



ROYAL COLLEGE OF
PHYSICIANS AND
SURGEONS OF GLASGOW



Faculty of
Dental Surgery
ROYAL COLLEGE OF SURGEONS OF ENGLAND

M Orth Candidate Guidance

The following is offered as guidance for candidates seeking to sit the bi-collegiate Membership in Orthodontics (M Orth).

Who is this exam for?

The Membership in Orthodontics (MOrth) is a bi-collegiate exam run jointly by the Faculties of Dental Surgery of the Royal College of Surgeons of England (RCS England) and the Royal College of Physicians and Surgeons of Glasgow (RCPSG).

The Membership Examination in Orthodontics represents a summative assessment of core knowledge and competence in the specialty of orthodontics, as defined in the General Dental Council's *Curriculum and Specialist Training Programme in Orthodontics* (2010).

It is intended to test your knowledge, skills and behaviours relevant to the practice of a day-one specialist practitioner in orthodontics.

You should ensure you have read and understood the latest MOrth regulations before applying for this exam.

What are the entry requirements for this exam?

To be eligible to enter the MOrth, you must provide certified evidence of possession of a primary dental qualification that is acceptable to the Colleges, and have completed 24 months of full-time or equivalent part-time training in orthodontics by the date of the exam. The training should preferably be continuous but in some cases breaks in training may be permitted. The total training period should not normally exceed six years.

Candidates who have successfully passed the Part 1 MOrth offered by the Royal College of Surgeons of Edinburgh will be exempt from sitting the written Short Answer Question (SAQ) component of the MOrth. You will be required to provide evidence of your successful completion of this exam when you apply.

Please note that as of December 2023, the Part 1 component of the Membership in Orthodontics exam (MOrth Part 1) has been discontinued. You no longer require the MOrth Part 1 – or an equivalent general membership qualification – to sit the MOrth exam.

What does this exam assess?

In order to pass the exam, you will need to demonstrate that you possess the knowledge, skills and behaviours required of a day-one specialist practitioner in the orthodontics.

A full list of learning outcomes that are assessed by the MOrth can be found in Appendix 1 – 'MOrth Blueprint'. This shows both which outcomes are assessed, and by which exam components.

What is the structure of the exam?

The exam is made up of four components, which are weighted as follows:

Component	Weighting	Delivery
Written Short Answer Question paper 12 short answer questions assessing candidates' knowledge and application of knowledge.	Score out of 4 16.7%	Online
Structured Clinical Reasoning (Unseen) Cases 4 unseen Structured Clinical Reasoning (SCR) cases assessing candidates' skills in aetiology, diagnosis, treatment planning and management.	Score out of 8 33.3%	Face-to-face in London or internationally
Communication Cases 2 communication cases assessing candidates' ability to communicate effectively with a patient or patient's relative.	Score out of 4 16.7%	Face-to-face in London or internationally
Presented Cases Submission of three cases treated personally by the candidate followed by an in-depth discussion of two of the cases.	Score out of 8 33.3%	Face-to-face in London or internationally

How are the results determined?

In order to pass the exam, you must achieve an overall score of **75%** across the four components.

- This means a total score of **18 out of 24** if you are required to sit the written SAQ component.
- This means a total score of **15 out of 20** if you are exempted from the written SAQ component.

There is no requirement to meet this standard in any one component; a stronger performance in one component may compensate for a weaker performance in another component.

You must sit all four components at your first attempt. If you meet the passing score in one or more component, but fail to meet the overall passing standard, you may carry forward your score in the passed component(s) to future attempts. Re-sit candidates will only be required to attempt the sections they failed. Please see the MOrth regulations for more information.

Detailed information on each component and how it is marked can be found below.

Written Short Answer Question (SAQ) Paper

You will be required to answer 12 short answer questions, each on a particular area of the curriculum. Each Short Answer question may have up to 10 sub-questions.

The exam lasts 120 minutes and is delivered online and may be sat in an appropriate location of your choosing, such as your home or workplace (see 'What does the exam look like on the day' for more information).

Each of the 12 short answer questions is worth 20 marks. Marks available for each sub-question will be indicated in brackets and this gives an indication of the length and detail of the answer required.

The pass mark for the paper determined by a panel of examiners before the exam, based on the difficulty of the questions used. To do this, a criterion-referenced method called the 'Angoff' method is used. This ensures the standard of the exam is maintained from diet to diet. This method is widely used to set the pass marks for high-stakes clinical exams.

Once the pass mark has been applied, raw marks are converted to a mark out of 4 so they are appropriately weighted against the other exam components as per the table above ('What is the structure of the exam?').

The table below describes how marks are converted:

Raw score	Mark out of 4
Less than the mid-way point between the pass mark and 0	1
Greater than or equal to the mid-way point between the pass mark and the pass mark but less than the pass mark	2
Greater than or equal to the pass mark, but less than the mid-way point between the pass mark and 100	3
Greater than or equal to the mid-way point between the pass mark and 100	4

The **example** below demonstrates this conversion if the pass mark were 60%. As per the explanation above, the pass mark for each question, and so this conversion table, will be different from diet to diet, depending on the difficulty of the question.

Raw score	Mark out of 4
0% - 29%	1
30% - 59%	2
60% - 79%	3
80% or above	4

A full list of the learning outcomes that may be assessed by the Written SAQ component of the MOrth can be found in the Blueprint in Appendix A.

