

Examination Report

December 2013 Refraction Certificate Examination



The ROYAL COLLEGE of
OPHTHALMOLOGISTS

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1 Introduction

The twelfth Refraction Certificate examination in the format was held in London from 16 to 18 December 2013. 75 candidates presented themselves for the examination. The examination consisted of a 12 station OSCE covering a range of skills required to assess visual acuity, refractive error and the prescription of spectacles.

Examination blueprint

The Refraction Certificate (RCert) is designed to assess the following learning outcomes from the Royal College of Ophthalmologists curriculum for ophthalmic specialist training (OST):

CA2	Vision
CA7	Motility
PM1	Management plan
PM14	Spectacles
PS2	Refraction
PS21	Hand hygiene
C1	Rapport
C2	Communication
C12	Records
BCS6	Optics
BCS14	Instrument technology
AER16	Time management

Examination Structure

The examination consists of 12 OSCE stations. Each station contributes a possible 15 marks to the overall total. The stations for the December 2013 examination were:

1. Cycloplegic Retinoscopy (CR1)
2. Cycloplegic Retinoscopy (CR2)
3. Subjective Refraction Cylinder (SRC)
4. Cycloplegic Retinoscopy (CR3)
5. Cycloplegic Retinoscopy (CR4)
6. Lens Neutralisation (LN)
7. Non Cycloplegic Retinoscopy (NCR1)
8. Non Cycloplegic Retinoscopy (NCR2)
9. Visual acuity and IPD measurement (VA)
10. Subjective Refraction Sphere (SRS)
11. Binocular balance (BB)
- 12. Near Addition (NA)**

2 Summary and recommendations

This is the fourth sitting of the Refraction Certificate with 12 OSCE stations.

The pass rate in OST was high which suggests that trainees are learning how to perform retinoscopy in preparation for the examination. A small number of candidates performed very badly.

Candidate performance was best in two of the cycloplegic retinoscopy stations (CR1 and CR2). Performance was poor in the other two cycloplegic retinoscopy stations (CR3 and CR4).

Stations CR3 and binocular balance were the most highly discriminating between poor and well performing candidates in the examination overall. The near add, CR1 and VA/IPD were the poorest discriminating stations.

Candidates who were in training, qualified in the UK and had English as first language were more likely to pass the examination.

3 Standard setting

Candidates must be able to accurately assess visual acuity, measure refractive error and recommend an appropriate spectacle correction to pass the RCert. The pass mark was identified using two different methods:

Borderline candidate method (BCM)

Examiners marked the station they were supervising according to the marking guidance provided. In addition they were asked to rate the candidates overall performance as a pass, a fail or borderline. The median mark allocated to the borderline candidates then becomes the pass mark for that station. The sum of the borderline marks for each station is the examination pass mark.

Hofstee method (see appendix 1 for details)

In advance of the examination, members of the College's Examinations Committee were asked to nominate the values for the following:

1. The maximum credible pass mark for the examination
2. The maximum credible pass rate for the examination
3. The minimum credible pass mark for the examination
4. The minimum credible pass rate for the examination

The cumulative fail rate as a function of the pass mark and the co-ordinates derived from the four values above were plotted on a graph. The point where a line joining the two co-ordinates intersects the cumulative function curve is used to identify the pass mark. The Hofstee pass mark used to compare the difficulty of successive examinations.

4. Results (table 1)

Number of candidates	75
Maximum possible mark	180 (12 x 15)
Mean candidate mark	131.4 (73%)
Median candidate mark	134 (74%)
Standard deviation	20 (11%)
Highest candidate mark	162 (90%)
Lowest candidate mark	20 (11%)
Range of marks	142
Reliability	0.74
Standard error of measurement (SEM)	10 (5.5%)
BCM pass mark	119 (66%)
Hofstee pass mark	131 (73%)
Pass mark used (BCM + 1 SEM)	129 (72%)
Pass rate	50/75 (67%)
Pass rate in OST	37/49 (76%)
Pass rate if Hofstee mark had been used	44/75 (59%)

Distribution of marks (table 2)

