Dental Specialty Fellowship Examinations

Orthodontics Exam Syllabus

The exam syllabus is drafted based upon the curriculum published by the GDC as well as the training syllabi drafted by the Specialty Advisory Committee (SAC) which includes elements for the exam as well as elements being covered in the workplace-based assessments.

The curriculum is drafted by the Specialty Advisory Committee (SAC) and the GDC for use from September 2024.

On application to sit the examination, candidates will be asked to self-certify that have sufficient knowledge of the learning outcomes noted in this syllabus to attempt the examination.

1. Development and Growth		**Curriculum REF D5.1**	
ES code	*Trainees should be able to:*	**SBA**	**SO**
1.1	Craniofacial Development		
1.1.1	Demonstrate and apply knowledge of the embryonic development of the facial region to the management of patients.	X	
1.1.2	Demonstrate an understanding of the developmental basis of common craniofacial malformations.	X	
1.1.3	Recognise the importance of developmental biology for normal and abnormal development of the facial region.	X	X
1.2	Molecular Genetics		
1.2.1	Demonstrate and apply knowledge of the genetic, molecular and cellular mechanisms of inheritance.	X	X
1.2.2	Apply knowledge of the cellular and molecular basis of craniofacial biology to the management of patients.	X	X
1.2.3	Demonstrate knowledge of gene transcription and translation.	X	
1.2.4	Demonstrate an understanding of the regulation of craniofacial development, tooth development, bone formation and remodelling.	X	X
1.2.5	Demonstrate an understanding of the molecular basis of common craniofacial malformations.	X	
1.2.6	Recognise the importance of cellular and molecular processes for normal and abnormal development of the craniofacial region.	X	X
1.3	Postnatal Growth		
1.3.1	Demonstrate knowledge of the mechanisms of general somatic growth, including the adolescent growth spurt.	X	

1.3.2	Demonstrate knowledge of the theoretical basis of growth and remodelling in the craniofacial skeleton.	X	
1.3.3	Demonstrate and apply knowledge of the normal and abnormal patterns of craniofacial growth.	X	X
1.3.4	Apply knowledge of craniofacial growth to the management of patients.	X	X
1.3.5	Recognise the importance of normal and abnormal growth influencing the outcomes of orthodontic treatment.		X
1.4	Normal and Abnormal Development		
1.4.1	Demonstrate and apply knowledge of normal and abnormal development of the dentition.	X	X
1.4.2	Demonstrate and apply knowledge of the stages of dental development and variation from the norm.	X	X
1.4.3	Demonstrate and apply knowledge of the factors associated with developmental anomalies within the dentition.	X	X
1.4.4	Demonstrate and apply knowledge of normal and abnormal occlusal development.	X	X
1.4.5	Assess the dentition in the child and adult.	X	X
1.4.6	Select, analyse, and interpret relevant imaging to identify appropriate development of the dentition.	X	X
1.4.7	Weigh up the possibilities for interceptive measures to improve or intercept any developing anomalies.	X	X
1.4.8	Recognise the importance of normal development of the dentition in providing appropriate orthodontic advice and care.		X
1.5	Psychosocial Development of the Child and Young Adult		
1.5.1	Demonstrate knowledge of normal psychological development from birth to adulthood.	X	
1.5.2	Demonstrate knowledge of variations in psychological development.	X	
1.5.3	Apply knowledge of psychosocial development to the assessment and management of the orthodontic patient.	X	X
1.5.4	Recognise the importance of variations in psychological profiles when providing appropriate orthodontic advice and care.		X
1.6	Epidemiological Basis of Malocclusion		
1.6.1	Demonstrate knowledge of the incidence and prevalence of malocclusion in different populations.	X	
1.6.2	Demonstrate knowledge of the need and demand for orthodontic treatment in the UK.	X	
1.6.3	Use indices to measure treatment need and outcomes.	X	X
1.6.4	Demonstrate understanding of ethnic, gender and social influences in orthodontic care provision.	X	X

1.6.5	Incorporate patient needs and background in orthodontic treatment planning.	X	X
1.6.6	Recognise the importance of psychosocial factors in provision of orthodontic care.		X
1.7	Aetiology of Malocclusion		
1.7.1	Demonstrate knowledge of the causes of malocclusion.	X	x
1.7.2	Analyse and interpret clinical findings with respect to the diagnosis of malocclusion in the child and adult.	X	X
1.7.3	Recognise the importance of establishing an appropriate treatment plan within the context of the aetiological basis of a malocclusion.		X

