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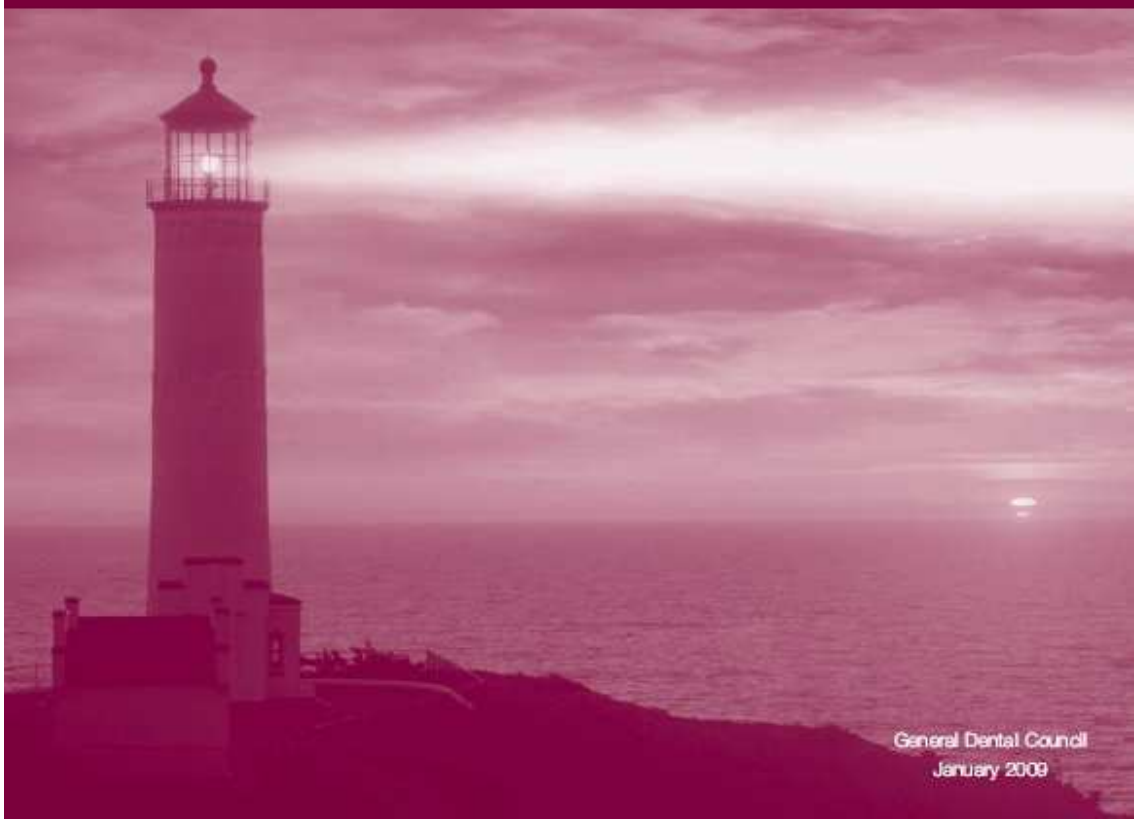
DEVELOPING THE DENTAL TEAM – SECOND EDITION (INTERIM) 2009

GENERAL DENTAL COUNCIL



General Dental Council
January 2009

Foreword

This interim guidance replaces 'Developing the dental team – first edition' published in 2004. It will stay in force until 2010, when the General Dental Council (GDC) will publish a composite document to replace 'Developing the dental team' (DDT) and 'The First Five Years' (TFFY), setting out what it requires of the dental education and training process for dentists and all groups of dental care professional (DCP).

In 2007, the Education Committee commissioned a Strategic Review of the GDC's education-related functions. The full report of the Strategic Review was published in May 2008 and can be found on the GDC website at:
http://www.gdc-uk.org/Our+work/Education+and+quality+assurance/.

The Strategic Review recommended that:

- the GDC's responsibility should be to define the outcomes required of dental education and training (i.e. the knowledge, skills and attitudes that an applicant for registration must demonstrate in order to join the Dentists or Dental Care Professionals Register);
- the GDC should develop a new, risk-based quality assurance (QA) system for dental education and training, focusing on how the required outcomes are assessed.

In practice, this will mean a change from the GDC's former focus on detailed prescription of the specific topics and subjects which should feature in dental education and training curricula, and how these should be taught to students and trainees, to an emphasis on the *learning outcomes* which form the profile of the newly-qualified dentist or DCP. This approach acknowledges that expertise in developing and implementing comprehensive and innovative curricula and training programmes, which will deliver the outcomes the GDC requires, lies with dental education and training providers.

Development and implementation of new outcomes-based guidance and a new QA system will take around two years, and will require extensive consultation with stakeholders, including providers of DCP education and training. In the meantime, our current guidance to DCP education and training providers set out in DDT 2004, has become dated. Were we not to produce this revised DDT, DCP education and training providers would potentially be hamstrung into following requirements to pursue out-of-date practices. This interim guidance:

- does not alter the learning outcomes required of DCP groups, which will remain the same until the new outcomes guidance to replace DDT has been developed;
- contains revisions to the accompanying guidance to reflect our new focus;
- will remain effective until our new guidance on outcomes and new QA system is in place; and
- explains how we will approach the QA of DCP education and training for registration from now until the new QA system is developed.

If you have any questions about the revised guidance, please contact the Quality Assurance team at the GDC (Tel: 020 7887 3746; email: QualityAssurance@gdc-uk.org), who will be happy to help you.

