm (Edwards et al., 2022). To mitigate this, practitioners should ensure they have always identified a patient’s acuity before streaming the patients to pre-determined pathways.

Once a triage assessment has been completed, the acuity decision needs to be recorded on the local systems, whether physical or digital. The patient will then be moved to the next stage of their journey through the emergency department, which may be into the waiting room to await assessment by a clinician, into resus for immediate life-saving treatment or anything in between. Whether treatment should be given in triage or not is at the discretion of the practitioner, but due to the time sensitive nature of triage, and the need to move patients on in the system to be able to continue the process with the next patients, any treatment given should be limited to quick and immediately available interventions (Patrick et al., 2015), such as pain relief, or life-saving interventions.

Triaging patients consists of a concise yet comprehensive examination of the patient, considering their presentation to assess their acuity. How to ensure an effective triage process is explored later in the article, and further information about the process of triage examination itself can be found at [How to triage patients in the emergency department (rcni.com)](https://journals.rcni.com/emergency-nurse/evidence-and-practice/how-to-triage-patients-in-the-emergency-department-en.2023.e2186/full).

Measuring Acuity

Triage is designed to identify acuity, a summarised measure of how sick a patient is. Different triage algorithms refer to the acuity levels in different ways (Gorick, 2023), but the most commonly employed utilise a very similar five tier system. The highest ranked in these are those most in need of immediate attention, and the lowest the least. An example of these categories and associated times from the Manchester Triage System (Mackway-Jones et al., 2014) is shown in **Table 1**. Accurately identifying acuity is the core concept of triage, with decreased accuracy directly linked to worsened patient outcomes (Tam et al., 2018)

It is important to understand that acuity is an abstracted concept, with no immediately measurable property (Brennan and Daly, 2009). It is rather an amalgamation of different indicators, such as risk of mortality, need for resources and other key metrics (Yancey and O'Rourke, 2023). This means that the acuity of the patient is situational to the presenting complaint, with different indicators having a greater or lesser impact on the rating of acuity. Whilst risk of mortality tends to be the greatest factor at the higher ends of the acuity scale, such as with trauma, towards the lower end it will have less of an impact when deciding between the two lowest categories, such as with a sprain, but whether the patient needs painkillers or an Xray may be more pertinent. Understanding how acuity applies to the patient being assessed is important for practitioners (Gorick et al., 2023), as it not only gives them the context for their assessments but helps to start to target their assessments towards relevant investigations.

Effective Triage

Practitioners utilise a comprehensive mix of assessment methods to support their acuity decisions, including visual, vital and verbal factors (Roscoe et al., 2016). Visual signs can include the patient’s overall appearance, their perceived level of pain, their ability to mobilise, or other factors the practitioner deems relevant. Vitals consists of patient observations, such as pulse, blood pressure and oxygen saturations, although may also include ECG reading and point of care blood tests if suitable and available. Verbal factors result from discussions with the patients and carefully targeted questions about their presenting complaint, symptoms, and medical history.

**Time Out 1**

*List the questions you ask when assessing the patient. Are they all necessary to identifying their acuity? Which would you consider no longer asking? What questions might you ask instead in the future?*

Effective triage will identify which components are key to identifying the patient’s acuity, which may change depending on the patients’ presentation, and target their assessments to ensure that no unneeded data is gathered, whilst being thorough enough to capture all pertinent information. Finding the balance between these can prove difficult and requires an in-depth knowledge of potential presenting complaints and the associated symptoms (Moon et al., 2021).

Triage algorithms can provide support with this, and the assessment process, providing direction to investigations and providing validated evidence for decision-making processes. A good overview of the different algorithms and how they work can be found [a recent paper](https://www.ncbi.nlm.nih.gov/books/NBK557583/) by Yancey and O'Rourke (2023) The introduction of formalised triage algorithms increases oversight and control, as well as confidence in triage decisions and communication, whilst reducing missed critical signs and the fear of missing them (Johansen and Forberg, 2011). Comprehension of the procedure for applying the algorithms, as well as expertise with the different choices and outcomes are key to ensuring accurate triage (Stanfield, 2015).

However, it is important to consider that triage algorithms, whilst having good accuracy, are not perfect (Hinson et al., 2019). They provide a generalised perspective of acuity, and as such may have difficulty identifying non-standard presentations. This means that whilst using a triage algorithm to support decision-making is good, practitioners need to take care to remember the individual in front of them, and adjust their assessments according to their needs, utilising their clinical reasoning.

