

# Contact Lens Certificate

## *Unit 4b - Practical Examination*

Revision guidance for students



# Contact Lens Certificate Practical Examination

## In conjunction with the 2019 Contact Lens Certificate Syllabus

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### PREFACE

**T**his book is designed to familiarise yourself with your Contact Lens Practical examinations. The objectives for each section will be covered in detail along with hints and tips on the procedures you may wish to use. This guide is intended to compliment, but not replace the valuable practical teaching you will receive from your training institute.

# Contact Lens Certificate Practical Examination

## Location and Useful Information

### Exam Application Process

The exam application forms can be downloaded from the examinations website. Please be aware that the deadline for entry is 1st March for the summer session and 30th September for the winter session. The closing date for submission of case records will be 31st May for the summer session and 30th November for the winter session.

### Location of Practical Exams

The practical examinations are held in the Aqueous II building at Aston Cross Business Village, Chester Street, Birmingham, B6 3RQ.

We require all candidates to be present at least 30 mins before their start time; we would recommend that you book accommodation as close to the venue as possible. Please note the nearest parking for the venue is Aston train station which is approximately 10 min walk from the venue. For the majority of students, you will need to be at the venue by 08.15am.

**PLEASE NOTE:** there is very limited parking at the venue, please make sure if travelling by car you are aware of alternative parking and the time it will take you to walk to the NRC if needed.

On entering the building proceed to the back of the building to the lift area and continue to the fifth floor where an ABDO representative will be there to welcome you, check your photographic ID, issue you with your examination timetable and direct you to your holding area for the day.

You will find toilets, a water dispenser and a drinks machine. For lunch options, there is a sandwich shop within walking distance in the business park where you will be able to purchase fresh lunches or if you are able, please bring your own.

Please respect that your holding area is close to the examination rooms and we therefore ask for noise to be kept to a minimum, rubbish to be placed in the bins provided, the area kept clear and luggage stored away from exits (luggage left in this open area is at your own risk).

By presenting yourself at the venue you are deeming yourself fit to sit the examination. However, we do appreciate that unforeseen circumstances can happen on the day and therefore there will be an ABDO representative contact number on your exam letter or you may leave a message with the ABDO National Resource Centre on: 0121 7527500.

### Reasonable Adjustments

If you require reasonable adjustments to be made to your exam experience, please contact the exams department and complete the form on the website with as much notice as possible, so that the specified arrangements can be made.



Aqueous II building at Aston Cross Business Village



Reception area at the NRC Birmingham



### ABDO National Resource Centre

Aqueous II, Aston Cross Business Village, Chester Street  
Birmingham B6 5RQ Telephone: 01217 527 500

## Preparation

### What to take with you on the day

- Your ABDO examinations letter
- Photographic ID
- Copy of your Contact Lens Case Records
- Trial Frame
- A patient for use in sections 1, 2 and 3
- A signed, in-date copy of the patient's sight test prescription
- A pair of sealed, Rigid lenses for your patient (unless the manufacturer guidelines specify soaking beforehand. If so, then lenses can be soaked and stored in a case, but original packaging must be kept with the lenses
- Pen and calculator if required
- A range of soft lenses including alternative powers, materials and modalities (please see section 2 for further details).

While some clinical equipment will be provided for you on the day, we would suggest that you take a supply of your preferred consumables such as fluorescein strips, cotton buds, etc.

In terms of rulers and tools; we will provide if required, but you are permitted (and indeed, recommended) to bring your own if preferred, in order to take your routine linear measurements of the patient.

### What to wear on the day

You will be seeing real patients so we expect smart business attire to be worn, as you would in a real practice.

To achieve the consistency and accuracy required to practice as a Contact Lens Optician we recommend you practice the acquired skill with a systematic approach on a regular basis in the months leading up to your practical examinations.

### Patients used in the practical sections

Please note that you will see real patients in sections 1,2,3 and 5a.

The patient that you see in section 1 will also be the same patient that you see in sections 2 and 3.

The patients used for these sections are patients that have been supplied by candidates for the examinations. However, it is unlikely that you will see your own patient, and more likely that you will see a patient provided by another candidate.

The patient that you will see for section 5 is provided by ABDO.

### Before you start your first practical section

You will be given a welcome introduction from the exam supervisor.

Once this is complete, you will be taken through to the clinical bay prior to the beginning of the examination, to allow you to familiarise yourself with the equipment in your allocated bay.

Wherever possible, you will use the same clinical bay for all of your practical sections (1, 2, 3 and 5a), and no other candidates will use the bay in-between those sections. This will allow you to set up the bay to your own liking for all of the practical sections.

Please note that you are not able to request an alternative bay, unless the equipment in your allocated bay is defective. This means that you are not able to choose the type of slit-lamp and/or keratometer that you use in the examination. Therefore, a knowledge of all types of slit lamp and keratometer is required.

Some bays do not have a keratometer on the table. In these bays, a stand-alone keratometer will be provided by the examiner. Again, you cannot request an alternative design of keratometer in these instances.

If you have brought your own consumables/rulers/grading scales/etc... then these can be taken into the bay prior to the first section starting. You will be able to leave this equipment in the bay in-between sections unless told otherwise by the exam day supervisor. You may also leave your trial frame in the bay until the practical sections are complete.

Each bay has an information sheet detailing the relevant instructions on how to work the equipment in the bay (i.e. slit lamp, keratometer, testing chart). However, if you are unsure of the workings of a piece of equipment, then please inform the examiner before a section commences, and they will be happy to help you to familiarise yourself with the equipment.

Each bay will also contain a Burton lamp (if required), trial lenses, a hand mirror, a kidney dish and a waste bin. For any section where there is clinical waste such as used fluoret strips or discarded lenses, please place in the kidney dish rather than the waste bin, so that they can be transferred to clinical waste after the examination.

You may be asked NOT to calibrate the equipment for your own use prior to the exam. This is because calibration may be part of the examination itself – therefore it needs to be done while the section is being conducted.

It is vitally important that exam sections start on time, so please be aware that the examiner may need to proceed with the exam and may warn you that there is only a limited amount of time to get familiar with the equipment.