Score	Distribution	Total
<80	/	1
81-85		0
86-90	//	2
91-95		0
96-100	/	1
101-105	/	1
106-110	/	1
111-115	//	2
116-120	//// ///	8
121-125	//// //	7
126-130	/// //	8
131-135	//// ////	10
136-140	//// //	7
141-145	//// //// /	11
146-150	//// ///	8
151-155	////	4
156-160	///	3
161-165	/	1
166-170		0
Total		75

/ Candidate failed / candidate passed

Statistics for each station (table 3)

		Mean	Mean %	Median	Median %	Standard deviation	Minimum	Maximum
1	CR1	13.9	92	15	100	2	8	15
2	CR2	13.9	93	15	100	2.3	1	15
3	SRC	11.2	75	13	87	4	0	15
4	CR3	8.9	59	9	60	4	1	15
5	CR4	7.7	52	7	47	3.5	0	15
6	LN	9.7	65	10	67	3.4	0	15
7	NCR1	11.7	78	13	87	3.5	4	15
8	NCR2	11.1	74	13	87	4.1	0	15
9	VA	13.5	90	14	11	1.9	3	15
10	SRS	10.6	71	11	73	3.2	1	15
11	BB	8.6	57	9	60	3.7	0	15
12	NA	10.5	70	11	73	3	0	15

The relative weights for each skill in refraction (based upon the number of stations is:

Clinical skill	Number of stations	Contribution to total marks
Retinoscopy	6	50%
Subjective	3	25%
Other	3	25%

Correlation between stations (table 4)

	CR1	CR2	SRC	CR3	CR4	LN	NCR1	NCR2	VA	SRS	BB
CR1	1										
CR2	0.63	1									
SRC	0.01	0.1	1								
CR3	0.17	0.4	-0.1	1							
CR4	0.3	0.3	-0.1	0.61	1						
LN	0.04	0.2	0.23	0.18	0.06	1					
NCR1	-0.1	0.1	0.46	-0	-0.1	0.2	1				
NCR2	-0.1	0.1	0.32	0	-0.1	0.4	0.48	1			
VA	0.12	0.4	0.26	0.08	0.15	0.3	0.31	0.32	1		
SRS	0.1	0.2	0.45	0.02	0.04	0.4	0.41	0.31	0.2	1	
BB	0.2	0.3	0.25	0.06	0.12	0.3	0.32	0.16	0.2	0.8	1
NA	-0.1	0.2	0.23	-0	-0	0.2	0.27	0.23	0.4	0.3	0.2

Median correlation between the cycloplegic refraction stations = 0.35

Correlation between non-cycloplegic refraction stations = 0.48

Best correlation between SRS and BB (0.79) CR1 and CR2 (0.63)

Poorest correlation between CR4 and NCR2 (-0.13) and NCR1 (-0.11)

Correlation between each station and the total score (table 5)

CR1	CR2	SRC	CR3	CR4	LN	NCR1	NCR2	VA	SRS	BB	NA
0.3	0.6	0.6	0.4	0.4	0.6	0.57	0.55	0.5	0.7	0.6	0.5

Item discrimination and facility

33% item discrimination has a value between -1.00 and +1.00. If the candidates who score well in the examination overall score well in the station, the item discrimination index will be close to +1.00. If the candidates who score poorly in the examination overall score well in the station, the item discrimination index will be close to -1.00. Ideally the station item discrimination value should be greater than 0.400. The facility of each station estimates how easy the candidates found the task to complete.

Utility of each question (Table 6) - Pass or fail on marks for each station

	Station	33% item discrimination	Item facility
1.	Cycloplegic Retinoscopy (CR1)	0.12	63
2.	Cycloplegic Retinoscopy (CR2)	0.24	84
3.	Subjective Refraction Cylinder (SRC)	0.4	81
4.	Cycloplegic Retinoscopy (CR3)	0.44	67
5.	Cycloplegic Retinoscopy (CR4)	0.4	72
6.	Lens Neutralisation (LN)	0.4	72
7.	Non Cycloplegic Retinoscopy (NCR1)	0.4	60
8.	Non Cycloplegic Retinoscopy (NCR2)	0.4	69
9.	Visual acuity and IPD measurement (VA)	0.16	89
10.	Subjective Refraction Sphere (SRS)	0.4	79
11.	Binocular balance (BB)	0.48	77
12.	Near Addition (NA)	0.12	77

Standard setting and global judgments for each station (table 7)