**Time Out 2**

*Think about the triage algorithm you use in your department. Consider how you use it with your own clinical decision-making skills. Are there any areas of conflict, and if so how could you resolve these?*

Practitioners correlate between signs, symptoms and diagnosis to assess acuity (Johannessen, 2017). They identify and rule out potential diagnoses, such as respiratory infection or traumatic injury, to gain an idea of the potential for deterioration and timescales for necessary treatment. These diagnoses will be broad categories as opposed to specific illnesses, i.e., cardiac problems over myocardial infarction, presenting a rough idea of illness. However, it is important to consider findings that nurses would anchor to a diagnosis and fail to further explore (Wolf et al., 2018). Anchoring is when an initial impression is made that practitioners use to direct their assessments, whilst failing to consider other possible diagnoses. This risks the practitioners assigning an incorrect acuity score, so to mitigate the risk of anchoring practitioners should make a complete assessment that considers all possibilities. Anchoring can often occur as a result of an intuitive leap from the nursing staff. The use of intuition in triage is well documented, and can be effectively used in conjunction with clinical reasoning to interpret an acuity score (Gorick et al., 2023), however practitioners need to take caution to ensure that intuitive leaps are reinforced with definite evidence such as observations and assessments, to confirm an accurate decision is made (Wolf et al., 2018).

Interpreting the data to form an acuity score can be a difficult process, especially when patient symptoms are unclear, or conflicting, or there is a lack of information. This uncertainty can often result in the practitioners increasing acuity scores to mitigate any potential risk (Johansen and Forberg, 2011). However, over-triaging the patients can have a system wide impact that means resources are unavailable for those who are in greater need and should be avoided. When practitioners are uncertain, consultation of the triage tools, or their colleagues can often help to aid their decision-making processes (Johannessen, 2017).

**Time Out 3 – Case Study**

*Ashley is working their triage shift when Lisa comes in, complaining of a sudden and severe abdominal pain. Ashley visually assesses Lisa to look for any immediate red flags, observing she is pale, but able to mobilise independently, albeit with difficulty due to the pain, and no signs of trauma. Taking her into the assessment space, Ashley begins the examination. They take vital signs, noting a raised pulse and blood pressure, which is partially attributed to the pain. Whilst doing so, they question Lisa about the pain, based on the presentation.*

*Ashley asks about past medical history, finding no chronic conditions that could be causing this, then asks about onset. As they are questioning that are forming broad diagnoses in their mind to target further assessments – “It could be a stomach bug, I’ll ask about recent meals and changes to bowels” or “it could be appendicitis, I should palpate to see”. They will quickly work through these diagnoses, ruling out some and adding others for investigation. However, they keep to broad areas, as they are trying to establish the acuity of the patient rather than identify a specific problem. Through questioning and examination Ashley settles on bowel issues and considers Lisa’s acuity from this broad diagnosis. They consider Lisa’s potential for deterioration, as well as accounting for factors like her pain, to establish how long she can wait. They also consider environmental factors, such as how busy the waiting room is and how long the wait for a doctor within that acuity category is.*

*They consult their triage algorithm, and find the relevant discriminators (Abdominal pain, loose bowels, pain), and decide that the recommended category agrees with their own assessment. They assign the triage score and offer Lisa some quick pain relief that they have to hand, inform her of the decision and the waiting time, and move her to await the clinician. Meanwhile, Ashley quickly documents her decision and the reasons for it, cleans the area and moves to the next patient.*

*Consider Ashley’s assessment process. Identify the different assessment methods, and how you use these methods in your own practice. Think about how you target your investigations – is it a conscious consideration, an intuitive direction, or a mix of both? How would you assess Lisa and what would you consider important investigations and questions?*

Often, point of care testing is available to support in times of uncertainty and identify potential issues. Point of care tests can include rapid blood tests, ultrasounds and more. Point of care blood testing has been shown to be an efficient method of supplementing acuity assessments, with nurses describing them as helpful for their processes, and the results directly relating in changes to triage levels for 15% of patients in one study (Soremekun et al., 2013). They have been found to be a highly effective method for identification of certain conditions, including acute coronary syndrome, venous thromboembolism and sepsis, whilst remaining cost-effective (Rooney and Schilling, 2014). Further, the use of point-of-care has been related to a significant decrease in time to test results, meaning less waiting for the patients, although their use did not have an impact on overall length of stay (Hausfater et al., 2020). Ultrasound has also been identified as a tool to aid effective triage, for identifying trauma, abdominal pain and deep vein thrombosis (Nicola and Dogra, 2016), with its cost effectiveness highlighted in a systematic review (Lentz et al., 2021). However, care needs to be taken by practitioners when including point of care testing in the triage process not to overly delay an acuity decision due to extensive testing, so use of point of care tests is required only when it would benefit the triage process, and it should be a targeted assessment as opposed to general checks.