# Contact Lens Certificate Practical Examination

The examination is divided into the following sections

## SECTION 1. INITIAL ASSESSMENT

1 hour 15 minutes in total

- a) **Indications of Contact Lens Fitting**
  - Legal issues including driving standards
  - Contra-indications
  - History-taking
  - Routine observations and external measurements
  - Communication skills.
- b) **Slit-lamp techniques**
  - Adjustment for use
  - Demonstration of slit- lamp routine including tear assessment.
  - Use of theories of illumination
  - Communication skills and patient care
- c) **Keratometry**
  - Adjustment for use
  - Demonstration of routine use.
  - Implications of instrument variations.
  - Interpretation of results
  - Communication skills and patient care

## SECTION 2. SOFT CONTACT LENS FITTING

50 minutes in total

- a) **Soft Contact Lens Fitting**
  - Discussion of range of lenses used in practice
  - Selection of lens for patient and any implications of product limitations.
  - Assessment of fit and possible modifications
  - Discussion on other materials, designs and their effects
  - Write final order
- b) **Assessment of Over-Refractive**
  - Binocular spherical over-refraction to achieve best vision sphere
  - Demonstrate refractive verification including a binocular balancing technique.
  - Communication skills and patient care

## SECTION 3. RGP CONTACT LENS FITTING

40 minutes in total

- Discussion of range of lenses used in practice.
- Selection of lens for patient
- Write order including full back surface parameters of a multicurve lens
- Assessment of lens fit
- Communication skills and patient care

## SECTION 4. OTHER LENSES [VIVA]

45 minutes in total

- a) Torics
- b) Bifocals, multifocals and other forms of contact lenses for presbyopic correction
- c) Myopia management including principles of orthokeratology
- d) Lenses for conditions requiring visual benefit
- e) Bandage lenses. Prosthetic lenses

## SECTION 5. AFTERCARE ROUTINE AND MANAGEMENT

1 hour 30 minutes in total

- a) **Aftercare consultation of a contact lens wearer**
  - Routine
  - Future action
  - Management of legal issues
  - Content of record card
  - Communication skills and patient care
- b) **Discussion of patient records**
- c) **Aftercare Management**
  - Signs, symptoms and management of conditions arising from contact lens wear
  - Contact lens solutions, stains and ophthalmic pharmaceutical products
  - Legal matters relating to dispensing opticians fitting contact lenses

## SECTION 6. VERIFICATION AND IDENTIFICATION

30 minutes in total

- a) **Verification of an RGP lens**
  - Verification of an RGP lens to enable replication [ISO/CEN/BSI standards].
- b) **Identification of RGP lens types**
  - Identification of designs of various RGP lens types

# Contact Lens Certificate Practical Examination

## SECTION 1 - Initial Assessment

### Overview

- This section lasts for 1 hr 15 mins in total
- It consists of a combination of practical demonstration and VIVA discussion
- In a full sitting of the exam, this is likely to be the **first section** that you complete in the day
- Split into 3 distinct sub-sections
  - 1a Indications of Contact Lens Fitting
  - 1b Slit-Lamp Techniques
  - 1c Keratometry
- While there are 3 subsections, an overall mark is given based on the aggregate of all 3 subsections
- THE PASS MARK FOR THE SECTION IS 60%

### SECTION 1a: Indications of Contact Lens Fitting

- This section will last around **20 minutes** in total (including VIVA element).
- You will be presented with a patient and a signed, up-to-date prescription of your patient.
- You will be asked to take a full history from your patient.
- You will be told to presume that the patient has **NEVER WORN CONTACT LENSES BEFORE** but want to wear them on a **DAILY BASIS**.
- This section does **NOT** need to discuss potentially suitable lens types with the patient.
- Remember, the only information that you have on the patient is the information held on the prescription. There will be no other prior records to refer to.
- While taking the history from the patient, you will not normally be interrupted by the examiner, but please be aware that there may be occasions where we do need to interrupt. This will not necessarily affect your mark allocation for the section.
- Please note that you will be expected to write notes on your clinical sheet for the history discussion, and this will form part of your total marks for the section.
- You may inform the examiner when you have completed the discussion.
- You will also have a short VIVA examination with the examiner about potential contra-indications to contact lens fitting and legal issues around contact lens fitting, including current driving standards.
- The VIVA element may take place **either before or after** the history taking element (this will not affect the marks allocated).
- You will be asked to take a number of routine (linear) measurements from your patient (not keratometry at this stage).
- These measurements (such as HVID, VVID, and pupil diameters) will then be measured by the examiner immediately afterwards to compare (although no discussion will take place on these measurements).

### TIPS FOR SECTION 1a

- Please be mindful of time when conducting your history taking. The examiners can only allocate a finite amount of time for this subsection (which includes VIVA). The examiner may need to prompt you to finish in order to give you sufficient time for the VIVA element.
- Make sure you develop a good routine in practice. This will make it far easier for you to remember what to ask the patient rather than relying on revision.
- Remember that your communication with the patient is also being assessed here, so make sure that your communication with the patient is clear, but friendly.
- Remember to make full notes on the patient record card of your discussions, as these are marked in addition to your verbal discussions.
- As with all VIVA elements of the exam, please ask the examiner if you want the question repeated or rephrased.
- We do NOT expect you to know the answers to all questions, so don't be too alarmed if you are asked a question that you do not know the answer to.
- When taking the linear measurements from your patient, try to use the equipment that you would normally use in practice. If you have a specific ruler that you use for these measurements, then you can use this in the examination.
- You may use slit lamps/burton lamps to take these measurements if you want to, but you should use whatever equipment you feel most comfortable with.

### SECTION 1b: Slit-Lamp Techniques

- This section will last around **30 minutes in total** (including VIVA element).
- You will be asked to perform a full slit-lamp on both eyes of your patient.



