

# Examination Report

## September 2012 Diploma Examination



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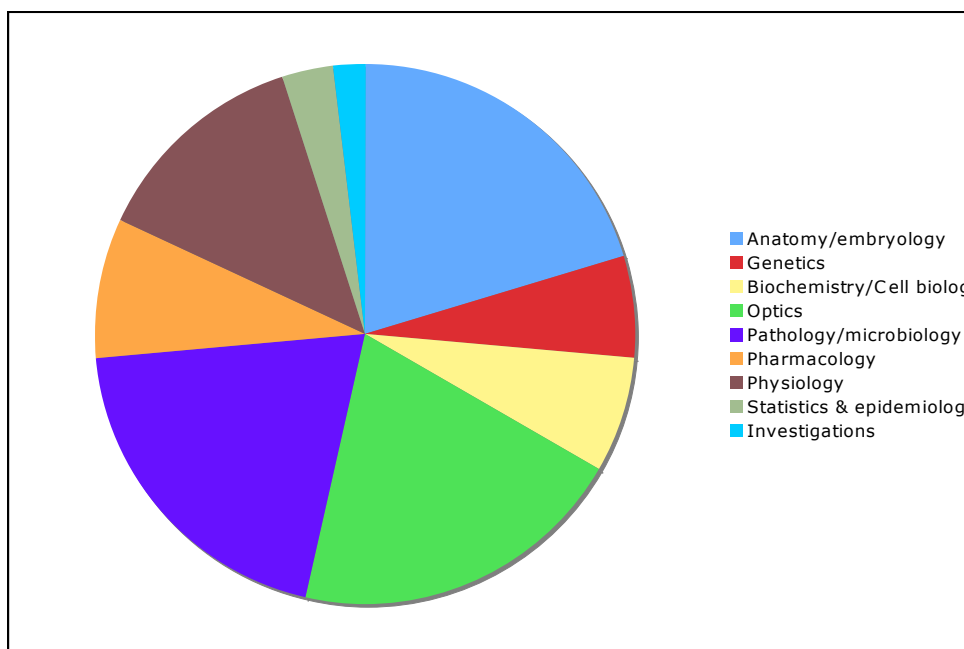
The written part of the DRCOphth examination took place on 17 September 2012 in the London. Six candidates sat the written papers, five of whom fulfilled the criteria required to pass the written examination overall.

### MCQ paper

**Table 1**            **Content**

| Topic                     | 2012 | %  |
|---------------------------|------|----|
| Anatomy/embryology        | 24   | 20 |
| Genetics                  | 7    | 6  |
| Biochemistry/Cell biology | 8    | 7  |
| Optics                    | 24   | 20 |
| Pathology/microbiology    | 24*  | 20 |
| Pharmacology              | 10   | 8  |
| Physiology                | 16   | 13 |
| Statistics & epidemiology | 4    | 3  |
| Investigations            | 2    | 2  |
|                           | 119  |    |

\*1 question withdrawn



### MCQ paper statistics

|  |              |
|--|--------------|
| Mean score:                              | 74/119 (62%) |
| Median score:                            | 75/119 (63%) |
| Standard deviation:                      | 13.7 (11.5%) |
| Candidates:                              | 6            |
| KR20: (measurement of reliability)       | 0.9          |
| Standard error of measurement (SEM):     | 4.7          |
| Range of marks:                          | 51-92        |
| Pass mark derived from Standard Setting: | 58 (49%)     |
| Pass rate                                | 5/6 (83%)    |

**Table 2 Distribution of results**

| Range of scores | Distribution | Number |
|-----------------|--------------|--------|
| 51-60           | /            | 1      |
| 61-70           |              | 0      |
| 71-80           | ///          | 3      |
| 81-90           | /            | 1      |
| 91-100          | /            | 1      |
| Total           |              | 6      |

**Standard setting**

The pass mark for the paper was agreed using the Ebel method. The examiners agreed the distribution of the questions in each category:

**Table 3**

|               | Difficult | Moderate | Easy | Total |
|---------------|-----------|----------|------|-------|
| Essential     | 4         | 23       | 26   | 53    |
| Important     | 3         | 29       | 13   | 45    |
| Supplementary | 4         | 15       | 2    | 21    |
| Total         | 11        | 67       | 41   | 119   |