Triage Environment

Triage areas often have a dedicated space for assessing patients in, allowing for privacy and a thorough assessment, and will contain equipment to aid the triage processes, such as blood pressure cuffs, and ECG machine and a couch for examining patients on. A private space is considered necessary for effective triage, to allow a thorough examination of the patient and let them feel safe to disclose personal information (Moon et al., 2021). The effective set up of a triage area can help to reduce time taken to triage, by ensuring all needed resources are to hand and it is easy to move patients through, as well as helping to ensure accurate assessments by allowing for a comprehensive assessment process.

It is not just current space that can have an impact on the ability to triage patients, but the potential for future space as well. A study by Reay et al. (2016) noted that nurses would anticipate future need for space, and patients would be fitted to the available space, with nurses feeling a need-to-know which patients could be moved to create future space. There is a need to constantly keep patients moving from triage to the next area, whether back into the waiting room, further into the hospital, or another destination. A lack of flow can result in practitioners changing their assessment processes, making decisions designed to impact their workload and improve overall patient safety, potentially at the cost of accurate assessment of the patient (Gorick et al., 2023).

However, given the ever-busy emergency department environments and issues with hospital capacity, the creation of patient flow may not always be possible. In these situations, careful management of patients is necessary, with their safety regularly checked and careful allocation of resources (Williams, 2023). Whilst the possibility may exist to create temporary spaces for assessment, caution needs to be taken to ensure patient safety and privacy (Gorick et al., 2024). These spaces should not be used to keep a patient in, but rather for a quick assessment that identifies the patient’s acuity, before moving them out again. There should also be escalation through the hospital hierarchy about the lack of flow and need for temporary spaces, as well as documentation of their use through incident reporting systems and any harms that occur because of this.

**Time Out 4**

*Examine your triage area. Describe any changes you could make to improve the triage process. For example, could it be more private? Is it easy to maintain infection control? How would you go about making these changes?*

Safe Triage

When working in triage, it is important to be mindful of safety, not only for the patients, but also for the practitioners. Whilst the main safety concern for practitioners will be assessing acuity, the physical and emotional safety of the patients and practitioners are also aspects that require consideration.

An important area of physical safety can be infection control. Patients presenting to the emergency department may have a transferable infection, an issue that became incredibly eminent during the recent Covid-19 pandemic. Good triage can be a highly effective way of reducing the spread of infectious diseases, with early identification and isolation via triage key to this (Wang et al., 2020). However, maintaining effective infection control in the triage area itself is necessary, to ensure that infections are not spread by the triage process. Infection control can be difficult to maintain in triage, with the high flowthrough of patients and limited spaces. However, ensuring that surfaces are properly cleaned, hands washed, and PPE utilised can be quick but effective methods of preventing the spread of disease (Curr and Baker, 2023).

Physical safety for practitioners is also an important consideration. The rate of assaults on emergency nurses is shockingly high, both for verbal abuse and for physical violence, and it has significant effects on the nurses, reducing their physical health, impacting their ability to work and increasing their intent to leave the profession (Aljohani et al., 2021). Triage is a particularly high-risk area for assaults, due its nature as an unfiltered front door to the hospital, and the understandably high levels of anxiety experienced by patients. Conflicts in triage can come from many sources, such as upset about high wait times, often resulting in disagreement between the patients about their perceived acuity, with differences between what the nurses assess the patient’s acuity and what the patients perceive their acuity to be (Alves Roncalli et al., 2017). Whilst the temptation may exist to raise triage levels to maintain patient satisfaction and avoid conflicts, this should be avoided due to the associated misidentification of acuity and its negative outcomes (Moon et al., 2021). Instead, good communication with patients should be utilised, with information in advance about wait times, explanations of decisions and the reasoning behind them, in conjunction with an explanation of the purposes of triage, as this can often be misunderstood by patients (Moon et al., 2021). Where these de-escalation methods are not-effective, referral to seniors should be considered, and calling security in the case of physical violence may be necessary to protect practitioners from further harm. To facilitate these, ensure triage areas are fitted with panic alarms or other methods to request urgent support.