Face-to-face exam

The face-to-face exam is made up of three components, all of which are sat face-to-face, either at the Royal College of Surgeons of England building in London, or, in the case of an international diet, at an appropriate designated venue. The face-to-face elements of the exam are usually delivered over two or three consecutive days. Candidates attempting all components will need to be available for all of the days, resit candidates will only need to attend for the section(s) they are resitting.

Communication Cases

You will be presented with **two** communication cases requiring the communication of a diagnosis and / or treatment and management plan with a patient or a patient's relative.

You will have 10 minutes to prepare each case, followed by 10 minutes to interact and complete the task with the patient or relative.

The patient or relative will be played by a role-player and the interaction will be observed and marked by an examiner.

You will be marked on the appropriateness of what you communicate ('content') as well as how you communicate ('communication skills').

Each case is marked using a checklist system and is scored out of 20 marks. Marks from the two cases are then averaged and are converted to a mark out of 4 using the following table:

Average of raw scores	Mark out of 4
0% - 39%	1
40% - 59%	2
60% - 79%	3
80% or above	4

A full list of the learning outcomes that may be assessed by the Communication Cases component of the MOrth can be found in the Blueprint in Appendix A.

Unseen Structured Clinical Reasoning (SCR) Cases

You will be presented with the records of **four** cases, each requiring diagnosis and treatment planning. You will have 15 minutes to prepare each case followed by a 15-minute oral exam with two examiners. During the oral exam, you will be assessed on the following four domains:

- Aetiology – clinical including extra and intra-oral assessment and radiographic assessment (15%)
- Diagnosis – based on clinical and radiographic assessment (10%)
- Treatment aims and objectives and treatment plan (50%)
- Treatment mechanics (25%)

You will be assessed against the standard required of a day-one specialist practitioner in the orthodontics.

Two examiners use a set of descriptors to agree a mark out of 4 for each domain for each case. The marking descriptors are based on the standard of a just-competent or borderline day-one specialist practitioner in orthodontics. A copy of descriptors that define these standards for the SCR cases can be found in **Appendix 2**. The marks awarded are as follows:

Well below standard – 1 mark
 Just below standard – 2 marks
 Just above standard – 3 marks
 Well above standard – 4 marks

These marks are then weighted as per the descriptions of each domain shown above and converted to a score out of 4 using the following table.

Average score out of 4	Mark out of 4
Less than 0.92	0
0.92 – 1.82	1
1.83 – 2.74	2
2.75 – 3.66	3
3.67 or above	4

The pass mark for each case is 2.75 out of 4 or 68.75%

Following this process, the converted marks from cases 1 and 2 are averaged, and the marks from cases 3 and 4 are averaged. These two marks out of 4 are then combined to give a final mark for the component out of 8. This is done so the component is weighted according to the table in 'What is the structure of this exam?' on page 2 of this document.

A full list of the learning outcomes that may be assessed by the Unseen SCR cases component of the MOrth can be found in the Blueprint in **Appendix 1**.

Presented Cases

Candidates are required to submit details of three cases with accompanying images in advance of the exam via email. The candidate must have completed the majority of the treatment in each of the three cases. Each case must be documented using the Case Presentation Template and be accompanied by the appropriate signed consent form for each patient. The Case Presentation template and consent form are available on the Colleges websites.

The examiners will select two of the three cases you submit and will question you on these two cases for 30 minutes, with approximately 15 minutes given to each case. You will be assessed both on the case presentation and subsequent discussion in relation to:

- treatment planning
- orthodontic materials and biomechanics
- growth, treatment analysis and cephalometry
- long-term effects of orthodontic treatment

The criteria used to determine your score are attached as **Appendix 3**.

The two marks (one for presentation, one for discussion) out of 4 are combined to give a total mark out of 8. This is done to weight this component according to the table in 'What is the structure of this exam?' above.

The pass mark for the presented cases section is 6 out of 8 or 75%.

A full list of the learning outcomes that may be assessed by the Presented Cases component of the MOrth can be found in the Blueprint in **Appendix 1**.

What does the exam look like on the day?

Online exam

The written Short Answer Question exam is delivered remotely online, usually one or two weeks before the face-to-face exam.

It is delivered by Surpass on behalf of RCS England and RCPS Glasgow. You will need access to a computer with reliable internet connection, webcam and microphone. You can sit from any venue where you can sit the exam alone and undisturbed.

You will be monitored throughout the exam by Surpass' invigilation service, which will make use of your webcam, microphone and will record your screen.

The exam will be split into two papers of 60 minutes each to enable you to take a ten-minute comfort break at the midpoint of the exam. You should note that you will not be able to return to any questions in the first part of the paper after this break.

For full details of sitting the online exam, you should ensure you have read our guide to [Online Exams](#), available on the RCS England website.

Face-to-face exam

The face-to-face exam comprises three components: the communication cases, Structured Clinical Reasoning case and the Presented cases.

You will be asked to arrive at the venue approximately one hour before the start of the exam and you will be briefed by a senior examiner at the start of each exam day.

You will be required to attend the exam venue over a series of 2 or 3 days depending on the number of candidates taking the exam. Resit candidates will only be required to attend for the components they are resitting. To ensure the security of the exam, it may be necessary to quarantine groups of candidates for up to half a day before and / or after their exam. Where this is necessary, refreshments, including lunch, will be provided and candidates will be informed in advance. Candidates will not have access to mobile phones or other electronic devices during this time.

Cases will be examined by two examiners. There may also be additional examiners present, either undergoing training, or acting as external examiners.