		Pass	Borderline	Fail	% Pass	BCM mark*	%
1	CR1	62	11	2	83	15	100
2	CR2	60	13	2	80	14	93
3	SRC	52	14	9	69	8	53
4	CR3	41	26	8	55	7	47
5	CR4	34	33	8	45	6	40
6	LN	43	24	8	57	8	53
7	NCR1	32	37	6	43	12	80
8	NCR2	27	39	9	36	11	73
9	VA	62	10	3	83	13	87
10	SRS	54	13	8	72	9	60
11	BB	46	15	14	61	7	47
12	NA	43	19	13	57	9	60

*BCM mark = median mark for borderline candidates for each station.

5. Breakdown of results

Breakdown of results by training (table 8)

	Failed	Passed	Total
In OST	12	37	49
Not in OST	13	13	26
Total	25	50	75

These differences are statistically significant ($p = 0.039$)

Breakdown of results by deanery (table 9)

Deanery	Failed	Passed	Total
East Midlands	1	3	4
East of England	2	1	3
East of Scotland	0	0	0
KSS	0	3	3
London	4	7	11
Mersey	1	1	2
North Scotland	0	2	2
North West	0	1	1
Northern	0	4	4
Northern Ireland	0	1	1
Oxford	0	2	2
Peninsula	0	2	3
Severn	1	1	2
South East Scotland	1	1	2
Wales	0	3	3
Wessex	0	4	4
West Scotland	1	0	1
West Midlands	0	0	0
Yorkshire	1	1	1
Total			49

Breakdown of results by stage of training (table 10)

Stage (includes FTSTA)	Failed	Passed	Total
ST1	0	0	0
ST2	1	12	13
ST3	9	23	32
ST4	0	0	0
Total*	10	35	45

*Level at examination unknown for 4 candidates

Breakdown of results by gender (table 11)

	Failed	Passed	Total
Female	11	14	25
Male	22	28	50
Total*	33	42	75

These differences are not statistically significant ($p = 1$)

Breakdown of results by country of qualification (table 12)

	Failed	Passed	Total
UK	7	32	39
Outside UK	18	18	36
Total	25	50	75

Breakdown of results by first language (table 13)

	Failed	Passed	Total
English	8	34	42
Not English	15	15	30
Total*	23	49	72

*Unknown for 3 candidates

These differences are statistically significant ($p = 0.009$)

Breakdown of results by stated ethnicity (table 14)

	Failed	Passed	Total
Non-white	16	27	43
White	7	18	25
Total*	23	45	68

*Unknown for 7 candidates

These differences are not statistically significant ($p = 0.60$)

Breakdown of results by number of previous attempts (table 15)

Attempts	Failed	Passed	Total
1 (First)	16	41	55
2	5	7	12
3	0	1	1
4	3	1	4
5	1	0	1
Any resit	9	9	18
Total	25	50	75

6 Comparison to previous examinations (table 16)

Date	Candidates	Pass mark	Pass rate	Pass rate in OST	% Candidates in OST	Reliability	SEM	Hofstee pass mark
Mar-10	43	69%	47%	58%	67%	0.6	9 (9%)	68%
Jul-10	47	75%	53%	60%	70%	0.6	8 (8%)	72%
Nov-10	53	74%	42%	44%	68%	0.6	7 (7%)	71%
Apr-11	57	71%	35%	47%	63%	0.6	6 (6%)	67%
Jul-11	41	67%	66%	72%	71%	0.4	6 (6%)	71%
Nov-11	69	65%	71%	75%	70%	0.6	8 (8%)	68%
Mar-12	54	73%	54%	66%	57%	0.6	8 (8%)	72%
Jul-12	44	71%	59%	67%	64%	0.5	9 (9%)	71%
Dec-12	71	69%	75%	77%	55%	0.6	11(6%)	72%
Apr-13	64	74%	61%	64%	64%	0.8	11(6%)	74%
Jul-13	42	72%	74%	90%	48%	0.7	10(6%)	74%
Dec-13	75	72%	67%	76%	65%	0.7	10(6%)	71%

Performance of candidate by deanery for all examinations to date, where deanery is known (table 17)