Emotional safety can also be a concern in triage. Triage can be an emotive experience for patients, especially those presenting with potentially traumatic injuries, or mental health concerns. Disclosure of emotional trauma such as trafficking or domestic abuse may occur whilst the physical assessment of the patient is taking place. Such disclosures may be connected to the presenting issue, and aid in the diagnosis of acuity, but they may also be secondary. Yet, even if not part of the acuity, it is important to be able to address and support these disclosures in a way that enables the patient to feel safe and supported and give more information if they choose to. However, addressing these issues is not a quick solution. It requires careful and considered discussion with the patients, and the building of a safe and trusting relationship (Hunt et al., 2020). This can be challenging as mandated risk assessment tools have the potential to cause patient withdrawal (Svalin and Levander, 2020). Whilst signposting to supportive services is a necessary step, the immediate safeguarding of the patient is also required. In the fast-paced triage area this can be difficult, with a need to see patients in a short amount of time. Consider whether you need to ask a colleague to take over the triage, or in supporting the patient until dedicated support services, or more specialised colleagues can arrive.

**Time Out 5**

*Are you familiar with the signs of domestic abuse or trafficking? Do you know who to escalate to, and what support is available, both in hospital and out? Take the time to make a list of these to have available should you need.*

It is not just the emotional safety of the patients that needs to be protected, but that of the practitioners as well. Working in emergency departments, and especially triage can be a demanding and stressful practice for nurses. Stress has been shown to have severe negative effects on decision-making practices, reducing the accuracy of triage decisions through missed cues and inability to consider all aspects of the patients presentation (Wemm and Wulfert, 2017). A recent study of emergency nurses in North America found they experience significantly higher levels of secondary traumatic stress, and that this can have a significant impact on their ability to work, and their personal health (Wolf et al., 2020). Further, when triage environments become overly busy this increases the stress for less experienced practitioners, although more experienced practitioners have normalised this stress (Gorick et al., 2024), which in itself can be risky. Normalisation of stress can be helpful, forming resilience to these conditions and allowing the nurses to safely perform their jobs, however it is important that true resilience is developed and not a simple acceptance of overly stressful conditions, as this may mask poor mental health in the nurses and result in reduced patient outcomes (Sala Defilippis et al., 2019). To ensure the safety of practitioners it is of vital importance that stress is identified properly and the causes of the stress mitigated, not just the feelings of stress.

**Time Out 6**

*Identify how you and your colleagues manage your stress, both while working and when you have finished work. How safe and effective are these strategies for managing stress? Who could you talk with about them and how would you go about this this? Consider asking a colleague.*

Conclusion

Triage in the emergency department is a quick but complicated process that aims to identify patient acuity, an abstracted and individual measurement that represents the patients need for treatment. Triage often takes places alongside screening, but is a separate assessment, with its own necessary steps. This may include provision of treatment, but this should always be a quick intervention with longer treatments being performed later in the patient’s journey.

To ensure an effective assessment process, practitioners need to complete a rapid yet comprehensive assessment of the patient, considering which aspects are necessary to identify their acuity. Triage algorithms may support this, but they should be used as supportive aids as opposed to rigid guidelines. Practitioners can utilise their clinical reasoning and intuition to interpret the patient’s acuity, although should always take care to ground their decisions with objective measurements. Uncertainty in the decision-making process can be overcome through consultation with colleagues and triage algorithms, as well as the judicious use of point-of-care testing.

Whilst the assessment of the patient’s acuity is the main goal of triage, there are other important factors to consider from outside the nurse-patient interaction. Establishing an effective triage environment can support the triage process, and ensuring a flow of patients from the triage area to make room for the next patients requiring assessment is needed. Where this is not possible, temporary spaces can be used, although their use should be brief and sparing, and reported to management.

Ensuring a safe triage environment requires consideration of infection control issues, with prompt identification of potentially infectious patients, and rigorous infection control methods to prevent spread. Practitioners should also bear their physical safety in mind, and communicate with patients to mitigate confrontations, escalating to seniors or security where necessary. Emotional safety of patients is an important aspect, and practitioners should know what to do in the event of disclosure of emotional trauma in the triage area, and how to safely support patients. They should also be aware of their own emotional safety, especially in the stressful triage environments, and know how to identify and manage stress.

The learning in this CPD article can be used to help improve the safety and effectiveness of the triage environment, and practitioners are encouraged to reflect on how they can apply them to their own practice.

**Time Out 7**

*Identify how triage applies to your practice and the requirements of your regulatory body.*

**Time Out 8**

*Now that you have completed the article, reflect on your practice in this area and consider writing a reflective account: rcni.com/reflective-account*

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| **Table 1. Manchester Triage System Acuity Levels (Mackway-Jones et al., 2014)** | | | |
| Number | Name | Colour | Max time (minutes) |
| 1 | Immediate | Red | 0 |
| 2 | Very Urgent | Orange | 10 |
| 3 | Urgent | Yellow | 60 |
| 4 | Standard | Green | 120 |
| 5 | Non-Urgent | Blue | 240 |