Exam venue at RCS England – other venues may differ.

An indicative timetable is included below. Please note that this is for illustrative purposes only – depending on examiner and candidate numbers the timetable and scheduling of components may vary significantly. This should not be used for planning purposes – you will be sent an individual timetable once this is confirmed a few weeks before the exam.

Day	Time	Exam
Day 1	1 hour session in the afternoon	Communication cases
Day 2	1 hour 45-minute session in the morning 1 hour 45 minute session in the afternoon	SCRs 1 and 2 SCRs 3 and 4
Day 3	1hr session in the morning or afternoon	Presented cases

What if I require reasonable adjustments?

We are able to make reasonable adjustments to exams for candidates with a disability.

If you think you require reasonable adjustments, you should request these at the time of application. Please note that we require 6 weeks' notice to be able to implement reasonable adjustments, from when the request and appropriate evidence are received.

Please see our reasonable adjustment policy for more information.

How can I prepare for this exam?

You are expected to demonstrate the knowledge, skills, attitudes and behaviours as set out by the GDC's Curriculum and Specialist Training Programme in Orthodontics. You should therefore make sure they are familiar with the specific outcomes that are assessed in the MOrth exam, as listed in the Blueprint (**Appendix 1**).

Here are some suggestions about how you might go about preparing for the MOrth exam:

- Successful engagement with, and completion of your approved training programme that gave you eligibility for the MOrth exam is essential
- Some candidates find training courses, meetings and conferences on advanced techniques and treatment planning within the specialty to be examined are useful, but we are not able to recommend any specific courses
- Candidates have also been known to observe existing specialists within the specialty examined to learn and adopt contemporary specialty specific practices
- Practise communication, history taking, diagnosis and clinical decision-making skills with peers and colleagues under the same time constraints as you will experience in the exam.

Above all, you should practise communicating in a comprehensive, systematic way, avoiding jargon or terminology that may be confusing.

You will need to make sure you are familiar with UK clinical guidelines, standards and regulations to inform your clinical choices and practices. You will be required to have knowledge of UK regulations and clinical guidelines relevant to safe clinical practice.

What should I wear on the day of the exam?

Candidates should dress appropriately for a professional exam but there is no need to wear clinical attire.

When will I receive my results notification?

The Colleges aim to release candidate results within 4 weeks of the face-to-face exam taking place. Candidates will be advised in advance of the exact publication date. Where this is not possible due to public holidays or unforeseen circumstances, candidates will be informed.



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Membership in Orthodontics (MOrth) Learning Outcome Blueprint

The following document demonstrates how the General Dental Council's *Curriculum and Specialist Training Programme in Orthodontics* (2010) Learning Outcomes are assessed in the MOrth exam.

The tables below show which learning outcomes **may** be assessed in each component of the MOrth exam.

Please note:

- Learning outcomes that are **starred and in bold** are **core** learning outcomes and will be assessed in every diet. Learning outcomes that are not core learning outcomes will be sampled, but may not be assessed in every diet.
- Learning outcomes that are not assessed by the MOrth are shaded in grey.

Key

Code	Component
SAQ	Written Short Answer Question component
SCR	Structured Clinical Reasoning (Unseen) cases component
CC	Communication cases component
PC	Presented cases component
X	Outcome is assessed
*	Core learning outcome

The module titles and numbers refer to the modules in *Curriculum and Specialist Training Programme in Orthodontics (2010)*.

1. Normal and abnormal development of the dentition (Curriculum Module 10)					
The development of normal occlusion from birth to adulthood The effect of genetic and environmental influences on the development of the dentition The development of malocclusion, including its variations and ranges of severity		SAQ	SCR	CC	PC
1.1.1	The trainee has knowledge of both normal and abnormal dental development*	X	X	X	X
1.1.2	The trainee has knowledge of the developmental stage of the dentition*	X	X	X	
1.1.3	The trainee has knowledge of factors responsible for developmental abnormalities*	X	X		
1.2.1	The trainee can demonstrate an assessment of the dentition, craniofacial skeleton and soft tissues*		X		X
1.2.2	The trainee can perform the taking, analysis and interpretation of the current imaging techniques utilised in orthodontic practice*		X		X
1.2.3	The trainee can communicate the development process of the dentition to the patient/parent*		X	X	X
1.2.4	The trainee can discuss the possibilities for interceptive measures to improve any current or developing abnormal situation*	X		X	
1.3.1	The trainee recognizes the importance of basic head and neck biology for an understanding of the delivery of orthodontic health care*	X	X		X
1.3.2	The trainee recognizes the use of appropriate scientific terminology in the explanation of dental / developmental problems and treatment to patients /parents*	X	X	X	

2. Temporomandibular dysfunction and orthodontics (Curriculum Module 11)				
The importance of TMD to orthodontists Anatomy and physiology of the TMJ Diagnosing and monitoring the presence of TMD and its progress if present The aetiology of TMD The management of TMD	SAQ	SCR	CC	PC
2.1.1 The trainee has knowledge of normal TMJ function and variations thereof*	X			
2.1.2 The trainee has knowledge of treatment planning with respect to TMD		X		
2.1.3 The trainee has knowledge of the interaction of TMD in orthodontic patients*	X	X		
2.2.1 The trainee can perform the taking, interpretation and analysis of history, clinical findings and image analysis of TMD patients	X			
2.2.2 The trainee can practise the assessment of TMD in orthodontic patients	X			
2.2.3 The trainee can communicate advice to patients who are at risk/identified with TMD		X	X	
2.3.1 The trainee recognizes the importance of sound diagnostic skills in identifying TMD			X	

