

# Quality Improvement of Kuwait's Tertiary Ophthalmic Accident and Emergency Department



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## Abstract

**Background:** This project aims to analyse ocular conditions presenting to a walk-in ophthalmic accident and emergency (A&E) department. We investigate how family physicians can play a crucial role in ophthalmology to deliver better healthcare.

**Methods:** Ocular diagnoses were collected retrospectively from A&E record books and categorized into subspecialties, and degrees of urgency. Data is presented in the forms of tables and pie charts. A 10-question survey was distributed amongst family physicians to assess their level of confidence in various ophthalmic tasks.

**Results:** A total of 1340 patients were seen, 61% of which were not sight-threatening nor painful. This contrasted with 39% of cases that were either or both, deserving to be seen at the A&E. The most observed diseases related to cornea and external diseases (64%) and oculoplastic and orbit disorders (17%). The remainder were <5%. The top 4 pathologies encountered were allergic conjunctivitis, dry eye disease, corneal abrasion and chalazion. 63 family physicians have responded to the survey with levels of confidence varying between different tasks. It was evident that the majority did not feel confident examining ophthalmic patients, particularly with a direct ophthalmoscope, and categorising cases based on degree of urgency.

**Discussion:** The family medicine residency program in Kuwait adheres to standards set by the Royal College of General Practitioners (RCGP). The RCGP curriculum highlights the disorders which are deemed to be reasonable for a family physician to be knowledgeable in [1]. The table and charts of ocular diagnoses clearly demonstrate that most cases are neither sight-threatening nor painful. Hence, it would be more ideal if they were managed by family physicians. The deficits observed in ophthalmic examinations, which are part of the General Medical Council's (GMC) core competencies, were in keeping with results witnessed by 2 studies from the United Kingdom (UK) [2][3][4]. To tackle this issue, polyclinics must be equipped with the tools necessary in dealing with ophthalmic patients and any deficiency in their knowledge or examination skills must be addressed. A referral system, like that implemented by Moorfields Eye Hospital, should be designed with each presentation categorised based on urgency to limit unnecessary A&E visits [5]. For more urgent cases, a referral template must be designed to ensure no information is missed for the on-call ophthalmologist to interpret. This should include history, ocular findings, and visual acuity as a minimum requirement [6]. Should family physicians require more guidance in making their diagnosis, the National Health Service (NHS), provides a series of flowcharts for different presentations [7]. To conclude, investing in community ophthalmology to tackle common and less urgent ophthalmic conditions can reduce waiting times in the ophthalmic A&E as seen by a study done by the Bradfords Hospital Trust [8]. This allows focused attention on more urgent cases. In addition, it enhances patient-family physician relationship and promote better patient care.

Diagnosis	Category	Cases	Percentage
<b>Cornea and External Diseases</b>			
		865	64.55
Allergic Conjunctivitis	4	187	13.96
Viral Conjunctivitis	4	68	5.07
Bacterial Conjunctivitis	4	69	5.15
Dry Eye	4	169	12.61
Corneal Abrasion	2	197	14.70
Corneal Ulcer	3	2	0.15
Subconjunctival Haemorrhage	4	36	2.69
Pterygium	4	11	0.82
Episcleritis	4	6	0.45
Contact Lens-Related	3	20	1.49
HSV Keratitis	3	5	0.37
HZO	3	1	0.07
SPE	2	77	5.75
Other Corneal Disease	5	17	1.27
<b>Oculoplastic and Orbit</b>			
		223	16.64
Blepharitis/MGD	4	53	3.96
Chalazion/Stye	4	137	10.22
Cyst	4	2	0.15
Pre-septal Cellulitis	3	6	0.45
Orbital Cellulitis	3	3	0.22
NLDO	4	6	0.45
Dacryocystitis	4	2	0.15
Thyroid	3	1	0.07
Orbital Mass/Lesion	1	10	0.75
Other Oculoplastic Disease	5	3	0.22
<b>Neuro-ophthalmology</b>			
		18	1.34
Optic Neuritis	3	3	0.22
Diplopia	1	1	0.07
Cranial Nerve Palsy	3	5	0.37
Headache/Migraine	4	3	0.22
Squint	4	4	0.30
Other Neuro	5	2	0.15
<b>Anterior Segment</b>			
		50	3.73
Cataract	1	18	1.34
Chronic glaucoma	1	26	1.94
Acute glaucoma	3	6	0.45
<b>Retina</b>			
		49	3.66
Diabetic Retinopathy	1	11	0.82
Retinal Detachment	1	8	0.60
Retinal Vascular Occlusion	1	3	0.22
Posterior Vitreous Detachment	4	11	0.82
Vitreous Haemorrhage	1	7	0.52
Other Retinal Disorders	5	9	0.67
<b>Uveitis</b>			
		3	0.22
<b>Trauma</b>			
		71	5.30
Cut Wound/Eyelid Laceration	3	7	0.52
Chemical Injury	3	5	0.37
Foreign Body	3	58	4.33
Globe Rupture	3	1	0.07
<b>Others</b>			
		26	1.94
Refraction	4	6	0.45
Medications	4	20	1.49
<b>No Abnormality</b>			
		4	0.30
Grand Total		1340	

