EGYPTIAN HEALTH COUNCIL

Egyptian Clinical Practice Guidelines

Professional Responsibilities for Implant Dentistry

2024

Clinical Practice Guidelines: Professional Responsibilities for Implant Dentistry

- **Acknowledgement:**

We would like to acknowledge the Implant Dentistry Scientific Committee for developing these guidelines.

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Abbreviations:

GDG: Guideline development group

Executive summary:

This guideline offers evidence-based recommendations for the management of patients requiring dental implant supported restorations. The recommendations are intended to provide healthcare professionals with practical guidance for the management of patients requiring dental implant restorations.

Recommendations:

- We strongly recommend careful patient evaluation, selection and treatment planning, followed by meticulous execution of treatment steps. **(Strong recommendation)**
- The preliminary evaluation of the patient, including the collection of clinical and radiographic records, must be taken by the dentist, who establishes the treatment plan in collaboration with other members of the dental implant team. **(Strong recommendation)**
- Patients selected should be medically fit and the case should be indicated for implant placement. A careful evaluation of the advantages and disadvantages of alternative prostheses in relation to the presenting status of the surrounding teeth, soft tissues and associated structures should be considered. **(Strong recommendation)**
- Proposed treatment plan should be discussed with the dental implant team and the patient. Decide the preferred number, diameter, angulation and positions of dental implants to be placed to support the planned prosthesis, putting in consideration the biomechanical and esthetic, surgical and anatomical factors. **(Good practice statement).**
- Perform either two-dimensional radiographs or three-dimensional imaging depending on the difficulty of the case. **(Strong recommendation).**
- Consider use of surgical guides in complicate cases **(Conditional recommendation).**
- Provisional restorations should be prepared and used appropriately. **(Strong recommendation).**
- Obtain informed consent before dental implant therapy. **(Good practice statement).**
- Arrange follow-up visits to assess the peri-implant soft and hard tissues, the continued stability of the dental implants, prosthesis and occlusion. **(Good practice statement).**

Introduction

The clinical replacement of lost natural teeth by osseointegrated implants represents one of the most significant advances in restorative dentistry that was reserved for specialists and required training beyond the regular dental school curriculum. However, most dental schools have come to realize how valuable the service of providing implant-stabilized prostheses is to patients with missing teeth. Thus, education in implant dentistry has become a regular part of the training of a large percentage of dental students, including, in many schools, the planning and placement of restorations on implants in dental student patients. However, although implant dentistry has become a part of the curriculum, it remains a complex topic requiring a sound foundation and postgraduate education and training to gain competence in this field.

Scope and Purpose

These clinical guidelines aim to:

1. Improve the quality and level of healthcare provided to implant patients, ensure patient safety and protection, increase success rate and minimize complications. Dentists placing implants must be competent in carrying out these procedures.
2. Provide guidelines for the suitable postgraduate training that includes mentored clinical implant placement and/or restoration. These guidelines describe the standards that should be met by such training courses.

Target Audience

These guidelines provide information for consultants, specialists and general dental practitioners, as well as other stakeholders involved in the provision and commissioning of dental implants, so that informed and evidence-based decisions are made.

Methodology

A comprehensive search for guidelines was undertaken to identify the most relevant guidelines to consider for adaptation.

Inclusion/ exclusion criteria followed in the search and retrieval of guidelines to be adapted:

• Selecting only evidence-based guidelines (guidelines must include a report on systematic literature searches and explicit links between individual recommendations and their supporting evidence).

• Selecting only national and/or international guidelines.

• Specific range of dates for publication (using Guidelines published or updated in 2015 and later).

• Selecting peer reviewed publications only

• Selecting guidelines written in English language

• Excluding guidelines written by a single author, not on behalf of an organization to be valid and comprehensive, a guideline ideally requires multidisciplinary input.

• Excluding guidelines published without references as the panel needs to know whether a thorough literature review was conducted and whether current evidence was used in the preparation of the recommendations.

The following characteristics of the retrieved guidelines were summarized in:

• Developing organization/authors

• Date of publication, posting, and release

• Country/language of publication

• Date of posting and/or release

• Dates of the search used by the source guideline developers.