The Diploma Sub-Committee considered the success of a minimally competent candidate in each category as below:

**Table 4**

|               | Difficult | Moderate | Easy |
|---------------|-----------|----------|------|
| Essential     | 0.5       | 0.55     | 0.65 |
| Important     | 0.4       | 0.45     | 0.5  |
| Supplementary | 0.25      | 0.3      | 0.3  |

**Table 5 Weighted marks**

|               | Difficult | Moderate | Easy | Total |
|---------------|-----------|----------|------|-------|
| Essential     | 2         | 12.65    | 16.9 | 31.55 |
| Important     | 1.2       | 13.05    | 6.5  | 20.75 |
| Supplementary | 1         | 4.5      | 0.6  | 6.1   |
| Total         | 4.2       | 30.2     | 24   | 58.4  |

**The final pass mark = 58 (49%)**

## Summary of pass marks and pass rates for the September 2011 and 2012 MCQ papers

**Table 6**

|                     | September 2011 | September 2012 |
|---------------------|----------------|----------------|
| Candidates          | 7              | 6              |
| Mean score          | 64/119 (54%)   | 74/119 (62%)   |
| Median score        | 61/119 (51%)   | 75/119 (63%)   |
| Reliability (KR 20) | 0.6            | 0.9            |
| SEM                 | 5              | 5              |
| Standard setting    | Ebel           | Ebel           |
| Pass mark           | 58 (49%)       | 58 (49%)       |
| 33% discrimination  |                |                |
| Negative            | 21             | 15             |
| Poor                | 51             | 47             |
| Good                | 47             | 58             |
| Facility            |                |                |
| Difficult (<25%)    | 10             | 13             |
| Moderate            | 36             | 56             |
| Easy (>75%)         | 23             | 50             |
| Pass rate           | 86%            | 89%            |

### The CRQ paper

The CRQ paper covered the following areas:

**Table 7**

| Question | Subject            | Topic                | Sub-sections | Data provided                        |
|----------|--------------------|----------------------|--------------|--------------------------------------|
| 1        | Anatomy            | Cavernous sinus      | 3            | Diagram to label                     |
| 2        | Pathology          | Retinoblastoma       | 5            | Photograph of globe                  |
| 3        | Pathology          | Skin tumour          | 3            | Photograph of lid                    |
| 4        | Investigations     | OCT                  | 5            | OCT image                            |
| 5        | Investigations     | Visual field         | 4            | Humphrey field                       |
| 6        | Investigations     | MRI scan             | 4            | Clinical photograph and MRI scan     |
| 7        | Patient management | Giant cell arteritis | 4            | Clinical scenario                    |
| 8        | Investigations     | Orthoptics           | 5            | Hess chart                           |
| 9        | Optics             | Ophthalmoscope       | 4            | None                                 |
| 10       | Optics             | Refraction           | 4            | Photograph of Jackson cross cylinder |
| 11       | Optics             | Mirrors              | 3            | None                                 |
| 12       | Optics             | Maddox rod           | 3            | Photograph of Maddox rod             |

## Statistics

|  |           |
|--|-----------|
| Mean score:                              | 80/120    |
| Median score:                            | 82.5/120  |
| Standard deviation:                      | 12.6      |
| Range of scores:                         | 60 to 94  |
| Reliability: Cronbach alpha              | 0.9       |
| Standard error of measurement:           | 7         |
| Pass mark derived from Standard Setting: | 75/120    |
| Pass rate                                | 4/6 (67%) |

Two examiners mark each question. The mark awarded to a candidate for each question is the average awarded by the two examiners.

**Table 8 Correlation between examiners marks:**

|      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   |
| 0.95 | 0.64 | 0.77 | 0.48 | 0.44 | 0.81 | 0.32 | 0.70 | 0.92 | 0.97 | 0.96 | 0.78 |

**Table 9 Correlation between examiners global judgments:**

|      |   |      |      |      |      |   |      |      |     |      |      |
|------|---|------|------|------|------|---|------|------|-----|------|------|
| 1    | 2 | 3    | 4    | 5    | 6    | 7 | 8    | 9    | 10  | 11   | 12   |
| 0.88 | 1 | 0.32 | 0.71 | -0.2 | 0.63 | 0 | 0.46 | 0.71 | 0.5 | 0.76 | 0.66 |

**Table 10 Distribution of scores**

| Range of marks | Distribution | Number |
|----------------|--------------|--------|
| 51-60          | /            | 1      |
| 61-70          |              | 0      |
| 71-80          | //           | 2      |
| 81-90          | //           | 2      |
| 91-100         | /            | 1      |
| 101-110        |              | 0      |
| Total          |              | 6      |

One candidate's performance was extremely poor.