2. Diagnosis and Treatment Planning		**Curriculum REF D5.2**	
ES code	*Trainees should be able to:*	**SBA**	**SO**
2.1	Examination of the Orthodontic Patient		
2.1.1	Demonstrate understanding of the normal relationship of the facial skeletal and soft tissues in frontal and profile view.	X	X
2.1.2	Demonstrate understanding of intra-oral examination, dentofacial aesthetics, ethnic variations.	X	X
2.1.3	Demonstrate and apply knowledge of variations from population norms.	X	X
2.1.4	Demonstrate understanding of the influence of respiratory activity and nasal breathing on growth and development of the jaws.	X	X
2.1.5	Analyse and interpret clinical findings with respect to extra and intra-oral examination of the child and adult orthodontic patient.	X	X
2.1.6	Recognise the importance of establishing an appropriate treatment plan within the context of the orthodontic examination.		X
2.1.7	Demonstrate understanding of patients with more complex medical needs and the impact of this on their orthodontic care	X	X
2.2	Diagnostic Procedures		
2.2.1	Analyse and interpret appropriate records pertinent to accurate diagnosis of the orthodontic patient.	X	X
2.2.2	Demonstrate knowledge of clinical photography of the face and dentition.	X	X
2.2.3	Demonstrate and apply knowledge of intra-oral scanning, digital model analysis, digital image storage and manipulation.	X	X
2.2.4	Demonstrate and apply knowledge of formal space analysis using orthodontic study models.	X	X
2.2.5	Select where appropriate and interpret conventional plane film radiography relevant to orthodontic diagnosis.	X	X

2.2.6	Select where appropriate and interpret reported findings of CBCT imaging relevant to orthodontic diagnosis.	X	X
2.2.7	Select where appropriate and interpret other special tests including Basic Periodontal Examination and vitality testing.	X	X
2.2.8	Recognise the importance of an accurate diagnosis and the ability to communicate these findings to the patient.		X
2.3	Static and Functional Occlusion, TMD and Orthodontics		
2.3.1	Demonstrate knowledge of static occlusal relationships and classification of malocclusion.	X	X
2.3.2	Demonstrate knowledge of components of a functional occlusion and the concept of mutual protection.	X	X
2.3.3	Apply knowledge of static and functional occlusal goals to orthodontic treatment provision.	X	X
2.3.4	Demonstrate and apply knowledge of normal TMJ function.	X	X
2.3.5	Diagnose and manage TMD (acute and chronic forms).	X	X
2.3.6	Demonstrate knowledge of the management of TMD in orthodontic patients.		X
2.3.7	Recognise the importance of systematic and thorough examination of the TMJ and diagnosis of TMD as part of orthodontic treatment.		X
2.4	Cephalometric Analysis, Analysis of Growth and Treatment Outcomes, Growth Prediction		
2.4.1	Identify cephalometric landmarks.	X	X
2.4.2	Demonstrate and apply knowledge of common cephalometric analyses, their limitations and their interpretation.	X	X
2.4.3	Demonstrate knowledge of the cranial base and regional superimposition.	X	X
2.4.4	Demonstrate and apply knowledge of methods of growth prediction, including timing of the adolescent growth spurt.	X	X
2.4.5	Interpret cephalometric analysis and superimposition of lateral skull radiographs for diagnosis, treatment planning and treatment effects.	X	X
2.4.6	Recognise the limitations of predicting craniofacial growth.	X	X
2.4.7	Recognise the role of cephalometric analysis in orthodontic diagnosis and the evaluation of growth and treatment effects.		X
2.5	Orthodontic Treatment Planning		
2.5.1	Demonstrate understanding of how orthodontic treatment delivers objectives.		X
2.5.2	Demonstrate an understanding of the limitations of treatment.	X	X
2.5.3	Demonstrate understanding of the role of patient expectations and concerns in orthodontic treatment planning.	X	X
2.5.4	Recognise the practicalities of correcting a particular malocclusion for each individual patient.		X