3. Tooth movement and facial orthopaedics (Curriculum Module 12)				
Exfoliation and eruption of the dentition Biology of tooth movement Resorption of dental structures	SAQ	SCR	CC	PC
3.1.1 The trainee has knowledge of normal exfoliation and eruption of teeth*	X		X	
3.1.2 The trainee has knowledge of the histology of tooth movement*	X			
3.1.3 The trainee has knowledge of the resorption of dental structures	X			
3.2.1 The trainee can apply histology and biochemical knowledge to normal loss of teeth, eruption and growth of teeth	X			
3.3.1 The trainee recognizes the importance of such processes during orthodontic tooth movement	X		X	
3.3.2 The trainee recognizes the need for the explanation of treatment options including the risks of treatment*		X	X	X

4. Orthodontic materials and biomechanics (Curriculum Module 13)				
The types of materials available and their properties The interaction of orthodontic brackets and wires and the tooth movements achieved	SAQ	SCR	CC	PC
4.1.1 The trainee has knowledge of the range of materials used in orthodontics*	X			
4.1.2 The trainee has knowledge of archwire sequences and their justification*		X		X
4.1.3 The trainee has knowledge of the way in which archwires achieve their tooth movements*	X			
4.1.4 The trainee has knowledge of outline variations of biomechanics*	X	X		X
4.2.1 The trainee can select appropriate materials required for the clinical situation*		X		X
4.2.2 The trainee can explain to patients/ parents the advantages/ disadvantages and use/limitations of different material options			X	
4.2.3 The trainee can apply appropriate materials to achieve specific tooth movements and the way to achieve these*				
4.2.4 The trainee can analyse and account for desired and undesired tooth movements*		X		X
4.3.1 The trainee recognizes the importance of normal archwire sequences*		X		X
4.3.2 The trainee recognizes the appropriate pace of treatment progress*		X		X
4.3.3 The trainee recognizes the need for the explanation of treatment progress*		X		X
4.3.4 The trainee recognizes the importance of iatrogenic effects of orthodontics*		X		X

5. Aetiology of malocclusion (Curriculum Module 14)				
Skeletal factor aetiology Soft tissue factor aetiology Local/dental factor aetiology	SAQ	SCR	CC	PC
5.1.2 The trainee has knowledge of genetic influences*	X			
5.1.3 The trainee has knowledge of environmental influences*	X			
5.2.1 The trainee can analyse and interpret clinical findings with respect to the diagnosis of the malocclusion*		X		X
5.2.2 The trainee can design suitable treatment plans taking into consideration the cause of the malocclusion*		X		X
5.3.1 The trainee recognizes the importance of aetiology with respect to the development of the malocclusion*		X		X
5.3.2 The trainee recognizes the role of aetiology in the formulation of the treatment plan*		X		X

6. Airway, craniofacial development and malocclusion (Curriculum Module 15)				
The importance of respiratory patterns in orthodontics and the desirability of nasal breathing The relationship between airway patency, craniofacial development and malocclusion	SAQ	SCR	CC	PC
6.1.1 The trainee has knowledge of normal respiration	X			
6.1.2 The trainee has knowledge of the relationship between respiration and malocclusion	X			
6.2.1 The trainee can clinically evaluate respiration, and interprets signs and results of special tests	Not assessed			
6.2.2 The trainee can extrapolate findings to the influence this may have on malocclusion	X			
6.3.1 The trainee recognizes the importance of normal respiration	X			

7. Diagnostic procedures (Curriculum Module 16)				
Clinical assessment Radiographic assessment Study model analysis Other special tests	SAQ	SCR	CC	PC
7.1.1 The trainee has knowledge of the clinical assessment and diagnosis of malocclusion*		X		X
7.2.1 The trainee can collect, interpret and analyses clinical records pertinent to clinical diagnosis*		X		X
7.3.1 The trainee recognizes the importance of systematic and thorough diagnosis*		X		X
7.3.2 The trainee recognizes the need for the explanation of patient malocclusion*		X		X

8. Treatment planning (Curriculum Module 17)				
Identification of patient concerns Identification of treatment aims Identification of the type of treatment necessary to achieve those aims	SAQ	SCR	CC	PC
8.1.1 The trainee has knowledge of how to identify patients' expectations*		X		X
8.1.2 The trainee has knowledge of how to explain information to patients relevant to the delivery of treatment*		X		X
8.1.3 The trainee has knowledge of how to describe the way in which the treatment delivers the objective*		X		X
8.2.1 The trainee can evaluate information required for treatment planning*		X		X
8.2.2 The trainee can evaluate all possible treatment options including the provision of no treatment*		X		X
8.3.1 The trainee recognizes the importance of whether or not malocclusion can be corrected successfully*		X		X
8.3.2 The trainee recognizes the need for considering the patient factors that may modify treatment*		X		X

9. Growth, treatment analysis and cephalometry (Curriculum Module 18)				
Basic cephalometric analysis Superimposition techniques for lateral skull radiographs Growth analysis based on serial lateral skull radiographs Use of cephalometric templates Evaluation of treatment changes: other methods Estimation of growth status	SAQ	SCR	CC	PC
9.1.1 The trainee has knowledge of the use of superimposition techniques*	X			X
9.1.2 The trainee has knowledge of growth and the influence of treatment on growth and vice versa*	X			X
9.1.3 The trainee has knowledge of the difficulties of predicting growth	X	X		
9.2.1 The trainee can interpret superimposition of growth measurements with time*				X
9.2.2 The trainee can evaluate the accuracy of superimposition techniques*				X
9.3.1 The trainee recognizes the importance of growth analysis*				X
9.3.2 The trainee recognizes the need for the explanation of treatment progress*				X