Candidate performance was variable for each question, with mean, median, minimum and maximum scores (with standard deviations) of:

**Table 11**

| Q  | Subject              | Mean | Median | SD  | Min | Max |
|----|----------------------|------|--------|-----|-----|-----|
| 1  | Cavernous sinus      | 8    | 9      | 2.7 | 3   | 10  |
| 2  | Retinoblastoma       | 8    | 8.25   | 1.0 | 6.5 | 9.5 |
| 3  | Skin tumour          | 8    | 7.75   | 1.1 | 7   | 9.5 |
| 4  | OCT                  | 7.6  | 7.75   | 0.9 | 6   | 8.5 |
| 5  | Visual field         | 6.4  | 6.5    | 0.7 | 5   | 7   |
| 6  | MRI scan             | 7.7  | 8.25   | 1.4 | 5.5 | 9   |
| 7  | Giant cell arteritis | 7.3  | 7.5    | 0.4 | 6.5 | 7.5 |
| 8  | Orthoptics           | 7.8  | 8      | 1.8 | 5   | 9.5 |
| 9  | Ophthalmoscope       | 4.3  | 3.5    | 2.1 | 2.5 | 7.5 |
| 10 | Refraction           | 4.75 | 5.75   | 2.6 | 1   | 7   |
| 11 | Mirrors              | 6    | 6.5    | 2.1 | 3.5 | 9   |
| 12 | Maddox rod           | 3.9  | 4.25   | 3.0 | 0   | 7.5 |

Candidates generally performed badly with the optics questions (9, 10, 12)

### Summary of statistics

**Table 12**

|                      | 2011      | 2012       |
|----------------------|-----------|------------|
| Mean score           | 68 (57%)  | 80 (67%)   |
| Median score         | 74 (62%)  | 82.5 (69%) |
| Standard deviation   | 18 (15%)  | 12.6 (11%) |
| Reliability          | 0.9       | 0.9        |
| SEM                  | 5         | 7          |
| Pass mark            | 66 (55%)  | 75 (63%)   |
| Pass rate            | 6/7 (86%) | 4/6 (67%)  |
| Correlation with MCQ | 0.45      | 0.83       |

### Standard setting

The borderline candidate method was used to identify the pass mark for the CRQ. The examiners who marked the CRQ paper were asked to allocate a mark according to the marking scheme provided and, in addition, class the candidate's performance as a pass, fail or borderline. The sum of each median borderline mark was used to produce the pass mark:

**Table 13**

|    | Topic              | Examiners A |            |          |               | Examiners B |            |          |               |
|----|--------------------|-------------|------------|----------|---------------|-------------|------------|----------|---------------|
|    |                    | No. Fail    | No. Border | No. Pass | Median Border | No. Fail    | No. Border | No. Pass | Median Border |
| 1  | Anatomy            | 1           | 1          | 4        | 7             | 1           | 0          | 5        | 7.5           |
| 2  | Pathology          | 0           | 1          | 5        | 5             | 0           | 0          | 6        | 8             |
| 3  | Pathology          | 0           | 2          | 4        | 7             | 0           | 1          | 5        | 6             |
| 4  | Investigations     | 0           | 2          | 4        | 6.5           | 0           | 3          | 3        | 6             |
| 5  | Investigations     | 0           | 5          | 1        | 6             | 0           | 5          | 1        | 6.5           |
| 6  | Investigations     | 1           | 0          | 5        | 6             | 0           | 2          | 4        | 6             |
| 7  | Patient management | 0           | 4          | 2        | 7             | 0           | 3          | 3        | 7             |
| 8  | Investigations     | 1           | 1          | 4        | 6             | 0           | 2          | 4        | 5.5           |
| 9  | Optics             | 4           | 1          | 1        | 7             | 4           | 1          | 1        | 6             |
| 10 | Optics             | 4           | 0          | 2        | 7             | 2           | 4          | 0        | 6             |
| 11 | Optics             | 1           | 2          | 3        | 5.5           | 2           | 3          | 1        | 6             |
| 12 | Optics             | 3           | 1          | 2        | 5             | 2           | 4          | 0        | 4.5           |
|    |                    |             |            |          |               |             |            |          |               |

Pass mark = 75/120 (63%)

### Overall Results for the Written Papers

Candidates are allowed a degree of cross compensation between the MCQ and CRQ papers. A marginal fail in one written paper can be compensated by an exceptional performance in the oral part of the examination.