2.5.5	Identify all possible treatment options including no treatment.		X

3. Delivery of Orthodontic Care		Curriculum REF D5.3	
ES code	*Trainees should be able to:*	**SBA**	**SO**
3.1	Interceptive Management of the Developing Occlusion		
3.1.1	Demonstrate and apply knowledge of the features associated with normal and abnormal development of the dentition and facial growth.	X	X
3.1.2	Demonstrate and apply knowledge of the consequences of early loss and retention of primary teeth and enforced early loss of permanent teeth.	X	X
3.1.3	Demonstrate and apply knowledge of the evidence base relating to early intervention for local problems, early modification of crossbites and early correction of skeletal discrepancies.	X	X
3.1.4	Identify normal and abnormal development of the dentition and jaws.	X	X
3.1.5	Formulate appropriate treatment plans for interceptive management within the context of best evidence.	X	X
3.1.6	Recognise the need for early intervention of developing occlusal and skeletal problems within the context of best evidence.		X
3.2	Orthodontic Tooth Movement		
3.2.1	Demonstrate and apply knowledge of clinical, histological and molecular processes to normal exfoliation and eruption of teeth.	X	X
3.2.2	Demonstrate and apply an understanding of the disorders of tooth eruption.	X	X
3.2.3	Demonstrate and apply knowledge of the response of the periodontium to the application of external force.	X	X
3.2.4	Demonstrate and apply knowledge of normal and pathological resorption of dental structures.	X	X
3.2.5	Recognise the importance of normal exfoliation and eruption during development of the dentition and the need to explain these in terms of treatment options.		X
3.2.6	Recognise the importance of resorption associated with dental structures and the need to explain these in terms of treatment options and in the context of risk of treatment.		X
3.3	Dentofacial Orthopaedics		
3.3.1	Demonstrate and apply knowledge of the indications and contra-indication for the use of dentofacial orthopaedics.	X	X
3.3.2	Demonstrate and apply an understanding of headgear in the context of orthopaedic treatment including safety, directional forces, use of cervical, horizontal, and high pull conventional headgear.	X	X

3.3.3	Demonstrate and apply knowledge of the use of headgear with functional appliances.	X	X
3.3.4	Suggest appropriate early management of Class III malocclusion with protraction headgear.	X	X
3.3.5	Demonstrate and apply knowledge of maxillary skeletal expansion.	X	X
3.3.6	Demonstrate and apply an understanding of temporary anchorage devices in dentofacial orthopaedics.	X	X
3.3.7	Apply evidence-based principles of treatment timing in dentofacial orthopaedics.	X	X
3.3.8	Explain the need for orthopaedic treatment.		X
3.3.9	Discuss the safe application of headgear for use in conjunction with appliances in the management of skeletal discrepancies.		X
3.4	Fixed and Removable Functional Appliances		
3.4.1	Demonstrate and apply knowledge of indications and contraindications for the use of removable and fixed functional appliances.	X	X
3.4.2	Design removable and fixed functional appliances.	X	X
3.4.3	Demonstrate and apply knowledge of the mode of action associated with removable and fixed functional appliances.	X	X
3.4.4	Demonstrate and apply an understanding of the use of removable and fixed functional appliances for management of malocclusion.	X	X
3.4.5	Apply the evidence base relating to the use of functional appliances.	X	X
3.4.6	Discuss management of patients with removable and fixed functional appliances through the treatment process.		X
3.4.7	Recognise the importance of treatment timing with functional appliances.	X	X
3.5	Orthodontics Materials		
3.5.1	Demonstrate and apply knowledge of the range of materials available for use in clinical orthodontics and their properties.	X	X
3.5.2	Demonstrate an understanding of biocompatibility and the risks of orthodontic materials.	X	X
3.5.3	Select appropriate orthodontic materials for any clinical situation.	X	X
3.5.4	Recognise and discuss the potential harms, risks and limitations associated with different orthodontic materials.		X
3.5.5	Recognise the impact of orthodontics and the materials used on the environment and the potential impact on environmental sustainability.		X
3.6	Orthodontic Biomechanics		
3.6.1	Demonstrate and apply knowledge of tooth responses to orthodontic force; single and two-tooth systems, forces, moments and couples.	X	X