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Contents

The purpose of DCP education and training **4**
Responsibilities of the GDC **4**
Responsibilities of DCP education and training providers **4**
Student fitness to practise **5**
Assessment **6**
Quality assurance **6**
Specific learning outcomes required for registration **7**
- **Dental nurse** 9
- **Orthodontic therapist** 12
- **Dental hygienist and dental therapist** 17
  - **Additional learning outcomes required to be a dental therapist** 23
- **Dental technician** 24
- **Clinical dental technician** 29

The purpose of DCP education and training

1. The purpose of DCP education and training is to produce a DCP who has demonstrated, on successful completion of an education or training programme, or examination, that he or she has met the outcomes required for registration with the GDC in the relevant DCP category.

Responsibilities of the GDC

2. The GDC's role in relation to education is to ensure that DCPs who join our registers are fit to practise at the point of registration and remain so throughout their working lives. The GDC's interest in DCP education and training therefore lies in the outcomes of the education and training process i.e. the knowledge, skills and attitudes that an applicant for registration must demonstrate in order to join our registers.

3. The GDC's responsibility is therefore to define the outcomes required, and to make sure they are met, through the education and training process, by would-be registrants.

4. The GDC has agreed that it will abide by the following principles in its role in relation to DCP education and training:

- In defining outcomes required for registration, the GDC will promote good practice in equality and diversity
- Outcomes should reflect the full range of knowledge, skill and attitudes that a student or trainee must demonstrate to the level appropriate for registration i.e. professionalism, communication, clinical/technical and management (and where appropriate, leadership) skills
- There must be a relationship between the outcomes required at the pre-registration stage of education, and the outcomes a fully registered DCP must meet to revalidate their registration.
- Regulation of education and training provision should be fair, that is, it is impartial, consistent and evidence-based in its judgements
- The burden of regulation on the providers of education and training should be kept to the necessary minimum, through an approach that is targeted, proportionate, and informed by risk
- An outcomes approach should encourage innovation, particularly in the development of new approaches to teaching and learning
- The GDC should recognise diversity in the delivery of education e.g. of oral health needs, service structures, learning and teaching styles, 'schools' of dentistry and forms of team working
- An outcomes approach should be responsive to changes in public expectations and evolve in the light of such changes

Responsibilities of the DCP education and training providers

5. It is the responsibility of DCP education and training providers to devise curricula, training courses, and assessments that will produce individuals who meet the outcomes the GDC requires. In doing so, DCP education and training providers should make sure that they take account of, and cover, the following issues.

    - Developments in oral health need and the role of DCPs in promoting the health and well-being of the public

    - The fact that the qualification for registration represents only the first stage, and education and training must prepare students to carry out self-directed learning to keep their knowledge and skills up-to-date throughout their professional lives

    - The importance of dental team working, with opportunities for student and trainee DCPs to train and work with other dental professionals

- Students and trainees should develop an understanding of audit and clinical governance, and their roles in ensuring a commitment by organisations and individuals in promoting the continuous development of quality in the delivery of patient care, including primary dental care and routine clinical practice. Students and trainees should be involved in the audit cycle and should understand the importance of evidence-based dentistry and how this relates to clinical practice. They should be able to evaluate the evidence and critically assess its relevance to treatment planning, advice and treatment provision

- The requirements of European Directives on dental training

- The need to ensure that patient feedback is incorporated into the curriculum – and acted upon

Student fitness to practise

6. The GDC puts professionalism at the heart of its agenda. The scope of what Council requires of dental students and trainees goes beyond academic achievement, and incorporates the attitudes, values and behaviours needed for registration. These are articulated in the Council's guidance *Standards for dental professionals*, which sets out six key principles dental professionals are expected to follow. These are:

    - putting patients' interests first and acting to protect them

    - respecting patients' dignity and choices

    - protecting the confidentiality of patients' information

    - co-operating with other members of the dental team and other healthcare colleagues in the interests of patients

    - maintaining professional knowledge and competence

    - being trustworthy

7. The Council expects professionalism to be embedded throughout dental education and training for registration. All dental students and trainees must have knowledge of our ethical guidance *Standards for dental professionals*, and its associated guidance, and demonstrate their professionalism, which must be continuously measured against the principles set out in *Standards for dental professionals*.

8. For the protection of the public it is important that providers of DCP education and training ensure that appropriate checks, including disclosure of any criminal convictions, are made before prospective students are admitted to a programme or training course.

9. If a student's behaviour falls below the standards the GDC expects, the education provider must consider whether this amounts to a fitness to practise concern, and therefore warrants consideration through its formal procedures. Students and trainees must be aware that unprofessional behaviour during their dental training can affect their ability to register with the GDC.

10. If there is a concern regarding the likelihood of a student or trainee being refused registration, the GDC may be able to advise on the basis on facts disclosed to it at the time. However, while it may be able to indicate the likelihood of the student or trainee being able to register in the

future, any advice it gives will not bind the GDC to a particular decision at the point of application to the register.

11. Where applicable, technical skills should be tested before students are allowed to treat patients. These tests must show that students can work safely before they treat patients under supervision.

12. Certain infectious diseases are a risk to patients. In conformity with Departments of Health guidelines, all dental students and trainees must be immunised against blood-borne viruses, where appropriate vaccines exist, before commencing care of patients which involves exposure-prone procedures.

13. Reasonable adjustments are expected to be made for disabled students in enabling them to achieve the outcomes required, for example, to methods of teaching and learning and to the assessments through which a student demonstrates these outcomes.

Assessment

14. Education providers should design assessments so that they assess students and trainees against all the required learning outcomes. Professionalism should be assessed throughout the programme. Where an examination is used as the sole determinant of a qualification, the examination must assess professionalism. The GDC, when it monitors and inspects education providers, will be concerned with how students and trainees are assessed against the outcomes.

15. Each education provider is required to keep records of the academic and clinical performance of each dental student. The records should be arranged so that inspectors can assess the extent and quality of clinical work completed by the student or trainee across all clinical environments.