Deanery	Total passes	Total candidates	Pass rate %
East of Scotland	6	7	86
KSS	6	7	86
North Scotland	5	6	83
Oxford	5	6	83
East Midlands	15	20	75
London	77	105	73
Northern	12	17	71
Mersey	13	19	68
North West	14	21	67
South Scotland	6	9	67
West Midlands	26	39	67
Wessex	9	14	64
Yorkshire	22	35	63
Wales	11	18	61
Northern Ireland	6	10	60
East of England	13	22	59
West Scotland	5	9	56
Severn	6	12	50
Peninsula	7	19	37
TOTAL	264	395	67

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Appendix 1 Hofstee method for standard setting

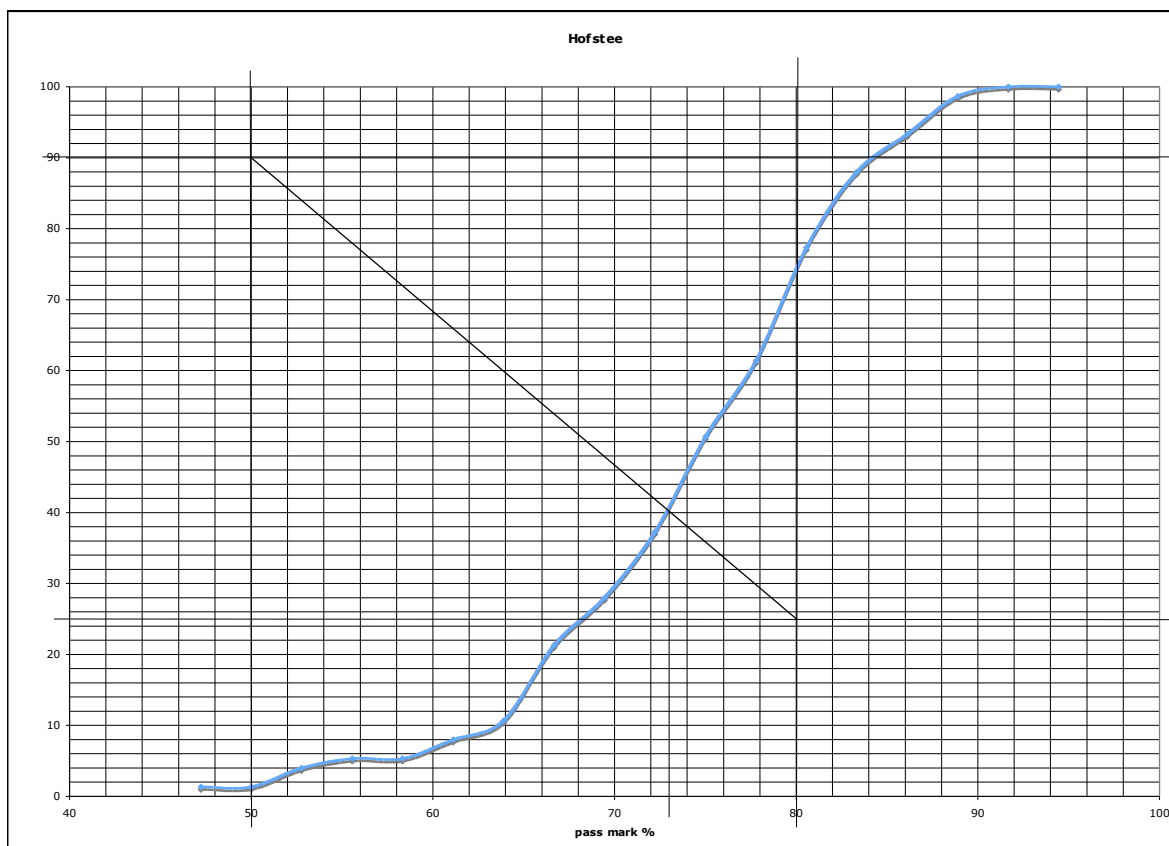
Hofstee method

In advance of the examination, members of the College's Examinations Committee were asked to nominate the values for the following:

1. The maximum credible pass mark for the examination 144/180 (80%)
2. The maximum credible pass rate for the examination (75%)
3. The minimum credible pass mark for the examination 90/180 (50%)
4. The minimum credible pass rate for the examination (10%)

The cumulative fail rate as a function of the pass mark and the co-ordinates derived from the four values above were plotted on a graph. The point where a line joining the two co-ordinates intersects the cumulative function curve is used to identify the pass mark.