3.6.2	Demonstrate and apply knowledge of the mechanics of orthodontic tooth movement.	X	X
3.6.3	Demonstrate and apply knowledge of the bracket-archwire interactions, friction and tooth translation.	X	X
3.6.4	Demonstrate and apply an understanding of controlling anchorage using appropriate biomechanics and adjunctive systems.	X	X
3.7	Conventional Removable Appliances		
3.7.1	Demonstrate and apply knowledge of the mode of action associated with removable appliances.	X	X
3.7.2	Demonstrate and apply an understanding of the use of removable appliances for interceptive management of malocclusion.	X	X
3.7.3	Demonstrate and apply an understanding of the use of removable appliances as an adjunct to fixed appliance treatment.	X	X
3.7.4	Design removable appliances and discuss their fit, activation and adjustment.		X
3.7.5	Suggest appropriate management for patients with removable appliances through the treatment process.	X	X
3.8	Fixed Orthodontic Appliances		
3.8.1	Demonstrate an understanding of the theoretical basis of different fixed orthodontic appliance systems.		X
3.8.2	Demonstrate and apply knowledge of the design, manufacture and construction of fixed orthodontic appliances.	X	X
3.8.3	Discuss bracket prescriptions and local variations.		X
3.8.4	Discuss appropriate management of anchorage and mechanics during treatment with fixed orthodontic appliances.		X
3.8.5	Demonstrate and apply knowledge of auxiliaries with fixed appliances, including expansion devices and fixed anchorage.	X	X
3.8.6	Apply the evidence base relating to clinical performance of fixed orthodontic appliances including methods of ligation, archwire materials and sequencing, auxiliaries and space closure.	X	X
3.8.7	Select and discuss the fit, management and removal of fixed orthodontic appliance systems appropriate to the treatment of specific malocclusions.	X	X
3.8.8	Recognise the importance of the evidence base relating to the use of fixed orthodontic appliance systems.		X
3.9	Aligners		
3.9.1	Demonstrate an understanding of the theoretical basis of aligner systems and materials.	X	
3.9.2	Demonstrate and apply knowledge of adjuncts to aligner treatment, and the theory and use of attachments.	X	X
3.9.3	Plan treatment with aligners.	X	X

3.9.4	Apply the evidence base relating to aligner tooth movement and treatment outcomes.	X	X
3.9.5	Select as appropriate and discuss placement of attachments, fit and management of aligner systems for the treatment of specific malocclusions.	X	X
3.9.6	Recognise the availability of alternative appliance systems.	X	X
3.9.7	Recognise the applications and limitations of aligner systems.		X
3.1	Anchorage Reinforcement		
3.10.1	Demonstrate and apply knowledge of intra-oral anchorage reinforcement with fixed appliances.	X	X
3.10.2	Demonstrate and apply knowledge of indications for the use of headgear to reinforce anchorage with fixed and removable appliances.	X	X
3.10.3	Demonstrate an understanding of the theoretical basis, design, manufacture and construction of temporary anchorage devices.	X	X
3.10.4	Demonstrate and apply knowledge of the clinical use of temporary anchorage devices in combination with other orthodontic appliances.	X	X
3.10.5	Demonstrate and apply knowledge of the mechanics of temporary anchorage devices used for anchorage reinforcement and tooth movement.	X	X
3.10.6	Recognise the need to reinforce anchorage in the management of malocclusion.	X	X
3.10.7	Select as appropriate and discuss placement and management of fixed anchorage devices for use with fixed appliances.	X	X
3.10.8	Select as appropriate and discuss placement and management of headgear for use in anchorage reinforcement with fixed and removable appliances.	X	X
3.10.9	Select as appropriate and discuss placement and management of temporary anchorage devices for use in anchorage reinforcement and tooth movement with fixed appliances.	X	X
3.11	Adult Orthodontics		
3.11.1	Demonstrate and apply knowledge of dental health considerations in adult patients, including restorative and periodontal status.	X	X
3.11.2	Demonstrate and apply knowledge of general health considerations in adult patients.	X	X
3.11.3	Demonstrate an understanding of orthodontic treatment as an adjunctive therapy and component of adult dental treatment; goals, principles, and different procedures.	X	X
3.11.4	Apply the evidence base relating to adult orthodontic treatment.	X	X
3.11.5	Discuss managing the expectations of adult patients.		X
3.11.6	Recognise the specific problems and limitations of orthodontic treatment for the adult.		X

3.12	Orthodontic Emergencies, including Dental Trauma		
3.12.1	Demonstrate and apply knowledge of common appliance systems and the problems that can be seen in association with them.	X	X
3.12.2	Suggest appropriate acute management for dental trauma; concussion, subluxation, extrusion, luxation, intrusion, avulsion, luxation, crown and crown-root fractures, root fractures, dentoalveolar fracture, soft tissue injury.	X	X
3.12.3	Suggest appropriate management for patients who present with problems associated with broken removable, functional, and fixed appliances.	X	X
3.12.4	Discuss appropriate referral for acute cases of dental trauma.		X
3.12.5	Recognise the importance of dental trauma in the management of patients receiving orthodontic treatment.		X
3.13	The Iatrogenic Effects of Orthodontic Treatment		
3.13.1	Demonstrate and apply knowledge of risk factors for iatrogenic damage during orthodontic treatment.	X	X
3.13.2	Diagnose iatrogenic effects.	X	X
3.13.3	Demonstrate and apply knowledge of clinical protocols for minimising and managing iatrogenic damage when identified.	X	X
3.13.4	Apply the evidence base relating to iatrogenic effects of orthodontic treatment.	X	X
3.13.5	Discuss management of orthodontic treatment to reduce the risks of iatrogenic damage.		X
3.13.6	Recognise the importance of detailing risk to the orthodontic patient as part of informed consent.		X
3.13.7	Recognise the need for balance in describing risk-benefit to the orthodontic patient.		X
3.14	Stability and Retention, Long-Term Effects of Orthodontic Treatment, Maturation of the Dentition		
3.14.1	Demonstrate and apply an understanding of the association between malocclusion and relapse.	X	X
3.14.2	Demonstrate and apply an understanding of the effect of orthodontic treatment on stability.	X	X
3.14.3	Demonstrate and apply knowledge of treatment mechanics to enhance stability.	X	X
3.14.4	Demonstrate and apply knowledge of post-retention changes following active orthodontic treatment.	X	X
3.14.5	Demonstrate and apply knowledge of long-term strategies for maintaining tooth position.	X	X
3.14.6	Demonstrate and apply an understanding of common changes in the untreated occlusion over the long-term.	X	X