Quality assurance

16. The GDC will operate an interim system of QA which has the achievement of the DDT learning outcomes and the embedding of dental team teaching and working, of communication skills, and of ethics and professionalism in dental curricula at its core. Internal quality control mechanisms and student fitness to practise procedures will also be probed. The intention is to implement a light-touch, risk-based approach which will reduce the burden on education providers.

17. If the GDC considers that the programme of study or the assessments to qualify for a degree do not ensure that an individual possesses the requisite knowledge, skills or attitudes necessary for registration with us, it may cease to recognise that qualification as a qualification which confers the right to apply to be registered in the Dental Care Professionals Register.

Learning outcomes required for registration

18. Generic learning outcomes, which apply to dentists and all groups of DCP, are:

Knowledge and understanding

The dental graduate and newly qualified DCP must understand those aspects of the following topics that relate to their framework of professional responsibilities:

- The scientific basis of dentistry, including the appropriate biomedical sciences, the mechanisms of knowledge acquisition, scientific method and evaluation of evidence;
- Behavioural science and communication;
- The body of clinical and technical experience necessary to inform their individual practice;
- The processes of disease and how these affect the individual and the appearance and function of normal tissues;
- Principles of health promotion and disease prevention;
- Organisation and provision of healthcare in the community and in hospital;
- Broader issues of the practice of dentistry, including ethics, medico-legal considerations, dealing with medical emergencies, health and safety legislation and the maintenance of a safe working environment.

Attitudes

The dental graduate or newly qualified DCP must have:

- approaches to teaching and learning that are based on curiosity and exploration of knowledge rather than its passive acquisition;
- a desire to seek and act on evidence, a capacity for self-audit and an appreciation of the need to participate in peer review;
- an awareness of personal limitations, a willingness to seek help as necessary, and an ability to work effectively as a member of the dental team;
- respect for patients and colleagues that encompasses without prejudice diversity of background and opportunity, language and culture;
- an understanding of patients' rights, particularly with regard to confidentiality and informed consent;
- an awareness of moral and ethical responsibilities involved in the provision of care to individual patients and to populations;
- an appreciation of the importance of honesty and trustworthiness;
- an understanding of audit and clinical governance;
- an awareness of the need to provide or support the highest quality of patient care at all times;
- an awareness of the importance of one's own health, and its impact on the ability to practise;
- an awareness of the need for continuing professional development, including reflective practice, allied to the process of their continuing education, in order to ensure that high levels of competence and knowledge are maintained;
- an awareness of the need to limit interventions to the minimum necessary to achieve the desired outcomes.

Skills

The dental graduate and newly qualified DCP must be able to:

- Promote and maintain health and safety in the workplace, including the implementation of satisfactory infection control procedures;
- Undertake a range of clinical and technical procedures that are within their area of knowledge and competence, including techniques for preventing and treating oral and dental disease and disorders;
- Communicate effectively with patients, their families and associates, members of the dental team and other health professionals involved in their care;
- Evaluate and apply evidence-based treatment and techniques;
- Possess a wide range of transferable key skills, including investigative, analytical, problem solving, planning, communication, presentation and team skills;
- Use contemporary methods of electronic communication and information management.

19. Specific learning outcomes required for registration for each DCP category are listed in the table overleaf. Specific learning outcomes are expressed at three levels:

20.

Be competent at:	Newly qualified DCPs should have a sound theoretical knowledge and understanding of the subject together with an adequate clinical/practical experience to be able to resolve clinical/practical problems encountered, independently, or without assistance.
Have knowledge of:	Newly qualified DCPs should have a sound theoretical knowledge of the subject, but need have only a limited clinical/practical experience.
Be familiar with:	Newly qualified DCPs should have a basic understanding of the subject, but need not have direct clinical/practical experience or be expected to carry out procedures independently.

Dental nurse		
Biomedical sciences and oral biology	**Behavioural sciences, communication skills and health informatics**	**Human disease**
Have knowledge of oral physiology and craniofacial, oral and dental anatomy relevant to dental nursing	Be competent at using information technology	Have knowledge of the scientific principles of sterilisation, disinfection and antisepsis
Be familiar with those aspects of general anatomy, physiology and biochemistry relevant to dental nursing	Be competent at communication with patients, their families and carers, other members of the dental team and other healthcare professionals	Have knowledge of the relationships between oral health and human diseases and disorders to enable them to promote oral health in the context of a patient's general health
	Have knowledge of managing patients from different social and ethnic backgrounds	
	Have knowledge of working as part of the dental team	
	Be familiar with the social and psychological issues relevant to the care of patients	
Medical emergencies	**Law, ethics and professionalism**	**Health and Safety and infection control**
Be competent at carrying out resuscitation techniques	Be competent at maintaining full, accurate clinical records	Be competent at implementing and performing satisfactory infection control and preventing physical, chemical and microbiological contamination in the clinic and the laboratory
Have knowledge of how to identify that a medical emergency has arisen and provide support both for the individual with	Have knowledge of responsibilities of consent, duty of care and confidentiality	Be competent at arranging and using the working clinical and laboratory environment in the most safe and efficient