The pass marks for both papers are combined to produce a combined pass mark for the written part of the examination of 133/239 (56%)

Candidates are expected to obtain at least the pass mark minus 1 SEM in each paper. The minimum mark required in each paper was 53/119 in the MCQ paper and 68/120 in the CRQ paper.

Five candidates gained marks that met both standards above and therefore passed the written examination overall.

**Table 14 Distribution of scores**

| Range of marks | Distribution | Number |
|----------------|--------------|--------|
| 111-120        | /            | 1      |
| 121-130        |              |        |
| 131-140        |              |        |
| 141-150        | //           | 2      |
| 151-160        |              |        |
| 161-170        | /            | 1      |
| 171-180        | //           | 2      |
| Total          |              | 6      |

Mean 154.5 (65%)  
 Median 156.5 (65%)  
 Minimum 111 (46%)  
 Maximum 180 (75%)

The oral parts of the DRCOphth examination were held on 18 and 19 September 2012.

### **Candidates**

18 candidates sat the clinical examination. 12 candidates had gained exemption from the written papers having passed the Part 1 FRCOphth, Part 2 MRCOphth or Part 2 MRCSEd examinations.

### **The Structured Vivas**

There were five structured vivas, which were held on 18 September 2012 at the Royal College of Ophthalmologists. The communication skills OSCE station was conducted as one of the viva stations, making six stations in all. Each viva lasted 5 minutes. The stations were:

- Station 1.** Patient investigations and data interpretation  
Round 1: Anterior Uveitis  
Round 2: Amsler
  
- Station 2.** Patient management 1  
Round 1: Ocular hypertension  
Round 2: Corneal ulcer
  
- Station 3.** Patient management 2  
Round 1: Orbital cellulitis  
Round 2: Swollen discs
  
- Station 4.** Ethics and evidence based medicine  
Round 1: AMD  
Round 2: Consent in Dementia with BCC
  
- Station 5.** Public Health  
Round 1: Screening  
Round 2: Screening

The examination was conducted in four rounds.

Each station began with a clinical scenario, and subsequent discussion was based upon, but not limited to, the clinical diagnosis suggested by the scenario.

### **Statistics**

|   |       |
|---|-------|
| Maximum mark (5 stations, 10 examiners, 6 marks per station): | 60    |
| Pass mark (using borderline candidate method):                | 33    |
| Mean score:   | 47    |
| Median score:   | 47    |
| Range:  | 26-57 |
| Reliability: (Cronbach alpha)                                 | 0.8   |
| SEM:  | 3     |
| Adjusted pass mark (+ 1 SEM)                                  | 36    |



**Table 15 Distribution of results**

| Range of scores | Distribution | Number |
|-----------------|--------------|--------|
| 21-25           |              | 0      |
| 26-30           | /            | 1      |
| 31-36           |              | 0      |
| 36-40           |              | 0      |
| 41-45           | ////         | 4      |
| 46-50           | ///// //     | 7      |
| 51-55           | ////         | 4      |
| 56-60           | //           | 2      |
| Total           |              | 18     |

**Table 16 Results for each station**

| Station |                        | Mean score | Median score | Range |
|---------|------------------------|------------|--------------|-------|
| 1       | Patient Investigations | 10.6       | 11           | 4-12  |
| 2       | Patient Management 1   | 8.8        | 9.5          | 3-12  |
| 3       | Patient Management 2   | 10.6       | 11           | 7-12  |
| 4       | Ethics and EBM         | 8.6        | 8            | 6-12  |
| 5       | Public Health          | 8.5        | 9.5          | 2-12  |

Candidates performed best in the PI and PM2 stations. The Ethics and EBM station was the most challenging. The range of marks in each station was wide (particularly PM1 and Public Health), but one candidate's performance was very poor.