## SECTION 1 - Initial Assessment

- You will not be prompted to perform any specific illumination techniques during the routine itself.
- While conducting the slit lamp routine on the patient, you will not normally be interrupted by the examiner, but please be aware that there may be occasions where we do need to interrupt. This will not necessarily affect your mark allocation for the section.
- Remember, you will not have any previous records for the patient.
- Please note that you will be expected to write full notes on your clinical sheet for the anterior eye assessment, and this will form part of your total marks for the section.
- You may inform the examiner when you have completed the discussion.
- You will also have a short VIVA examination with the examiner about slit lamp techniques.
- You may be asked to describe some techniques at this stage.
- You may also be asked to demonstrate some techniques (even if you already conducted them during the anterior eye assessment).
- When you are conducting a particular slit lamp technique, ask yourself why you are performing the technique and what are you looking for while doing it - this will help you in the VIVA section.
- As with all VIVA elements of the exam, please ask the examiner if you want the question repeated or rephrased.
- We do NOT expect you to know the answers to all questions, so don't be too alarmed if you are asked a question that you do not know the answer to.
- If the examiner asks you to perform a particular technique (whether it was done in the previous routine or not), they are likely to ask you to describe what you are doing to check your understanding (it is not because they didn't see you do it).
- If you intend to use fluorescein or cotton buds, etc... during the slit lamp assessment, then take ones that you are familiar with using in practice.

### TIPS FOR SECTION 1b

- Please be mindful of time when conducting your slit lamp examination. The examiners can only allocate a finite amount of time for this subsection (which includes VIVA). The examiner may need to prompt you to finish in order to give you sufficient time for the VIVA element.
- Make sure you develop a good routine in practice. This will make it far easier for you to remember what techniques to perform (and the order in which you perform them) if it is part of your general practice routine.
- Remember that your communication with the patient is also being assessed here, so make sure that your communication with the patient is clear, but friendly.
- Remember to make full notes on the patient record card of your findings, as these are marked in addition to your verbal discussions.
- Even if you washed your hands and wiped down the equipment prior to the examination, please do so again before starting the slit-lamp assessment. Patient care is very important in this section.
- The examiner may be quite close to you during some parts of section 1b – this is just so they can see clearly the set-up of the slit lamp at any given stage.
- This section will last around **20 minutes in total** (including VIVA element).
- You will be asked to perform keratometry readings on both eyes of your patient.
- While conducting the keratometry on your patient, you will not normally be interrupted by the examiner, but please be aware that there may be occasions where we do need to interrupt. This will not necessarily affect your mark allocation for the section.
- Remember, you will not have any previous records for the patient.
- Please note that you will be expected to write full notes on your clinical sheet for the keratometry readings, and this will form part of your total marks for the section.
- You may inform the examiner when you have completed the discussion.
- The examiner will then take the keratometry readings from the patient using the same keratometer, to ensure consistency.
- You will also have a short VIVA examination with the examiner about Keratometry.
- The VIVA will include content such as instrument variations, principles of keratometry and Interpretation of results.

### SECTION 1c: Keratometry

# Contact Lens Certificate Practical Examination

## SECTION 1 - Initial Assessment

### TIPS FOR SECTION 1c

- Please be mindful of time when conducting your keratometry. The examiners can only allocate a finite amount of time for this subsection (which includes VIVA). The examiner may need to prompt you to finish in order to give you sufficient time for the VIVA element.
- You may use a pen-torch to aid you in positioning the keratometer for the patient, but it is not a requirement.
- Time permitting, you may wish to take the measurements more than once to ensure accuracy.
- Make sure you get the chance to practice with both 1 position and 2 position keratometers, as you won't be given the option in the examination (so need to be competent with both types).
- Remember that your communication with the patient is also being assessed here, so make sure that your communication with the patient is clear, but friendly.
- Remember to make full notes on the patient record card of your measurements, as these are marked in addition to your verbal discussions.
- Even if you washed your hands and wiped down the equipment prior to the examination, please do so again before starting the keratometry assessment.
- As with all VIVA elements of the exam, please ask the examiner if you want the question repeated or rephrased.
- We do NOT expect you to know the answers to all questions, so don't be too alarmed if you are asked a question that you do not know the answer to.

### Preparing for Section 1

- Use your supervisor. Ask your supervisor to watch you take history from patients and give you feedback. Use this to develop your routine.
- Ask your supervisor to grade patients on the slit lamp after you have performed an anterior eye assessment – compare gradings afterwards and discuss.
- Use members of staff from the workplace as your patients.
- If you only have one type of keratometer in practice, then contact your education provider to see about getting access to the other type of keratometer to practice with.
- Practice writing all of your notes on blank (lined) paper – especially if you use a computerised system in your practice.
- Take linear measurements from all patients to get practice in taking these measurements – get your supervisor to check your results – again use members of staff if available.

### SUGGESTED READING

- *Contact Lens Practice* (Efron)
- *The Contact Lens manual* (Gasson and Morris)
- *Contact Lenses* (Phillips and Speedwell)



SECTION 1 - Initial Assessment - ANSWER SHEET

Examination Answer Sheet

This clinical notes sheet is to be used by candidates in Section 1,2,3, 5a - and is to be retained by the examiner at the end of the section. A new sheet should be used for each section.

Candidate number	Date	Section	Page number


# Contact Lens Certificate Practical Examination

## SECTION 1 - Initial Assessment

### Practice and Revision - Measurements

	Measurement		Supervisor Check	
Patient				
Date				
HVID	R	L	R	L
VVID	R	L	R	L
Pupil Diameter (low illumination)	R	L	R	L
Keratometry RE	Along		Along	
Keratometry LE	Along		Along	
Type of Keratometer				

Supervisor Signature	
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### Practice and Revision - Measurements

	Measurement		Supervisor Check	
Patient				
Date				
HVID	R	L	R	L
VVID	R	L	R	L
Pupil Diameter (low illumination)	R	L	R	L
Keratometry RE	Along		Along	
Keratometry LE	Along		Along	
Type of Keratometer				

Supervisor Signature	
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# Contact Lens Certificate Practical Examination



## SECTION 1 - Initial Assessment

### Practice and Revision - Measurements

	<b>Measurement</b>	<b>Supervisor Check</b>
Patient		
Date		
HVID	R L	R L
VVID	R L	R L
Pupil Diameter (low illumination)	R L	R L
Keratometry RE	Along	Along
Keratometry LE	Along	Along
Type of Keratometer		