the emergency and to those providing immediate management of the emergency		manner
Be familiar with the principles of first aid.	Have knowledge of patients' rights and how to handle complaints	Have knowledge of health and safety legislation as it affects clinical and laboratory practice
	Have knowledge of the range of skills of other members of the dental team	
	Have knowledge of the regulatory functions of the GDC	
	Be familiar with the legal and ethical obligations of registered members of the dental team	
	Be familiar with the obligation to practise in the best interests of the patient at all times	
	Be familiar with the need for lifelong learning and professional development	
	Be familiar with the law as it applies to records	
Dental Biomaterials Science	**Pain and anxiety control**	**Preventive dentistry**
Be competent at the correct chairside manipulation of the dental biomaterials commonly used in clinical dentistry	Be competent at reassuring the anxious patient	Be competent at demonstrating methods of maintaining oral hygiene
Have knowledge of the science that underpins the dental biomaterials used by the dental nurse	Be competent at the provision of chairside support during the administration of local and regional analgesia	Be competent at demonstrating methods of caring for dentures and orthodontic appliances
Have knowledge of the limitations of such dental biomaterials	Be familiar with the manifestations of anxiety and pain and the common methods available for their management and control	Be familiar with the social, cultural and environmental factors which contribute to health
Be familiar with those aspects of biomaterials safety that relate to the work		

of a dental nurse		
Dental radiography	**Chairside support**	
Be competent at preparing equipment, materials and patients for dental radiography	Be competent at providing chairside support for the operator and patient during dental procedures	
Be competent at processing and mounting dental radiographs	Be competent at the preparation and maintenance of the dental surgery before, during and after treatment	
Have knowledge of the principles which underpin dental radiographic techniques, the hazards of ionising radiation and the relevant regulations	Have knowledge of the clinical procedures associated with restorative dentistry, paediatric dentistry, orthodontics, preventive dentistry, oral surgery, oral medicine and gerodontology	
Be familiar with the purpose of the chemicals used in processing	Be familiar with the mechanics of dental equipment (e.g. autoclaves, handpieces and suction apparatus) in order to provide daily maintenance.	

Orthodontic therapist		
Biomedical sciences and oral biology	**Behavioural sciences, communication skills and health informatics**	**Human disease**
Have knowledge and understanding of those aspects of the biomedical sciences, oral physiology and craniofacial, oral and dental anatomy that are significant in the management of patients.	Be competent at using information technology	Have knowledge of the scientific principles of sterilisation, disinfection and antisepsis
Be familiar with those aspects of general anatomy, physiology and biochemistry relevant to orthodontic therapy	Be competent at communication with patients, their families and carers, other members of the dental team and other healthcare professionals	Be familiar with the implications of a positive medical history and the main medical disorders that may affect the provision of orthodontic treatment
	Have knowledge of managing patients from different social and ethnic backgrounds	
	Have knowledge of working as part of the dental team	
	Be familiar with the social and psychological issues relevant to the care of patients	
Medical emergencies	**Law, ethics and professionalism**	**Health and Safety and infection control**
Be competent at carrying out resuscitation techniques	Be competent at maintaining full, accurate clinical records	Be competent at implementing and performing satisfactory infection control and preventing physical, chemical and microbiological contamination in the clinic and the laboratory
Have knowledge of how to identify medical	Have knowledge of responsibilities of	Be competent at arranging and using the

emergencies and provide immediate management of anaphylactic reaction, hypoglycaemia, upper respiratory obstruction, cardiac arrest, fits, vasovagal attack, inhalation or ingestion of foreign bodies, and haemorrhage	consent, duty of care and confidentiality	working clinical and laboratory environment in the most safe and efficient manner
Be familiar with the principles of first aid.	Have knowledge of patients' rights and how to handle complaints	Have knowledge of health and safety legislation as it affects clinical and laboratory practice
	Have knowledge of the range of skills of other members of the dental team	
	Have knowledge of the regulatory functions of the GDC	
	Have knowledge of their responsibilities in relation to the referral of patients	
	Be familiar with the legal and ethical obligations of registered members of the dental team	
	Be familiar with the obligation to practise in the best interests of the patient at all times	
	Be familiar with the need for lifelong learning and professional development	
	Be familiar with the law as it applies to records	
Dental Biomaterials Science	**Pain and anxiety control**	**Comprehensive oral care**
Be competent at the correct selection and manipulation of the dental biomaterials used by the orthodontic therapist	Be competent at managing fear and anxiety with behavioural techniques and empathise with patients in stressful situations	Be competent at working with other members of the dental team
Have knowledge of the science that underpins the dental biomaterials used by	Be familiar with the manifestations of anxiety and pain and the various methods	Be competent at interpreting, and working to, an orthodontic care plan or prescription

the orthodontic therapist	available for their management and control	
Have knowledge of the limitations of such dental biomaterials		Have knowledge of the role of the orthodontic therapist within the framework of the dental team
Be familiar with those aspects of biomaterials safety that relate to the work of the orthodontic therapist		Have knowledge of when to refer the patient to a dentist where treatment is beyond the training or experience of the orthodontic therapist
		Be familiar with the organisation of orthodontic services within the United Kingdom
Clinical Orthodontics		
Clinical records	**The Principles of Orthodontics**	**Orthodontic instruments**
Be competent at taking intraoral and extraoral photographs of patients, and photographs of models and radiographs	Have knowledge of the features of normal and ideal occlusion	Be competent at identifying and selecting appropriate instruments for the task to be carried out
Be competent at taking dental impressions	Have knowledge of the classification of malocclusion	Be competent at using equipment and instruments safely
Be competent at taking and checking occlusal records, including gnathological facebow readings	Have knowledge of the principles of tooth movement, force application and anchorage	Be competent at maintaining instruments
Be competent at casting, basing and trimming orthodontic models	Have knowledge of common orthodontic appliance systems and their mechanical principles	
Be competent at producing a cephalometric analysis of a skull radiograph by contemporary methods	Be familiar with the aetiology of malocclusion	
	Be familiar with the limitations of orthodontic treatment	
	Be familiar with the potential risks and benefits of orthodontic treatment, including	

