



TRAINING STANDARDS IN IMPLANT DENTISTRY

INTRODUCTION

As the undergraduate curriculum does not include training in implant dentistry, it is mandatory for dentists wishing to provide surgical and/or restorative implant treatment in the UK to undertake structured education and training at an appropriate postgraduate level.

In its guidance, the GDC has emphasised the need for UK dentists to acquire the clinical skills needed before practising implant dentistry by completing postgraduate training under supervision of a mentor.

Training in implantology is currently available from a variety of providers ranging from the universities to courses organised by individual or commercial providers with varying levels of structure. In absence of a formal qualification, the onus is, therefore, on the learner to demonstrate the adequacy of his/her training, both academically and clinically, before starting to practise implant dentistry. This is particularly relevant for those individuals who are already experienced in implant dentistry having gained their training through different pathways. In this regard, the use of personal portfolios and logbooks are highly recommended.

The remit of the current training standards working group which included representatives from the ADI, FGDP (UK), the GDC, Universities and the Royal Colleges was to develop, review and update the standards in light of new developments in implant dentistry. The 2012 version of this document follows.

The training standards document has been written to ensure high standards of education, training and clinical care in implant dentistry in the UK and should serve as a definitive guide for the providers of training as well as the learners themselves. It has already been stated that this document is likely to be referred to, in any medicolegal dispute or when competence of a clinician is in question.

The readers' attention is also drawn to the appendix on pages 6 and 7 in which complexity of implant treatment has been categorised to assist the clinician when selecting cases to treat within his/her level of competence.

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ADI President



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Introduction

Dental implants are used to replace one or more missing teeth. Their insertion involves various surgical and restorative dental procedures and therefore dentists placing implants must be competent to carry out these procedures. The dentist must have undertaken suitable postgraduate training and assessment, which has included practical implant placement.

Training in implant dentistry is available from a variety of providers including Universities, Royal Colleges and hospitals. Courses are also run by individuals and commercial providers. This document describes the standards which such training courses in the United Kingdom need to meet.

These standards have been developed to ensure patient safety and protection. They should be used by dental teams and providers of training, to ensure consistency in the acquisition of knowledge and clinical skills for implant procedures, and to ensure good practice. They also serve as a reference point for the GDC in the consideration of patient complaints against dentists who have allegedly practised implant dentistry without the necessary competence.

The original standards for training dental teams who wish to practise implant dentistry were developed in December 2005 by a small working group convened by the General dental Council. The standards were revisited and updated in 2008, and have been reviewed and updated again in 2011/2012 (see Annex for the list of contributors in 2008 and 2012). Whilst the GDC initiated the development of these standards, this is not a GDC document.² It is a shared publication of the group who developed it.

The standards development groups have always been independent of any commercial organisation; their remit being to develop, review and update the standards in light of developments in implant dentistry.

It is recognised that the practice of implant dentistry changes as new materials and techniques are developed. The training standards will be reviewed and updated as need be by the same or equivalent expert group in 2014.

¹ Document to be revisited in 2014

² At the time of publication (June 2012), approval of these standards by the Policy Advisory Committee of the GDC is awaited.

The surgical procedure involves placing a small rod of appropriate biocompatible material (the 'implant') into the patient's jawbone, and attaching a false tooth, teeth or denture to it. For some patients, the jawbone may need augmenting with a bone graft before the implant is placed. When properly placed in patients with normal healing capacity, for whom the treatment is suitable, and provided they are restored and regularly maintained, dental implants should remain trouble-free for years, even if the supra-structure (crown, bridge or denture) needs replacing. It is essential that any patient considering having dental implant treatment should receive a thorough assessment, treatment and maintenance plan, in order to give their informed consent before undergoing the procedure. The patient must receive sufficient information on the nature, risks, costs, alternatives and likely prognosis.

Before undertaking implant treatment, a dentist should be familiar with The General Dental Council's Standards for Dental Professionals, in particular section 5, which stresses the need to provide a good standard of care based on available up-to-date evidence and reliable guidance. The clinician must take an evidence-informed and patient-centred approach to their choice of techniques and materials, and be satisfied that the manufacturer of materials is sufficiently stable and of adequate stature to be able to provide component parts for the foreseeable future. The clinician should also take responsibility for assessing the effects any implant feature may have on the surrounding tissues.