Supervisor Signature	
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### Practice and Revision - Measurements

	<b>Measurement</b>	<b>Supervisor Check</b>
Patient		
Date		
HVID	R L	R L
VVID	R L	R L
Pupil Diameter (low illumination)	R L	R L
Keratometry RE	Along	Along
Keratometry LE	Along	Along
Type of Keratometer		

Supervisor Signature	
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# Contact Lens Certificate Practical Examination

## SECTION 2 - Soft Contact Lens Fitting

### Overview

- This section lasts for 50 mins in total.
- It consists of a combination of practical demonstration and VIVA discussion.
- In a full sitting of the exam, this is likely to be the **second section** that you complete in the day, and will follow section 1.
- Split into 2 distinct sub-sections:
  - 2a Soft Contact Lens Fitting
  - 2b Assessment of Over-Refraction
- While there are 2 subsections, an overall mark is given based on the aggregate of both subsections.
- THE PASS MARK FOR THE SECTION IS 60%
- You will then be asked to apply this pair of lenses to your patients eyes.
- Please be aware that the examiner may need to modify the lenses from your selection based on the lens power availability and the patient prescription. This will not affect your marks.
- As the lenses will need a period of time to settle before the fitting and vision are checked, then the VIVA part of the section will continue immediately after the lenses have been applied to the eyes.
- This part of the discussion will be a more general discussion on designs, modalities, materials and manufacture.
- The discussion may also look at the impact of changing particular lens parameters.
- Once the discussion element is complete, then the lenses will need to be assessed.

### SECTION 2a: Soft Contact Lens Fitting

- You will normally have a different examiner for this section than you had in section 1.
- You will be joined in this section by the same patient that you assessed in section 1, and the section should take place in the same clinical bay.
- You will be given your patients clinical records that you completed in section 1.
- Therefore, there is no requirement to take a history, and routine measurements, anterior eye assessment or keratometry readings from your patient in this section.
- You are required to bring a selection of lenses of different modalities, powers, materials and designs for use in this section (See Tips for section 2 below for suggestions of what you may wish to bring).
- The section will normally begin with a discussion on the lenses that you use in practice. A knowledge of design, material, properties and parameters, for example will all be required.
- Based on the patient measurements taken in section 1, you will be asked to choose and record your IDEAL base curve, diameter, power, design and material (even if these parameters are not available in that particular material).
- After this, you will be asked to choose the MOST Suitable lens for your patients measurements from the range of lenses you have brought with you for both eyes.
- One lens will be selected for you by the examiner to assess the fitting of the lens. You should assess the fitting in the way that you would normally do in practice and make notes on your answer sheet accordingly.
- The examiner may also ask you to verbally describe the lens fit in addition to making your notes.
- The examiner at this stage will also assess the fit of the lens to compare to your assessment, although no indication will be given by the examiner with regard to the accuracy of your description.

### SECTION 2b: Assessment of Over-refraction

- Please note that this may take place BEFORE the assessment of the fit.
- You will be asked by the examiner to perform a full over-refraction on both eyes.
- You will not be asked to discuss your routine and in most cases you will not be interrupted by the examiner during this procedure.
- You should follow the routine that you would normally use in practice.
- Please be aware that we do NOT expect a Toric over-refraction – you are just required to conduct a spherical over-refraction to achieve best vision sphere on both eyes.
- You will also be expected to demonstrate refractive verification including a binocular balancing technique.

## SECTION 2 - Soft Contact Lens Fitting

- Your communication skills and patient care during this procedure are also assessed.
- Once the fitting and over-refraction have both been assessed and noted, you will be asked to complete a final written order based on a) your original lens specification and b) your observation of the fitting and over refraction.
- The final stage of the section is to remove the lens from the patient's eyes.

### TIPS FOR SECTION 2

- We do not expect you to bring full fitting banks of the lenses that you use.
- We would normally suggest taking more than one type of daily disposable and more than one type of reusable soft lens for discussion, so that you have potential alternatives.
- You only need to bring a limited range of powers for myopes and hyperopes. Do not feel that you need to bring all powers.
- Try to use the proprietary names of the contact lenses you use wherever possible.
- The ACLM is a vital tool in learning about the lenses you use – you should have been given access when you enrolled on your contact lens training course at the teaching institute.
- Contact lens manufacturers will normally be happy to give you additional information regarding their lenses to supplement your knowledge of the lenses.
- Please be mindful of time when conducting your over-refraction. The examiners can only allocate a finite amount of time for this subsection. The examiner may need to prompt you to finish in order to give you sufficient time to accrue marks.
- Make sure you develop a good routine in practice for both over-refraction and lens fitting assessment.
- Remember that your communication with the patient is also being assessed during the lens fitting assessment and the over-refraction, so make sure that your communication with the patient is clear, but friendly.
- Remember to make full notes on the patient record card of your lens fitting assessment and over-refraction, as these are marked in addition to your verbal discussions.
- As with all VIVA elements of the exam, please ask the examiner if you want the question repeated or rephrased.

### Preparing for Section 2

- Use your supervisor. Ask your supervisor to watch you perform over-refraction and lens fitting assessments and give you feedback.
- Have a consistent method that you use for single-vision lenses when conducting an over-refraction – this will make your method flow better in the examination.
- Use members of staff from the workplace as your patients – try small alterations in powers and see what results you get.
- In terms of lens fitting assessment, once again have a consistent routine so that this section will be more natural to you in the exam.
- Also develop a consistent method of noting down the lens fitting.
- Practice writing all of your notes on blank (lined) paper – especially if you use a computerised system in your practice.
- Practice applying and removing lenses from patients – remember that you are likely to be nervous in the exam, so the more practice you have at this, the less nervous you should be.
- Please bear in mind good hygiene for this section – you are still coming into contact with the patient and using clinical equipment, so hand washing and wiping down of all equipment that comes into contact with the patient is vital.