	iatrogenic damage	
Removable appliance placement	**Fixed appliance placement**	**Fixed appliance removal**
Be competent at inserting passive removable appliances	Be competent at placing and removing orthodontic separators	Be competent at releasing and removing ligatures
Be competent at inserting active removable appliances previously adjusted by a dentist	Be competent at identifying and selecting orthodontic bands appropriate for the patient	Be competent at removing archwires and archwire auxiliaries
Be competent at fitting orthodontic headgear	Be competent at placing, adapting and cementing bands to achieve an ideal fit	Be competent at removing cemented and bonded attachments
Be competent at fitting orthodontic facebows which have been previously adjusted by a dentist	Be competent at identifying attachments appropriate for individual teeth	Be competent at differentiating between dental tissues, dental deposits, adhesive and cement
Be competent at measuring elastic headgear forces	Be competent at cleaning and preparing the tooth surface for orthodontic bonding	Be competent at removing orthodontic adhesive and cement residues from the teeth
	Be competent at using orthodontic adhesives and cements	Be competent at supragingival cleaning and polishing of the teeth using both powered and manual instrumentation, and at stain removal and prophylaxis where directly relevant to orthodontic treatment.
	Be competent at placing attachments, including bonded retainers, onto the teeth in the correct position	
	Be competent at preparing archwires	
	Be competent at inserting and ligating archwires and archwire auxiliaries	
	Be competent at ligating groups of teeth together	
	Be familiar with the technique of welding attachments to bands	
Orthodontic emergency care		

Be competent at identifying damaged and distorted orthodontic appliances		
Be competent at taking limited action to relieve pain or make an appliance safe in the absence of a dentist		
Be competent at identifying when a situation is beyond the orthodontic therapist's expertise and requires the patient to be seen by a dentist		
Have knowledge of the need to arrange early attention by a dentist following the emergency treatment		

Dental hygienist and dental therapist		
Biomedical sciences and oral biology	**Behavioural sciences, communication skills and health informatics**	**Human disease**
Have knowledge of anatomy, physiology and biochemistry relevant to dental hygiene and therapy	Be competent at using information technology	Have knowledge of the scientific principles of sterilisation, disinfection and antisepsis
Have knowledge and understanding of those aspects of the biomedical sciences and of oral physiology and craniofacial, oral and dental anatomy that are significant in the management of their patients.	Be competent at communication with patients, their families and carers, other members of the dental team and other healthcare professionals	Have knowledge of the pharmacological properties of those drugs used in general dental practice, including their unwanted effects.
	Have knowledge of managing patients from different social and ethnic backgrounds	Be familiar with the place of dental hygiene and dental therapy in the provision of healthcare
	Have knowledge of working as part of the dental team	Be familiar with manifestations of common human diseases and disorders relevant to the practice of dental hygiene and therapy, including their investigation and management
	Be familiar with the social and psychological issues relevant to the care of patients	Be familiar with the main medical disorders that may impinge on dental treatment
		Be familiar with the work of other healthcare workers
		Be familiar with pathological features and dental relevance of common disorders of

		major organ systems
		Be familiar with the role of therapeutics in the management of patients requiring dental treatment
Medical emergencies	**Law, ethics and professionalism**	**Health and Safety and infection control**
Be competent at carrying out resuscitation techniques	Be competent at maintaining full, accurate clinical records	Be competent at implementing and performing satisfactory infection control and preventing physical, chemical and microbiological contamination in the clinic
Have knowledge of how to identify medical emergencies and provide immediate management of anaphylactic reaction, hypoglycaemia, upper respiratory obstruction, cardiac arrest, fits, vasovagal attack, inhalation or ingestion of foreign bodies, and haemorrhage	Have knowledge of responsibilities of consent, duty of care and confidentiality	Be competent at arranging and using the working clinical and laboratory environment in the most safe and efficient manner
Be familiar with the principles of first aid	Have knowledge of patients' rights and how to handle complaints	Have knowledge of health and safety legislation as it affects clinical and laboratory practice
	Have knowledge of the range of skills of other members of the dental team	
	Have knowledge of the regulatory functions of the GDC	
	Have knowledge of their responsibilities in relation to the referral of patients	
	Be familiar with the legal and ethical obligations of registered members of the dental team	
	Be familiar with the obligation to practise in the best interests of the patient at all times	
	Be familiar with the need for lifelong	

	learning and professional development	
	Be familiar with the law as it applies to records	
Dental Biomaterials Science	**Pain and anxiety control**	**Preventive dentistry**
Be competent at the correct selection and manipulation of dental biomaterials used by the hygienist or therapist	Be competent at managing fear and anxiety with behavioural techniques and empathise with patients in stressful situations	Be competent at instructing patients in the various methods of plaque control, including both chemical and mechanical means and incorporating appropriate modifications for patients with special needs
Have knowledge of the science that underpins the dental biomaterials used by the dental hygienist or therapist	Be competent at infiltration and inferior dental regional block analgesia	Be competent in teaching patients about the dietary control of dental caries
Have knowledge of the limitations of such dental biomaterials	Be familiar with the dental application of drugs in the control of pain and anxiety	Be competent in the application of fissure sealants, with good knowledge of their properties and composition
Be familiar with those aspects of biomaterials safety that relate to the work of the dental hygienist or therapist		Be competent in the use of fluoride topically
		Be competent at providing smoking cessation advice for patients
		Have knowledge of the principles of prevention of dental disease with an appreciation of the dynamics involved, including therapeutic, educational, social and environmental factors
		Have knowledge of other preventive techniques which may be available
		Have knowledge of the use of fluoride systemically
Dental radiography, dental radiology	**Introduction to clinical dental hygiene**	**Dental public health**