Table 1: Ophthalmic diagnoses

Categories	Description	Total	Percentage
1	Sight-threatening	84	6.27
2	Painful	274	20.45
3	Painful and Sight-threatening	139	10.37
4	Neither	812	60.60
5	Other	31	2.31
		1340	

Table 2: Diagnosis categories

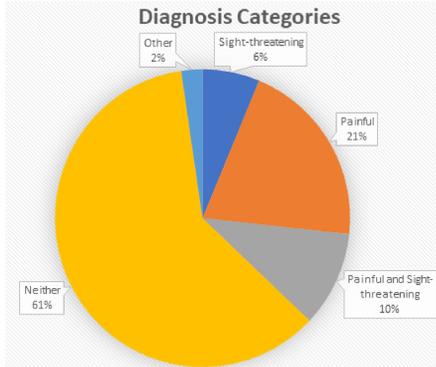


Figure 1: Pie chart of diagnosis categories

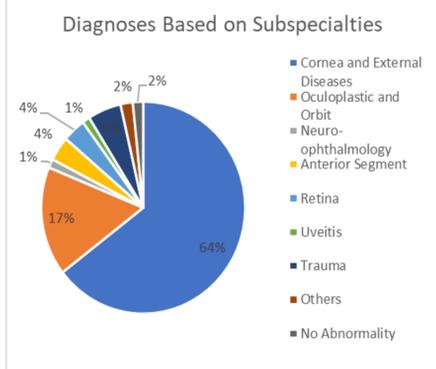