**Table 17 Correlation between examiner's marks at each station:**

| <i>Station 1</i> | <i>Station 2</i> | <i>Station 3</i> | <i>Station 4</i> | <i>Station 5</i>     |
|------------------|------------------|------------------|------------------|----------------------|
| <i>PI</i>        | <i>PM1</i>       | <i>PM2</i>       | <i>AER/EBM</i>   | <i>Public health</i> |
| 0.74             | 0.81             | 0.65             | 0.58             | 0.92                 |

**Table 18 Correlation between examiner's global judgements at each station:**

| <i>Station 1</i> | <i>Station 2</i> | <i>Station 3</i> | <i>Station 4</i> | <i>Station 5</i>     |
|------------------|------------------|------------------|------------------|----------------------|
| <i>PI</i>        | <i>PM1</i>       | <i>PM2</i>       | <i>AER/EBM</i>   | <i>Public health</i> |
| 0.69             | 0.49             | 0.76             | 0.69             | 0.88                 |

Examiner global judgements were appropriately similar for all stations with the exception of PM1.

**Table 19 Correlation between viva stations:**

|                  |         | <i>Station 2</i> | <i>Station 3</i> | <i>Station 4</i> | <i>Station 5</i>     |
|------------------|---------|------------------|------------------|------------------|----------------------|
|                  |         | <i>PM1</i>       | <i>PM2</i>       | <i>AER/EBM</i>   | <i>Public health</i> |
| <i>Station 1</i> | PI      | 0.40             | 0.63             | 0.04             | 0.51                 |
| <i>Station 2</i> | PM1     |                  | 0.20             | -0.06            | -0.06                |
| <i>Station 3</i> | PM2     |                  |                  | -0.14            | 0.47                 |
| <i>Station 4</i> | AER/EBM |                  |                  |                  | -0.14                |

Station 4 (Ethics and EBM) was poorly correlated with all the other stations. The PI and PM stations shared moderate to good correlation. Station 5 had very mixed correlation with the other stations (good with PI and PM2, poor with PM1 and Ethics and EBM)

**Table 20 Standard setting for the structured vivas:**

|                                  | 1 |   | 2 |     | 3 |   | 4 |     | 5 |   | Total |
|----------------------------------|---|---|---|-----|---|---|---|-----|---|---|-------|
| Number of borderline candidates  | 2 | 0 | 4 | 4   | 4 | 6 | 1 | 2   | 3 | 3 |       |
| Median borderline candidate mark | 3 | 3 | 3 | 3.5 | 4 | 5 | 3 | 3.5 | 3 | 2 | 33    |

The pass mark for the structured viva was increased by 1 SEM to 36/60 (55%)

### The OSCE

There were seven OSCE stations in all. The six clinical stations were held on 19 September 2012 at the Royal Free Hospital, London. The communication OSCE was conducted with the vivas. There were four rotations. Stations 1-6 last 10 minutes, Station 7 lasts 5 minutes.

Station 1: Posterior Segment 1

Station 2: Anterior Segment

Station 3: Strabismus and Neuro-Ophthalmology

Station 4: Posterior Segment 2

Station 5: Pupils and Visual Fields

Station 6: External Eye

Station 7: Communication Skills (takes place logistically with Structured Viva)

Patients with the following conditions made themselves available for the examination:

#### Posterior Segment 1 & 2

Normal tension glaucoma, dry AMD, VAR 6/24 VAL 6/12

Bilateral chronic open angle glaucoma. Bilateral trabeculectomies.

Primary Biliary cirrhosis/autoimmune hepatitis.

Diabetic retinopathy, bilateral panretinal photocoagulation

Bilateral drusen

Supero-temporal BRVO

Left haemorrhage inferior to disc and macula. Bilateral pseudophakia.

Retinitis pigmentosa

Bilateral cataracts, right myelinated nerve fibres, left subretinal choroidal neovascular membrane

Left central retinal vein occlusion

Bilateral treated stable proliferative diabetic retinopathy

Tubes for end stage glaucoma, bilateral proliferative diabetic retinopathy

#### Anterior Segment

Left acute iritis, high IOP, previous PI. Right pseudophakia, PS.

