Dental Specialty Fellowship Examinations

Dental Specialty Fellowship Examinations

Orthodontics Exam syllabus

9 November 2025

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
2.2	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
4.2	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

Date	Changes made
9 November 2025	Document approved for publication