Figure 2: Pie chart of diagnoses based on subspecialties

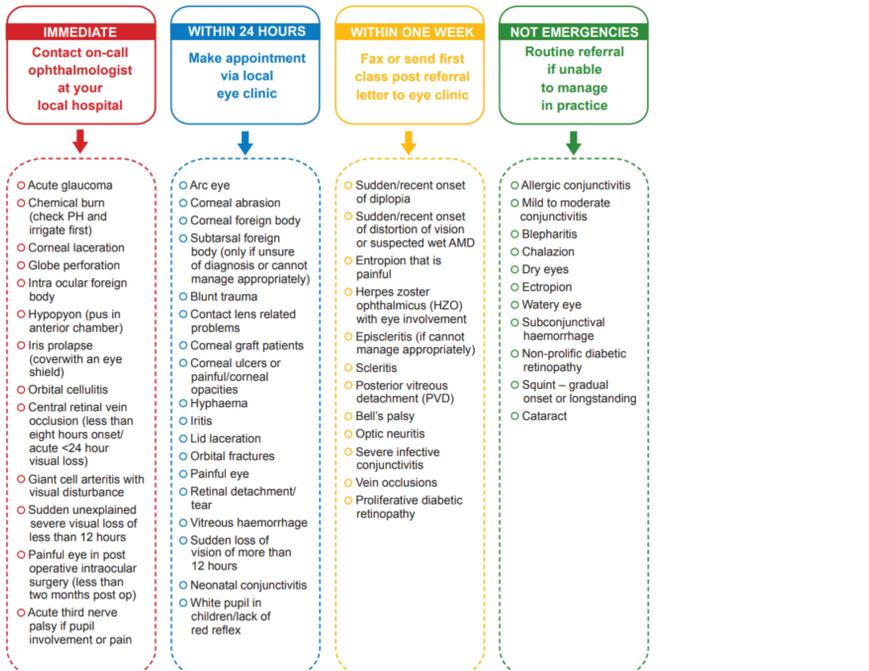


Figure 3: Moorfields Eye Hospital's GP referral system

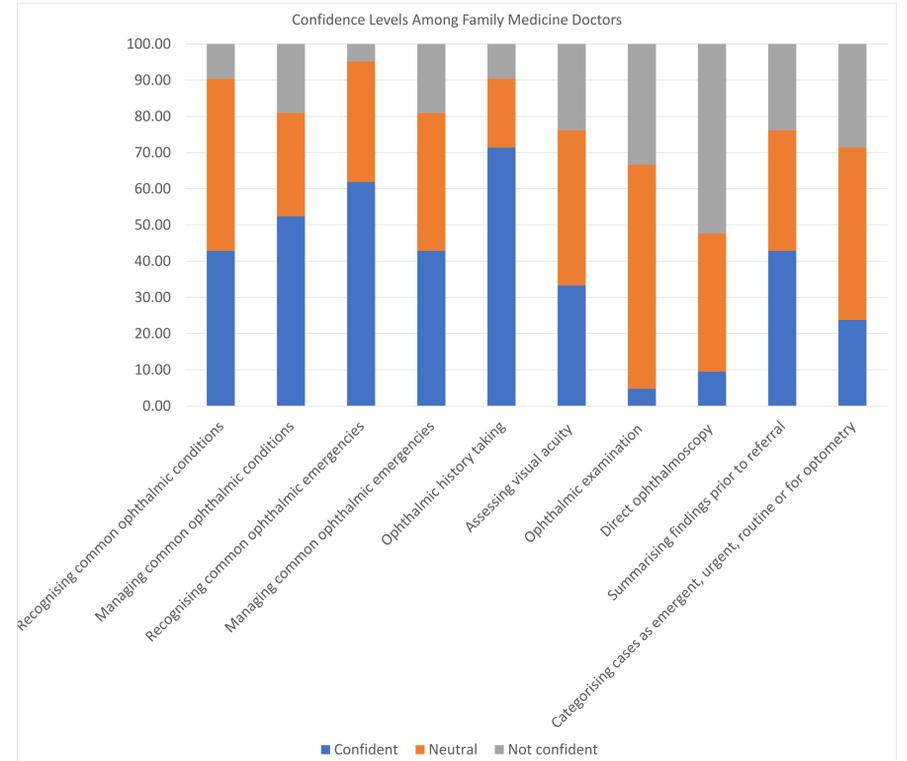


Figure 4: Confidence levels among family medicine doctors in Kuwait

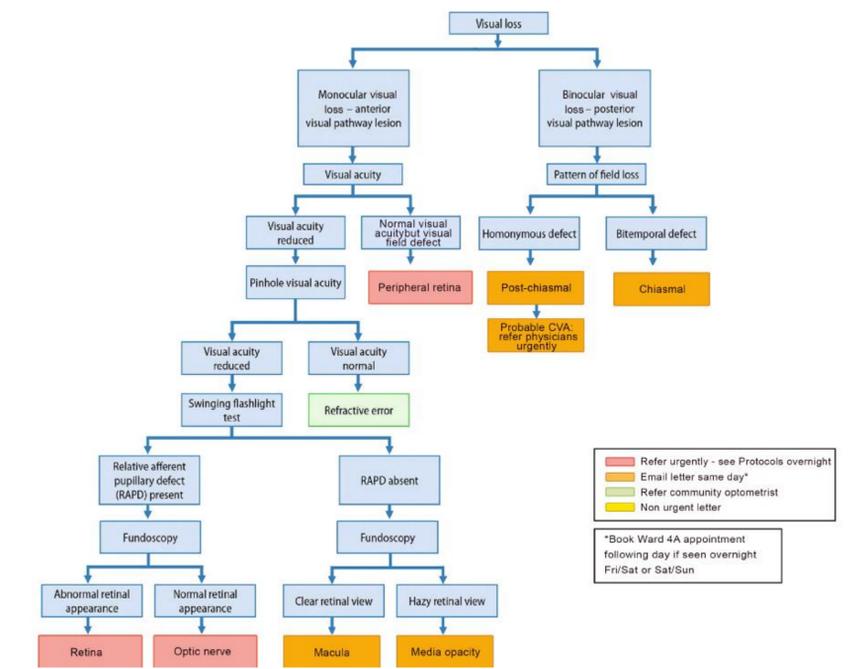


Figure 5: NHS Ophthalmology Diagnosis Flowchart

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