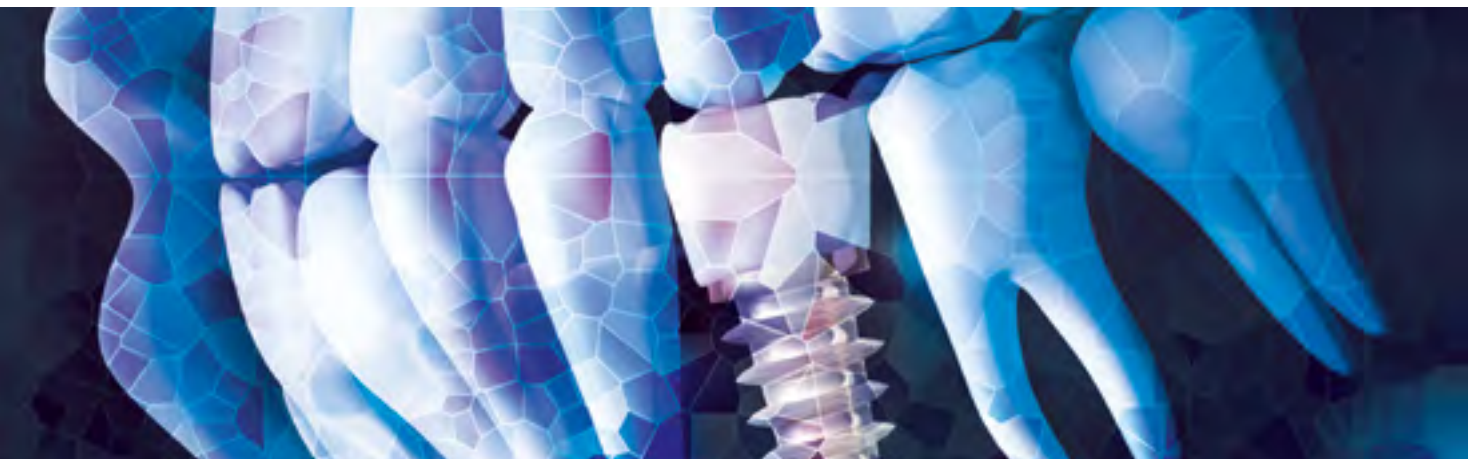




Patient-oriented Treatment Concepts in Oral Implantology

13th European Consensus Conference (EuCC) 2018 in Cologne
10th February 2018



2018

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Bundesverband der
implantologisch
tätigen Zahnärzte
in Europa

European
Association
of Dental
Implantologists

Guidelines 2018

Patient-oriented Treatment Concepts in Oral Implantology

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1 Methods

Objective

The purpose of this guide is to offer recommendations for clinicians engaging in implant dentistry, enabling them to correctly assess potential indications (and any limitations there of) for a patient-oriented treatment concept.

Introduction

All consensus recommendations in this paper should be interpreted as guidelines only. The patient's specific situation is always an important aspect and may justify deviations from the recommendations of this consensus paper.

Background

Implant placement is a proven way to replace missing teeth and to restore function and aesthetics. Various treatment options are available to meet patient expectations with respect to invasiveness, efficiency and economic aspects and depending on the treatment abilities of the dental care provider.

Definitions

FDP	Fixed dental prosthesis, including single-tooth restorations
RDP	Removable dental prosthesis
RPDP	Removable partial dental prosthesis
IFPDP	Implant-supported fixed partial dental prosthesis
RISOs	Removable implant-supported overdentures
OHRQoL	Oral health-related Quality of life

Literature search

The Cochrane Library, EMBASE, DIMDI and Medline literature databases were used to conduct a systematic search of recent published data on the use of short, angled and reduced-diameter implants. Selective search criteria were used, including terms such prosthetic concept, surgical concept, outcome, implant, patient oriented, decision making, oral health-related quality of life, dental, review, meta-analysis. The publications identified with the search were screened by reading their abstracts and those irrelevant to the subject identified and excluded. Those articles found to be potentially relevant were obtained in full-text form. Multiple review papers with meta-analyses and randomized controlled trials (RCTs) and other prospective or retrospective systematic clinical studies were available on the subject.

Procedure for developing the guideline/consensus conference

A preliminary version of this document on which the EuCC based its deliberations was prepared and authored by J. Neugebauer and H.-J. Nickenig, MSc., of the Interdisciplinary Department for Oral Surgery and Implantology and Department of Oral and Maxillofacial Plastic Surgery at the University of Cologne, Germany. The preliminary report was reviewed and discussed by the committee members in five steps, as follows:

- Reviewing the preliminary draft
- Collecting alternative proposals
- Voting on recommendations and levels of recommendation
- Discussing non-consensual issues
- Final voting

2 Problem

Implant therapy has become more and more complex due to the great variety of existing treatment concepts. Decisions on keeping or removing teeth and possibly performing implant treatment depends on the level of specialisation and knowledge of the clinician [19, 29]. Multiple concepts are in use, and the process of making decisions for maximum implant and restorative success and the outcome in terms of OHRQOL is a multifaceted one [28].