10. Long-term effects of orthodontic treatment (Curriculum Module 19)				
Presentation and nature of relapse Aetiology of relapse Contemporary retention regimens Adjunctive techniques to reduce relapse	SAQ	SCR	CC	PC
10.1.1 The trainee has knowledge of treatment and its effect on stability*		X		X
10.1.2 The trainee has knowledge of how to identify malocclusion type and its relation to potential relapse*		X		X
10.1.3 The trainee has knowledge of current research and controversies in retention	X	X		X
10.2.1 The trainee can demonstrate the identification of an orthodontic regimen supported by data*		X		X
10.2.2 The trainee can perform the provision of retention appropriate to the initial malocclusion*		X		X
10.3.1 The trainee recognizes the importance of post treatment change*	X	X		X
10.3.2 The trainee recognizes the need to explain retention as part of informed consent*		X	X	X

11. The iatrogenic effects of orthodontic treatment (Curriculum Module 20)				
Root resorption Effects on the enamel Effects on the periodontium Effects on the pulp Adverse effects on dentofacial appearance Adverse effects on the soft tissues including headgear injuries and allergic reactions Influences on the temporo- mandibular joints	SAQ	SCR	CC	PC
11.1.1 The trainee has knowledge of the risk factors in causing iatrogenic damage*	X		X	
11.1.2 The trainee has knowledge of the clinical diagnosis of iatrogenic effects*	X			X
11.1.3 The trainee has knowledge of how to justify the clinical protocols for minimising and treating the damage when identified*	X	X		X
11.2.1 The trainee can communicate the risks of orthodontic treatment to a patient*			X	
11.2.2 The trainee can manage orthodontic appliances to minimise iatrogenic affects*				X
11.3.1 The trainee recognizes the importance of detailing risks in informed consent*			X	
11.3.2 The trainee recognizes the need for balance of the explanation of risks/benefits of treatment*			X	

12. Epidemiology in orthodontics (Curriculum Module 21)				
Gender Peer pressure Ethnic group Social class Confidence in treatment Self-esteem Aesthetics Clinical treatment need	SAQ	SCR	CC	PC
12.1.1 The trainee has knowledge of how to identify ethnic, gender and social influences on orthodontic treatment provision			X	
12.1.2 The trainee has knowledge of peer pressure and self esteem assessments			X	
12.1.3 The trainee has knowledge of the need and demand for orthodontic care*	X	X	X	X
12.2.1 The trainee can evaluate the patients needs and background	Not assessed			
12.2.2 The trainee can demonstrate the incorporation of these influences in treatment planning		X		
12.3.1 The trainee recognizes the importance of psychosocial factors in orthodontic care	X			

13. Orthodontic literature and Research (Curriculum Module 22)				
Methods of critically analysing the literature Summarising an article or literature Undertaking a research project leading to publication	SAQ	SCR	CC	PC
13.1.1 The trainee has knowledge of how to read the literature and synthesise the information provided	Not assessed			
13.1.2 The trainee has knowledge of how to interpret data	Not assessed			
13.1.3 The trainee has knowledge of how to apply data interpretation to clinical practice	X	X	X	X
13.2.1 The trainee can apply methodology to undertake a systematic style review	Not assessed			
13.2.2 The trainee can write a scientific abstract	Not assessed			
13.2.3 The trainee can report data in an article or dissertation	Not assessed			
13.3.1 The trainee recognizes the importance of new data developments	Not assessed			

13.3.2 The trainee recognizes the importance of evidence based clinical care treatment	X	X	X	X
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14. Removable appliances (Curriculum Module 23)				
The components and design of removable appliances Advantages and disadvantages of removable appliances	SAQ	SCR	CC	PC
14.1.1 The trainee has knowledge of the mode of action of removable appliances*	X			
14.1.2 The trainee has knowledge of materials used to construct removable appliances				
14.1.3 The trainee has knowledge of how these components are combined to design an effective appliance*	X			
14.2.1 The trainee can perform the fitting and activation of appliances	Not assessed			
14.2.2 The trainee can demonstrate the management of patients at first and subsequent follow up appointments*				X
14.3.1 The trainee recognizes the importance of sound removable appliance design and management in contemporary orthodontics*		X		X

15. Functional appliances (Curriculum Module 24)				
The scope and limitations of functional appliances	SAQ	SCR	CC	PC
15.1.1 The trainee has knowledge of the indications and contraindications for the use of functional appliances*	X	X		X
15.1.2 The trainee has knowledge of the design and construction of various types of functional appliance*	X	X		X
15.1.3 The trainee has knowledge of the relative merits of different appliance designs*	X	X		X
15.2.1 The trainee can apply knowledge of the integration of functional with fixed appliances*	X	X		X
15.2.2 The trainee can design growth modification appliances appropriate for specific malocclusions*	X	X		X
15.3.1 The trainee recognizes the importance of the timing of treatment with functional appliances*	X	X	X	X
15.3.2 The trainee recognizes the tooth movements achieved with functional appliances*	X	X		X