THE STANDARDS

The scope of Implant Dentistry

Implant dentistry encompasses a variety of surgical and restorative dental techniques and procedures, but it can broadly be divided into two levels:

1. Replacement of missing dentition involving the straightforward placement and/or restoration of implants.
2. Replacement of missing dentition involving the complex placement and/or restoration of implants

The Appendix provides guidance about 'Straightforward' and 'Complex' cases.

Replacement of dentition involving the straightforward placement and/or restoration of implants

Before undertaking implant treatment, a dentist must develop competence in the procedures involved in clinical assessment, treatment planning, and the placement and restoration of implants. The skills and knowledge necessary for competence should be developed through a training course in implant dentistry, with a suitably trained and experienced clinician acting as a mentor. Treatment offered and undertaken must be evidence-informed and patient-centred. The dentist must use a contemporary decision-making process to critically appraise new products and techniques before using them, and must ensure they follow current clinical consensus.

A dentist undertaking implant treatment should have the necessary skills to:

1. clinically assess a patient's suitability for implant therapy and undertake a risk-benefit analysis, including the identification of any physical or medical conditions the patient has that could make them unsuitable for implant treatment or could complicate surgery
2. communicate well with the patient, to ensure s/he:
 - is fully informed about other treatment options, and their relative indications and contra-indications,
 - is fully informed about the advantages and disadvantages of using implant anchorage in restoring the appearance and function of their dentition
 - gives consent prior to implant placement that is informed and valid
3. undertake appropriate imaging of the mandible and the maxilla, and interpret the findings to inform treatment
4. use aseptic surgical techniques
5. harvest hard and soft tissues from oral sites for localised alveolar augmentation
6. raise mucoperiosteal flaps and suture

7. use exogenous bone or bone substitutes for minor alveolar bone augmentation in the placement of implants
8. use appropriate pharmaceutical agents
9. undertake conventional restorative procedures
10. undertake straightforward implant-supported restorative procedures
11. diagnose and deal with complications occurring during or after treatment
12. monitor and maintain implants over time, including the repair and replacement of any implant or prostheses
13. document and audit all clinical activity.

The dentist must first have a good level of general dental knowledge (equivalent to that needed to pass the RCS Dental Faculties' membership examinations), augmented by an in-depth underpinning knowledge for the above skills and processes, specifically:

1. surgical anatomy of the maxilla, the mandible and the surrounding tissues
2. pathological processes that occur in the maxilla, the mandible and the surrounding tissues
3. physical or medical conditions that could make a patient unsuitable for implant treatment or could complicate surgery
4. the implant and other treatment options available and their relative indications and contraindications for certain patient groups
5. the various advantages and disadvantages of using implant anchorage in restoring the appearance and function of the dentition, including the technical, functional and cosmetic limitations
6. the principles and process of obtaining valid patient consent prior to implant treatment
7. implant design, geometry and characteristics
8. the sourcing of suitable materials
9. the effective control of infection and principles of aseptic technique
10. appropriate pharmaceutical agents that might be needed
11. the healing processes that normally occur following surgery
12. how to identify and deal with peri-operative and longer term complications
13. clinical and laboratory techniques used to restore implants, including an understanding of the laboratory stages and techniques used to construct implant supported restorations.
14. the principles and practice of appropriate record keeping, including the need to document and audit all clinical activity.

Replacement of dentition involving the complex placement and/or restoration of implants.

A dentist must be surgically experienced in the placement and/or restoration of straightforward implants, as described above, before progressing onto the treatment of complex cases. Some clinicians may possess all the surgical and restorative skills needed to treat a complex case single-handedly, but this is the exception, and therefore it is likely that the planning and treatment of such cases will require a team approach. Different aspects of care may be undertaken by appropriately trained and experienced members of the multidisciplinary team.

