

CURRICULUM GUIDELINES IN IMPLANT DENTISTRY FOR DENTAL HYGIENE PROGRAMS



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A consensus conference to develop curriculum guidelines in implant dentistry for dental hygiene programs was held on June 16, 1995 in Monterey, California. The conference was sponsored by the International Congress of Oral Implantologists, the American College of Oral Implantology, the American Society of Osseointegration, and the Association of Dental Implant Auxiliaries & Practice Management. The guidelines, which will be distributed to dental hygiene program directors, are printed in their entirety. (Implant Dent 1995;4:162-164)

On June 16, 1995, 58 dental hygiene directors, 5 committee members, and 6 moderators met in Monterey, California to review, revise, and approve by consensus oral implantology/implant dentistry curriculum guidelines for dental hygiene education and continuing education for practicing dental hygienists.

In the absence of implant dentistry guidelines for dental hygiene education programs, the International Congress of Oral Implantologists (ICOI), and its United States component societies, the American College of Oral Implantology (ACOI), the American Society of Osseointegration (ASO), and the Association of Dental Implant Auxiliaries & Practice Management (ADIA&PM), agreed to initiate a national consensus conference for dental hygiene educators to develop and revise such guidelines.

The process began in October 1994 with the appointment of Kenneth W. M. Judy DDS (University of Pittsburgh, PA) to chair a committee that was formed to develop the guidelines. The committee included JoAnn R. Gurenlian RDH, PhD (Haddonfield, NJ), Richard A. Kraut DDS (Montefiore Medical Center, NY), Linda Meeuwenberg RDH, MA (guidance and counseling), MA (communication), (Ferris State University, MI) Roland M. Meffert DDS (University of Texas Health Science Center at San Antonio, TX), Carl Misch DDS, MDS (University of Pittsburgh, PA), Edith A. Shuman RDH (New York, NY), Kathleen H. Alvarez RDH, BS (San Pedro, CA), and Gail B. Bemis RDH (Dewey, AZ).

The committee and the consensus conference par-

ticipants elected to establish high as opposed to minimal educational standards because of the narrow focus of the subject of the conference, the potential use of the guidelines in continuing education programs for practicing dental hygienists, and the necessity of providing quality oral health care by dental hygienists for implant clients.

At the close of the conference, major portions of the guidelines were approved by the participants and certain areas that needed clarification were referred back to committee. The final draft, after committee revision, is published below and has been sent to all hygiene directors in the United States and Canada for use as a curriculum development aid.

PREAMBLE

In 1991 curriculum guidelines for predoctoral implant dentistry and guidelines for general practice residency/advanced education in general dentistry programs were published.¹⁻³ Although there has been widespread acceptance of implant dentistry in United States dental schools,^{4,5} as well as in dental schools outside the United States,⁶ little attention has been given to incorporating implantology and implant maintenance information into dental hygiene education programs. The role of the dental hygienist in implant maintenance is essential to sustain soft and hard tissue health (R. M. Meffert, personal communication, 1995).

A national consensus conference, initiated by the International Congress of Oral Implantologists and its United States component societies, was held on June 16, 1995 in Monterey, California to formulate curriculum guidelines in implant dentistry for dental hygiene programs.

STATEMENT OF AUTHORSHIP

These guidelines were developed in cooperation with the ICOI, ACOI, ASO, ADIA&PM, and dental

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hygiene and oral implantology educators. The guidelines are intended for use by individual educational institutions as curriculum development aids.

INTRODUCTION

The dental hygiene curriculum in implantology is a multidisciplinary and readily identifiable didactic and clinical program. Implant dentistry is that portion of dentistry pertaining to the reconstruction and maintenance of function, appearance, and health of the client through replacement of teeth and contiguous structures with natural and alloplastic substitutes.

INTERRELATIONSHIP

The multidisciplinary nature of the curriculum in implantology suggests that faculty of dental hygiene and dental disciplines such as prosthodontics, periodontics, and oral and maxillofacial surgery should be directly involved in its instructional aspects.

OVERVIEW

This curriculum is structured to provide basic knowledge and information for dental hygiene students/dental hygienists in the following areas:

- A. The biological and scientific basis of implantology
- B. Client assessment and education
- C. Diagnosis, treatment planning, and implant selection
- D. Implant surgery and postsurgical care
- E. Implant prosthodontic procedures
- F. Implant evaluation and maintenance protocols
- G. Ethical considerations

PREREQUISITES

Dental hygiene students should have experience in biological, dental, and related sciences, preclinical and clinical courses in preventive oral health, and radiology before beginning their oral implantology education. In addition, dental hygiene students should be progressing in or have completed their clinical and related requirements that include, but are not limited to, oral pathology and periodontics. Dental hygienists participating in continuing education programs should have current knowledge of oral pathology, periodontics, preventive oral health, and radiology.

