

# Visual Acuity Measurement in the Emergency Department: A Quality Improvement Project



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## Introduction

Ophthalmic emergencies are common presentations to the Emergency Department (ED). Ninewells Hospital in NHS Tayside is a large teaching hospital situated in Dundee, Scotland. During the latter part of 2020, as few as 69.5% of patients with eye-related presentations (57/82 patients over 5 years old in October 2020) had a documented visual acuity (VA) in Ninewells ED.

*"Visual acuity is a simple and useful measure of the ability of the eye to resolve fine detail. It is an essential component of the assessment of all patients with an eye problem presenting to the ED." \**

An acute drop in VA in an emergency setting may require discussion or referral to secondary ophthalmology care services. VA provides a gross assessment of vision and allows ophthalmologists to triage appropriately. With incomplete VA information, patients may be inappropriately discharged from the ED, with the potential for deterioration or complete loss of vision.

## Aim

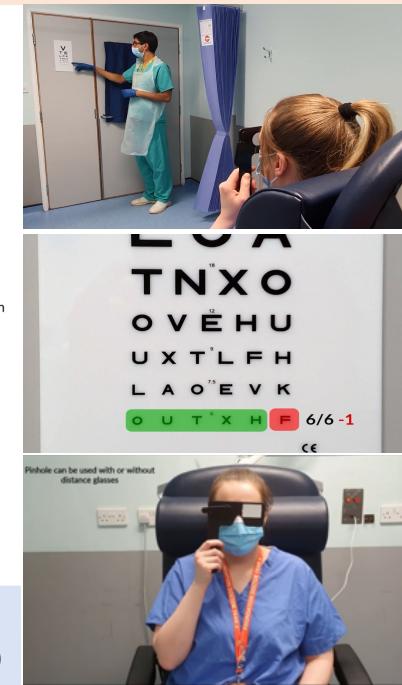
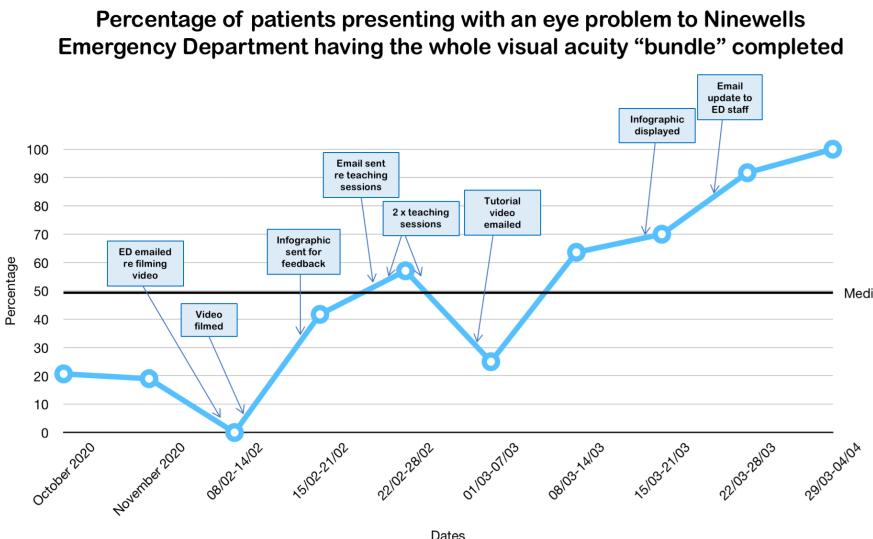
For 100% of patients presenting to Ninewells ED with an ophthalmic issue to have a correctly measured and documented VA by Spring/Summer 2021.

## Methods

After a period of retrospective analysis using the ED's *PaperLite* documentation system, this QI project had a series of intervention cycles (plan, do, study, act) from October 2020 to April 2021. These included the design and implementation of an infographic, an online medical education *YouTube* video tutorial and small-group teaching sessions for ED staff. We formulated a target VA "bundle" to be documented in the ED, including VA values, appropriate pinhole occluder use and documentation of glasses or contact lens use.

## Results after PDSA intervention cycles

- ✓ 100% of patients with an ophthalmic issue presenting to Ninewells ED had a documented VA by April 2021.
- ✓ 100% of patients with a VA poorer than 6/6 on the Snellen Chart had a pinhole occluder used to assess for refractive deficit.
- ✓ 100% had the total VA "bundle" documented in the ED (see run chart).



Link to YouTube Tutorial:



## Conclusions

- 100% of patients attending the ED with an eye complaint met the VA standard after our interventions.
- This project has strengthened the link between the Ninewells ED and ophthalmology department.

## Reference:

\* RCEM Learning: Eye.  
Jonathan D Whittaker, 2017.

Questions/comments?  
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