The prosthodontic team should be competent in managing the occlusal scheme, including changes to the vertical dimension and position of teeth and how these changes interact with the existing dentition (if present) and the jaw relationships. The placement of implants with complex bone augmentation demands a high level of surgical experience and significant ability to care for such patients. Dentists undertaking such treatment should have been trained and assessed by a suitably competent and experienced mentor within an appropriate structured programme: one that has enabled the dentist to achieve a standard in these specific techniques equivalent to trainees sitting a specialist examination in oral surgery. The trainee implant dentist must have developed competence in dealing with any immediate and long-term complications of the treatment provided.

Training Standards for all members of the dental implant team

The training standards above are applicable to all members of the dental team but it is recognised that there are individuals who are already experienced in implant dentistry. They will have gained their training in a variety of different ways.

It is recommended that all members of the dental team keep a detailed portfolio of their training, the courses they have attended, all mentoring they have received, and all the implants they have placed and/or restored, together with the outcomes. Records should be audited annually. Such portfolios could be used in any dispute as to a dentist's competence in implant dentistry, including those brought before the GDC.

All dentists need to be appropriately indemnified against medico-legal disputes involving implants.

Appendix

Guidance for 'Straightforward' and 'Complex' Cases

Few treatment episodes will fall exactly into either category, but the definitions here should help to identify the degree of complexity and potential risks involved in individual cases. Dental practitioners can then better match cases to their level of experience and skills, at the same time as determining their professional development and training requirements.

Perception of Case

Straightforward: You can easily visualise the end result and the treatment stages are predictable. There are no aesthetic risk factors.

Complex: The end result cannot be easily visualised without extensive diagnostic and planning techniques. Treatment will include multiple stages to achieve the desired outcome and may involve multidisciplinary planning. Complications are more likely to occur than with straightforward cases. The aesthetic requirements or limitations of the case are high, as are the expectations of the patient.

Age and Medical History

Straightforward: The patient is fit to undergo routine oral surgical and restorative treatment procedures. There are no medical risk factors.

Complex: Due to age or physical/medical compromise, the patient will require special care and management. Consideration will need to be given to the duration of the required procedures and the complexity of any remedial action that may be required should complications occur.

Tooth Position

Straightforward: The teeth to be replaced conform to the existing arch form, and the adjacent and opposing teeth easily determine the optimal prosthetic tooth position. There are no aesthetic risk factors

Complex: There are no adjacent teeth, or those present are in an unsuitable position. There is a need to carry out extensive diagnostic procedures to determine the optimal tooth/implant position for aesthetics and function.

Implant Surgery

Straightforward: The implant surgery procedure is without anatomically related risks and can be carried out without the need for significant hard tissue grafting (this includes onlay bone grafting and sinus grafting).

Complex: The implant surgery is a more difficult procedure, which has anatomically related risks and might require significant hard tissue grafting (this includes onlay bone grafting and sinus grafting). Surgery will involve significant alteration to anatomical structures with potential risk of damage to vital structures.

Soft Tissue

Straightforward: Minor augmentation or alteration of the position of the peri-implant mucosa is all that is required. Such intervention would not require significant grafting of hard/soft tissue. Soft tissues biotype (quality and quantity) is satisfactory.

Complex: There is a need to significantly augment or alter the position of the peri-implant mucosa, requiring significant amounts of hard/soft tissue to be grafted.

Occlusion

Straightforward: The teeth can be replaced conforming to the existing occlusal scheme and at the same vertical dimension

Complex: There is a need to substantially change the existing occlusal scheme or the occlusal vertical dimension.

Periodontal Status

Straightforward: The patient has healthy periodontal status or requires only straightforward mechanical periodontal intervention to eliminate minor pocketing or bleeding and improvement in plaque control.

Complex: The patient has active periodontitis with advanced horizontal/vertical bone loss and tooth mobility. There are lifestyle issues or co-morbidities such as smoking, diabetes or bruxism.

Loading Protocols

Straightforward: Implants are loaded after a conventional period of 8 to 12 weeks.

Complex: Implants are loaded/temporarised immediately or soon after their placement (early loading).

Maintenance

Straightforward: Dental hygienist or clinician provides oral hygiene advice and manages implant mucositis or periimplantitis with non-surgical periodontal therapy

Complex: Surgical management of periimplantitis or implants that require removal by surgical approach.

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