Euthyroid multinodular goitre, old penetrating injury, corneal decompensation, trabeculectomy

Right penetrating eye injury, corneal sutures

Sarcoidosis, bilateral anterior uveitis with mutton fat KP

### Strabismus and Neuro-Ophthalmology

Ocular Myopathy; facial weakness and eyelid weakness, ptosis and cataracts.

Right amblyopia, right eccentric fixation, large R/L in all positions of gaze

Right 7<sup>th</sup> nerve palsy

Ophthalmoplegia due to myasthenia

### Pupils and Visual Fields

Bilateral optic neuropathy from active thyroid eye disease, increased IOP

Bilateral congenital cataract, left aphakia, VAR 6/12

High myopia, right convergent squint, botox to medial rectus, glaucoma, small visual field, extensive myopic degeneration and cupped discs.

### External Eye

Left corneal decompensation, left acute glaucoma, cataract left eye extraction, hypermetropia

Right 7<sup>th</sup> nerve palsy, multiple operations

Punctal stenosis, epiphora for 6 months

### Statistics

Candidates examine two patients in stations 1-6 and each patient is worth a maximum of 12 marks (2 examiners x 3 marks x 2 criteria). One patient is examined in station 7 (communication skills) and is worth a maximum of 18 points.

Pass mark (using borderline candidate method): 86/162

Mean score: 106

Median score: 113

Range: 69-137

Reliability (Cronbach alpha): 0.8

SEM: 9

Adjusted pass mark (+1 SEM) 95/162

**Table 21 Distribution of results**

| Range of scores | Distribution | Number |
|-----------------|--------------|--------|
| 61-70           | //           | 2      |
| 71-80           | //           | 2      |
| 81-90           | /            | 1      |
| 91-100          | /            | 1      |
| 101-110         | //           | 2      |
| 111-120         | /////        | 5      |
| 121-130         | ///          | 3      |
| 131-140         | //           | 2      |
| 141-150         |              | 0      |
| Total           |              | 18     |

**Table 22 Station marks**

| Station |                                    | Maximum possible | Mean | Median | Min | Max |
|---------|------------------------------------|------------------|------|--------|-----|-----|
| 1       | Posterior segment 1                | 24               | 12.3 | 12.5   | 0   | 22  |
| 2       | Anterior segment                   | 24               | 16.2 | 17.5   | 4   | 24  |
| 3       | Strabismus and Neuro-ophthalmology | 24               | 14.4 | 17     | 3   | 24  |
| 4       | Posterior segment 2                | 24               | 15   | 14     | 8   | 24  |
| 5       | Pupils and visual fields           | 24               | 17.3 | 17.5   | 4   | 24  |
| 6       | External eye                       | 24               | 13.6 | 13.5   | 8   | 18  |
| 7       | Communication                      | 18               | 13.6 | 13.5   | 8   | 18  |

**Table 23 Correlation between examiner's marks at each station**

| Station 1         | Station 2        | Station 3        | Station 4         | Station 5     | Station 6 | Station 7 |
|-------------------|------------------|------------------|-------------------|---------------|-----------|-----------|
| Posterior segment | Anterior segment | Strabismus neuro | Posterior segment | Pupils fields | External  | Comms     |
| 0.88              | 0.84             | 0.76             | 0.87              | 0.78          | 0.74      | 0.71      |

**Table 24 Correlation between examiner's global judgements at each station**

| Station 1         | Station 2        | Station 3        | Station 4         | Station 5     | Station 6 | Station 7 |
|-------------------|------------------|------------------|-------------------|---------------|-----------|-----------|
| Posterior segment | Anterior segment | Strabismus neuro | Posterior segment | Pupils fields | External  | Comms     |
| 0.87              | 0.90             | 0.63             | 0.95              | 0.81          | 0.69      | 0.62      |

There was close agreement between examiners marks in each station.

**Table 25 Correlation between station scores (combined marks 2 examiners)**

|           |                   | Station 2        | Station 3        | Station 4         | Station 5     | Station 6 | Station 7 |
|-----------|-------------------|------------------|------------------|-------------------|---------------|-----------|-----------|
|           |                   | Anterior segment | Strabismus neuro | Posterior segment | Pupils fields | External  | Comms     |
| Station 1 | Posterior segment | 0.35             | 0.49             | 0.46              | 0.00          | 0.30      | 0.39      |
| Station 2 | Anterior segment  |                  | 0.53             | 0.39              | -0.32         | 0.27      | 0.13      |
| Station 3 | Strabismus neuro  |                  |                  | 0.64              | -0.36         | 0.54      | 0.39      |
| Station 4 | Posterior segment |                  |                  |                   | -0.16         | 0.47      | 0.40      |
| Station 5 | Pupils fields     |                  |                  |                   |               | 0.20      | -0.28     |
| Station 6 | External          |                  |                  |                   |               |           | 0.31      |

There was good correlation between all stations apart from station 5 (pupils and visual fields), which had poor correlation with all other stations.