### SUGGESTED READING

- *ACLM Manual*
- *Contact Lens Practice* (Efron)
- *The Contact Lens manual* (Gasson and Morris)
- *Contact Lenses* (Phillips and Speedwell)

# Contact Lens Certificate Practical Examination

## SECTION 3 - RGP Contact Lens Fitting

### Overview

- This section lasts for 40 mins in total.
- It consists of a combination of practical demonstration and VIVA discussion.
- In a full sitting of the exam, this is likely to be the **third section** that you complete in the day, and will follow immediately after section 2.
- THE PASS MARK FOR THE SECTION IS 60%

### SECTION 3: RGP Contact Lens Fitting

- This section will last around **40 minutes** in total (including VIVA element) and will follow on directly after section 2 has been completed.
- There won't normally be a break between sections 2 and 3.
- Therefore, you will again be joined in this section by the same patient that you assessed in section 1, and the section will take place in the same clinical bay, normally with the same examiner as in section 2.
- You will still have access to your patients clinical records that you completed in section 1.
- So once again, there is no requirement to take a history, and routine measurements, anterior eye assessment or keratometry readings from your patient in this section.
- As the patient is likely to be a patient that another exam candidate has brought, then you will not know the specifications of the lenses that they have brought with them.
- The specifications of the lenses that the patient has with them are irrelevant to the exam format.
- The section will normally begin with a discussion on the lenses that you use in practice. A knowledge of designs, materials, properties and parameters, for example will all be required.
- Based on the lenses that you have discussed, you will be asked to design a suitable lens for the patient's measurements and ocular status, based on the measurements and observations that you had taken previously. You may be asked to give reasons for your selection.
- You will be asked to apply a rigid lens on to ONE of your patients eyes.
- As the lenses will need a period of time to settle before the fitting and vision are checked, then the VIVA part of the section will continue once the lens has been applied to the eye.
- This part of the discussion will be a more general discussion on designs, materials and manufacture.
- The discussion will also look at the impact of changing particular lens parameters and the clinical equivalence.
- You will need to write out a full back surface design for a multicurve lens as part of the examination, based on your original specifications.
- Once the discussion element is complete, then the lens fit will need to be assessed.
- You should assess the fitting in the way that you would normally do in practice and make notes on your answer sheet accordingly.
- The examiner may also ask you to verbally describe the lens fit in addition to making your notes.
- The examiner at this stage will also assess the fit of the lens to compare to your assessment, although no indication will be given by the examiner with regard to the accuracy of your description.
- Once the discussion on the lens fitting is completed, you will be asked to complete a final lens order based on a) your original lens specifications and b) your observation of the lens fitting.
- The final stage of the section is to remove the lens from the patients eye.



## SECTION 3 - RGP Contact Lens Fitting

### TIPS FOR SECTION 3

- You are likely to have much less experience of fitting RGP lenses in practice than soft lenses, therefore extensive revision is necessary.
- The ACLM is a vital tool in learning about the lenses you use – you should have been given access when you enrolled on your contact lens training course at the teaching institute.
- Contact lens manufacturers will normally be happy to give you additional information regarding their lenses to supplement your knowledge of the lenses. Speak to the technical departments of the RGP lens companies that you use for advice.
- Designing a multicurve back surface is something that you can practice for a range of radii and diameters, so make sure you give yourself plenty of opportunities to practice.
- Make sure you develop a good routine in practice for lens fitting assessment.
- Remember that your communication with the patient is also being assessed during the lens fitting assessment and the over-refraction, so make sure that your communication with the patient is clear, but friendly.
- Remember to make full notes on the patient record card of your lens fitting assessment and over-refraction, as these are marked in addition to your verbal discussions.
- As with all VIVA elements of the exam, please ask the examiner if you want the question repeated or rephrased.

### Preparing for Section 3

- Use your supervisor. Ask your supervisor to watch you perform lens fitting assessments and give you feedback.
- In terms of lens fitting assessment, once again have a consistent routine so that this section will be more natural to you in the exam.
- Also develop a consistent method of noting down the lens fitting.
- Use members of staff from the workplace as your patients (if you can convince them to try the lenses!).
- Practice writing all of your notes on blank (lined) paper – especially if you use a computerised system in your practice.
- Practice applying and removing lenses from patients – remember that you are likely to be nervous in the exam, so the more practice you have at this, the less nervous you should be (especially as you are likely to do this a lot less in practice).
- Please bear in mind good hygiene for this section – you are still coming into contact with the patient and using clinical equipment, so hand washing and wiping down of all equipment that comes into contact with the patient is vital.

### SUGGESTED READING

- *ACLM Manual*
- *Contact Lens Practice* (Efron)
- *The Contact Lens manual* (Gasson and Morris)
- *Contact Lenses* (Phillips and Speedwell)

# Contact Lens Certificate Practical Examination

## SECTION 4 - Other lenses

### Overview

- This section lasts for 45 mins in total.
- There are no practical elements to this section of the examination.
- The full 45 minutes will consist solely of a VIVA discussion.
- This section can be in any order during the day, and may not necessarily follow section 3.
- Split into 5 distinct sub-sections:-
  - Torics
  - Bifocal, multifocal and other forms of contact lenses for presbyopic correction
  - Myopia management including principles of orthokeratology
  - Lenses for conditions requiring visual benefit
  - Bandage lenses and Prosthetic lenses
- While there are 5 subsections, an overall mark is given based on the aggregate of all 5 subsections.
- THE PASS MARK FOR THE SECTION IS 60%

### SECTION 4: Indications of Contact Lens Fitting

- We don't expect you to have fitted all of the lenses that are discussed in this section, but a sound theoretical understanding is required.
- There is a lot to cover in 45 minutes – don't be alarmed if the examiner moves on to a different topic – we are trying to give you the best opportunity to pick up as many marks as possible in the available time.

### TIPS FOR SECTION 4

- As with all VIVA elements of the exam, please ask the examiner if you want the question repeated or rephrased.
- We do NOT expect you to know the answers to all questions, so don't be too alarmed if you are asked a question that you do not know the answer to.
- Toric Lenses: You'll be expected to know different designs of both soft and rigid toric lenses.
- Presbyopia: This isn't just limited to Multifocal lenses – think of ALL the ways you can correct a presbyope with contact lenses.
- Myopia Management: Don't just limit this to currently available lenses, think of the **whole** approach to myopia management and the advice that you give.
- Lenses for conditions requiring visual benefit: Think of the therapeutic applications of contact lenses and how lenses can help above and beyond correcting refractive error.
- Bandage lenses and Prosthetic Lenses. You may not have much experience of fitting such lenses, but think of conditions where they may be required.