3.14.7	Demonstrate and apply the evidence base relating to orthodontic retention.	X	X
3.14.8	Demonstrate and apply an understanding of common problems with removable and fixed retainers.	X	X
3.14.9	Select as appropriate and discuss design, fit and management of both removable and fixed orthodontic retention appliances appropriate for the management of long-term retention following active orthodontic treatment.	X	X
3.14.10	Recognise the need for post-treatment retention and the importance of the evidence base relating to orthodontic retention.	X	X
3.14.11	Recognise the importance of post-treatment change.		X
3.14.12	Recognise the importance of retention as part of the consent process.		X

4. Multidisciplinary Care		**Curriculum REF D 5.4**	
ES code	*Trainees should be able to:*	**SBA**	**SO**
4.1	Orthodontics and Oral Surgery		
4.1.1	Demonstrate and apply knowledge of treatment options and evidence base for the management of unerupted and impacted teeth through a combination of minor oral surgery and orthodontics.	X	X
4.1.2	Demonstrate and apply knowledge of treatment options and evidence base for encouraging tooth eruption.	X	X
4.1.3	Demonstrate and apply an understanding of the indications and evidence base for frenectomy.	X	X
4.1.4	Identify complex cases that may require referral.	X	X
4.1.5	Suggest appropriate management and treatment for unerupted and impacted teeth; infra-occluded teeth and teeth affected by other forms of eruption failure.	X	X
4.1.6	Weigh the treatment options for managing unerupted and impacted teeth taking into account risk-benefit for each option.	X	X
4.1.7	Advise on the need for and timing of frenectomy.		X
4.1.8	Demonstrate an understanding of the theory, practice and indications for autotransplantation.	X	X
4.2	Orthodontics and Restorative Dentistry		
4.2.1	Demonstrate and apply an understanding of the principles of orthodontic space distribution for restoration of teeth with bridges or implants.	X	X
4.2.2	Demonstrate and apply knowledge of timing of adjunctive orthodontic treatment in relation to restorative or periodontal care.	X	X
4.2.3	Identify complex cases that may require referral.	X	X

4.2.4	Discuss advice that could be given to fellow professionals and patients on adjunctive orthodontic treatment.		X
4.2.5	Recognise the importance of an integrated team approach and communication with fellow professionals when considering and planning combined orthodontic and restorative care.		X
4.3	Overview of Multidisciplinary Management of Facial Disharmony		
4.3.1	Demonstrate and apply an understanding of concepts of dentoalveolar compensation for a skeletal discrepancy.	X	X
4.3.2	Demonstrate and apply knowledge of common surgical techniques used to manage disproportions of the jaws.	X	X
4.3.3	Demonstrate and apply knowledge of timing of combined orthodontic-surgical treatment for jaw disproportion.	X	X
4.3.4	Identify potential orthognathic cases that may require referral.	X	X
4.3.5	Demonstrate and apply an understanding of the timing of orthodontic care for patients with cleft lip and/or palate.	X	X
4.3.6	Identify cases with facial disproportion that cannot be treated with orthodontics alone.	X	X
4.3.7	Discuss essential treatment options for managing patients with facial disproportion and weigh risk-benefit.	X	X
4.3.8	Demonstrate and apply knowledge of the Index of Orthognathic Functional Treatment Need.	X	X

Version control

Version	Date	Changes made
1.0	9 November 2025	Document approved for publication
1.1	16 March 2026	New learning outcomes added 2.1.7 and 4.1.8 Preface text added including noting source material for the syllabus.
1.2	8 April 2026	Minor formatting and branding updates, no content changes.