**Table 26 Standard setting for the OSCE**

| Station                           | 1 |   | 2 |   | 3   |   | 4 |   | 5   |   | 6 |   | 7 |   | Total |
|-----------------------------------|---|---|---|---|-----|---|---|---|-----|---|---|---|---|---|-------|
| No. of borderline candidates      | 5 | 7 | 3 | 2 | 6   | 5 | 7 | 6 | 6   | 5 | 4 | 3 | 3 | 3 |       |
| Median borderline candidate score | 7 | 6 | 6 | 7 | 5.5 | 4 | 7 | 6 | 6.5 | 8 | 7 | 6 | 5 | 5 | 86    |

The pass mark for the OSCE was increased by 1 SEM from 86/162 to 95/162.

### Overall results for the oral examination

|           |                  |
|-----------|------------------|
| Pass mark | 131/224 (58%)    |
| Mean      | 154 (69%)        |
| Median    | 159.5 (71%)      |
| Range     | 95-184 (42%-82%) |

To pass the oral examination candidates must achieve 131 overall, 36 in the viva and 95 in the OSCE)

|                                      |             |
|--------------------------------------|-------------|
| Pass rate for the oral examination   | 13/18 (72%) |
| Pass rate for the entire examination | 12/18 (67%) |

**Table 27 Distribution of scores**

| Score    | Distribution | Total |
|----------|--------------|-------|
| 91-95    | /            | 1     |
| 96-100   |              |       |
| 101-105  |              |       |
| 106-110  | /            | 1     |
| 111-115  |              |       |
| 116-120  | /            | 1     |
| 121-125  | /            | 1     |
| 126-130  |              |       |
| 131-135  |              |       |
| 136-140* | /            | 1     |
| 141-145  | /            | 1     |
| 146-150  | /            | 1     |
| 151-155  |              |       |
| 156-160  | ///          | 3     |
| 161-165  |              |       |
| 166-170  | //           | 2     |
| 171-175  |              |       |
| 176-180  | ////         | 4     |
| 181-185  | //           | 2     |
| 186-190  |              |       |
| Total    |              |       |

\*one candidate achieved a combined oral total on 136 but failed the oral examination as they failed the OSCE, which must be passed, by 7 marks.

## Final results

To be awarded the Diploma of the Royal College of Ophthalmologists (DRCOphth) candidates are expected to:

1. Achieve a total mark from all 4 parts of the examination (MCQ, CRQ, viva and OSCE) that equals or exceeds the sum of the pass marks for each examination, AND
2. Achieve a mark in each of the written parts of the examination that equals or exceeds the pass mark minus 1 SEM, AND
3. Achieve a mark in the viva that equals or exceeds the pass mark agreed by the BCM standard setting
4. Achieve a mark in the OSCE that equals or exceeds the pass mark plus 1 SEM.

A degree of cross-compensation is therefore allowed between the 4 parts of the examination, with the exception of the OSCE, which must be passed outright.

12 candidates met all 4 standards and passed the examination (8 were exempted from the written papers having passed the Part 1 FRCOphth examination or accepted equivalent). One candidate passed the oral examination but failed the written papers.