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3 Improving function

Patient expectations

Patients already treated with RPDP or overdentures that are functionally deficient due to severe mandibular atrophy or insufficient strategic abutments (Kennedy class I) require functional improvement. Both groups often avoid intensive surgical procedures due to advanced age or various general health problems.

Current observations

For patient of advanced age or with physical impairments, strategic implants – at least one or two implants in the edentulous mandible – or as additional abutment may improve the function of existing RPDP or overdentures [12, 27, 33, 43, 44]. Better chewing capability improves the patients' nutritional status [4, 41].

Preventions of complications

- Patients should be informed that strategic implants will improve but not fully restore oral function.
- The treatment modality may have to be adapted to the patient's motivation, any functional and cognitive impairments and medical condition, as well as their socioeconomic status [26].
- Immediate loading of single implants in edentulous patients may result in a higher risk of failure [17].

4 Rehabilitation of function, retaining healthy dentition

Introduction

Tooth loss may occur due to endodontic failure, dental or exogenic trauma, deep caries or for restorative and periodontal reasons [19]. Implants may restore function and aesthetics without damaging the existing dentition.

Current observations

Implant placement is a scientifically proven treatment concept for rehabilitating the dentition: it is clinically highly performant in various indications [24, 30].

In case of vertical atrophy or extensive pneumatization of the sinus, vertical grafting in the mandible or a maxillary sinus graft or the use of short implants are viable treatment options [37, 38].

Looking at the great variety of existing implant designs, treatment options such as immediate or delayed implant loading, time of placement after extraction and similar factors, no evidence for a consistent advantage of any of these concepts was found [7, 9, 10, 30].

Prevention of complications

- If grafting procedures such as sinus floor elevation or alveolar crest reconstructions are necessary, higher surgical complication rates compared to standard or short implant placement may be expected [11].
- The more complex the treatment option, the more essential the training and experience of the clinician for long-term success [25].

5 Functional rehabilitation of a compromised residual dentition

Introduction

Patients with a compromised residual dentition often fear complete edentulism. In recent years, the concept of immediate transition to a fixed full-arch reconstruction with interantral or interforaminal implants, included angulated ones, has been successfully implemented [14, 31].

Current observations

Studies of immediate loading concepts, including those using angulated implants to support full-arch reconstructions on 4 or 6 implants in the maxilla and mandible, have provided 5- to 10-year data [2, 3, 13, 15, 20, 22, 31, 35]. Favourable survival rates were found, following the

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use of primary splinting of angulated/tilted implants using FDP, for follow-up intervals of up to 6.5 years [21]. Various meta-analyses have shown no differences compared to conventional implant placement/loading in terms of either survival rates or bone loss in the restoration of atrophied edentulous jaws with FDP and angulated implants after short and medium observation periods [1, 5, 8, 23]. High patient satisfaction has been described in a current review article [35]. No influence of the chosen implant design or materials was confirmed [16, 34].

Prevention of complications

- For restorations with the placement of angulated implants, patients should be informed that masticatory, aesthetic, hygienic and phonetic impairment may occur [14]
- It is recommended to evaluate the phonetic, maintenance and intra- and extraoral aesthetics using a temporary prosthesis.
- Patients with a history of severe periodontitis are prone to higher complication rates [32, 36]

6 Rehabilitation in the aesthetic zone

Introduction

Implants are often recommended as viable treatment options in anterior tooth loss.

Current observations

In the long term, implant treatment in young patients may result in aesthetic impairment due to continuing skeletal growth or soft- and hard-tissue alterations [6]. Immediate implant placement results in similar soft- and hard-tissue alterations as conventional procedures [18, 42]. Two-unit cantilever FDPs supported by a single implant can be a viable alternative to two adjacent implant-supported single crowns in the aesthetic zone [39].

Prevention of complications

- Anterior implant placement requires a strict patient and treatment selection for a stable aesthetic result [40].
- Alternatively, minimally invasive resin-bonded prosthetic restorations should be considered.

7 Conclusion

Multiple treatment options are available to restore oral function – not only the ones mentioned above. Depending on patient motivation, anatomical findings and the level of skill and expertise on the part of the clinician, patients should be offered the best available treatment option. In the light of the many variables involved and described here, no general recommendation for any specific treatment option can be made.

Professor Dr. Joachim E. Zöller
Vice President

Dr. Jörg Neugebauer
Chairman of EuCC

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