and imaging		
Be competent at taking and processing the various film views used in general dental practice	Be competent at obtaining a detailed history of the patient's dental state	Be competent in the principles of health promotion, including oral health promotion
Be competent at identifying anatomical features and interpreting common pathology	Be competent at checking and evaluating a patient's medical history	Have knowledge of the importance of community-based prevention
Have knowledge of the hazards of ionising radiation and regulations relating to them, including radiation protection and dose reduction	Be competent at interpreting a treatment plan	Be familiar with the social, cultural and environmental factors which contribute to health or illness
Be familiar with the principles which underlie dental radiographic techniques	Be familiar with the complex interactions between oral health, nutrition, general health, drugs and diseases that can have an impact on dental care and disease	Be familiar with the structures of the public health services
Be familiar with the assessment of image quality		Be familiar with the use of indices in the recording of oral conditions and in evaluating data
Be familiar with alternative imaging techniques		Be familiar with the prevalence of certain dental conditions in the UK
Oral disease	**Restorative dentistry**	**Child dental health**
Oral surgery		**Paediatric dentistry**
Have knowledge of the oral hygiene and preventive advice appropriate for cases of trauma and craniofacial abnormalities	Be competent at providing preventive oral care for the individual patient who presents with dental caries, periodontal disease and tooth wear	Be competent at recognising active caries and providing preventive care in children
Be familiar with common oral surgical procedures	Be competent at completing a periodontal examination and charting	Be familiar with the management of trauma in the deciduous and permanent dentitions
Be familiar with their role in the pre-and post-surgical situation	Be competent at supragingival and subgingival scaling and root debridement, using both powered and manual	

	instrumentation, and in stain removal and prophylaxis	
Oral medicine	Be competent in the use of appropriate anti-microbial therapy in the management of plaque-related diseases	**Orthodontics**
Have knowledge of the clinical presentation and management of the common diseases of the oral tissues, including the oral mucosa and salivary glands	Be competent at completing a range of procedures in restorative dentistry including the placement of temporary dressings, temporary cementation of crowns, appropriate moisture control techniques and taking impressions	Be competent at providing dental hygiene care for the orthodontic patient
Have knowledge of the features of malignant and potentially malignant lesions and conditions in the oral mucosa and of making an appropriate referral	Be familiar with the options for replacing teeth, including both intra- and extra-coronal, plastic and cast restorations, fixed and removable prostheses and dental implants	Be familiar with the normal facial development, occlusion and the adverse effects of malocclusion on oral health
Have knowledge of the effects of smoking on the oral tissues	Be familiar with the clinical precautions required to treat patients with temporomandibular joint disorders	Be familiar with contemporary orthodontic treatment techniques
		Be familiar with the limitations of orthodontic treatment
Diseases of the periodontium	**Gerodontology**	
Be competent at the use of indices to screen and monitor disease	Be competent to provide dental hygiene care for the older adult	
Be competent at instructing the patient in methods of plaque control for both natural teeth and for bridges, dentures and implants	Be familiar with the physiology of ageing and the management of problems associated with care of the older adult	
Be competent in liaising with the dentist in the post-periodontal surgical care of the patient and assisting in the maintenance of	Be familiar with the presentation of oral and dental diseases and disorders in the older adult	

periodontal health in the long term		
Have knowledge of the aetiology, pathology, progression and presentation of periodontal diseases		
Dental caries	**Dental implants**	
Be competent in instructing the patient on the various methods of prevention of caries, including dietary advice, use of fluoride and plaque control	Be competent in the cleaning, polishing and scaling of dental implant-supported structures	
Be competent at recognising the clinical appearance of the carious lesion	Be familiar with implant-retained crowns, bridges and removable prostheses	
Have knowledge of the aetiology, pathology, progression and presentation of dental caries		
Oral pathology and oral microbiology		
Have knowledge of the classification, aetiology, pathogenesis and processes of common oral diseases		
Have knowledge of the causes and effects of oral diseases needed for their prevention and management		
Comprehensive oral care		
Have knowledge of the dental care of patients with physical or learning disabilities, mental health problems, or who are medically compromised or terminally ill		
Have knowledge of the principles and problems involved in the provision of domiciliary dental care and the role of the dental hygienist and dental therapist within		

this environment		
Have knowledge of their role within general dentistry		
Be familiar with the provision of dental care within the different branches of dentistry		

Additional learning outcomes required to be a dental therapist		
Dental caries	**Paediatric Dentistry**	**Restorative Dentistry**
Have knowledge of the epidemiology, histopathology, microbiology and pathogenesis of dental caries	Be competent at fissure sealing, preventive resin restorations, and pit and fissure restorations	Be competent at completing a range of simple procedures in restorative dentistry, including amalgam and tooth-coloured restorations in both permanent and primary dentitions
Have knowledge of the classification, aetiology, clinical presentation and management of dental caries	Be competent in undertaking approximal and incisal tip restorations	Have knowledge of advanced restorative techniques for both dentitions
Be familiar with the diagnostic methods available to detect a carious lesion	Have knowledge of preformed stainless steel crown and pulp therapy in primary molar teeth	
	Have knowledge of extraction of primary teeth and the removal of roots where necessary	
	Have knowledge of the disorders associated with dental exfoliation and eruption, and of oral and dental diseases in childhood	
Introduction to Clinical Dental Therapy		
Be competent at interpreting and managing a treatment plan and arranging appropriate referrals when necessary		

