

Terminology for Implant Prostheses

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The use of systematic terminology for implant prostheses can simplify communication within the scientific community. However, a review of the current literature demonstrates the lack of uniformity in this field. It is the purpose of this manuscript to suggest uniform terminology based on conventional prosthodontic terms that will simplify communication in the profession. (INT J ORAL MAXILLOFAC IMPLANTS 2003;18:539–543)

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The importance of uniform terminology and nomenclature for a profession cannot be overemphasized. It is essential for effective communication and for efficient searching in computerized databases using commonly accepted terms and keywords. The *Glossary of Prosthodontic Terms* has been the means of communication in the scientific language for prosthetic dentistry since it was first published in 1956.¹ However, the introduction of osseointegrated dental implants brought to the profession additional components, materials, and treatment modalities.² Since implant dentistry evolves rapidly, many innovations and improvements are frequently introduced. It is obvious that implant terminology would need to absorb these advancements in a continuous endeavor.

Inevitably, implant terminology has been influenced by various manufacturers as new components and techniques have been introduced.³ Additional

terminology has been imposed on the literature by individual authors, originating from different dental institutions and resulting in a lack of uniformity and structure in implant nomenclature.

Although attempts have been made to propose comprehensive terminology for implant dentistry,^{3–14} a review of the current literature demonstrates the lack of consistency. It is not uncommon to encounter usage of a variety of names for identical prostheses, as well as the occurrence of inherently different prostheses being referred to by the same name. For example, the classic fixed implant prosthesis introduced by Brånemark and coworkers as *tissue-integrated prosthesis* has been called *bone-anchored prosthesis*, *fixture-supported prosthesis*, or *osseointegrated prosthesis*.^{2,15–19} However, it is not uncommon to find in the literature terms such as *hybrid prosthesis*,^{19,20} *fixed-detachable prosthesis*,^{21–23} *fixed-removable prosthesis*,²³ *fixed-detachable denture*,²³ *fixed-removable denture*,²⁴ *fixed cantilever restoration*,^{25,26} and *fixed partial denture*^{26,27} for the same prosthesis. It is interesting to note that a fixed prosthesis that restores the entire arch is often called a fixed partial denture,^{26,27} although it is clear that it restores the entire arch and not just part of the arch, as the name implies.

Implant overdentures of similar design have been described by different terms. For example, 2-implant overdentures that inherently obtain their support from the implants and soft tissue have been

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Table 1 Standard Prosthodontic Terminology

Prosthesis type	Partial arch coverage	Full arch coverage
Removable	Tooth-supported removable partial denture (RPD)	Removable complete denture (RCD)
	Tooth-tissue-supported RPD	Removable complete overdenture
Fixed	Fixed partial denture (FPD)	Fixed complete denture (FCD)

found to be labeled *implant-supported*,²⁸ *implant-retained*,²⁹ *implant-stabilized*,³⁰ and *implant-assisted prostheses*.³ However, these terms have been also used to describe fixed restorations^{18,20,31,32} as well as 6-implant overdentures that gain all of their support from the implants.^{21,33}

It is also not unusual to find in the literature attempts to introduce new terms such as *partial implant-supported fixed-detachable*.³⁴ This may require the reader to review the materials and methods section in the article to understand the nature of that restoration. Further review of the literature demonstrates that terms such as *fixed-removable restoration* could imply either a screw-retained fixed prosthesis^{23,24} or a removable implant-supported overdenture,^{22,35,36} and only careful review of the text could reveal the intention of the authors. The term *fixed-detachable prosthesis* has created similar confusion. While sometimes it can refer to fixed restorations,^{22,23} other sources refer to removable prostheses.³⁷

The lack of systematic terminology creates a situation in which abstracts and titles of manuscripts describing implant prostheses may not be self-explanatory, and the reader is required to carefully read the entire manuscript to fully understand the design and nature of the prosthesis under consideration. In some instances, if implant restorations are mentioned without further definition of their design, the reader must make assumptions. It is, therefore, evident that under the present conditions, misunderstandings can readily occur within the scientific community and between the different disciplines involved in implant dentistry.

The purpose of this article was to suggest an updated systematic terminology for implant prostheses based on a logical derivative of conventional prosthodontic terms. The objective is to standardize terms rather than introduce new or perpetuate outdated and confusing terms.