PRIMARY EDUCATIONAL GOALS

- A. To develop an appreciation for the role of dental implants in the maintenance of oral health
- B. To demonstrate knowledge of the scientific basis of implant-host relations and interactions
- C. To develop a knowledge base related to client assessment, education, diagnosis, treatment planning, treatment, treatment-associated complications, evaluation and maintenance procedures,

referrals, and appropriate documentation on dental records

- D. To develop competencies to perform hygiene procedures and demonstrate client home care procedures on implant cases
- E. To delineate the role of the dental hygienist in implant therapy

SPECIFIC BEHAVIORAL OBJECTIVES

Upon completion of this curriculum, the dental hygiene student/dental hygienist will be able to:

- A. Discuss the impact edentulism has had on the well-being and health of the public
- B. Recognize the need to include the use of implants as a treatment modality
- C. Define the essential terms related to implantology and dental implants
- D. Compare the types of dental implants
- E. Identify the indications and contraindications for using dental implants
- F. Recognize the maxillary and mandibular anatomic considerations associated with implant placement
- G. Assess anatomic limitations in relation to implant selection and placement
- H. Identify the biomaterials used in dental implant therapy
- I. Describe the diagnostic procedures used for implant therapy
- J. Analyze the need for imaging and other diagnostic procedures for implant therapy
- K. Implement client education programs related to implant therapy that include duration of care, oral health maintenance, potential complications, and the client's responsibilities in implant maintenance
- L. Identify criteria used for informed consent
- M. Identify the risk factors that may influence the surgical, prosthodontic, and postsurgical phases of treatment
- N. Assess the indications for appropriate medical and dental referrals
- O. Identify potential implant complications and their solutions
- P. Formulate sequential treatment plans for implant therapy and alternative therapies
- Q. Identify the surgical armamentaria used for implant placement
- R. Describe the fundamental presurgical, surgical, and postsurgical procedures for implant placement
- S. Differentiate among the various prosthodontic procedures for implant-supported and/or retained prostheses
- T. Differentiate the roles of the dental hygienist and dentist in implant maintenance and repair
- U. Perform maintenance procedures following implant placement in first-stage surgery, second-stage surgery, and provisional and/or final prosthesis placement

- V. Demonstrate supportive procedures following completion of implant treatment including, but not limited to, appropriate periodic probing, scaling and polishing, taking radiographs, and removing superstructures
- W. Assess the legal and ethical considerations related to dental implant therapy
- X. Appreciate the need for continuing education in implantology and implant maintenance

CORE CONTENT OUTLINE

The following are suggested instructional modules that cover the essential materials forming the scientific and clinical bases of knowledge in implantology and its relation to the dental hygiene process of care:

- A. Introduction
 - 1. Rationale for implants
 - 2. Definitions of implantology and implant dentistry
 - 3. Historical overview
 - 4. Current status of dental implants
- B. Classification and Definitions of Dental Implants
 - 1. Terminology and definitions
 - 2. Classification and types of dental implants
 - 3. Indications for use
 - 4. Contraindications
 - 5. Criteria for success
- C. Scientific Basis for Dental Implant Therapy
 - 1. Normal anatomy, function, and esthetics
 - 2. Anatomy of hard and soft tissues
 - 3. Implant/tissue interfaces
 - 4. Biomechanics
 - 5. Biomaterials
 - 6. Surface preparation and coatings
- D. Assessment, Diagnosis, and Treatment Planning
 - 1. Client evaluation and assessment
 - 2. Diagnostic and adjunctive procedures
 - 3. Treatment planning, site selection, and implant selection
 - 4. Client education, preparation, and appropriate medical and dental referrals
 - 5. Risk management and informed consent
 - 6. Implant complications and failures
 - 7. Ethical considerations
- E. Implant Surgical Procedures
 - 1. Armamentaria
 - 2. Surgical preparation and infection control
 - 3. Surgical procedures
 - 4. Postsurgical care
- F. Prosthodontic Procedures
 - 1. Provisional prostheses
 - 2. Types of superstructures
 - 3. Totally implant-supported prostheses
 - 4. Implant(s) and natural tooth (teeth)-supported prostheses

- 5. Immediate loading
- 6. Gradual or progressive loading
- G. Maintenance and Evaluation Procedures
 - 1. Professional care, armamentaria, and techniques
 - 2. Client education and care
 - 3. Management of implant complications and failures
 - 4. Evaluation and post-treatment care
- H. Role of Interdisciplinary Health Care Providers

FACULTY

Faculty should be composed of educationally qualified specialists and individuals who have advanced education in dental hygiene and advanced education and/or appropriate experience in implant dentistry.

FACILITIES

Adequate facilities currently exist to teach this proposed curriculum in dental hygiene education programs and on a continuing education basis to dental hygienists.

ACKNOWLEDGMENTS

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