The Hofstee pas mark for this examination was 131/180 (73%), which is slightly higher than the BCM + 1 SEM pass mark. Using this pass mark the pass rate would have been slightly lower at 44/75 (59%)



Appendix Candidate Evaluation

December 13 – Refraction Certificate

OSCE stations

Were you treated in a courteous manner by the examiners in this examination?

Yes 23/24

No 01/24

Comments

- All the examiners were helpful and their directions straight forward.
- Examiners were very courteous.
- Wonderful examiners who were all very supportive and encouraging, giving the candidates some reassurance especially when we were all panicking and stressing out during the exam!
- Courteous and friendly examiners
- Most of the examiners were very friendly and clear in their instructions, except for one of the examiners in the retinoscopy station was quite abrupt and difficult to understand.
- Polite and friendly throughout.
- I was treated courteously by almost all the examiners. However, at one station, when I mentioned to the examiner that the retinoscope light was dim, he said that it was my fault for not bringing my own retinoscope. I was surprised by that comment as we were told that proper retinoscopes would be provided.
- ALL SEEMED VERY FRIENDLY

Were the patients you were asked to examine appropriate for the examination?

Yes 21/24

No 03/24

Comments

- The patient for the visual acuity station had 6/4 vision unaided. In normal clinical setting, one would not need to check vision with pinhole. This was quite confusing. I did test for pinhole which was not a logical thing to do. On testing on pinhole, the patient then said she could only see the 6/9 line which was even more perplexing
- For this examination speed is important. During my Binocular Balance Station the patient did not provide clear and fast answers to my questions and this resulted in finally demonstrating only one technique (Humphriss) as there was no time to show the Duochrome and the +1.00D blur test.
- The patient I got for the near add station was a 38 year old female with no distance Rx. Was a bit confusing especially since she was accepting up to a +2.00D lens. Not sure if this will impact on my result.
- Except for the patient for trial frame fitting. "I think she was exhausted".
- Myopic patient for sphere refinement was accommodating too much.
- I'm not convinced the patient in the near add station was presbyopic (she was only in her mid-30s).
- The patients were great and kind.
- Yes for all patients except the patient I encountered in the Subjective refraction sphere station who was giving inconsistent answers on several occasions, also there was a large discrepancy in

the best corrected visual acuity between the two eyes according to her answers that could consider her unsuitable for binocular balance.

- Most patients were very good. One patient (subjective cyl station) found it difficult to appreciate sharpness and roundness of the black circle through different cyl lens's.

The OSCE overall

Was the OSCE well organized?

Yes 23/24

No 0/24

(One candidate declined to answer yes or no, but left a comment)

Comments

- Could have been a bit more efficient with moving candidates from one station to another.
- Well organized, friendly staff.
- Very well organised.
- Could be better with the instructions of when to start etc as too many things going on and there were two teams of candidates.
- We were notified when we were one minute prior to finishing. It would have been helpful for the invigilators to notify us at 4, 9 and 14 mins.
- I sat the first sitting of the examination on Monday 16th December. In my first station (subjective refraction of sphere/binoc balance/near vision) the examiner was not prepared or clear about the instructions;
- I was not provided with a mark sheet during the 5 minute orientation period. The examiner had to ask another member of staff for the correct document.
- The examiner insisted on loading the lenses which were loaded incorrectly and in positive cyl (not my preferred choice).
- The examiner was not sure how to control the visual acuity chart on the computer when I asked for assistance.
- The patient for near vision assessment was not brought into the room until after the timer had started for the second part of the station and I also had to ask for the mark sheet for this patient- all of which took time. I was told I could have an extra 15 seconds which was not adequate. This was the first station of my exam and I feel that the organization of the station had a significant effect on my performance. It is also not an ideal start to an examination and may have affected my performance as a whole.
- Ran very smoothly on the day.
- Focimeter was not good / A retinoscope did not have batteries
- The flow through the stations was well organized. However some stations did not have rough paper for working and in one station I couldn't find the pencil to write the answers with.
- Being on the third day all creases seemed to have been ironed out and everything went very smoothly.
- Declined to answer yes or no - There were a few issues that I encountered with this OSCE. Firstly, the retinoscope lights were dim, and one retinoscope was not working well, as the knob to rotate the streak was stuck. Secondly, the start time was not announced properly. We were asked if we were ready, but the actual start time was not clear. This caused me to lose some time. Thirdly, we were not allowed to mount the lenses before the time started, even though it was clearly stated in the notes that we were allowed to. This also contributed to lost time that could have been used for refraction.
- VERY WELL ORGANISED AND EXCELLENT FACILITIES.