16. Extra-oral appliances (Curriculum Module 25)				
The use of extra- oral anchorage and traction The timing of treatment with extra-oral forces Retraction and protraction headgears Force levels and direction/ duration of force	SAQ	SCR	CC	PC
16.1.1 The trainee has knowledge of the indications and contraindications for the use of extra-oral forces*	X	X		X
16.1.2 The trainee has knowledge of headgear safety*	X	X		X
16.1.3 The trainee has knowledge of directional forces used in extra-oral traction. The use of cervical, horizontal and high pull headgear and protraction headgear*		X		X
16.2.1 The trainee can apply the design, construction and management of appliances to deliver extra- oral forces*		X		X
16.2.2 The trainee can apply extra-oral forces to fixed, functional and removable appliances*		X		X
16.2.3 The trainee can interpret the literature with regard to treatment / management of patients with headgear*		X		X
16.3.1 The trainee recognizes the risks of treatment with extra-oral forces and procedures to limit those risks*		X		X
16.3.2 The trainee recognizes the need for the explanation of treatment options including the risks of treatment*		X		X

17. Fixed appliances (Curriculum Module 26)				
The scope and limitations of fixed orthodontic appliances Indications and contraindications for their use The placement, bonding and cementation of fixed orthodontic appliances Anchorage planning and control in fixed orthodontic appliance therapy The use of ligatures and elastics	SAQ	SCR	CC	PC
17.1.1 The trainee has knowledge of the design, manufacture and construction of fixed orthodontic appliances	X	X		
17.1.2 The trainee has knowledge of the various types of fixed orthodontic appliances*		X		X
17.1.3 The trainee has knowledge of the types of pre- adjusted edgewise appliances and prescriptions*		X		X
17.1.4 The trainee has knowledge of other appliance systems including Tip- Edge and self-ligating bracket systems	X	X		
17.1.5 The trainee has knowledge of intra-oral auxiliaries, temporary anchorage devices and expansion appliances*	X	X		
17.2.1 The trainee can select, fits and manage fixed appliance systems appropriate to the treatment of specific malocclusions	X	X		
17.2.2 The trainee can interpret the literature with regard to bracket system choice	X	X		

17.3.1	The trainee recognizes the appropriateness of fixed appliances for the treatment of specific malocclusions		X		X
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18. Retention appliances (Curriculum Module 27)					
The design and use of retention appliances The duration of post treatment retention in the light of available knowledge		SAQ	SCR	CC	PC
18.1.1	The trainee has knowledge of post- retention changes after active tooth movement*	X			
18.1.2	The trainee has knowledge of post- treatment orthodontic retention*	X			
18.2.1	The trainee can design, fit and monitor appropriate retention appliances following active orthodontic treatment		X		X
18.2.2	The trainee can interpret the literature with regard to retention appliance choice and regime*	X			
18.3.1	The trainee recognizes the need for post treatment retention*		X		X
18.3.2	The trainee recognizes the importance of explaining the need for post-treatment retention as part of a comprehensive treatment*			X	

19. Guiding the development of the occlusion (Curriculum Module 28)					
Interceptive Orthodontics Elimination of local factors Treatment of crossbites Early correction of skeletal discrepancies		SAQ	SCR	CC	PC
19.1.1	The trainee has knowledge of the consequences of early loss and prolonged retention of teeth*	X	X		
19.1.2	The trainee has knowledge of the evidence for and against early intervention*	X			
19.1.3	The trainee has knowledge of how to diagnose and distinguish normal facial growth from abnormal growth*	X	X		X
19.2.1	The trainee can interpret clinical findings to identify normal and abnormal development*	X			X
19.2.2	The trainee can design treatment plans for early intervention for abnormal development*	X			X
19.3.1	The trainee recognizes the need and limitations of early intervention*	X			
19.3.2	The trainee recognizes the need to limit early intervention*	X			

20. Adult orthodontics (Curriculum Module 29)				
Periodontal considerations Temporomandibular joint considerations Comprehensive vs compromise treatments Appliance therapy - special considerations	SAQ	SCR	CC	PC
20.1.1 The trainee has knowledge of dental health considerations in adult patients	X			
20.1.2 The trainee has knowledge of adjunctive therapy: its goals, principles and procedures	X			
20.2.1 The trainee can motivate adults and manages their expectations of orthodontic intervention	X			
20.3.1 The trainee recognizes the limitations of adult orthodontic treatment	X			

21. Orthodontics and Minor Oral Surgery (Curriculum Module 30)				
Exposure and management of impacted teeth Management of infra-occluded teeth Management of high fraenal attachments	SAQ	SCR	CC	PC
21.1.1 The trainee has knowledge of treatment options for the management of unerupted and impacted teeth through a combination of minor oral surgery and orthodontics*	X	X	X	
21.1.2 The trainee has knowledge of management options for encouraging tooth eruption*	X	X	X	
21.1.3 The trainee has knowledge of indications for fraenectomy*	X	X		
21.2.1 The trainee can demonstrate the ability to make decisions for the management of unerupted and/or impacted teeth*	X	X		
21.2.2 The trainee can undertake appropriate treatment for the management of unerupted / impacted teeth*	X	X		
21.2.3 The trainee can apply appropriate treatment for the management of infra- occluded teeth	X			
21.3.1 The trainee recognizes the treatment options for managing unerupted and/or impacted teeth*	X	X		
21.3.2 The trainee recognizes the need to communicate the management options for unerupted / impacted teeth to the patient/parent, including the risks and benefits of each option*			X	
21.3.3 The trainee recognizes the need to advise patients / parents on the need and timing of fraenectomy	X			