Dental technician		
Biomedical sciences and oral biology	**Behavioural sciences, communication skills and health informatics**	**Human disease**
Have knowledge of the biomedical sciences, oral physiology and craniofacial, oral and dental anatomy relevant to dental technology	Be competent at using information technology	Have knowledge of the scientific principles of sterilisation, disinfection and antisepsis
Be familiar with those aspects of general anatomy and physiology relevant to the practice of dental technology	Be competent at communication with patients, their families and carers, other members of the dental team and other healthcare professionals	Be familiar with the main medical disorders which may impinge on dental treatment
	Have knowledge of managing patients from different social and ethnic backgrounds	Be familiar with the work of other healthcare workers
	Have knowledge of working as part of the dental team	Be familiar with the place of dentistry in the provision of healthcare
	Be familiar with the social and psychological issues relevant to the care of patients	
Medical emergencies	**Law, ethics and professionalism**	**Health and Safety and infection control**
Be competent at carrying out resuscitation techniques	Be competent at maintaining full, accurate laboratory records	Be competent at implementing and performing satisfactory infection control and preventing physical, chemical and microbiological contamination in the clinic and the laboratory
Be familiar with the principles of first aid	Have knowledge of responsibilities of consent, duty of care and confidentiality	Be competent at arranging and using the working clinical and laboratory

		environment in the most safe and efficient manner
	Have knowledge of patients' rights and how to handle complaints	Have knowledge of health and safety legislation as it affects clinical and laboratory practice
	Have knowledge of the range of skills of other members of the dental team	
	Have knowledge of the regulatory functions of the GDC	
	Be familiar with the legal and ethical obligations of registered members of the dental team	
	Be familiar with the obligation to practise in the best interests of the patient at all times	
	Be familiar with the need for lifelong learning and professional development	
	Be familiar with the law as it applies to records	
Dental Biomaterials Science	**Integration**	**Preventive dentistry**
Be competent at the correct selection and manipulation of dental biomaterials used by the dental technician	Be competent at receiving work from the clinical area	Have knowledge of the ways to design and manufacture dental appliances in a fashion which minimises their potential for causing further oral disease
Have knowledge of the science that underpins the dental biomaterials used by the dental technician	Be competent at using a variety of types of information and data to establish the requirements for particular custom-made dental device	Be familiar with the procedures, successes and limitations of preventive dentistry
Have knowledge of the limitations of such dental biomaterials	Be competent at managing the manufacture of a range of custom-made dental devices within one of the following treatment modalities:	

	- fixed prosthodontics - removable prosthodontics - orthodontics	
Be familiar with those aspects of biomaterials safety that relate to the work of the dental technician	Be competent at assessing the fitness for purpose both of custom-made dental devices employed in the manufacture of a dental prosthesis and of the final device itself	
	Have knowledge of the procedures used in the design and manufacture of custom-made dental devices for fixed and removable prosthodontics and orthodontics	
	Have knowledge of the design and manufacture of a range of custom-made dental devices, together with the provision of advice to other members of the dental team on aspects of their manufacture	
	Have knowledge of how to meet the design requirements by re-working and changing of components to meet the patient's needs	
	Have knowledge of when it is appropriate to refer a request for dental technician support to a more appropriately skilled colleague and of how to carry out such a procedure	
	Have knowledge of quality assurance as it applies to the individual dental technician	
	Be familiar with contract review for clinical cases	

	Be familiar with the complex interactions between materials, designs and oral structures when reviewing the manufacture and acceptability of dental devices	
	Be familiar with product standards in relation to dental devices	
Dental public health	**Introduction to dental technology**	**Dental radiology and imaging**
Be familiar with the dental team's wider responsibilities towards the community as a whole	Be competent in the stages of manufacture of dental devices in areas relevant to the student's programme	Be familiar with the principles which underlie dental radiographic techniques
Be familiar with the sociological, behavioural, environmental and economic factors which contribute to oral health or illness	Be familiar with the design and manufacture of a range of fixed and removable dental devices and orthodontic appliances	Be familiar with the application of radiological and imaging methods to support dental treatment
	Be familiar with the provision of a comprehensive approach to oral care	Be familiar with the radiographic appearance of various tissues of relevance to dental technology
	Be familiar with the clinical aspects of a range of restorative techniques that involve the manufacture of dental devices	
Applied dental technology		
Fixed Prosthodontics	**Removable prosthodontics**	**Orthodontics**
Be competent at knowing when and how to progress fixed prosthodontic cases within the dental laboratory matched to treatment plans	Be competent at knowing when and how to progress removable prosthodontic cases within the dental laboratory matched to treatment plans	Be competent at knowing when and how to progress orthodontic cases within the dental laboratory matched to treatment plans
Be competent at the initial planning and preparation of fixed prosthodontic appliances for manufacture in the dental laboratory	Be competent at the initial planning and preparation of removable prosthodontic appliances for manufacture in the dental laboratory	Be competent at the initial planning and preparation of orthodontic appliances for manufacture in the dental laboratory

Have knowledge of the range of manufacturing methods and materials used to fabricate fixed prosthodontic restorations	Have knowledge of assessing the feasibility of meeting client requirements for custom-made dental devices	Have knowledge of the range of manufacturing methods and materials used to fabricate removable orthodontic appliances
Have knowledge of the various technological procedures used in the dental laboratory during the production of veneers, inlays, crowns, bridges and temporary restorations	Have knowledge of providing technical advice on the feasibility and design of custom-made dental devices	Be familiar with the treatment planning and design requirements related to the range of orthodontic appliances
Be familiar with the treatment planning and design requirements related to the range of fixed prosthodontic restorations	Have knowledge of the design of complete dentures and: - their manufacture - the incorporation of soft linings or modifications to improve their strength - their repair	Be familiar with the clinical aspects of team provision of removable orthodontic custom-made dental devices
Be familiar with the clinical aspects of team provision of custom-made dental devices	Have knowledge of the design, manufacture, modification and repair of removable prosthetic devices	Be familiar with the inclusion of prosthetic teeth within removable orthodontic appliances
Be familiar with dental implants as an option for replacing missing teeth	Be familiar with the design and manufacture of complex removable prostheses	
Be familiar with the range of dental laboratory techniques which have application in the use of dental implants	Be familiar with the design and manufacture of occlusal splints, sleep apnoea devices and mouth guards	
Be familiar with the forms of precision attachments used as an option when fabricating fixed and removable prostheses	Be familiar with the use of implants and precision attachments for the stabilisation of intra-oral prostheses	
Be familiar with the complex nature of the use of precision attachments in both fixed and removable custom-made dental devices		