**Table 28 Correlation between scores in each part of examination:**

|      | CRQ*  | VIVA  | OSCE   |
|------|-------|-------|--------|
| MCQ* | 0.83* | 0.11* | -0.41* |
| CRQ* |       | 0.33* | -0.30* |
| VIVA |       |       | 0.70   |

(\*Correlation between written and oral papers based upon the results from only 6 candidates)

**\*Correlation between written and oral examinations = -0.20**

## Breakdown of Clinical Examination

**Table 29 Breakdown of clinical examination results by training**

|            | Failed | Passed | Total |
|------------|--------|--------|-------|
| In OST     | 1      | 3      | 4     |
| Not in OST | 5      | 9      | 14    |
| Total      | 6      | 12     | 18    |

These differences are not statistically significant (p=1)

**Table 30 Breakdown of clinical examination results by gender**

|        | Failed | Passed | Total |
|--------|--------|--------|-------|
| Female | 3      | 7      | 10    |
| Male   | 3      | 5      | 8     |
| Total  | 6      | 12     | 18    |

These differences are not statistically significant (p=1)

**Table 31 Breakdown of clinical examination results by country of qualification**

|   | Failed   | Passed    | Total     |
|---|----------|-----------|-----------|
| UK                                      | 0        | 4         | 4         |
| Outside UK<br>(Inc Republic of Ireland) | 6        | 8         | 14        |
| <b>Total</b>                            | <b>6</b> | <b>12</b> | <b>18</b> |

These differences are not statistically significant (p=0.25)

**Table 32 Breakdown of clinical examination results by stated ethnicity**

|              | Failed   | Passed    | Total     |
|--------------|----------|-----------|-----------|
| White        | 1        | 5         | 6         |
| Non white    | 5        | 7         | 12        |
| <b>Total</b> | <b>6</b> | <b>12</b> | <b>18</b> |

These differences are not statistically significant for white/non-white (p=0.6)

**Table 33 Summary of examination statistics**

| Date              | Sept 2011      | Sept 2012      |
|-------------------|----------------|----------------|
| Candidates        | 20 (7 written) | 18 (6 written) |
| MCQ pass mark     | 58             | 58             |
| Reliability       | 0.6            | 0.9            |
| CRQ pass mark     | 66             | 75             |
| Reliability       | 0.9            | 0.9            |
| Viva pass mark    | 36             | 36             |
| Reliability       | 0.7            | 0.8            |
| OSCE pass mark    | 89             | 95             |
| Reliability       | 0.9            | 0.8            |
| Written pass rate | 6/7            | 5/6            |
| Oral pass rate    | 17/20          | 13/18          |
| Overall pass rate | 15/20 (75%)    | 12/18 (67%)    |

## Summary

The Diploma examination is developing into a useful assessment of knowledge and skills for ophthalmologists who are in supervised practice. The number of candidates remains small, which makes analysis of the results less reliable than the other examinations that the College offers, but some cautious conclusions can be drawn.

The majority of candidates are not in specialist training posts, although four candidates presented themselves for the examination (three of whom were successful). Similarly, most of the candidates graduated overseas. It is likely that three types of candidates will use the examination in future:

- Ophthalmologists who want a qualification but are unlikely to obtain the experience required to pass the FRCOphth examination
- Medical Ophthalmologists in training who wish to obtain the MRCOphth
- Trainees who would like to gain experience of a clinical examination in preparation for the Part 2 FRCOphth examination.

The variation in experience, learning needs and motivation of candidates will be a challenge for examiners, especially with standard setting.

The reliability of the written papers is acceptable in spite of the small numbers. 12 of the candidates were granted exemption from the written papers. There is no statistically significant difference between those who sat the written papers and those who were exempted in their performance in the oral papers.

The pass mark for the MCQ paper was quite low (49%) and there was a very high pass rate. However increasing the pass mark to 55% would have no made difference to this pass rate. Candidates performance was much improved compared to the 2011 examination with a mean mark of 62% (compared to 54% in 2011). The quality of the questions showed an improvement, which reflects the effort and hard work by the Diploma Sub-Committee. The pass mark for the CRQ paper was significantly higher than 2011, but this had no impact upon the pass rate. The pass rate for the written papers was very high. This should not cause concern unless the pass rate in the oral parts of the examination diminishes. At present it is not possible to predict the performance in the oral examination based upon the written results.

The structured viva was a reliable part of the examination. One candidate performed particularly badly. Unsurprisingly there was a much greater variation in candidate performance in the OSCE. Station 5 (pupils and fields), which was the easiest station, had negative correlation with the other stations. The OSCE was a reliable assessment of candidate performance. Candidate marks for both parts of the oral examination were widely distributed, with a strong negative skew. The pass rate was slightly lower than the 2011 examination.

It is not possible to draw any conclusions from the correlation between the different parts of the examination, as there were so few candidates. There was a good correlation (0.7) between the two parts of the oral examination.

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