Were you given clear instructions about the OSCE?

Yes 23/24

No 0/24

(One candidate declined to answer yes or no, but left a comment)

Comments

- Everything was straight forward.
- Could be better with the instructions of when to start etc as too many things going on and there were two teams of candidates.
- Instruction about the examination prior to arrival (online/written documents) was excellent.
- The instructions to candidates booklet with model answers etc was particularly helpful.
- VERY CLEAR ORGANISATION AND STRUCTURE SET OUT BEFOREHAND.
- Although I was aware that the binocular balance station would follow on from sphere refinement I was expecting a signal that 5 minutes had passed or an indication from the examiner that I could move on to the second osce. Having completed my sphere refinement I stopped my examination until I realised that there would be no signal and had to rush my binocular balancing. This is the only double station where you are testing two different techniques rather than different eyes and it would be helpful to have some indication of the halfway stage.

Did you feel that the OSCE was a fair assessment of your knowledge?

Yes 18/24

No 04/24

(Two candidates declined to answer yes or no, but left comments)

Comments

- Except the focimeter station. The glasses given would have taken even an experienced optometrist more than 5 minutes to neutralize.
- I have to mention that during the station of Binocular Balance I did not have enough time to demonstrate my full knowledge of the binocular balance methods.
- 5 mins for certain stations is probably not ideal .In the case of cyclo ret in a very high myope (~+13.0D bilaterally) it is difficult to refine to an accurate value, especially for astigmatism.
- The OSCE format precludes opportunities to check / calibrate findings that would be available in practice e.g. checking VA after refraction.
- The timing is very tight unless the station is run precisely and in an organized fashion. As this was not the case it was not a fair assessment of knowledge.
- Did not answer yes or no, gave the following comment - I was not under the impression that the purpose of this examination was to test knowledge per se, but rather to assess practical skills in refraction? If it was the later it did so in a fair manner, if the former no.
- The subjective refraction: cyl refinement station is only 5 minutes which should be a bit longer.
- I felt the structure of the examination made it hard to demonstrate my ability to refract. It's hard to develop a rapport within a 5 minute station.
- Yes, regarding the fact that it covers all aspects of objective and subjective refraction, but it is unfair regarding the time allowed because in real situations some patients could be challenging that force you to spend more time with them which is allowed in real life but not allowed in the exam, as for my patient in the subjective sphere station who was giving me inconsistent answers.

- Declined to answer yes or no - THE CLINICAL EXAMINATION IS SPLIT UP INTO MULTIPLE PARTS TO FORM THE STATIONS. THIS IS A FALSE REPRESENTATION OF HOW A CANDIDATE WOULD DO A FULL EXAMINATION AS A WHOLE. THE TIME RESTRICTION IS ALSO AN UNFAIR REPRESENTATION OF CLINICAL PRACTICE.
- I think the focimeter was not a test of general knowledge. It was too difficult. And this is unfair in an exam where any point counts.

Exam Preparation

Who helped you to develop competence in refraction? (Please tick the answer as appropriate)

- | | | |
|--------------------------|----------------------------|----|
| <input type="checkbox"/> | Optometrist | 18 |
| <input type="checkbox"/> | Consultant ophthalmologist | 7 |
| <input type="checkbox"/> | Fellow trainee | 9 |
| <input type="checkbox"/> | Self-taught | 15 |
| <input type="checkbox"/> | Other (please list) | 9 |
- Online material on <http://www.e-lfh.org.uk/>
 - WOPEC COURSE IN CARDIFF
 - Refraction courses
 - Refraction courses and practice exams
 - Course
 - I asked for help from Prof. John Whittle in Sheffield University (2 days).
 - Eastbourne Refraction Course
 - Moorfields refraction course
 - Courses
 - Mainly self-taught, although practiced a lot with fellow trainee who was also studying towards the exam.