22. Orthodontics and Restorative Dentistry (Curriculum Module 31)				
Repositioning periodontally stabilized teeth Occlusal rehabilitation, including implantology Restoration of the dentition including previously extracted teeth or minor hypodontia	SAQ	SCR	CC	PC
22.1.1 The trainee has knowledge of the importance of an integrated treatment plan for joint orthodontic/ restorative care*	X	X		
22.1.2 The trainee has knowledge of the timing of adjunctive orthodontic treatment in relation to restorative care	X			
22.1.3 The trainee has knowledge of where and when to refer complex cases		X		
22.2.1 The trainee can provide advice to fellow professionals and patients on adjunctive orthodontic treatment	X			
22.2.2 The trainee can perform appropriate adjunctive orthodontic treatment	X			
22.3.1 The trainee recognizes the importance of an integrated treatment approach		X		
22.3.2 The trainee recognizes the need for effective communication with fellow professionals and patients when considering adjunctive orthodontic treatment in restorative care*	X	X	X	
22.3.3 The trainee recognizes the need to refer complex cases to appropriate specialists*	X	X	X	

23. Overview of Multidisciplinary Management of Facial Disharmony (Curriculum Module 32)				
The recognition of facial disharmony Diagnostic procedures used to identify the site of facial disharmony The stages in the correction of facial disharmony The stages in the management of cleft lip and/or palate patients	SAQ	SCR	CC	PC
23.1.1 The trainee has knowledge of dentoalveolar compensation and adaptation	X	X		
23.1.2 The trainee has knowledge of the types of treatment offered to orthognathic patients	Not assessed			
23.1.3 The trainee has knowledge of the surgical procedures employed	Not assessed			
23.1.4 The trainee has knowledge of the timing of orthodontic treatment in orthognathic care	X	X		
23.1.5 The trainee has knowledge of the timing of orthodontic care in cleft lip and/or palate management	X			
23.2.1 The trainee can select those cases which cannot be treated by orthodontics alone	Not assessed			
23.2.2 The trainee can communicate to patients an overview of orthognathic and cleft care			X	

23.3.1	The trainee recognize the need for the explanation of treatment options and risks, including the risks of no treatment		X	X	
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24. Management (Curriculum Module 33)					
Personnel management Financial management Responsibilities and professionalism of a Specialist practitioner		SAQ	SCR	CC	PC
24.1.1	The trainee has knowledge of employment law (including equality and diversity)	Not assessed			
24.1.2	The trainee has knowledge of the management of staff	Not assessed			
24.1.3	The trainee has knowledge of staff development procedures	Not assessed			
24.1.4	The trainee has knowledge of staff disciplinary procedures	Not assessed			
24.1.5	The trainee has knowledge of tax and financial record keeping	Not assessed			
24.1.6	The trainee has knowledge of indemnity related to the practice environment	Not assessed			
24.1.7	The trainee has knowledge of the requirements for patient record keeping	Not assessed			
24.2.1	The trainee can demonstrate interpersonal skills required to support a team for delivery of care	Not assessed			
24.3.1	The trainee recognizes the legal framework within which staff are employed	Not assessed			
24.3.2	The trainee recognizes the importance of good record keeping	Not assessed			
24.3.3	The trainee recognizes the importance of staff engagement and support	Not assessed			

25. Teaching and Communication (Curriculum Module 34)					
Effective communication, both oral and verbal, with peers, practitioners, staff, patients and the public Appraisal and assessment Design and presentation of instructional sessions		SAQ	SCR	CC	PC
25.1.1	The trainee has knowledge of the responsibilities of a clinical teacher and service lead	Not assessed			
25.1.2	The trainee has knowledge of the requirements for delivering an effective instructional session	Not assessed			
25.2.1	The trainee can demonstrate interpersonal skills for effective communication*			X	X

25.3.1 The trainee demonstrates sensitivity and awareness in both verbal and non- verbal communication with patients and their parents/guardians*			X	
25.3.2 The trainee demonstrates an open , patient and non-judgemental approach to answering questions*			X	

APPENDIX 2



ROYAL COLLEGE OF
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Faculty of
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ROYAL COLLEGE OF SURGEONS OF ENGLAND

MOrth SCR Case Marking Descriptors

These marking descriptors should be used to make a judgement about the candidate's performance in each of the four domains. Judgements should be made in relation to the standard of candidate who possesses the minimum required knowledge, skills and behaviours required of a day-one specialist practitioner. The marking descriptors should be used in conjunction with the **Calibration Record** for the specific case that is being assessed.