### Preparing for Section 4

- Look back on your notes from your contact lens theory course.
- However, don't just rely on them alone because technology can change rapidly in Contact Lenses, so use manufacturer websites and the ACLM to learn about newly available lenses.
- Use your supervisor. There's every chance that your supervisor HAS fitted many of the lenses and patients in the past. Have a discussion with them about their experiences.
- Try to research both soft and rigid options when considering these types of lenses.

### SUGGESTED READING

- *ACLM Manual*
- *Contact Lens Practice* (Efron)
- *The Contact Lens manual* (Gasson and Morris)
- *Contact Lenses* (Phillips and Speedwell)

## SECTION 5 - Contact Lens Aftercare

### Overview

- This section lasts around 1hr 45mins in total.
- It consists of a combination of practical demonstration and VIVA discussion.
- In a full sitting of the exam, this is likely to be the afternoon and AFTER sections 1,2 and 3, but could be timetabled at any time in the afternoon.
- Split into 3 distinct sub-sections:-
  - 5a Aftercare consultation of a contact lens wearer
  - 5b Discussion of patient records
  - 5c Aftercare Management
- Section 5a will take place before section 5b and 5c, which are taken together.
- While there are 3 subsections, an overall mark is given based on the aggregate of all 3 subsections.
- The pass mark for the section is 60%

### SECTION 5a: Aftercare consultation of a contact lens wearer

- This section will last around 45 minutes in total, although the timed element will last for **30 minutes**.
- You will be presented with a patient, up-to-date sight test prescription and contact lens details..
- Remember, the only information that you have on the patient is the information held on the prescription. There will be no other prior records to refer to.
- You are to assume that the patient is an existing wearer but is **NEW TO YOUR PRACTICE**.
- While completing the aftercare consultation of the patient, you will not normally be interrupted by the examiner, but please be aware that there may be occasions where we do need to interrupt. This will not necessarily affect your mark allocation for the section.
- On most occasions, section 5a will take place in the same clinical bay that you used for sections 1,2 and 3. However, there are times when we need to change the clinical bay. Should this happen, then you will be given time before the section to get accustomed to the equipment in the new bay.

- Before the exam begins, you will be given time to look at the patient information and copy it down on to your record card (if you wish).
- The examiner will inform you about the timing of the section before you begin.
- From the start of the aftercare to the end, you will have exactly 30 minutes.
- In this time, you will be expected to have completed all of your clinical records – you will NOT have the opportunity to write any further notes on the record once the 30 minutes have elapsed.
- The examiner will inform you when 15 minutes have elapsed AND when there is 5 minutes remaining.
- You will be requested NOT to verbally give any findings to the patient during the examination.
- However, you are expected to write down all of your findings and recommendations on your clinical record sheet.
- The examiner will switch lights off and on for you on request, but will not do it unless asked.
- You may inform the examiner if you have completed the consultation before the 30 minutes are complete, although you may wish to use any remaining time to check the contents of your record card.
- You may ask the examiner how much time is remaining at any stage of the examination.
- Once the examination is complete, the examiner will examine the patient so that they can assess the accuracy of your record keeping. During this time, you will be asked to produce written information that you are legally obliged to present to the patient, assuming that there has been no change.
- For this written information, you may write generic details for yourself and your practice so that you are not identified on the record card.
- Once this has been completed the patient will leave and the examiner will take the role of the patient.
- You are to give your findings and recommendations to the examiner IN PATIENT LANGUAGE.

# Contact Lens Certificate Practical Examination

## SECTION 5 - Contact Lens Aftercare

### TIPS FOR SECTION 5a

- You don't have very much information for the patient to start off with other than their prescription and specifications, so you will need to take a history from your patient.
- There is no need to ask them things such as name, address, DOB, etc.. as you can assume they were already taken when booking the appointment.
- Make sure you develop a good routine in practice. This will make it far easier for you to remember what to ask the patient rather than relying on revision.
- Remember that your communication with the patient is also being assessed here, so make sure that your communication with the patient is clear, but friendly.
- Remember to make full notes on the patient record card of your discussions, as these are marked in addition to your verbal discussions.
- You are able to use as many sides of your clinical record sheet as is necessary for the examination.
- Remember that good hygiene is vital in this section – ensure your hands and equipment are clean whenever they come into contact with the patient.
- Consider writing your notes as you complete a particular area rather than waiting until the end – this will make you less likely to forget any particular points and will make it more likely that your notes will be complete by the end of the 30 minutes.

### Preparing for Section 5a

- You may be used to using your own practice computer system for your aftercares, but in the exam all records are completed on blank sheets – so make sure you practice writing full records on blank sheets before the exam.
- While you may be able to complete aftercares in under 30 minutes in practice, a combination of nerves and unfamiliar equipment is likely to make you a little slower than usual – so try to practice in different testing rooms if possible.
- Put yourself under pressure at work - ask your supervisor to observe some of your aftercare appointments and give you feedback.
- Use contact lens wearing members of staff from the workplace as your patients.

- Remember, that you do not get a choice of slit lamp or keratometer in this section, so try to practice on different types.
- If your training institute offers revision days/sessions, then do your best to attend.

### SUGGESTED READING

- *Contact Lens Practice* (Efron)
- *The Contact Lens manual* (Gasson and Morris)
- *Contact Lenses* (Phillips and Speedwell)

### SECTION 5b: Discussion of Patient Case Records

- This section will last around **25 minutes** in total, although will run consecutively with section 5c and so the total for the section is **1 hour**.
- There will be TWO examiners for sections 5b and 5c – who will examine you in conjunction.
- The examiner who observed you in section 5a will likely be the examiner who has received your case records approximately 1 month prior to the examination – they will be the examiner who conducts the majority of section 5b.
- The examiner will choose between 3-5 case records to discuss with you, depending on the amount of time remaining.
- The other examiner will generally observe section 5b, although may also ask questions if they feel necessary.