Question 2

Approximately how many complete refractions (retinoscopy + subjective modification) did you carry out in your preparation for the examination?

- 20
- 25
- Between 60 – 80
- Approx 100
- 20-30
- 50-75
- 75
- Over 100
- Retinoscopy – roughly 200 / Subjective – around 30
- About 20 complete cases in the month before the exam. However, I have been performing subjective modification regularly in my practice for the past 18 months and retinoscopy not so often for 2 years.
- 50
- 70
- 70
- 50-60

- 30-50
- Around 100
- 100-150
- 100
- Probably 70-80 eyes / Not much cyclo practice as difficult to align appropriate clinics and not a lot of adults get 'cyclo'd
- I would think somewhere between the range of 60-70
- Between 50-100.
- 50-60
- >50
- I did 48 refractions and did the subjective refinement for all these patients. 21 cycloplegic and 27 non-cycloplegic refraction.

Question 3

Please provide any other advice that you would like to share with future candidates.

- Most of my preparation was initially done using online material from <http://www.e-lfh.org.uk/> I was also doing my pediatric ophthalmology placement in the period leading up to the exam and this gave me the opportunity to perform many cycloplegic retinoscopies. I have also taken a great deal of advice from our department's in-house experienced optometrists to improve my technique.
- Be fast!
- Use the College resources (information and mark sheets). They are valuable for the structure of the exam since the exam does not test your ability to do a full refraction per se but aspects of the refraction in a 5 or 10 min period.
- Practice and practice and more practice.
- Practice under exam conditions.
- Be specific in what you tell the patient & narrow your steps in stations.
- Be sure to review the "instructions to candidates" leaflet posted out by the college – it contains very useful model answers – ie. how the examiners would like things done as this is not identical to how an optometrist would perform the task in each setting. Take a few days off before the exam and try to undertake as many refractions as you can then – this really settled things for me. If starting early, take your ret to clinic – ret the first patient you see in clinic everyday for a few weeks to get used to seeing reflexes in different eyes without it taking over your life. Even if you are miles off when it comes to a refraction to begin with, it reduces the last minute panic. Courses are variable and not essential at all, I went on an excellent one, some people have reported pretty poor experiences – ask around before booking.
- Practice and courses.
- Show the examiner that you are quick.
- Don't be disheartened by performance in a previous station.
- Time management is the most important aspect.
- Do not rely only on reading books or courses, but practice on every patient attending your clinic for at least 3 months before the exam.
- Revision course can be extremely useful if it includes a mock OSCE.
- Take into account the time element as it goes quickly.
- Practice in front of optometrist / Attend teaching courses.
- I think the non-cycloplegic refraction is very important for the exam.

Please write any other comments you have about the Refraction Certificate Exam below.

- I feel that an extra time of maybe a few minutes in every station could help candidates to show a variety of methods and techniques. I believe the purpose of this examination is to demonstrate the ability of one to refract accurately; I accept that speed is important as well but certainly it should not be the primary end point of the assessment.
- I think it will be better to have a complete refraction (objective and subjective) on one patient & the other part of exam to be as it is.
- Practicing for the exam can be pretty tedious – best to find a friend to practice with to lessen the boredom!
- It should be closer to everyday practice (cylinder refinement was too big for 5 min and much different than the retinoscopy results).
- I'd strongly recommend re-introducing a style similar to the previous format of refracting a patient from start to finish. This is less artificial and would clearly demonstrate ability and experience.
- All the examiners were helpful and kind. We were informed that we are allowed to mount the trial frame prior of starting. However, we were only allowed to do so after the time started at the subjective refraction station. Since it was a short 5 minutes station, the time spent to mount the lenses to the trial frame plus fitting it shouldn't be judged as part of the exam but it was in this case. I would like to thank the patients for being kind and co-operative during the examination.
- I know of one of my colleagues was unfortunate in that he was unable to borrow a retinoscope from his department due to clinic scheduling. He was also examined on the first day and the ret provided ran out of battery. He was given no additional time presumably due to time constraints. I feel this could be better provided for in the future by allowing longer gaps between cycles.
- I was really disappointed about the focimeter. I wish it was easier.