All retrieved Guidelines were screened and appraised using AGREE II instrument (www.agreetrust.org) by at least three members. The panel decided on a cut-off point or ranked the guidelines (any guideline scoring above 50% on the rigor dimension was retained). The GDG decided to adapt from Guidance on the standards of care for NHS-funded dental implant treatment, Royal College of Surgeons of England 2019 [(1)]

Evidence assessment

According to WHO Handbook for Guidelines, we used the GRADE (Grading of Recommendations, Assessment, Development and Evaluation) approach to assess the quality of a body of evidence, develop and report recommendations. GRADE methods are used by WHO because these represent internationally agreed standards for making transparent recommendations. Detailed GRADE information is available on the following site:

https://www.gradeworkinggroup.org/

Table 1 Quality and Significance of the four levels of evidence in GRADE:

Quality	Definition	Implications
High	The guideline development group is very confident that the true effect lies close to that of the estimate of the effect.	Further research is very unlikely to change confidence in the estimate of effect
Moderate	The guideline development group is moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different	Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate
Low	Confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the true effect	Further research is very likely to have an important impact on confidence in the estimate of effect and is unlikely to change the estimate

Very Low	The group has very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of the effect.	Any estimate of effect is very uncertain

Table 2: Factors that determine How to upgrade or downgrade the quality of evidence:

Downgrade in presence of	**Upgrade in presence of**
Study limitations -1 Serious limitations -2 Very serious limitations Consistency -1 Important inconsistency Directness -1 Some uncertainty -2 Major uncertainty Precision -1 Imprecise data Reporting bias -1 High probability of reporting bias	Dose-response gradient +1 Evidence of a dose-response gradient Direction of plausible bias +1 All plausible confounders would have reduced the effect Magnitude of the effect +1 Strong, no plausible confounders, consistent and direct evidence +2 Very strong, no major threats to validity and direct evidence

The strength of recommendations:

The strength of a recommendation communicates the importance of adherence to the recommendation.

Strong recommendations

With strong recommendations, the guideline communicates the message that the desirable effects of adherence to the recommendation outweigh the undesirable effects. This means that in most situations the recommendation can be adopted as policy.

Conditional recommendations

These are made when there is greater uncertainty about the four factors above or if local adaptation has to account for a greater variety in values and preferences, or when resource use makes the intervention suitable for some, but not for other locations. This means that there is a need for substantial debate and involvement of stakeholders before this recommendation can be adopted as policy.

Good practice recommendations:

Clinical opinion suggests this advice is well established or supported. No robust underpinning research evidence exists. Good practice points are primarily based on extrapolation from research on related topics and/or clinical consensus, expert opinion and precedent, and not on research appropriate for rating the certainty or quality of the evidence

When not to make recommendations:

When there is lack of evidence on the effectiveness of an intervention, it may be appropriate not to make a recommendation.

Recommendations:

- We strongly recommend careful patient evaluation, selection and treatment planning, followed by meticulous execution of treatment steps. **(Strong recommendation)** (**High grade evidence)** [1,2,5]
- The preliminary evaluation of the patient, including the collection of clinical and radiographic records, must be taken by the dentist, who establishes the treatment plan in collaboration with other members of the dental implant team. **(Strong recommendation)** (**High grade evidence).** [1,2,6,7]
- Patients selected should be medically fit and the case should be indicated for implant placement. A careful evaluation of the advantages and disadvantages of alternative prostheses in relation to the presenting status of the surrounding teeth, soft tissues and associated structures should be considered. **(Strong recommendation)** (**High grade evidence).** [8-10]
- Proposed treatment plan should be discussed with the dental implant team and patient. Decide the preferred number, diameter, angulation and positions of dental implants to be placed to support the planned prosthesis, putting in consideration the biomechanical and esthetic, surgical and anatomical factors. **(Good practice statement).**
- Perform either two-dimensional radiograph or three-dimensional imaging depending on the difficulty of the case. **(strong recommendation)** (**High grade evidence)** [10]
- Consider use of surgical guides in complicated cases. **(Conditional recommendation)** (**moderate grade evidence)** [11-13]
- Provisional restorations should be prepared and used appropriately. **Strong recommendation)** (**High grade evidence).** [14]
- Obtain informed consent before dental implant therapy. **(Good practice statement).**
- Arrange follow- up visits to assess the peri-implant soft and hard tissues, the continued stability of the dental implants, prosthesis and occlusion. **(Good practice statement).**

Clinical indicators for monitoring

1. Preoperative diagnostic radiographs.
2. Preoperative informed consent.

Updating of the guidelines

These guidelines will be updated whenever there is new evidence.

References:

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