### TIPS FOR SECTION 5b

- If an examiner asks you a question about one of your case records, it DOES NOT NECESSARILY mean that they disagree with your actions.
- You are being examined at least partly on the justifications of your decisions – the examiners will want to know what made you decide to take a particular course of action.
- If you feel that you would make a different clinical decision from what you did at the time of the appointment, then feel free to tell the examiner this.
- As with all VIVA sections, please ask the examiner if you want the question repeated or rephrased.

## SECTION 5 - Contact Lens Aftercare

- There is a lot to cover in 25 minutes – don't be alarmed if the examiner moves on to a different record – we are trying to give you the best opportunity to pick up as many marks as possible in the available time.
- The records which you feel are the most 'interesting' are not necessarily the ones that will be discussed in the exam section.

### Preparing for Section 5b

- You will not know in advance which of the 10 case records will be discussed, so you need to have a good understanding of all 10.
- We know that your case records that you present for the exams will not be a facsimile of your records at the practice (especially if you use a computerised system), so present them as you would like to see them if you were the practitioner conducting the next aftercare.
- You can create your own fitting and aftercare templates to present your case records if you wish, as long as you follow the guidelines of max 2 sides of A4 for a fitting appointment and 1 side of A4 for all subsequent appointments.

### SECTION 5c: Aftercare Management

- This section will last around **35 minutes** in total, although will run consecutively directly after section 5b and so the total for the section is **1 hour**.
- There will be TWO examiners for sections 5b and 5c – who will examine you in conjunction.
- The examiner who did NOT have your case records will be the examiner who conducts the majority of section 5c.
- Your case records will NOT be discussed in section 5c.
- The section will be a VIVA examination consisting of a number of questions on aftercare management and will be focussed on 3 key areas:-
  - Signs, symptoms and management of conditions arising from contact lens wear.
  - Contact lens solutions, stains and ophthalmic pharmaceutical products.
  - Legal matters relating to dispensing opticians fitting contact lenses.

### TIPS FOR SECTION 5B

- As with all VIVA elements of the exam, please ask the examiner if you want the question repeated or rephrased.
- We do NOT expect you to know the answers to all questions, so don't be too alarmed if you are asked a question that you do not know the answer to.
- Signs, symptoms and management of conditions arising from contact lens wear: you will be asked about a range of conditions which directly relate to contact lens wear. You will be expected to be able to discuss clinical signs and patient symptoms, as well as potential management options – both contact lens and non-contact lens options.
- Contact lens solutions: think about the solutions that you use in practice and potential alternatives. Make sure you are aware of the formulation of the solutions that you use in practice.
- Stains and ophthalmic pharmaceutical products: think about the stains that you may use in contact lens practice, as well as other pharmaceutical products that a contact lens optician may use in contact lens practice.
- Legal matters relating to dispensing opticians fitting contact lenses: Consider the legal requirements of a contact lens optician fitting and supplying contact lenses, and when they need to refer to other parties.

### Preparing for Section 5c

- This is a section that can be revised for – use your course notes and textbooks.
- When thinking about the conditions relating to contact lens wear – consider not just how we manage the conditions with contact lenses, but also alternative management, including holistic treatments wherever applicable.
- The advice and guidance area on the ABDO website is an extremely useful resource for this section – particularly the legal matters.
- Lens solution manufacturers websites are excellent resources for the contents of their solutions.
- Dispensing Opticians and Contact Lens Opticians often have very specific regulations about their use of certain types of ophthalmic pharmaceutical products.

# Contact Lens Certificate Practical Examination

## SECTION 6 - Verification and identification

### Overview

- This section lasts for 30 mins in total.
- Split into 2 sub-sections:-
  - 6a Verification of an RGP lens to enable replication (ISO/CEN/BSI standards)
  - 6b Identification of various RGP lens types
- While there are 2 subsections, an overall mark is given based on the aggregate of both subsections.
- THE PASS MARK FOR THE SECTION IS 60%



### SECTION 6a: Verification of an RGP lens to enable replication (ISO/CEN/BSI standards)

- You will be presented with ONE spherical RGP lens.
- You will be asked to take as much information from the lens to allow it to be replicated.
- You will be given a range of equipment to aid you in taking this information, including:
  - Radiuscope
  - Focimeter with lens holder
  - Thickness gauge
  - Band/scaled Magnifier
  - V Gauge

### TIPS FOR SECTION 6a

- Using the radiuscope to measure BOZR. Take a systematic approach and consider the following steps:

Ensure that the lens holder is filled with saline before applying the lens – this will prevent unwanted front surface reflections disrupting your aerial image of the back surface.

Lightly place the lens CONCAVE SURFACE UPWARDS on to the lens holder and gently push down to remove excess saline.

Place the lens holder on to the platform and ensure that it is centred underneath the radiuscope microscope. One way to check it is well centred is to switch the machine on and dim the lights. If the lens is central then you will see a reflection of the target in the centre of the lens.

If the lens is not central – move the lens into the centre using the platform rather than the lens holder.

Ensure that the lens is perpendicular to the microscope. This will ensure that the aerial image remains central.

Move the platform downwards so that it is at its lowest point.

Slowly raise the platform whilst looking through the eyepiece until you see the first image (this is the aerial image).

If the image is not central, then move the platform so that the aerial image is central when looking through the eyepiece.

Use the inner dial to ensure that the aerial image is as clear as possible.

Once the aerial image is as clear as possible, reset the scale of the radiuscope by rotating the silver dial directly below the scale.

Once the scale is reset to zero, double check that the aerial image is still clear.

If so, then rotate the main (outer) dial to move the platform upwards until you find the second (surface) image.

Once you have found the image, rotate the inner dial to maximise the image clarity.

Note the reading from the scale.



## SECTION 6 - Verification and identification

- Using the focimeter to measure BVP. Consider the following steps.

Make sure the eyepiece is calibrated for your own use. Wind the eyepiece anticlockwise fully, then rotate the eyepiece clockwise until the scale and graticule JUST come into focus.