PROSTHODONTIC TERMINOLOGY

To understand the rationale behind implant terminology, it is important to review conventional

prosthodontic treatment options and their respective definitions. The essential element of prosthodontic therapy is the denture. It is defined as an artificial substitute for missing natural teeth and adjacent tissues.¹ Unlike the common perception, the term *denture* does not necessarily suggest a removable prosthesis, nor does it imply full-arch coverage. Further, it does not propose that the prosthesis is necessarily made of a certain material.

Dentures could be classified according to the amount of arch coverage as partial or complete or according to their anchorage as fixed or removable. The removable dentures are most commonly the *removable partial denture* and the *removable complete denture* (Table 1). It is important to accurately refer to the complete denture as a *removable complete denture* to differentiate it from its fixed counterpart, as will further be emphasized in this article. The use of acronyms has been effective in simplifying the use of dental terminology. While *RPD* is commonly used for the removable partial denture, it is suggested that *RCD* be used for the removable complete denture.

A fixed prosthesis can be defined as a restoration that is not removable by the patient.⁵ Fixed prostheses with partial-arch coverage are most commonly termed *fixed partial dentures* (FPD).¹ However, inconsistencies exist in terms relating to a fixed complete-arch restoration. This type of restoration has been traditionally associated with the name *periodontal prosthesis* when used in patients with periodontal disease.³⁸ It is not uncommon to find the term *fixed partial denture* incorrectly used to describe a fixed complete-arch restoration.²⁶ Attempts have been made to modify the term *fixed partial denture* to imply a complete-arch restoration. However, terms such as *cross-arch fixed partial denture*³⁹ and *complete-arch fixed partial denture*³¹ confront the reader with a contradiction, since the adjectives *complete* and *partial* are antonyms. It is thus suggested that a more uniform terminology be utilized and this prosthesis be described as a *fixed complete denture* (FCD) (Table 1).

It is important to be consistent in this terminology, regardless of the materials used for the restorations. However, to further describe a prosthesis, its

Table 2 Implant Prosthodontic Terminology

Prosthesis type	Partial arch coverage	Full arch coverage
Removable	Implant-supported RPD	Implant-supported overdenture
	Implant-tissue-supported RPD	Implant-tissue-supported overdenture
Fixed	Implant FPD	Implant FCD

Table 3 Implant Prosthesis Descriptive Information

Method of retention	Composition	Nature of support	Design characteristics	Anchorage	Arch coverage	Prosthesis type
Screw-retained	All-ceramic	Implant-supported	Telescopic	Fixed	Partial	Denture
Cement-retained	Metal-ceramic	Implant-tissue-supported	Individual attachments	Removable	Complete	Overdenture
Attachment-retained	Metal-resin	Implant-teeth-supported	Prefabricated bar			
Friction-retained			Milled bar			
			Electrodischarge milled bar			
			Electroplated milled bar			

composition could be added as an adjective. For example: *metal-ceramic fixed partial denture* or *all-ceramic fixed partial denture*. In addition, the design of the prosthesis can be included in the term to further describe its nature: for example, *telescopic fixed partial denture*.

IMPLANT PROSTHODONTIC TERMINOLOGY

The advent of osseointegrated dental implants has offered additional treatment options for edentulous and partially edentulous patients.² Implant prostheses can be classified as fixed or removable and as full-arch or partial-arch, similar to the principles of conventional prosthodontics (Table 2).

Implant prostheses can also be classified according to additional features. It has been shown that dental implants can be used to enhance retention, stability, and support of restorations.⁴⁰ Since most implant prostheses are inherently retained and stabilized by their respective implants, it is more logical to classify implant prostheses according to the nature of their support. This method has been used traditionally to classify conventional removable partial dentures as *tooth-supported* or *tooth-tissue-supported*.⁴¹ Thus, implant prostheses could be described as *implant-supported* or *implant-tissue-supported*. Similarly, restorations combining natural teeth and dental implants could be termed *implant-teeth-supported*.

While a tissue-supported prosthesis relies exclusively on the soft tissues for support, an implant-

supported prosthesis can be defined as a prosthesis that obtains its entire support from dental implants.³ Conversely, an implant-tissue-supported restoration gains its support from a combination of intraoral tissues and dental implants. While implant-supported prostheses can be either fixed or removable, implant-tissue-supported prostheses are generally removable.

Additional terms have been used in the literature to differentiate between implant prostheses. The term *implant-retained prosthesis* has been documented extensively.^{20,21,29} However, this term does not differentiate between implant restorations, since most of them, whether fixed or removable, are directly retained by dental implants.