Clinical dental technician		
Biomedical sciences and oral biology	**Behavioural sciences, communication skills and health informatics**	**Human disease**
Have knowledge and understanding of those aspects of the biomedical sciences, oral physiology and craniofacial, oral and dental anatomy that are significant in the management of their patients	Be competent at using information technology	Have knowledge of the scientific principles of sterilisation, disinfection and antisepsis
Be familiar with those aspects of general anatomy, physiology and biochemistry relevant to clinical dental technology	Be competent at communication with patients, their families and carers, other members of the dental team and other healthcare professionals	Have knowledge of the pharmacological properties of those drugs used in general dental practice, including their unwanted effects
	Have knowledge of managing patients from different social and ethnic backgrounds	Be familiar with the place of clinical dental technology in the provision of healthcare
	Have knowledge of working as part of the dental team	Be familiar with manifestations of common human diseases and disorders relevant to the practice of clinical dental technology, including their investigation and management
	Be familiar with the social and psychological issues relevant to the care of patients	Be familiar with the main medical disorders that may impinge on dental treatment
		Be familiar with the work of other healthcare workers
		Be familiar with the pathological features and dental relevance of common disorders

		of the major organ systems
		Be familiar with the role of therapeutics in the management of patients requiring dental treatment
Medical emergencies	**Law, ethics and professionalism**	**Health and Safety and infection control**
Be competent at carrying out resuscitation techniques	Be competent at maintaining full, accurate clinical records	Be competent at implementing and performing satisfactory infection control and preventing physical, chemical and microbiological contamination in the clinic and the laboratory
Have knowledge of how to identify medical emergencies and provide immediate management of anaphylactic reaction, hypoglycaemia, upper respiratory obstruction, cardiac arrest, fits, vasovagal attack, inhalation or ingestion of foreign bodies, and haemorrhage	Have knowledge of responsibilities of consent, duty of care and confidentiality	Be competent at arranging and using the working clinical and laboratory environment in the most safe and efficient manner
Be familiar with the principles of first aid	Have knowledge of patients' rights and how to handle complaints	Have knowledge of health and safety legislation as it affects clinical and laboratory practice
	Have knowledge of the range of skills of other members of the dental team	
	Have knowledge of their responsibilities in relation to the referral of patients	
	Have knowledge of the regulatory functions of the GDC	
	Be familiar with the legal and ethical obligations of registered members of the dental team	
	Be familiar with the obligation to practise in the best interests of the patient at all times	

	Be familiar with the need for lifelong learning and professional development	
	Be familiar with the law as it applies to records	
Dental Biomaterials Science	**Pain and anxiety control**	**Preventive dentistry**
Be competent at the correct selection and manipulation of dental biomaterials used by the clinical dental technician	Be competent at managing fear and anxiety with behavioural techniques and empathise with patients in stressful situations	Be familiar with the basic concepts of preventive dentistry
Have knowledge of the science that underpins the dental biomaterials used by the clinical dental technician	Be familiar with the manifestations of anxiety and pain and the various methods available for their management and control	
Have knowledge of the limitations of such dental biomaterials		
Be familiar with those aspects of biomaterials safety that relate to the work of the clinical dental technician		
Dental public health	**Oral medicine, oral pathology and oral microbiology**	**Dental radiography, radiology and imaging**
Be familiar with the prevalence of significant dental conditions in the UK	Be competent at recognising abnormal oral mucosa and related underlying structures and at making an appropriate referral	Be competent at taking and processing relevant film views related to the provision of removable dental appliances
Be familiar with the importance of community-based preventive measures	Be familiar with various relevant investigative diagnostic procedures and the significance of their results	Have knowledge of radiographic interpretation and be able to provide relevant information to other members of the dental team
Be familiar with the social, cultural and environmental factors which contribute to health or illness	Be familiar with the classification, aetiology, pathogenesis, prognosis and processes of common oral diseases	Have knowledge of the hazards of ionising radiation and regulations relating to them, including radiation protection and dose reduction

	Be familiar with the effects of common or significant oral diseases and with their prevention and management	Be familiar with the principles which underlie dental radiographic techniques
Restorative dentistry related to removable dental appliances		
	Gerodontology	**Dental implants**
Be competent at obtaining a detailed history of the patient's dental state		
Be competent at obtaining a relevant medical history	Be competent at distinguishing between normal and abnormal consequences of ageing	Have knowledge of the provision and aftercare of removable dental appliances over dental implants
Be competent at using laboratory and imaging facilities appropriately and efficiently	Have knowledge of the problems related to the provision of removable dental appliances to the elderly	Be familiar with the surgical procedures and aftercare involved in the provision of dental implants
Be competent at clinical examination and following a treatment plan	Have knowledge of management strategies for the care of the elderly and the interaction of other members of the dental team and healthcare workers in these strategies	
Be competent at performing technical and clinical procedures related to the provision of removable dental appliances	Have knowledge of the presentation of dental and oral diseases and disorders in elderly patients and the range of psychological and social factors affecting these groups	
Have knowledge of dental problems that may manifest themselves in older patients with removable dental appliances and of the principles involved in managing such problems		
Have knowledge of the procedures carried out by other dental team members in relation to removable dental appliances		

Be familiar with the complex interactions between oral health, nutrition, general health, drugs and diseases that can have an impact on the provision of removable dental appliances		