AETIOLOGY	Well below standard (1)	Just below standard (2)	Just above standard (3)	Well above standard (4)
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<p>Clinical aetiology including extra- and intra-oral assessment and radiographic assessment (15%)</p> <p>Learning outcomes: 5.1.1, 5.1.2, 5.1.3, 5.3.1</p> <p>Starter questions: <i>Describe the extra-oral features of the malocclusion.</i> <i>Describe the intra-oral features of the malocclusion.</i> <i>Tell me about your radiographic findings.</i></p>	<p>Inadequate presentation of key extra- and intra-oral features of the malocclusion. Lacking appropriate level of knowledge of key extra- and intra-oral features and radiographic findings. Unable to recognise the importance of aetiology with respect to the development of the malocclusion.</p>	<p>Adequate presentation of some key extra- and intra-oral features of the malocclusion. Slightly lacking in appropriate level of knowledge of key extra- and intra-oral features and radiographic findings. Some recognition of the importance of aetiology with respect to the development of the malocclusion.</p>	<p>Case presentation mostly covers key extra- and intra-oral features of the malocclusion. An appropriate level of knowledge of key extra- and intra-oral features and radiographic findings demonstrated. Recognition of the importance of aetiology with respect to the development of the malocclusion.</p>	<p>Case presentation covers all key extra- and intra-oral features of the malocclusion. A high level of knowledge of key extra- and intra oral features and radiographic findings demonstrated. Clearly recognises the importance of aetiology with respect to the development of the malocclusion.</p>
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DIAGNOSIS	Well below standard (1)	Just below standard (2)	Just above standard (3)	Well above standard (4)
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<p>Diagnosis based on clinical and radiographic assessment</p> <p>(10%)</p> <p>Learning outcomes: 5.2.1, 5.3.1, 7.1.1, 7.2.1, 7.3.1 and 12.1.3</p> <p>Starter questions: <i>Are the cephalometric findings consistent with your clinical findings?</i> <i>What is the aetiology of the malocclusion?</i> <i>What is the IOTN DHC score?</i></p>	<p>Minimal key diagnoses (clinical and radiographic) described with no rationale as to how the diagnoses have been achieved. Not aware of the need and demand for treatment.</p>	<p>Some key diagnoses (clinical and radiographic) described with minimal rationale as to how the diagnoses have been achieved. Inadequate awareness of the need and demand for treatment.</p>	<p>Most key diagnoses (clinical and radiographic) described with some rationale as to how the diagnoses have been achieved. Aware of the need and demand for treatment.</p>	<p>All key diagnoses accurately, clearly and concisely described with clear rationale as to how the diagnoses have been achieved. Clear awareness of the need and demand for treatment.</p>
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TREATMENT	Well below standard (1)	Just below standard (2)	Just above standard (3)	Well above standard (4)
<p>Treatment aims and objectives and treatment plan (50%)</p> <p>Learning outcomes: 5.2.2, 5.3.2 and 8.2.1</p> <p>Starter questions: <i>What is your treatment aims and objectives?</i> <i>What is your treatment plan for this case?</i> <i>Explain your rationale (anchorage demands) for your proposed treatment plan for this case.</i></p>	<p>The treatment aims and objectives are unreasonable or inappropriate or expressed with no rationale (not based on diagnostic features, facial, occlusal aims, treatment objectives and consideration of space requirements) described.</p> <p>The treatment plan described is unreasonable or inappropriate or expressed with no rationale (not based diagnostic features, facial, occlusal aims, treatment objectives and consideration of space requirements) described.</p>	<p>The treatment aims and objectives are partly reasonable or appropriate or expressed with minimal rationale (based on diagnostic features, facial, occlusal aims, treatment objectives and consideration of space requirements) described.</p> <p>The treatment plan described is partly reasonable or appropriate or expressed with minimal rationale (based on diagnostic features, facial, occlusal aims, treatment objectives and consideration of space requirements) described.</p>	<p>The treatment aims and objectives are reasonable or appropriate or expressed with some rationale (based on diagnostic features, facial, occlusal aims, treatment objectives and consideration of space requirements) described.</p> <p>The treatment plan described is reasonable or appropriate or expressed with some rationale (based on diagnostic features, facial, occlusal aims, treatment objectives and consideration of space requirements) described.</p>	<p>The treatment aims and objectives are appropriate or expressed with a clear rationale (based on diagnostic features, facial, occlusal aims, treatment objectives and consideration of space requirements) described.</p> <p>The treatment plan described is appropriate and expressed with a clear rationale (based on facial, occlusal aims, diagnostic features, treatment objectives and consideration of space requirements).</p>

MECHANICS	Well below standard (1)	Just below standard (2)	Just above standard (3)	Well above standard (4)
<p>Treatment Mechanics (25%)</p> <p>Learning outcomes: 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.2.1, 4.2.3, 4.2.4, 4.3.1, 4.3.2, 4.3.3. and 4.3.4</p> <p>Starter questions: <i>Explain the mechanics you are going to use to manage your anchorage demands in this case.</i> <i>Explain your rationale for your selected archwire sequence for this case.</i> <i>Explain your space closure mechanics for this case.</i></p>	<p>Minimal or no key reasonable treatment mechanics (materials, archwire sequence and treatment progression) are described.</p>	<p>Some key reasonable treatment mechanics (materials, archwire sequence and treatment progression) are described.</p>	<p>Most key reasonable treatment mechanics (materials, archwire sequence and treatment progression) are described.</p>	<p>A comprehensive range of treatment mechanics (materials, archwire sequence and treatment progression) are described.</p>

APPENDIX 3



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MOrth Presented Case Marking Descriptors

MARK OUT OF 4	DESCRIPTOR
4	Excellent diagnosis with clearly identified problem list and appropriate treatment objectives. Logical and well supported treatment plan with good awareness of alternative approaches. Good understanding of the treatment mechanics required Excellent presentation.
3	Good diagnosis with clearly identified problem list and appropriate treatment objectives. Minor deficiencies in planning, awareness of alternative approaches or treatment mechanics required. Good presentation
2	Minor deficiencies in diagnosis, objective setting and planning. Reduced awareness of alternative approaches. Deficient presentation.
1	Significant deficiencies in diagnosis, objective setting and planning. Little awareness of alternative approaches. Poor presentation.