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Use of a Modified Edinburgh Red Eye Diagnostic Algorithm in a Nurse Clinic of an Emergency Department: Observational Study of Patient-reported Resolution of Symptoms

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Introduction
Acute red eye is a common ophthalmological condition encountered in the emergency department (ED). These patients sometimes were managed in the ED nurse clinic. The Edinburgh Red Eye Diagnostic Algorithm is a validated tool to assist non-ophthalmologists to make diagnoses, which may be useful to be adopted in the ED nurse clinic.

Objectives
To investigate the usefulness of a modified Edinburgh Red Eye Diagnostic Algorithm employed by trained emergency nurses in an ED nurse clinic in terms of patient-reported outcome.

Methodology
This is a prospective single centre cohort study in a university hospital ED in Hong Kong. Patients presented with acute red eyes, resulted from trauma or non-trauma causes confining to situations described as category III or lower according to the Hong Kong Hospital Authority triage guideline were recruited. Patient- reported outcome were compared between ED nurse clinic group and emergency doctor group. Patients who had a recent history of eye surgery or concurrent physical complaint were excluded. Patient-reported symptoms were obtained on the day of consultation and one week after the ED attendance via telephone interviews.

Result
A convenience sample of 50 patients were recruited to the nurse clinic group and 130 patients were recruited to the doctors' group over 9 weeks. Reductions in symptom severity was seen in both groups (>70% in both groups reported moderate to very

severe discomfort on day 0; ~90% in both groups reported none or mild discomfort on day 7). There was no difference between the two groups (p=0.55, ANCOVA). Symptom resolution was reported in 96% in the ENP group and 98.5% in the doctor's group, which was not a statistically significant difference (p=0.31, X2 test). No adverse event was reported.