The term *implant-assisted prosthesis* has been suggested to differentiate it from an implant-supported prosthesis.³ However, this term does not readily describe the nature of assistance that the implants provide to the prosthesis. As a result of this ambiguity, the term *implant-assisted* appears in the literature sometimes in reference to removable prostheses,⁴² while on other occasions it refers to fixed restorations.^{18,32}

Since the introduction of implant prostheses, new methods of retention and support of restorations have been introduced.² It is important to include these in the terminology to make a distinction between the different types of prostheses (Table 3). For example, a screw-retained prosthesis will properly describe the method of attachment of a restoration and differentiate it from one that is luted to the implant abutments. Conversely, the term *fixed-detachable* does not clarify the method of attachment; therefore, it is not surprising to see its

use in the literature for either fixed^{22,23} or removable restorations.³⁷ Similarly, the term *fixed-removable* has been used to describe fixed^{23,24} as well as removable prostheses.^{22,35,36} Furthermore, this term appears to be an oxymoron and therefore may not be desirable.

To simplify the use of implant terminology, the following formula could be used to demonstrate the syntax of terms describing various treatment options:

{Retention}{Composition}{Support}{Design}
{Anchorage}{Coverage}{Prosthesis type};

for example, *screw-retained, metal-ceramic, implant-supported fixed partial denture* or *implant-tissue-supported milled bar overdenture*. With this formula and the terms provided in Table 3, implant prostheses can be described systematically according to their method of retention (eg, screw-retained, cementable, attachment-retained); their composition (eg, all-ceramic, metal-ceramic, metal-resin); their method of support (eg, implant-supported, implant-tissue-supported, implant-teeth-supported); and their design (eg, telescopic, individual attachments, prefabricated bar, milled bar). These adjectives would be accompanied by additional terms to describe the nature of anchorage (fixed or removable), the arch coverage (partial or complete), and the type of prosthesis (denture or overdenture). The systematic use of this formula would accurately reflect the exact nature of the prosthesis.

It should be noted that it is not necessary to utilize all the possible adjectives when describing a restoration. For example, a screw-retained implant-supported FPD could be called a screw-retained implant FPD since a fixed restoration is inherently implant-supported. Similarly, the abbreviated term *overdenture* can be used instead of the lengthy term *removable complete overdenture*.

Some types of prostheses could be better described according to their design, while others are better differentiated by their composition. Implant overdentures are generally classified according to their design. For example: *free-standing* (or individual) *attachment overdenture*, *bar overdenture*, *milled-bar overdenture*, or *electrodischarge milled-bar overdenture*. Nevertheless, fixed prostheses are generally defined according to their composition: for example, *all-ceramic prosthesis*, *metal-ceramic prosthesis*, or *metal-resin prosthesis*.

The popular implant prosthesis described by Brånemark and others¹⁵ as a *fixed bone-anchored prosthesis* is inherently different than any other previous treatment option. It is an implant-supported restoration that restores a complete arch and therefore should be termed an *implant-supported fixed complete denture*. However, to further describe its nature, it is important to clarify composition and design. It is a screw-retained restoration, and it is essentially fabricated of a metal framework and removable complete denture components (heat-polymerized resin and denture teeth). Therefore, it has been presented in the literature as a *hybrid prosthesis*.²⁷ Nevertheless, the term *hybrid* has been used in the literature for fixed²¹ as well as removable²⁷ prostheses. It is essential to further define the term.

The term *hybrid prosthesis* is used to describe a prosthesis that is composed of different materials.¹ More specifically, in implant dentistry, the term *hybrid* implies a combination of a metal framework with a complete denture. To properly describe a hybrid, the terminology should include the forming components (ie, metal framework, resin, and prefabricated denture teeth). It is suggested that this prosthesis be called a *metal-resin implant fixed complete denture*. This description would properly differentiate this prosthesis from a metal-ceramic implant fixed complete denture. With the logic presented here, various implant prostheses can be easily defined and terms can be accurately used in contributions to the literature.

SUMMARY

The use of systematic terminology for implant prostheses can simplify communication in scientific literature. It provides for logical classification of the various treatment options and assists the clinician and dental student in learning about and understanding different restorations. Standardized terminology can facilitate the search of computerized databases and enhance communication between the different disciplines in dentistry and dental technology as well as implant manufacturers. It is the plea of the authors that proper terminology be used to simplify communication in the dental profession.

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