Check this is correct by focussing the corona/crossline without a lens in place to ensure it reads plano.

Use a lens holder if available, and place the lens CONVEX SIDE UPWARDS on to the lens holder.

Place the lens holder in front of the focimeter aperture and clamp into position.

Focus the corona/crossline until clear and read from focimeter scale.

Remember, the lens will be a SPHERICAL POWER ONLY – there will be no cylinder or axis to note.

- Using the thickness gauge to measure centre thickness.

Ensure that the dial gauge reads zero when there is no lens in the gauge.

Pull back the gauge trigger and place the lens onto the lower part of the lens clamp.

Once the lens is in place, lightly release the trigger to carefully hold the lens in place (making sure not to damage the lens).

Ensure that the lens is centred and read the measurement from the dial gauge.

- Using a band magnifier to measure TD, BOZD, Lens design.

### TOTAL DIAMETER

Place the lens CONCAVE SURFACE DOWN on to the scale of the magnifier.

Hold the lens in place by using a single finger towards the edge of the lens.

Move the left edge of the lens to the zero marker on the scale.

Read the diameter from the right side of the lens on the scale.

### BOZD

Place the lens CONCAVE SURFACE DOWN on to the scale of the magnifier.

Hold the lens in place by using a single finger towards the edge of the lens.

Move the left edge of the OPTIC ZONE of the lens to the zero marker on the scale.

Read the diameter from the right side of the OPTIC ZONE on the scale.

### LENS DESIGN

While holding the lens on to the scale, hold towards a light source.

Count the number of peripheral zones that you can see.

If there are 2 peripheral zones, it is a C3 lens design.

If there are 3 peripheral zones, it is a C4 lens design, etc.

### OTHER

While observing the lens, you can also note the handling tint colour or any engravings that may be on the lens.

- Using a V gauge to measure TD

Place the lens CONCAVE SURFACE DOWN into the wide opening of the V gauge.

Lightly tilt the gauge and let gravity allow the lens to slide down the gauge until it comes to a rest.

The diameter is read from the position of the CENTRE of the lens.

Remember, you have 30 minutes to complete the verification AND the identification, so make sure that you give yourself enough time to complete both parts.

## Preparing for Section 6a

- While it may be difficult to get access to a radiuscope before your exams, contact your training provider/college to see about having some practice time with a radiuscope before the exams.
- Practice makes perfect. With enough practice, most of these measurements are straightforward.

# Contact Lens Certificate Practical Examination

## SECTION 6 - Verification and identification

### SECTION 6b: Identification of various RGP lens types

- You will be provided with FOUR various RGP lenses (numbered 1-4).
- You can continue to use the same range of equipment to aid you in identifying the lens type.
- We do NOT need to know specific measurements of the lens (such as BOZR/BVP/etc).
- We simply need you to identify the TYPE of lens that it is.

#### TIPS FOR SECTION 6b

- The types of lenses that may be used in this section include toric lenses, bifocal lenses and reduced aperture lenses.

#### TORIC LENSES

The most effective way to check that you have a toric lens is to use the focimeter (using the method described in 6a, to check for astigmatism).

Alternatively, you could perform a rotation test to check for scissors movement (in a similar way to checking for astigmatism of a spectacle lens).

- You need to identify if it is a front surface toric lens or a back surface toric lens.

The most effective way to do this is to use the radiuscope in the way detailed in 6a.

When you observe the AERIAL IMAGE, a back surface toric will only have meridian of the target in focus at any one time, whereas a front surface toric will have all of the target in focus at the same time.

An alternative method to identifying front/back surface torics is to recall that back surface torics do not require any other method of stabilisation, whereas front surface torics will require a further stabilisation method, such as prism ballast or truncation.

Do NOT rely on lens orientation markings to determine a front or back surface toric. many manufacturers have orientation markings on **both** front and back surface torics.

#### BIFOCAL LENSES

You need to state the type of segment, rather than just the term bifocal.

For example, crescent, D-seg, Concentric, etc.

#### REDUCED APERTURE LENSES

You need to identify that it is a reduced aperture and if it is a negative or positive lens.

You can use the focimeter to check for positive or negative power.

- The band magnifier can be a very useful tool in helping you to identify the lenses, especially when you hold the lens up to a light source.
- Remember, we don't need individual parameters in 6b, so you will only waste your own time if you list them on the answer sheet.

### Preparing for Section 6b

- Its far easier to identify lenses if you have seen them before – so ask your training institute to show you examples of different lens types.



# Contact Lens Certificate Examination

## SECTION 6 - Verification and Identification - CANDIDATE ANSWER SHEET

### CERTIFICATE in CONTACT LENS PRACTICE: PRACTICAL EXAMINATION

### CANDIDATE ANSWER SHEET for SECTION 6 - VERIFICATION & IDENTIFICATION



Candidate Number:

Date:

Set:

**Start Time:**

#### CANDIDATE - PLEASE READ THE FOLLOWING NOTES :-

You will be given a box of rigid contact lenses in which there will be-

- [i] One lens for analysis
- [ii] Four lenses for recognition

#### [1] THE LENS FOR VERIFICATION

The intention is to produce an exact duplicate of the lens. So please write down any information specific to this lens and measure as many of the parameters of the lens as possible. You will NOT be expected to quote the peripheral radii nor the material. It is not a complex lens.

Please enter in the box below, all appropriate data to complete a FULL specification of the lens. Your measurements will be checked to ISO/BS tolerances.


#### (II) LENSES FOR IDENTIFICATION

The lens cases and envelopes are marked with a code / number. Please state ALL the DESIGN features of each lens in the appropriate boxes below.

Please use the verification equipment to help you make your decision - but you are only required to state the lens type and design features. The lenses are complex designs.

Lens 1		
Lens 2		
Lens 3		
Lens 4		

Certificate Section 6 / Answer Sheet 7.23



REVISION NOTES

A large rectangular area filled with a light gray grid pattern, intended for students to write their revision notes.

### **Acknowledgements**

We would like to thank members of the Contact Lens examining team for their input and ideas that helped to create this guide.

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