Evaluation of the Efficiency of Ophthalmic Emergency Triage Tools

Elspeth Green, Lana Fu, Felipe Dhawir-Scala Contact: elspethgreen@nhs.net

NHS Manchester University NHS Foundation Trust

Introduction

Rising numbers of acute Ophthalmic attendances continue to create pressure on emergency services. Patient triage is mandatory in all emergency departments. It serves two main functions, first to identify the most unwell patients so their care can be prioritised, and second redirecting patients with non-acute complaints to more appropriate non-urgent services. Done well it represents an opportunity for efficiency and quality care. We evaluated exiting published Ophthalmic triage scoring systems to determine how successfully they are able to perform both aims.

Methods

A systematic literature search was performed to identify previously published Ophthalmic triage tools. The keywords for the search were 'Ophthalmic', 'emergency' and 'triage' no time limit was applied.

The identified tools were then retrospectively applied to documentation from 669 consecutive patient attendances at Manchester Royal Eye Hospital Eye Emergency Department. A score was calculated for each patient and compared to the end outcome of the clinical encounter which was classified into the following four categories; Immediate treatment, treatment and subsequent follow up, treatment and discharge, discharge and no treatment or over the counter treatment.

Results

All three tools successfully identified patients requiring immediate treatment including angle closure glaucoma and penetrating eye injuries. However, no tool successfully safely identified patients suitable for discharge. For instance, sub-acute angle closure (5 day history, IOP 48mmHg) received the lowest grading of clinical concern by all three tools. Painless blurred vision is a challenge for triage. Source of referral did not predict the outcome of the encounter. A high number of referred patients were still discharged without treatment or over the counter (OTC) treatment..

Outcome of triage	Attendees (n)	Percentage (%)
Urgent review	5	0.7%
Routine wait < 4 hours	646	96.6%
Community	12	1.8%
Left the department	6	0.9%

Five urgent patients correctly identified by MREH triage
Subacute angle closure
Globe rupture
Traumatic iritis
Acute angle closure
Acute angle closure

Three urgent patients not identified by triage:
Suspected globe rupture
Acute angle closure x 2
Subacute angle closure

Small proportions of patients identified as suitable for community review and discharged from triage (e.g. pharmacy, GP, optician, keep planned follow up)

Event outcome	Source of referral					
	Self Count (%)	GP Count (%)	Optician Count (%)	A+E Count (%)	Ward doctor Count (%)	MREH clinic Count (%)
Immediate treatment	7 (1)	0 (0)	1 (2)	1 (2)	0 (0)	0 (0)
Treatment and follow up	228 (44)	18 (55)	38 (60)	20 (43)	6 (60)	5 (63)
Treatment and discharge	86 (17)	4 (12)	11 (17)	7 (15)	0 (0)	0 (0)
Discharge with OTC treatment or no treatment	188 (37)	11 (33)	13 (21)	18 (39)	4 (40)	3 (38)

Triage tool	IDENTIFYING EMERGENCIES Percentage of patients requiring immediate treatment correctly identified (n)	MISSING EMERGENCIES Percentage of patients requiring immediate treatment misclassified as lowest risk (n)	IDENTIFYING SAFE DISCHARGES Percentage of patients not requiring treatment correctly identified (n)	Important misclassifications
MREH current practice	56%(5)	0% (0) to our knowledge	1.8% (12)	Not known
RESCUE	22% (2)	22% (2)	57% grade 0 95% grade 0-3	Score 0 (lowest) ascribed to subacute angle closure, Retinal tears, foreign bodies, HSV keratitis and contact lens related keratitis
AlSamnan et al. for self referrals only	72% (5)	28% (2)	26.6% (50) grade 0 69% (129) grade 0-1	Score 0 ascribed to subacute angle closure, Keratouveitis, HSV keratitis, suspected pituitary mass, TIA
Banerjee et al.	56% (5)	11% (1)	39% (92) white	White (lowest) risk ascribed to subacute angle closure, anterior uveitis, bilateral optic nerve swelling, CRVO, infected corneal suture

Learning points and planned interventions:

- New triage tool not implemented. Misclassification of high risk patients as low risk could result in unsafe discharge.
- iCare intraocular pressure for all patients to be introduced
- Remain a walk-in service. No requirement for referral.
- CUES Urgent Eyecare Service went live in 01-06-2021 allowing patients in Greater Manchester access to emergency review with community optometrist and hospital advice as required

Conclusion

The existing tools for Ophthalmic triage are valuable for identifying patients requiring urgent attention. Large numbers of low risk patients such as dry eye and conjunctivitis are seen. Triage tools are not currently able to identify these patients resulting in unnecessary burden on Ophthalmic emergency services. Face to face review is likely to be required, to ensure urgent sight or life threatening conditions are not missed. It may be possible to share these reviews with community optometrists.